

New Research in Mental Health

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Ohio Department of Mental Health

Bob Taft, Governor

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Dee Roth, MA, Chief

Office of Program Evaluation and Research

New Research in Mental Health

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Keywords

Keywords Listed by Chapter Titles

(Chapter titles listed alphabetically by university or primary agency)

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Dee Roth, Chief

Office of Program Evaluation and Research
Ohio Department of Mental Health

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A Comparison of the Effectiveness of Manualized and Naturally Occurring Therapy for Children with Disruptive Behavior Disorders

Authors: *Jeremy P. Shapiro, PhD, Jen Kogos Youngstrom, PhD*

Keywords: children/youth, outcomes, manualized & natural occurring therapy

Cognitive Behavior Therapy versus Treatment as Usual for Bipolar Youth: An Effectiveness Study

Authors: *Jen Kogos Youngstrom, PhD, Norah Feeny, PhD*

Keywords: bipolar disorders, children/youth, cognitive behavioral therapy, disruptive behavior

Beech Brook

The Efficacy of School-Based Mental Health Interventions

Authors: *David L. Hussey, PhD, Kelly Rubino Burgess, MPA, CPHQ*

Keywords: children/youth, outcomes, school-based mental health

Bowling Green State University

The Effects of Climbing into the Driver's Seat Training on Consumers of Mental Health Services in Lucas County

Bowling Green State University

Authors: *Rich Wilson, PhD, Stacey Rychener, PhD, Eric Jones, EdD*

Keywords: advocacy, Climbing into the Driver's Seat Program, consumer issues, empowerment, outcomes, recovery

Case Western Reserve University

Families of Women with Co-occurring Mental Health and Substance Abuse Disorders: Family Caregiver Involvement, Roles and Well-being

Author: *David E. Biegel, PhD*

Keywords: caregivers, dual diagnosis, substance abuse and mental illness, women

The Impact of Supported Employment for Consumers with Co-occurring Mental and Substance Use Disorders

Authors: *David E. Biegel, PhD, Robert J. Ronis, MD, MPH, Patrick E. Boyle, LISW, LICDC*

Keywords: dual diagnosis, supported employment, evidenced-based practices, substance abuse and mental illness

Subjective Experience of Attention Deficit Hyperactivity Disorder (ADHD) and Bipolar Spectrum Disorders (BPSD) in Youth and Families

Authors: Eric A. Youngstrom, PhD, Janis H. Jenkins, PhD, Elizabeth Carpenter-Song, MA, Megan Nordquest, MA

Keywords: African-American children/youth (cultural aspects), Attention Deficit/Hyperactivity Disorder, bipolar disorders, families (subjective experience), qualitative research

Center of Vocational Alternatives

The Effect of Motivation on Job Search and Work Outcomes and the Demand for Supported Employment Services

Authors: John Finch, PhD, LPC, CRC, Betsy Nofziger, LISW, Phyllis C. Panzano, PhD, Beverly A. Seffrin, PhD, Natasha Weaver, MA, Emily Bunt, MA

Keywords: employment, qualitative research

Decision Support Services, Inc.

Work and Recovery: Motivational Job Design Explains Important Work, Developmental and Recovery-Related Outcomes for Adults with Severe Mental Disabilities

Authors: Phyllis C. Panzano, PhD, Beverly A. Seffrin, PhD, Sheri Chaney-Jones, MA, Natasha Weaver, MA

Keywords: employment, outcomes, instrument development, Job Performance Questionnaire

The Innovation Diffusion and Adoption Research Project (IDARP): A Process Overview and a Preview of Qualitative Data from Interviews

Authors: Phyllis C. Panzano, PhD, Dee Roth, MA, Helen Anne Sweeney, MS, Rick Massatti, MSW, Carol Carstens, PhD, LISW, Beverly A. Seffrin, PhD, Emily Bunt, MA, Sheri Chaney-Jones, MA

Keywords: Coordinating Centers of Excellence (CCOEs), evidence-based practices, qualitative research

Kent State University

The Experience of Adolescent Depression: Management Strategies and Service Utilization Patterns

Author: Claire Burke Draucker, RN, PhD, CS

Keywords: children/youth, depression, qualitative research, service delivery issues (service utilization)

Evaluation of Mental Health Services to Juvenile Offenders Project: Follow-Up Study

Authors: Daniel J. Flannery, PhD, Laura A. Buckeye, MPH, Mark I. Singer, PhD

Keywords: children/youth, criminal justice involvement, forensic issues, juvenile offenders, service delivery issues

Assessing Risk of Violence Using the New Violence Risk Screen (VRS)

Authors: Daniel J. Flannery, PhD, Mark S. Davis, PhD, Molly Holzheimer, MA, Robert N. Baker, PhD

Keywords: assessment methods/approaches, instrument development (Violence Risk Screen), violence (risk assessment)

Reliability and Validity of the Recovery Assessment Scale for Consumers with Severe Mental Illness Living in Group Home Settings

Author: Sharon Flinn, PhD, OTR/L, CVE

Keywords: assessment methods/methods, graduate student research, group home residents, instrument development (Recovery Assessment Scale; Stages of Change Questionnaire), recovery

The Quality of Life of People with Mental Illness: Effects of Participation in Akron's Mental Health Court on Consumers' Quality of Life

Authors: Christian Ritter, PhD, Mark R. Munetz, MD, Jennifer L.S. Teller, PhD, Marnie Rodriguez, PhD, Natalie Bonfine, MA, Dana Sohmer, BA, Kristen Marcussen, PhD

Keywords: criminal justice involvement, forensic issues (disposition of mental illness calls; diversion programs), quality of life, stigma

The Quality of Life of People with Mental Illness: Akron CIT Officers' Dispositions of Calls Involving People with Mental Illness

Authors: Christian Ritter, PhD, Jennifer L.S. Teller, PhD, Mark R. Munetz, MD

Keywords: criminal justice involvement, forensic issues (Crime Intervention Team; disposition of mental illness calls, diversion programs), quality of life

Medical University of Ohio (now University of Toledo)

The Effects of Neurofeedback Treatment on Children with Behavioral, Attention and Concentration Problems: Preliminary Results

Authors: Angele McGrady, PhD, MEd, LPCC, Thomas Fine, MA, LPCC, Christine Prodent, PhD

Keywords: children/youth, neurofeedback, outcomes

Miami University

Session Impact and Alliance in Internet Based Psychotherapy

Authors: D'Arcy J. Reynolds, Jr., MA, William B. Stiles, PhD

Keywords: graduate student research, internet, oline text-based therapy, therapeutic alliance

Ohio Department of Mental Health

The Innovation Diffusion and Adoption Research Project (IDARP): A Process Overview and a Preview of Qualitative Data from Interviews

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Keywords: Coordinating Centers of Excellence (CCOE), evidence-based practices, qualitative research

The Ohio State University

Efficacy of Individual Family Psychoeducation for Early-Onset Bipolar Disorder

Authors: Mary A. Fristad, PhD, ABPP

Keywords: children/youth, therapy (family psychoeducation)

Caregiver Stress in Parents of Children with Mood Disorders

Authors: Mary A. Fristad, PhD, ABPP, Radha B. Nadkarni-DeAngelis, MA, Janice Kiecolt-Glaser, PhD, Ronald Glaser, PhD, William Malarkey, MD

Keywords: children/youth, families (caregivers), psychological distress, stress

Intensive Community-based Treatment of Children, Adolescents, and their Families: The Effectiveness of Family-Community Systems Therapy (FCST)

Authors: Mo Yee Lee, PhD, RSW, Gilbert J. Greene, PhD, LISW, Andy Solovey, MSW, LISW, David Grove, MSW, LISW, J. Scott Fraser, PhD, Phil Washburn, RN, Anita Kefgen, MS, LPCC

Keywords: children/youth, evidence-based practices, families, home-based treatment

Measuring Psychological Distress in Somali Refugees

Authors: Kent P. Schwirian, PhD, Patricia M. Schwirian, PhD, RN

Keywords: assessment methods/approaches, outcomes (Adult Consumer Form A, Somali version), psychological distress, stress

Evidence and Empowerment among Consumers in the Public Mental Health System

Author: Sandra J. Tanenbaum, PhD

Keywords: consumer issues, empowerment, evidence-based practices, qualitative research, recovery

Ohio University

Models of Case Mix Adjustment for Ohio Mental Health Consumer Outcomes among Children and Adolescents

Authors: Benjamin M. Ogles, PhD, Bruce Carlson, PhD, Derek Hatfield, BS, Veronica Karpenko, MS

Keywords: case mix adjustment, children/youth, outcomes, service delivery issues

Level of Care Decisions with the CAFAS and Agency Worker Rated Ohio Scales: Predicting Service Utilization

Authors: Benjamin M. Ogles, PhD, James Healy, BS

Keywords: levels of care, outcomes (children/youth), service delivery issues (children/youth; service utilization)

Transporting Evidence-Based Practices in the Context of School-Mental Health Partnerships

Author: Julie S. Owens, PhD

Keywords: Attention Deficit/Hyperactivity Disorder, children/youth, evidence-based practices, school-based mental health

Stark County Community Mental Health Board

Level of Care Decisions with the CAFAS and Agency Worker Rated Ohio Scales: Predicting Service Utilization

Authors: Benjamin M. Ogles, PhD, James Healy, BS

Keywords: levels of care, outcomes (children/youth), service delivery issues (service utilization)

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Keywords: criminal justice involvement, forensic issues (disposition of mental illness calls; diversion programs), quality of life, stigma

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Authors: Christian Ritter, PhD, Jennifer L.S. Teller, PhD, Mark R. Munetz, MD

Keywords: criminal justice involvement, forensic issues (Crime Intervention Team; disposition of mental illness calls; diversion programs), police (conceptions of mental illness; crisis intervention), quality of life

Synthesis, Inc.

Using State Consumer Outcomes and/or Cluster-based Information on Case Mix to Understand and Improve Consumer Outcomes

Authors: *William V. Rubin, MA, James L. Schwartz, MSW, MS, Amanda Fox, MA, Karissa Hanson-Morris, Janice Ossa, BA, Erin Ley, BA, Steven M. Banks, PhD*

Keywords: case mix adjustment, outcomes (cluster-based planning & outcomes management, service delivery issues (outcomes management)

University of Akron

Comparison of Health Care Context, Coercion and Compliance in Persons with Severe and Persistent Mental Illness

Authors: *Patricia A. Galon, PhD, RN, CS, Thomas P. Grande, MA, Keith Stahl, LSW, MSW*

Keywords: coercion/compliance, evidence-based practices, graduate student research

University of Cincinnati

Executive Functioning Deficits in Youth Diagnosed with Comorbid Bipolar Disorder and ADHD

Authors: *Juliet L. Warner, PhD, Melissa P. DelBello, MD, Paula K. Shear, PhD*

Keywords: Attention Deficit/Hyperactivity Disorder, bipolar disorders, children/youth, dual diagnosis, graduate student research

Mental Health Service Provider Knowledge, Attitudes, and Competencies Regarding Recovery from Serious Mental Illness

Authors: *Megan E. Harvey, PhD, Robert Stutz, PhD*

Keywords: graduate student research, recovery, service delivery issues (provider knowledge, attitudes & competencies)

University of Toledo

Effectiveness of the Illness Management and Recovery Program in Promoting Recovery: Preliminary Results

Authors: *Wesley A. Bullock, PhD, Michael O'Rourke, MA, Aaron Breedlove, MA, Erin Farrer, MA, Mary Kay Smith, MD*

Keywords: evidence-based practices, outcomes, recovery

The Effects of Neurofeedback Treatment on Children with Behavioral, Attention and Concentration Problems: Preliminary Results

Authors: *Angele McGrady, PhD, MEd, LPCC, Thomas Fine, MA, LPCC, Christine Prodent, PhD*

Keywords: children/youth, neurofeedback, outcomes

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Evaluation of the Early Childhood Mental Health Initiative

Author: *Diane L. Langkamp, MD, MPH*

Keywords: children/youth, prevention

The Ohio State University

Evaluation of the Family and Systems Team Project: Quantitative and Qualitative Initial Findings

Authors: *Stephen M. Gavazzi, PhD, Scott D. Scheer, PhD, Courtney M. Yarcheck, MS, Ji-Young Lim, Suzanna Twining, Robbi Helser, Jason D. Sullivan*

Keywords: children/youth, Family & Systems Team (FAST) Project, system change

Twin Valley Behavioral Healthcare

Borderline Personality Disorder Patients: Decreasing the Length of Stay for Inpatient Treatment while Increasing Patients' Quality of Care, Efficiency of Treatment, Response to Care and Clinical Stability

Author: *Patty Mitchell, MS*

Keywords: borderline personality disorder, hospitals

University of Akron

Red Flags Depression Awareness Program

Authors: *Isadore Newman, PhD, Shannon S. Smith, PhD, Carole Newman, PhD, Russell Brown, PhD*

Keywords: children/youth, depression, prevention, Red Flags Depression Awareness Program, school-based mental health

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INTRODUCTION

Historical Overview

The decade of the 1970s was one of great creativity and change for the Department of Mental Health's research program. Although there were some setbacks, the overall outcome was forward progress in the development of new knowledge for the mental health system. The very early 1970s saw a continuation of the program of basic research which was developed in the 1960s. Our scientists were studying fatty acid metabolism, the neurobiology of aging in animals, brain lipids, and accumulated minerals and trace elements in the blood.

In Fiscal Year 1973 we took a critical look at our research program and found that it was not addressing the kinds of problems and questions the Department was facing in the present or expected to be facing in the future in our attempts to develop and deliver better services. While our research was concentrated in basic sciences, our questions were of a more immediate and applied nature. During Fiscal Year 1974 we phased out almost all of the basic research program and undertook a priority-setting process to determine those areas needing research through the remainder of the 1970s. Those areas were: community-based services, planning, prevention, geriatrics, children's services, administration, institution-based services, training, forensic psychiatry and drug abuse.

In Fiscal Year 1975 we launched a major developmental effort to build an applied research program to address questions in these ten priority areas. In this process, we also attempted to stimulate diversity in the types of settings in which Department of Mental Health research projects are conducted, because it is our belief that a multidisciplinary research program, in a variety of settings, will elicit a wider range of theories and approaches applicable to our problems.

The development effort in Fiscal Year 1975 was successful. By the close of that year research projects had been commissioned in eight of the ten priority areas, and we had achieved substantial progress in developing research in diversified settings. In addition to our Research Center in Cleveland, projects were being conducted under the sponsorship of seven of our institutions, three universities, eleven local community mental health boards and agencies, plus Central Office. Inquiry was in progress in such areas as the effects of Ritalin on hyperactive children, new techniques to correct learning disabilities, the prediction of dangerousness, the effects of the physical environment on hospitalized patients, and the interface between institutional and community mental health services. Procedures of proposal review were instituted by the Office of Program Evaluation and Research which insured a high level of quality in each research project funded. Findings were beginning to be reported which not only impacted our own services, but also achieved recognition in a number of national journals.

The 1976-1977 Biennium saw much of the forward momentum of the developing program in applied research halted. Competing pressures for scarce resources resulted in a focus on immediate service needs and a corresponding decline in emphasis on strategies which would yield knowledge for the future. The research budget was cut by more than 55 percent. Many projects were halted in progress, and others were terminated before they began. In contrast to the single Fiscal Year 1975, when 33 pieces of research were in progress in eight of our priority areas, the two-year period of the 1976-1977 Biennium found only 24 projects in operation, covering six areas.

In contrast to the bleak outlook of the previous biennium, Fiscal Year 1978 saw a revitalization of the research program. A substantial amount of the cut budget was restored, and efforts were renewed to develop research projects which could make a significant contribution to the knowledge base of the mental health system. As a result, Fiscal Year 1978 found 38 projects in progress in our Research Center, four of our institutions, seven universities, Central Office, one private research organization, and five

community agencies and boards. The projects covered seven of our ten priority areas and focused on such topics as organizational analysis of our institutions, programs to rehabilitate individuals with drug problems, factors affecting psychiatric admissions to inpatient services, and the mental health effects of mass tragedy and mass unemployment.

In Fiscal Year 1979 the forward momentum of the Department's research program continued. During that year, 48 projects were in operation, in nine out of ten priority areas. The diversification of project settings was increased, and projects were being conducted in our Research Center, eight universities, six of our institutions, Central Office, two private research organizations, seven community agencies and boards, and a metropolitan hospital. Fiscal Year 1979 projects covered a wide range of topic areas, including the variables associated with successful transition of released patients back into the community, the effects of various types of hospital organizational structure on staff and patient outcomes, and the development of instrumentation to measure more effectively the treatment progress of community aftercare clients.

During the last few months of Fiscal Year 1979, we began to look ahead and assess the needs for research in the 1980s. The Office of Program Evaluation and Research conducted a statewide needs assessment, including a series of interviews with key individuals within the mental health system throughout the state, to determine those topical areas where applied research could be most beneficial to the Department's efforts. This survey resulted in the identification of fourteen areas which were consistently seen as having major significance for the improvement of mental health care over the next ten years. The fourteen areas were designated as our priorities in the search for new knowledge in the decade of the 1980s. An additional area--biological and nutritional research--was added by the General Assembly in its budget deliberations, and these fifteen priorities guided the research program during the 1980-1981 Biennium:

1. The "revolving door" phenomenon
2. New treatment modalities
3. The effects of legislation on the mental health system
4. Community attitudes and citizen involvement in mental health
5. The interaction between mental health and other human service areas
6. Prevention
7. Clients with the dual diagnosis of mental illness and mental retardation
8. Psychotropic drugs
9. Treatment needs of special populations such as aggressive, violent or suicidal clients or long-term institutionalized patients
10. Treatment needs of emotionally disturbed children
11. Treatment needs of the geriatric client
12. Drug abuse
13. Mental health manpower and manpower development
14. Mental health system studies and the development of treatment evaluation instruments
15. Biological and nutritional research

Although it suffered from the state's fiscal crisis in the last half of Fiscal Year 1981, as did the overall mental health system, the research program was very active in the 1980-1981 Biennium and produced a substantial number of achievements. Sixty-seven projects were in operation in twelve universities, eight community agencies or boards, four of our hospitals, Central Office, three general hospitals, three private research organizations, and the Research Center.

A number of the major projects were studying the transition of clients from hospital to community settings. Through the funding of several pieces of research concentrating on different aspects

of this issue, we put in place a mechanism to yield new knowledge about how the service system was working and where it could be improved. In the 1980-1981 Biennium the research program received national recognition from the American Psychiatric Association for the work of the Architecture/Research/Construction Group in the development and testing of therapeutic physical environments for both hospital and community treatment settings.

After more than two decades of significant achievements, the research program was largely destroyed in the 1982-1983 Biennium. The overall state budget for 1982-1983 was developed at a time of severe fiscal crisis in Ohio. A number of agencies received substantial cuts in their requested allocations, including the Department of Mental Health, however research was the Department's only program singled out by the Office of Budget and Management for total elimination. Hence, the Mental Health budget was sent to the General Assembly with no allocation for research, and there followed an arduous six-month battle to get the program reinstated. In the end, the immediate battle was won but the long-term war was lost. We were successful in reinstating a budget for research, but it was a cut of 78 percent from the 1980-1981 program level.

Fiscal Year 1982 saw only the designated ongoing projects in operation. During Fiscal Year 1983, the completion of some of those allowed a few new projects to begin, primarily dissertation research in the Small Grants Program. In total during the 1982-1983 Biennium, twenty-one projects were funded in three universities, four community service or planning agencies, three general hospitals and two private research organizations. The Research Center was closed.

Highlights of the 1982-1983 Biennium were projects on the involvement of clients in the design and implementation of program evaluation in a mental health agency, the impact of different models of case management on treatment outcomes, the tracking of a cohort of 550 individuals released from two acute psychiatric hospitals into the community mental health system as well as the larger social service system, and the rights of patients to participate in decisions about the use of psychotropic medications in their treatment.

In 1983, our Architecture/Research/Construction Group was again honored for its work on the development and testing of therapeutic physical environments. This time they won a Progressive Architecture Award, the top national honor in the field of architecture. It is an extraordinary achievement for a single research effort to win national acclaim in two different fields of endeavor, and we feel fortunate to have been able to fund the group's work for over a decade.

Research funds were even more limited in the 1984-1985 Biennium. Twenty-four projects were funded under the Regular Research Grants Program and seven were funded under the Small Grants Program for dissertation research. These projects were operating in seven different universities, seven community service or planning agencies, two general hospitals and one private research organization. Two major dissemination efforts occurred in this biennium, involving the Client Oriented Program Evaluation group's successful development of a reliable and valid treatment outcome instrument based on clients' feelings, and findings from research on case management and its impact on client outcomes.

Despite our very active efforts to reinstate some of the budget cuts of previous years, allocations for research in the 1986-1987 Biennium were held by the General Assembly at 1984-1985 levels. Twenty-four projects were funded in five different universities, six community agencies, three private research organizations, and the Office of Program Evaluation and Research. Researchers studied the Department's Informed Consent Policy being tested at two state hospitals, individuals who sought services at a psychiatric emergency room but who were not admitted for inpatient care, the phenomenon of postpartum depression, interorganizational networks in the mental health service delivery system, and

the formal and informal networks of family members of mentally ill individuals and their use of mental health services.

In the 1988-1989 Biennium, despite continued very active efforts to reinstate part of the Department's research budget, the General Assembly again held the research line item at 1984-1985 levels. This erosion of real dollars limited both the size and scope of projects we could fund. Twenty projects were funded in seven different universities, five community agencies and boards, one private research organization, and the Office of Program Evaluation and Research. Work continued on assessing the impact of the Department's Informed Consent Policy for the administration of medications, as the policy was implemented in all our hospitals. Studies were also in progress concerning severely emotionally disturbed children and adolescents, the impact of several facets of housing, and the extent of family burden for different types of caregivers.

Early in 1989, the Department began an extensive planning process for developing research to assess the impact of the Mental Health Act of 1988--the omnibus legislation that mandated extensive changes in Ohio's mental health system. As a first step in that process, Office of Program Evaluation and Research staff conducted focus group sessions with representatives of 16 different constituency groups about framing the most important questions needing to be researched. Feedback came from consumers, family members, community mental health board staff, judges, county commissioners, advocates, legislators, labor unions, community mental health agency staff, community representatives, hospital CEOs and various professional organizations. In addition, a group of national leaders added their input about what questions individuals outside Ohio were asking about the impact of changes taking place in our mental health system.

Areas of research seen as most important by the various constituency groups were: the organization and structure of the mental health system; outcomes for clients; the role and function of hospitals and state-operated services; the impact upon staff, costs, families and special population groups; and the impact of community commitment, particularly on clients' rights. These areas of research were established and promulgated as the Department's research agenda for the decade of the 1990s.

In light of the importance of assessing the impact of the Mental Health Act of 1988 on the lives of Ohio consumers of mental health services, the Department made research a top budget priority for the 1990-1991 Biennium. Efforts to restore some of the budget were finally successful, and this infusion of new funds allowed an increase in the number of projects and in the diversity of topics being addressed by researchers. In the 1990-1991 Biennium, 30 projects were funded in 12 different universities, five community agencies or boards, one state hospital, one private research organization, and the Office of Program Evaluation and Research.

Researchers were studying the impact of housing programs and the comparative costs of providing mental health services and housing in the community vs. hospital settings, enhancing social networks of mental health consumers, the transition of severely emotionally disturbed youth to adulthood, the process of case management in community treatment teams, and the impact of a community support system for persons with long-term hospitalization.

This biennium the Office of Program Evaluation and Research received a grant from the National Institute of Mental Health for a four-year study "Services in Systems: Impact on Client Outcomes." The research was designed to ascertain the service mixes being delivered to Ohio's severely mentally disabled population; the extent to which the characteristics of clients, systems, and community environments were associated with these service mixes; how the service mixes were related to outcomes in clients' lives and how all of these relationships changed over time. Since it was a longitudinal study, it enabled us to

evaluate changes in the mental health system and client outcomes over a longer period of time than that studied by most of the prior research in the field.

The 1992-1993 Biennium saw a very active research program, with 33 projects funded in 12 universities; 10 community agencies, boards or hospitals; one private research organization, and the Office of Program Evaluation and Research. Projects were underway addressing important aspects of the impact of the Mental Health Act of 1988, including research on community mental health/ADAMHS board responses, and an in-depth study of persons involuntarily committed to boards, the services they received, and the outcomes they experienced, from their own perspectives and those of their families. A number of projects were focusing on population groups with distinctive mental health problems or needs, including African-American clients, elderly nursing home residents, mentally ill individuals involved in the criminal justice system, and children and adolescents.

During the 1994-1995 Biennium, we funded 43 projects--a very healthy increase! Sixteen were master's theses or doctoral dissertations, funded under our Small Grants Program for graduate student research. Research projects were funded to 14 different universities, six community agencies, boards or hospitals, one private research organization, and the Office of Program Evaluation and Research.

We had a particular focus on knowledge dissemination, since a number of projects were completed in this biennium. Research Results Briefing 1994: Knowledge for a New Era of Mental Health attracted over 300 people for a two-day symposium in which results from 23 different projects were presented. Our NIMH "Services in Systems" study was completed during this biennium and was featured at Research Results Briefing 1994 as well as in a number of national conference venues, including the National Conference on State Mental Health Agency Services Research and Program Evaluation, APHA and IAPSRs. The study provided so much valuable information and so many interesting new questions that we decided to extend and reconfigure it as part of our own research program, under the title "A Longitudinal Study of Mental Health Services and Consumer Outcomes in a Changing System."

During the 1996-1997 Biennium, we funded 29 projects. Eight were funded under our Small Grants Program. Research projects were funded to 10 different universities, two community agencies or mental health boards, one private research organization, and the Office of Program Evaluation and Research.

A major focus of this biennium's research program was recovery from serious mental illness, and ways in which recovery can be enhanced. The Department's Office of Consumer Services funded four demonstration projects, and our office funded universities to develop research around the projects' interventions. We are particularly pleased that, in all four instances, the research became a genuine collaboration between consumers and university staff. There were also a number of projects which focused on a wide range of topics concerning family members of adults with mental illness or children with emotional disturbances, indicating our commitment to family members as an important source of support in consumers' lives and to developing knowledge that will improve services for families as well as consumers.

During the 1998-1999 Biennium, we funded 37 projects. Eleven of those were funded under our Small Grants Program. Research projects were funded to 12 universities two community agencies, two private research organizations and the Office of Program Evaluation and Research. At the beginning of the biennium we held Research Results Briefing 1997: Knowledge for Services and Systems in an Era of Change, our triennial two-day symposium in which the results of our research programs are presented to the Ohio mental health system.

Our research portfolio for 1998-1999 reflected our commitment to understanding the characteristics and needs of consumers and families, particularly adults with severe mental illnesses and children with serious emotional disturbances, and to determining the services that work effectively to help people recover.

During the 2000-2001 Biennium, we funded 34 projects, 11 of which were funded under our Small Grants Program. Research projects were funded to 13 universities, three community agencies or boards, two private research organizations and the Office of Program Evaluation and Research.

In this biennium, the Department's Office of Consumer Services funded a group of eight demonstration projects designed to embed the principles of Recovery into board and agency operations in local mental health systems. Our office funded research to ascertain the impact of these interventions in seven of the demonstrations. The research portfolio this biennium also began to address the Department's Quality Agenda, which is seeking to improve the quality of mental health services in Ohio through 1) increasing the use of evidence-based practices, 2) shifting from a quality assurance approach to a continuous quality improvement approach, and 3) consistently measuring consumer outcomes.

It has been clear for some time that having research which proves that a new treatment modality is effective is not a sufficient motivation for organizations to adopt it. Other complex factors come into play, and the new Innovation Diffusion and Adoption Research Project (IDARP) was beginning to look at those factors.

During the 2002-2003 Biennium, we funded 35 projects, nine of which were funded under our Small Grants Program. Research projects were funded to 10 universities, three community agencies or boards, two private research organizations, and the Office of Program Evaluation and Research.

In this biennium, we continued our focus on evidence-based practices that would provide more effective treatments within the mental health system and in other venues where people with mental illness find themselves. A number of projects found that it is difficult to establish an innovative approach such as Recovery within an organization, and our Innovation Diffusion and Adoption Research Project (IDARP) was studying issues around the adoption and successful implementation of innovative practices by behavioral healthcare provider organizations.

The 2004 - 2005 Biennium

During the 2004-2005 Biennium, we funded 27 projects, seven of which were funded under our Small Grants Program. Research projects were funded to 10 universities, two community agencies, two private research organizations and the Office of Program Evaluation and Research.

In this biennium, almost all of our research projects were concentrated in three general areas: 1) studying the effectiveness of specific service programs or the effectiveness of already-established evidence-based practices when extended to new types of consumers, 2) understanding consumers' experiences with their illnesses and recovery pathways, and 3) sharpening the measurement tools, such as the Ohio Mental Health Consumer Outcomes System instruments, which clinicians use to plan services for consumers and assess their effects.

A number of programs are showing real success and positive effects on consumers' lives, including: mental health courts and crisis intervention training for police officers, studied by Chris Ritter and Jennifer Teller at Kent State University and Mark Munetz at the Summit County Alcohol, Drug and Mental Health Services Board; individual family psychoeducation for early-onset bipolar disorder, studied by Mary Fristad of Ohio State University; specialized mental health services for juvenile

offenders, studied by Dan Flannery and Laura Buckeye of Kent State University, and Mark Singer, of Case Western Reserve University; school-based mental health intervention studied by David Hussey and Kelly Rubino Burgess at Beech Brook, and services based on Family-Community Systems Theory, studied by Mo Yee Lee and Gilbert Green of Ohio State University with a host of agency collaborators.

We have enhanced our knowledge about individuals with mental illnesses who seek supported employment services and the effectiveness of those services through the work of John Finch and Betsy Nofziger at the Center of Vocational Alternatives and Phyllis Panzano and her colleagues at Decision Support Services. We have deepened our understanding of adolescent depression through the qualitative research of Claire Burke Draucker of Kent State University, and the extraordinarily rich picture she elucidated of how the stages and management of depression are experienced by depressed adolescents and their families. A number of other projects, still in progress, have the potential to yield equally exciting results.

This volume of *New Research in Mental Health* contains abstracts of each of the projects funded by the Department's research program which were in progress during the 2004-2005 Biennium (Chapter One) as well as projects in progress funded by federal and other sources (Chapter Two). The abstracts were written by the researchers, and they represent varying perspectives as well as varying stages of project progress. It is my hope that some of these projects are addressing problems and concerns you in the mental health system are experiencing, and that the results of the research will give you new ideas and assistance in improving the quality and effectiveness of services. Please feel free to contact the researchers or me for further information or to discuss any questions you may have. An appendix at the end of this book gives locating information for all principal investigators.

We in the Department of Mental Health believe that research is a valuable and a necessary tool in the task of enhancing the quality and effectiveness of the mental health system. By bringing the rigor of good research methodology to bear on the kinds of pressing problems and issues facing us, we can develop new strategies and techniques, move toward best practices in the public mental health system, and achieve a better understanding of the needs of those we serve.

It is one of the functions of the Office of Program Evaluation and Research to develop linkages between problems and questions within the mental health system which need research, and universities and other resources capable of developing research projects which will provide answers. To this end, we are actively engaged in an ongoing process to encourage researchers in settings throughout Ohio to apply their talents and expertise to the many priority questions which remain unsolved in all of the areas of public mental health. We would like to hear from any researchers who wish to explore these challenges with us.

I hope that you will find this book both interesting and challenging and that we can work together to integrate the results of our research into the ongoing operation of mental health programs, in order that the citizens of Ohio will receive higher quality and more effective services.

Dee Roth, MA
Chief
Office of Program Evaluation and Research
March 2007

Chapter One
ODMH - Funded Research



A COMPARISON OF THE EFFECTIVENESS OF MANUALIZED AND NATURALLY OCCURRING THERAPY FOR CHILDREN WITH DISRUPTIVE BEHAVIOR DISORDERS

Applewood Centers, Inc.

Jeremy P. Shapiro, PhD

Jen Kogos Youngstrom, PhD

Currently, one of the most basic controversies in the mental health field concerns the utility of treatment outcomes research, in its traditional form, for guiding everyday therapeutic practice. The methodological question is the degree of similarity between therapy as operationally defined in research studies and therapy as practiced in the “real world” of clinics and offices. The practical question is to what extent therapists should plan their interventions for clients on the basis of outcomes studies versus the basis of “clinical judgment.” This controversy crosscuts diagnostic groups and specific interventions, reaching to the heart of mental health treatment planning.

The traditional method of therapy outcomes research has been the clinical trial design, in which two or more subdivisions of a diagnostically homogeneous sample are treated with tightly defined, manualized therapeutic regimens, and change in client functioning from pretest to posttest is measured. Concerns about the clinical trial design center on the issue of external or ecological validity (Cronbach, 1982; Seligman, 1996; Weisz, Doss, & Hawley, 2005; Westen, Novotny, & Thompson-Brenner, 2004). These writers have raised troubling questions about the extent to which the clients and interventions studied in efficacy research accurately represent psychotherapy as it is practiced in the “real world.” The purpose of this study is to examine empirically the applicability of traditional outcomes research to clinical practice and to produce research findings from within a community clinic about the comparative effectiveness of different therapeutic techniques for children with disruptive behavior disorders.

This study is also addressing an additional, supplementary issue. The *Ohio Youth Problems, Functioning, and Satisfaction Scales* (Ohio Scales; Ogles, Melendez, Davis, & Lunnen, 2001) have accumulated substantial validation as measures of behavioral and emotional problems and level of mental health functioning in children. However, there is currently no information about the sensitivity of these scales to treatment-associated change in problem and functioning levels. The issue of sensitivity to change is of concern both to providers choosing measures for program evaluation purposes and to administrators, researchers and consumers who interpret outcomes data. This study will produce such information by comparing change data from the Ohio Scales to change data from older measures that have accumulated more empirical information.

Goals of the Study

The proposed study has two types of goals. One purpose is abstract, general and methodological: we are developing and using a new procedure for measuring naturally occurring child therapy techniques, so that their effectiveness can be directly compared. The goal here is to advance the methodology of mental health research by developing procedures to help fill an important gap. Our second purpose is specific, concrete, and clinical: we will obtain information about the effectiveness of various therapeutic techniques for children with disruptive behavior disorders. The combination of these two types of goals is integral to our study, because production of ecologically valid information about treatment of disruptive behavior disorders requires rigorous research about naturally occurring therapy.

The general issue of the applicability of traditional outcomes research to everyday community practice unpacks into several research questions:

- 1) When manualized treatments are “transported” from research laboratories to community clinics, is their effectiveness maintained?
- 2) What is the comparative effectiveness of the manualized treatments studied in outcomes research and the therapies routinely provided by community practitioners?

We will address the first question by comparing results obtained with an empirically validated, manualized treatment for disruptive behavior disorders (McMahon & Forehand, 2003) in our agency to results produced by this intervention in past studies in research settings. We will address the second question by comparing, in our clinic, the results produced by the manualized treatment and by naturally occurring therapy.

The outcomes literature provides little information about the effectiveness of therapeutic techniques when they are divorced from theoretically unified, pre-set packages and combined with strategies drawn from a variety of theoretical sources--even though this is how treatment is generally conducted. Applewood Centers has conducted one naturalistic study that did examine discrete intervention techniques (Shapiro, Welker, & Jacobson, 1997), and we are building on this past work to address the question:

- 3) What are the associations between use of various therapeutic techniques and treatment outcomes in community settings?

Our study has seven specific objectives, corresponding to the acquisition of seven types of empirical information:

- 1) We will measure the fidelity of implementation of McMahon and Forehand’s (2003) manualized intervention for children with disruptive behavior disorders.
- 2) We will compare the outcomes of our clients receiving the manualized treatment to outcomes reported in the literature for children treated in research studies.
- 3) We will develop and use a method for measuring implementation of naturally occurring treatment in terms of specific therapeutic techniques, using therapist report on a structured instrument validated by blind codings of audiotapes of sessions.
- 4) We will compare levels of treatment utilization versus dropout associated with manualized and naturally occurring therapy.
- 5) We will compare the outcomes produced by manualized and naturally occurring therapy, using several measures of treatment effectiveness.
- 6) Within the naturally occurring treatment condition, we will investigate associations between use of different therapeutic techniques and dropout rates, treatment outcomes, and parent satisfaction.
- 7) We will compare data on treatment progress from the Ohio Scales and several other measures in order to assess the comparative sensitivity to treatment-associated change of these instruments.

Methodology

This study is using a hybrid research design, combining aspects of traditional experimental methodology with a naturalistic approach. Specifically, our design combines functionally random group assignment to treatment conditions with detailed measurement of the variety of therapeutic techniques used by clinicians when they are not constrained by research requirements. Thus, our investigation of the

independent variable of psychotherapeutic technique combines experimental control and unobtrusive measurement.

The sample will include 240 children, aged three through nine years old, with a diagnosis of Oppositional-defiant Disorder, Adjustment Disorder with Disturbance of Conduct, or Disruptive Behavior Disorder Not Otherwise Specified. Children with co-occurring diagnoses are not excluded from the sample, because this would reduce the generalizability of our results; secondary diagnoses will be examined in the data analyses. Similarly, use of medication will not be a criterion of exclusion but will be a variable of interest. The child clients will be approximately 65 percent male and 35 percent female, with ethnic groups approximately 60 percent African American, 30 percent Caucasian, and 10 percent other ethnic group.

Our procedure has two basic parts. First, we are measuring naturally occurring therapeutic techniques, using a method described below, in a sample of 160 child clients. Within this subsample, we will examine correlations between use of different techniques and treatment outcomes. Second, we will provide a group of 80 children with Forehand and McMahon's manualized treatment, and we will compare their outcomes to those of the group receiving treatment as practiced by agency clinicians under non-research conditions.

The more complex and innovative of these two aspects of the investigation is the measurement of naturally occurring therapy. While a number of therapeutic processes have been measured in past studies, our goal is to describe and assess the full range of commonly used counseling strategies; to the best of our knowledge, this has not been done before.

We constructed a coding system that identifies 29 therapeutic strategies (e.g., several types of behavior therapy, narrative and solution-oriented therapy, and psychoeducation). Treatment modality (e.g., individual child, parent counseling, family) and activity (e.g., pure talking, symbolic play, sandtray) are also assessed by this system. Research staff listen to audiotapes of therapy sessions and code the sessions on this basis. We rank order the scoring categories according to their extent of use. The scoring system is presented in the Appendix at the end of this abstract.

In the first, naturalistic part of the study, treatment was practiced exactly as before the investigation began, and the research consisted solely of measurement. In the second part of the study, agency clinicians were trained in Forehand and McMahon's (2003) manualized treatment, and they are providing this intervention to their next 80 clients. This intervention consists of behaviorally oriented parent training in effective child management techniques and strategies for improving the parent-child relationship and child compliance with adult directives.

The dependent variables of therapy outcomes and quality are assessed by means of five instruments: (1) The Ohio Scales (Ogles et al., 2001), including both the parent- and therapist-report versions of the instrument, (2) The Child Behavior Checklist (Achenbach, 1991), a parent-report measure of child behavior problems and social competence, (3) The Parent Satisfaction Questionnaire (Kotsopoulos, Elwood, & Oke, 1989), a measure of parent satisfaction with their child's mental health services, (4) The Goal Attainment Scale procedure (Kiresuk, Smith, & Cardillo, 1994), an assessment of consumers' (here, parents') attainment of self-defined goals, and (5) The DSM-IV Global Assessment of Functioning Scale (GAF; American Psychiatric Association, 2003), which is a standard metric for quantifying therapist judgments of their client's functioning.

Preliminary Results

Project staff have listened to audiotapes of hundreds of child therapy sessions as they occur, without research constraints, in the community mental health center in which the study is being conducted. Although data analyses have not been completed, some qualitative impressions have emerged from our observations. Overall, our most striking impression is that naturally occurring therapy is usually quite different from the interventions studied in the outcomes studies that dominate the literature on treatment. Empirically supported interventions emphasize *specific techniques* such as behavior reinforcement charts, disputing irrational beliefs, teaching social skills, and so forth. Techniques of this type are certainly represented in the sessions we have taped, but they comprise a small percentage of session time.

Even before the data are analyzed, it is apparent that the coding called *Inquiry* accounts for more session time than any other category. *Inquiry* consists of therapist questions and parent and child answers concerning the child's functioning, usually during the time since the previous session, and usually focused on behaviors related to the presenting problems. In a moment-to-moment way, much session time is spent on descriptions of incidents and interactions related to the child's disruptive behavior problems. Although one purpose of this activity is to monitor the client's progress toward therapeutic objectives, much of this session time is spent on general description of how the child has been doing, including parental complaints about this behavior.

When therapists intervene, their input usually differs from the type of talk associated with use of well-defined, research-based techniques. Our coding system includes several categories designed to capture therapist statements like this: *Life Education* is coded when clinicians provide children with simple explanations of how life works in terms of predictable consequences, values, and factual information. *Suggestion*, which has *Mental* and *Behavioral* subtypes, is coded for therapist directives that are not part of a more systematic intervention such as behavior therapy. *Relationship Building* is coded for session time that does not focus on the presenting problems but that involves play or talk about pleasant topics that seems to have the purpose of building rapport.

Comparatively technical categories, such as those for subtypes of behavior and cognitive therapy, are also sometimes scored, but the treatment activities so designated are still somewhat different from the procedures described in treatment manuals or texts on these therapeutic approaches. For example, therapists sometimes discuss use of positive reinforcement and time-out, but they rarely provide the type of systematic, step-by-step training in child behavior management practices that is delineated in treatment manuals. Overall, these impressions support the original rationale of our study by illustrating pronounced differences between the type of therapy studied in typical outcomes research and the type that occurs in everyday clinical practice.

Coding system reliability. In order to assess the inter-rater reliability of the coding system, two research staff (J.P.S. and J.K.Y.) independently scored tape recordings of 30 therapy sessions. Then, we computed intra-class correlations between the ratings produced by these two researchers. The median correlation for the four scoring categories within the therapeutic *Modalities* dimension was .92. The median correlation for the 14 scoring categories within the therapeutic *Activities* dimension was .76. For the therapeutic *Techniques* dimension, there was a median correlation of .73 for the nine strategies involving work solely with the parent, and there was a median correlation of .82 for the 22 strategies involving simultaneous work with children, parents and, sometimes, other family members. Overall, these coefficients indicate a highly satisfactory level of inter-rater reliability for the coding system. This system seems to represent a valuable methodological innovation that makes it possible to measure the range of child, parent, and family techniques used in therapy as it occurs in community settings.

Applicability

This investigation has both general methodological goals and more specific objectives for assessing treatment outcomes in one population of children. Our coding system provides a reliable means of measuring the wide variety of therapeutic techniques that occur in therapy not constrained by research protocols or manuals. The scoring manual for this system is available from the authors.

Comparison of the outcomes achieved by Forehand and McMahon's protocol in our clinic and in past research settings will address the question of the "transportability" of this intervention. Comparison of outcomes from our manualized and naturally occurring treatment conditions will suggest whether Forehand and McMahon's intervention is more or less effective than routine clinical practice; such practice, as a comparison treatment, is more substantial than those typifying control conditions in past outcomes studies. Finally, within the study condition comprised of naturally occurring therapy, associations between therapeutic strategy and client outcomes will suggest which techniques are more and less effective for children with disruptive behavior disorders.

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Presentations of the Research to Date

Shapiro, J. P., & Youngstrom, J.K. (2003, November). *A comparison of the effectiveness of manualized and naturally occurring therapy for children with disruptive behavior disorders*. Paper presented at Research Results Briefing 2003: Knowledge to Enhance Quality in Challenging Times, Columbus.

Shapiro, J. P., Youngstrom, J.K., & Marcinick, H. (2006, October). *A comparison of the effectiveness of manualized and naturally occurring therapy for children with disruptive behavior disorders*. Paper presented at Research Results Briefing 2006: Knowledge to Transform Mental Health Services in Ohio, Columbus.

Appendix

Psychotherapy Coding System

Modality

___ Individual ___ Parent ___ Parent-child ___ Family

Activity

___ Art ___ Bibliography ___ Games, regular
___ Games, therapeutic ___ Homework ___ Paperwork
___ Play, Non-symbolic ___ Play, Symbolic ___ Pure Conversation
___ Reading ___ Sandtray ___ Skill Practice
___ Workbooks/sheets ___ Writing

Technique

Parent

___ Behavioral training ___ Case management ___ Counseling ___ Guidance
___ Inquiry ___ Problem Solving ___ Psychoeducation

Child and Family

___ BT: Exposure ___ BT: Operant ___ BT: Physiological
___ CT: Conceptual ___ CT: Scripted ___ Emotional Exploration
___ Inquiry ___ Life Education ___ Narrative
___ Other ___ Problem Solving ___ Psychodynamic
___ Psychoeducation ___ Relationship Building ___ Social Skills Training
___ Solution-oriented ___ Suggestion: Behavioral ___ Suggestion: Mental
___ Supportive ___ ST: Non-directive ___ ST: Directive
___ Therapist Self-disclosure

BT = Behavior Therapy

CT = Cognitive Therapy

ST = Systems-oriented Therapy

COGNITIVE BEHAVIOR THERAPY VERSUS TREATMENT AS USUAL FOR BIPOLAR YOUTH: AN EFFECTIVENESS STUDY

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Bipolar spectrum disorders (BPSD) are characterized by cycles of extreme mood swings, often including periods of depression and periods of mania or hypomania. Bipolar spectrum disorders include bipolar I (BP I), bipolar II (BP II), bipolar disorder not otherwise specified (BP NOS), and cyclothymia. Until recently, we knew very little about how common BPSD were in youth, and they were rarely diagnosed. While still scant, the available data suggest that the prevalence of BPSD is likely to be similar in adolescents as in adults, and somewhat lower in children.

In adults, bipolar disorders are typically recurrent (70-90%; Goodwin & Jamison, 1990; Kessing, Andersen, Mortensen, & Bolwig, 1998). In addition, BPSD cause impairment across a wide range of areas including marital, parental, occupational, and possibly, neuropsychological functioning (Zarate, Tohen, Land, & Cavanagh, 2000). For children, the impact of BPSD can be even more severe, as the disorder may interfere with success in the classroom and mastery of important developmental tasks, such as emotion regulation and establishment of social relationships (Nottelmann & Jensen, 1995). Moreover, such difficulties in forming interpersonal relationships and becoming self-sufficient can significantly increase the risk for suicide (Craddock & Jones, 1999). Indeed, the rate of completed suicide for individuals with BP is 30 times that of the normal population. In fact, 19 percent of individuals with BP die from suicide (Isometsa, 1993). Given these factors, BP disorder has been ranked as the sixth most debilitating disorder across physical and psychiatric disorders (Murray & Lopez, 1996).

Given the severity and chronicity of BPSD, along with its impact on families and society, it is imperative that empirically validated interventions are available for youth diagnosed with these mood disorders. Although significant research has been dedicated to developing and evaluating treatments for adult bipolar disorder, interventions for pediatric BPSD have only begun to emerge in the literature in the past decade. There is consensus in the field that combined psychopharmacological and psychosocial interventions are optimal for treatment of adults with BP, (American Psychiatric Association, 1994; Wilkinson, Taylor, & Holt, 2002) with recent national efforts focusing on developing consensus on a template for treatment of BPSD in children and adolescents (Carlson et al., 2003). Despite the call for psychosocial interventions with children and adolescents by clinicians, researchers, and families living with BPSD, the severity of BP symptoms and outcomes, and the amount of attention given to its psychosocial treatment with adults (e.g., Basco & Rush, 1996; Miklowitz, Frank, & George, 1996), empirically supported psychosocial interventions for children and adolescents with BP have been limited to multifamily psychoeducation groups for mood disorders (Fristad, Goldberg-Arnold, & Gavazzi, 2002). Thus, individual, empirically-based interventions aimed at symptom reduction are a priority.

Cognitive behavioral interventions have been shown to be effective in adults with BP in individual (Cochran, 1984; Lam et al., 2000) and group therapy format (e.g., Patelis-Siotis et al., 2001). Despite these promising efficacy findings in adults, no studies have been published to date evaluating CBT for youth with BPSD. The majority of the research for unipolar depression has found CBT to be efficacious in adolescents (Asarnow, Jaycox, & Tompson, 2001; Birmaher, Ryan, Williamson, Brent, & Kaufman, 1996; Curry, 2001; Reinecke, Ryan, & Dubois, 1998). As empirical evaluation of these treatments has been positive, it indicates

that psychosocial interventions can be useful in the treatment of mood disorders in youth.

Despite the promising format and findings of psychosocial interventions for the treatment of unipolar depression, it is unlikely these treatments would be sufficient for the treatment of BPSD, since these disorders involve symptoms and other factors that are different from unipolar depression. For example, an intervention targeted at treating BPSD in children or teens would require sessions/modules that addressed education regarding how to recognize manic episodes, the importance of medication compliance, and the substantial potential for substance abuse. A manual to treat youth with BPSD has been developed and a small efficacy trial indicates that it is likely to be effective in treating this population (Danielson, Fleny, Youngstrom & Findling, 2002; Feeny, Danielson, Schwartz, Youngstrom & Findling, in press). In addition, the psychoeducation groups being conducted with families of youth with BPSD are important; however, interventions that focus more specifically on helping the *youth* cope with the disorder and its symptoms are needed.

Goals of the Study

While treatment guidelines recommend psychotherapy for youth with BPSD, we know very little about what psychosocial treatments are most effective with these children and adolescents. Indeed, no randomized controlled trials (RCTs) have been conducted evaluating individual treatments for these at-risk youth. Thus, the primary aim of this study is to investigate the effectiveness of a manualized, evidence-based cognitive behavioral therapy (CBT) (Feeny et al., in press; Danielson et al., 2002) for youth with BPSD treated in a community mental health setting, Applewood Centers Inc. We are conducting an RCT in which youth ages seven to 18 with BPSD (including, BPI, BPII, BP NOS, and cyclothymia) will receive treatment as usual (TAU) or 12 sessions of CBT and we will compare outcomes of the groups.

Primary hypotheses include: 1) Subjects who receive the 12-session CBT will show more improvement on measures of functioning and behavior at the post-treatment assessment than those who received TAU; 2) Subjects who receive the 12-session CBT intervention will show more improvement on measures of mania and depression at the post-treatment assessment than those who received TAU; and 3) Those who received the 12-session CBT will show maintenance of gains at a three-month follow-up. In addition, we intend to conduct exploratory analyses with regard to treatment satisfaction and expectancy, session attendance, and homework compliance to understand how they relate to treatment outcomes.

Methodology

This is a randomized controlled trial--the primary aim of which is to provide youth (ages 7 to 18) with bipolar spectrum disorders (BPSD; including, BPI, BPII, BP NOS, or cyclothymia) either Treatment as Usual (TAU) or 12 sessions of a cognitive behavioral therapy (CBT) and to compare outcomes of the groups. TAU will consist of treatment by an Applewood clinician and will include talk therapy, appropriate case management, and referrals (e.g., psychiatry). The 12-session CBT will be skills oriented and will focus on learning information about bipolar disorder and the medications used to treat bipolar disorder, learning how to monitor changes in mood, and developing problem-solving and communication skills with family members.

Youth (age range 7 to 18 years) will be recruited through Applewood and Case Western Reserve University's collaborative ongoing NIMH-funded study, "Assessing Bipolar Disorder: A Community Academic Blend (ABACAB)." (Principal Investigator is Dr. Eric Youngstrom). This grant aims to improve assessment and detection of BPSD and uses state-of-the-art interviews and self-report measures (the same assessment tools that we propose in this effectiveness trial). Youth will be identified through

these assessments, and eligible youth will be randomized to CBT or TAU with a 1:1 ratio. We will continue enrollment until we have 50 subjects with initial and 12-week assessments or 66 total participants (whichever comes first). Based upon the ABACAB grant thus far, we anticipate the sample in this study to be approximately 60 percent male and 85 percent African American, eight percent Caucasian, and seven percent other ethnicity.

Subjects must meet DSM-IV criteria for BPI, BPII, BP NOS, or cyclothymia as determined by a structured clinical interview (the Kiddie Schedule for Affective Disorders and Schizophrenia – Present and Lifetime Version, K-SADS-PL plus) and confirmed by a psychologist. We will allow youth taking psychotropic medications in the study as long as these medications have been stable (i.e., same medication, same dose) for one month prior to entry. We chose to exclude participants who have switched medications or dose within the past month because a change in medication during the active therapy trial would confound the results and we would be unable to separate recent changes in mood due to therapy or medication change. New referrals to psychiatry for both treatment groups will be made with an attempt to schedule their first appointment after the 12 weeks of treatment unless it is urgent that they be seen immediately. Exclusions include: youth diagnosed with a substance-induced mood disorder or medically induced mood disorder; youth who are psychotic and warrant additional treatments; suicidal youth with intent and plan, and youth who are actively dependent on substances, or have a Pervasive Developmental Disorder (PDD). Based on existing Applewood and ABACAB data, we expect that the percentage of youth who are excluded for these reasons will be quite small (less than 10%) and thus the results will be quite generalizable to the public mental health system.

Primary outcomes measures include the Ohio Youth Scales, Child Behavior Checklist (CBCL), Youth Self Report (YSR), Family Global Environment Scale (FGES), and Children’s Global Assessment Scale (CGAS). The Short Form of the Ohio Youth Scales (OS) will be completed by the parent, worker and adolescent at pre-treatment and 12 weeks. We will examine the Functioning and Problem Severity subscales of the OS. The CBCL will be completed by the parent at pre- and post-treatment (12 weeks). The Youth Self Report will be completed by youth 11 years and older at each time point. This instrument assesses the same behavior problems as does the CBCL, and the item content is identical for the majority of the items. The Family Global Environment Scale (FGES) is a one-item, rater-completed instrument which provides data about the overall functioning of the family. The Children’s Global Assessment is a one-item, rater-completed instrument which provides data about the overall functioning of the child/adolescent being assessed.

Mood symptom measures include the General Behavior Inventory (GBI), Young Mania Rating Scale (YMRS), and the Clinical Global Impressions Scale (CGI). The GBI will be completed by youth and the youth’s parent at pre-treatment and 12 weeks. It will also be completed at the 24-week follow-up for those in CBT. The GBI is a 73-item self-report inventory with items focusing on mood-related behaviors (depression, hypomania, and biphasic symptoms) over the past week. The measure has demonstrated excellent reliability and good discriminant validity with child populations, through parent report (Youngstrom, Findling, Danielson, & Calabrese, 2001) and adolescent self-report (Danielson, Youngstrom, Findling, & Calabrese, in press). The YMRS will be completed by both a trained research assistant and a parent at pre-treatment (baseline) and 12 weeks. It will be completed at the 24-week follow-up as well for those in CBT. The YMRS is an 11-item measure administered via interview in which the rater is asked to rank symptoms of mania on five explicitly defined grades of severity. Adequate reliability and validity of the YMRS in adult populations (Young, Biggs, Ziegler, & Meyer, 1978), and child populations (Youngstrom, Danielson, Findling, Gracious, & Calabrese, 2002) have been established. The CGI is a seven-point scale that assesses for global severity of psychiatric illness. It is also a seven-point scale that assesses for global improvement of psychiatric illness. It will be completed by the rater conducting the research assessments.

Lastly, other clinically relevant measures include: the Expectancy of Therapeutic Outcome, Client Satisfaction, and The Youth Client Satisfaction Questionnaire, Additional Treatment Inventory, Homework Completion, and Session Attendance.

Preliminary Results

There are no preliminary results at this time. We began enrollment in October, 2005. All families eligible to participate have consented to the project. We currently have two youths in Treatment as Usual and two in Cognitive Behavior Therapy.

Significance and Implications

There is a growing demand that research show the effectiveness and utility of empirically validated treatments in more typical, “real world” patients (Norquist, Leibowitz, & Hyman, 1999). Indeed, the field of treatment outcomes research has begun to expand its focus to examine whether interventions with demonstrated efficacy can affect meaningful outcomes for “typical” patients, assessing a broader range of post-treatment outcomes including functioning, disability, and quality of life (Street, Niederehe, & Lebowitz, 2000). In spite of the importance of establishing the external validity of treatments, most studies have been primarily concerned with the internal validity of their results (i.e., efficacy studies). Experts have called for research that examines the external validity of such empirically supported treatments (i.e., effectiveness research; Barlow, 1996; Howard, Moras, Brill, Martinovich, & Lutz, 1996; Seligman, 1995). There is an especially pronounced lack of effectiveness research in child settings (Hoagwood, Hibbs, Brent, & Jensen, 1995). Given the severity and chronicity of BPSD, along with its impact on families and society, it is imperative that empirically validated interventions are available for youth diagnosed with these mood disorders. Although significant research has been dedicated to developing and evaluating treatments for adult bipolar disorder, interventions for pediatric BPSD have only begun to emerge in the literature in the past decade. This project responds to this need for effectiveness research in several ways: delivering our intervention in a community mental health setting, utilizing broad inclusion criteria, including youth with multiple comorbidities, and comparing a manualized intervention to flexibly delivered TAU.

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THE EFFICACY OF SCHOOL-BASED MENTAL HEALTH INTERVENTIONS

Beech Brook

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This study examines the impact of school-based mental health services on reducing psychiatric symptomatology for referred urban youth. The Beech Brook School-Based Community Support Program (SBCSP) is an innovative public/private mental health partnership that addresses three core child mental health themes: 1) the significant and unmet need for children's mental health services (U.S. Department of Health and Human Services, 1999), 2) the historically ineffective responses in meeting these needs through traditional education and mental health service delivery models (Catron & Weiss, 1994), and 3) the inordinate impact that a small group of children with severe emotional and behavioral disturbances can have upon the learning environment (Conduct Problems Prevention Research Group, 1999). While significant dollars have been spent on community support program (CSP) services, little research has been done to evaluate the efficacy of such services.

Description of the School-Based Mental Health Program

The Beech Brook School-Based Community Support Program (SBCSP) is currently present in over 30 elementary and middle schools in the Cleveland Municipal School District (CMSD). Children manifesting emotional and behavioral difficulties are referred to the program by teachers and principals from participating schools. The SBCSP staff individualize treatment plans to meet the needs of each child in the program, including individual, group and classroom support. In addition to those services, the staff also provides:

- Case management
- Home visits
- Teacher/administrator consultations
- Parenting groups
- Family support groups
- Individual and family counseling
- Information and referrals to other Beech Brook programs or to other agencies
- Summer programming

These interventions are primarily intended to improve social competence and reduce symptoms of emotional/behavioral disturbance which interfere with daily living, personal development, and school performance. Services are designed to occur in the child's life space, whether it be in the family, school, or community, in order to help promote social and academic competencies, and to strengthen and support families.

Study Design and Research Objectives

This Ohio Department of Mental Health (ODMH) funded research project examines archival data from this program for the period of time from November 5, 1995 until December 19, 2003. The four primary research objectives of this study are to:

- 1) Identify and profile the child, family, and service characteristics for a sample of approximately 1,800 elementary and middle school youth receiving SBCSP services.

- 2) Evaluate the effectiveness of the SBCSP model in reducing psychiatric symptomatology for targeted youth.
- 3) Model the differential impact that client profile characteristics have on predicting behavior change.
- 4) Test the hypothesis that varying levels of intervention intensity will differentially impact psychiatric symptomatology in referred elementary and middle school students.

Investigators hypothesize that intensive school and family therapeutic intervention across both academic and summer months will achieve the best results. Objective 4, therefore, has two related research questions:

- 4a) The Beech Brook School-Based Community Support Program delivered through the academic school year (SBCSP academic year program) will produce modest but statistically significant reductions psychiatric symptomatology.
- 4b) An enhanced level (SBCSP+ which includes the academic year program plus the summer therapeutic program) of Beech Brook School-Based Community Support programming delivered across academic and summer months will produce the largest and most significant reductions in psychiatric symptomatology.

Overview of the Methodology

Descriptive and cross-sectional statistical analyses are used to describe and compare changes in the psychiatric status of youth across service and service levels. Client demographic and service data have been collected and are stored in client charts and multiple archival data bases (i.e., client demographic data base, service data base, DSMD data base, satisfaction data base). Child psychiatric symptomatology and behavioral functioning was measured using the *Devereux Scales of Mental Disorders* (DSMD). The DSMD is the primary research instrument administered at intake and every 90 days thereafter. The DSMD (Naglieri, LeBuffe, & Pfeiffer, 1994) is a 111-item standardized behavior rating scale designed to evaluate behaviors related to psychopathology in children and adolescents. The DSMD was specifically chosen because of its connection to DSM-IV criteria and its ability to measure extreme behaviors through its critical pathology scales. The instrument has three composite scores--externalizing, internalizing, and critical pathology, each made up of two subscales. The DSMD total and composite scores have excellent internal reliability (e.g., Cronbach's alpha of .97 for the Total Scale) and test-retest reliability (.96 for the Total Scale). The DSMD uses both teacher and parent raters. A total score of 60 has been empirically determined to be the best cut-score for differentiating clinical from non-clinical samples. Generally DSMD t-scores can be interpreted as follows:

40-55	Average
56-59	Borderline
60-69	Elevated
70+	Very Elevated

In 2006, researchers plan to continue doing cross-sectional subgroup analyses comparing program effect differences by select subgroups (e.g., gender, race, history of abuse, internalizing disorders, externalizing disorders, etc.). The service data will be cleaned, aggregated, and merged with the DSMD and demographic data. In addition, hierarchical linear modeling (HLM) will be used mainly to accomplish objectives 2, 3, and 4. Statistical procedures, such as tests of goodness-of-fit indices (i.e., likelihood functions, Akaike's Information Criterion and Schwartz Bayesian Criterion) will be used for model

building and the search for the best set of predictors, particularly a reduced set of confounding factors. To study change, we will use following criteria to select study subjects: they must have at least two ratings, and must be followed for at least six months. A unique feature of HLM is its capacity to distinguish the cross-sectional effects from longitudinal effects. Based on our final models, we will use the coefficients to predict the model-simulated outcomes values for selected groups at the baseline. This procedure will show the profiles of psychiatric symptomatology among the service conditions (e.g., SBCSP academic year program and SBCSP academic year program plus summer therapeutic program, or SBCSP+) net the impacts of other characteristics such as demographics, number of out-of-home placements, and cumulative risk factors. Similar simulations will be made to show the differential change rates of behavior over time between service conditions. Specifically, we will examine the interaction terms related to service type and dosage. Significance of the interaction term will confirm the hypothesis regarding differential change rates of behavioral impairment among subgroups of children.

In 2006, investigators also will use propensity score matching (PSM) to answer research question 4. The major objective of employing this method is to control for selection bias so that we can conduct a more rigorous assessment about the impact of services including SBCSP+. The propensity score matching (PSM) approach is essentially a two-stage data analysis. Before running a multivariate model, we will apply PSM to create an ad hoc sample. This method attempts to control for unobserved heterogeneity affecting service mix, including the use of SBCSP+. For example, investigators will calculate probability of receiving SBCSP+ based on an estimated logistic regression, and create new samples through a process of matching on propensity scores. Based on the new samples, investigators will run second stage analysis using HLM. A dichotomous variable denoting SBCSP+ receipt (yes or no) will be included in each HLM. The regression coefficient of SBCSP+ from this analysis indicates the impact of SBCSP+ on the outcome variable, after controlling for covariates and unobserved heterogeneity in selection of services. Therefore, it shows a *purer* impact than that from a multivariate model based on an unmatched sample.

Preliminary Results

This report presents preliminary findings related to the first two objectives: profiling the sample and evaluating reductions in psychiatric symptomatology for targeted youth. Archival and service data have been collected, coded and cleaned. The Beech Brook SBCSP sample contains descriptive data on 2,403 children. These are the children who were seen by Beech Brook staff leading to the opening of a case. Of these children, 1,969 (81.1%) are African American, 358 (14.7%) are Caucasian, 15 (.6%) are Hispanic, seven Native American (.3%), three Asian (.1%), and the rest (approximately 4%) are coded as other. The sample contains more males (1,750, or 72.1%) than females. The mean age at the first rating for this sample is 9.74 years old ($SD = 2.69$) (see Table 1).

A subset of the 2,403 SBCSP children (approximately 600) received only assessment and consultation services. These children were not seen for continued treatment which included ongoing DSMD ratings at 90 day intervals. DSMD ratings are available for 1,817 unique children enrolled from November 5, 1995 to December 19, 2003. There are over 8,000 DSMD ratings in the data base. Of the children who have two or more parent ratings, there are 4,626 ratings for 1,194 children. Each child has an average of 4.68 ratings made by parents and/or teachers.

Table 1. Client Demographics

Variable	<i>n</i>	%
Gender		
Female		27.8%
Male	676	72.1%
	1,750	
Race		
African American	1,969	81.1%
Caucasian	358	14.7%
Hispanic	15	.6%
Native American	7	.3%
Asian	3	.1%
Custody Status		
Cuyahoga County (CCDCFS)	162	6.7%
Other	13	.5%
Relative-Guardian	329	13.7%
Parent	1,899	79.0%
History of Physical Abuse	107	4.6%
History of Sexual Abuse	132	5.6%
Exposure to Domestic Violence	202	8.6%
Child of a Substance Abuser	442	18.8%
Mean Age	9.74 (<i>SD</i> = 2.9)	
Mean # of Out of Home Placements (OHP)	.54 (<i>SD</i> = .54)	
Mean Length of Stay (LOS)	283 (<i>SD</i> = 268)	
Median Length of Stay (LOS)	196	

Thus far, preliminary analyses using paired *t*-tests have been conducted to test program effects. Caretaker and teacher ratings were analyzed separately. Findings indicate statistically significant improvements for youth served in the program by both parent ($M = 60.65$ [13.34] vs. 56.10 [13.50]; $t = 12.49$, $df = 1196$; $p < .001$), and teacher raters ($M = 59.94$ [10.66] vs. 57.98 [10.88]; $t = 12.39$, $df = 924$; $p < .001$). The mean change difference in parent score is 4.55 points, a moderate effect size (.33). The mean difference in teacher score is 1.96 points, a small effect size (.18).

Significance and Implications

This study examines eight years of empirical data that may help to identify and understand factors associated with school-based services and child mental health outcomes. Currently, there is little school-based mental health research that empirically examines program issues related to mental health outcomes, particularly with minority urban youth. Preliminary findings indicate that clients who receive services experience reductions in psychiatric symptomatology during the course of school-based mental health treatment. While these preliminary findings are positive, and need to be further explored in 2006, caution needs to be exercised due to the lack of a control group in the study design. Fortunately, the study employs sophisticated methodologies that will be useful in creating comparison groups and examining client and service characteristics associated with differential mental health outcomes.

A major gap in mental health treatment research is an exploration of a “service-to-science” pathway, specifically investigating the migration of promising routine practices into evidence-based

treatments. Findings from this study may help to lay the groundwork for further routine practice investigation. Due to the large number of high-risk youth that are able to be engaged and served by such a model, further and more in-depth study is clearly warranted.

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Presentations of the Research to Date

- Hussey, D., & Burgess, K. (2005, March). *Exploring the least restrictive alternative in children's mental health treatment*. Paper presented at the Seventh All-Ohio Institute on Community Psychiatry 2005, Beyond Evidence: Trauma, Treatment, Resiliency and Recovery. Case Western Reserve University, School of Medicine, Department of Psychiatry, Cleveland, OH.
- Hussey, D., Royer, T., & Burgess, K. (2005, October). *The efficacy of school-based mental health interventions in an urban sample*. Poster presented at the 10th Annual Conference on Advancing School-Based Mental Health, Cleveland, OH.
- Hussey, D. (2006, October). *An empirical analysis of urban school-based mental health services*. Paper presented at Research Results Briefing 2006: Knowledge to Transform Mental Health Services in Ohio, Columbus.

THE EFFECTS OF CLIMBING INTO THE DRIVER'S SEAT TRAINING ON CONSUMERS OF MENTAL HEALTH SERVICES IN LUCAS COUNTY

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Statement of the Problem

The importance and role of user or consumer participation (i.e., active consumer engagement in clinical service planning and treatment decisions) has been a concept central to recent reform efforts in the delivery of mental health services (Chadwick, 1997; Gibbons, Bédard, & Mack, 2005; Martin, Petr & Kapp, 2003; Shanley, Jubb & Latter, 2003; Stromwall & Hurdle, 2003; Young & Ensing, 1999). Consumer involvement in mental health services developed from the widely held notion of “citizen participation” (Peck, Gulliver & Towel, 2002). In general, there has been widespread support for increasing consumer participation, both in public policy (Lloyd & King, 2003; Martin et al., 2003; Stoil, 2005) and in the professional literature (Coffey, 2003). Nearly all current public policy documents in the field of mental health services include recommendations or requirements for the active involvement of consumers as decision makers (Lloyd & King, 2003). In the professional literature, there have been several controlled investigations (see Simpson & House, 2002) and case studies (Lammers & Happell, 2003) documenting the positive effects of user participation. In the treatment literature, all current models of intensive case management recommend self-advocacy as a desired part of recovery (Coffey, 2003; Young, Forquer, Tran, Starzynski & Shatkin, 2000). Thus, the question of whether or not consumer participation should be a part of services has been settled.

There is widespread agreement in the field of mental health that consumer participation in the recovery process is both a necessary and desirable feature. There also appears to be acceptance that consumer advocacy operates through the mechanism defined by the interactions between individual consumers and case managers. However, the most important barriers to active consumer participation are paternalism and a negative agency culture conveyed to consumers through their case managers. Therefore, interventions that are likely to succeed should combine consumer education and empowerment with attitudinal changes among case managers and within the agency at large.

The basic research problem is to identify an intervention that increases consumer self-advocacy, enhances consumer recovery, and fosters an agency culture that respects and nurtures consumer participation. The purpose of this study was to test the effectiveness of a program designed to enhance consumer self-advocacy in the provision of mental health services in Ohio. This program, Climbing into the Driver's Seat (CDS), was specifically designed by the Ohio Advocates for Mental Health (OAMH) to accomplish two purposes: to increase consumer self-advocacy and to quantify consumer progress (Brower, 2003).

Research Questions

The research questions were:

1. What were the short-term and long-term effects of CDS training on
 - a. consumer knowledge of the Ohio Outcomes Survey,
 - b. consumer self-advocacy and satisfaction with case management, and
 - c. case managers' perceptions of the consumers' treatment participation, recovery progress and advocacy?
2. What were the short- and long-term effects on consumers who receive CDS training and their case managers, versus the short- and long-term effects on consumers and their case managers who did not have CDS training?

Overview of the Methodology

Participants. Three mental health agencies in Lucas County invited 300 consumers to CDS informational meetings. A total of 100 consumers attended two orientation meetings. At the CDS general orientation meetings, 82 consumers agreed to participate and completed the baseline surveys. Consumers were then randomly assigned to either the CDS training group or the wait-list control group. Their case managers were identified by each agency and received a two-page survey. CDS training occurred one month and seven months after the orientation meeting. Eventually, 20 consumers who received CDS training and 20 consumers who did not participate in training completed all assessments.

The mental health consumers who participated in the study identified themselves as either White (53%) or Black/African-American (39%). The most frequent last school grade completed was 11th grade (25%), followed by trade/tech school (22%), and some college (15%). Marital status was most likely to be divorced (49%) or never married (33%). Many of the consumers lived in either their own house or apartment (62%) or a relative's home (12%). The majority of the consumers listed their employment status as disabled (55%) or unemployed (30%).

Instruments. The Ohio Mental Health Consumer Outcomes System Adult Form A is a self-report survey containing 67 questions that measure multiple consumer variables, including consumer physical safety, self-esteem, self-recovery planning, quality of life, empowerment, self-advocacy, optimism, autonomy, symptom distress, community activism and demographics (Ohio Department of Mental Health, 2001). The subscales were quantified separately.

Satisfaction with Case Management Services. Consumers completed the Satisfaction with Case Management Services Scale (Geron, 2001) prior to CDS training and at six- and 12-month intervals following training in order to measure the degree of consumer satisfaction with case management services. The scale consists of 16 questions that examine the consumer's perceptions of case managers' availability, knowledge, affability, trust, and control.

Attitudes toward consumer advocacy. Both consumers and case managers completed a 17-question survey that measured attitudes toward consumer self-advocacy. Questions were specifically developed for this study by the Center for Evaluation Services in consultation with ODMH and the Lucas County Mental Health Board. Questions examined use of the Outcomes Survey, setting personal goals, service delivery, and self-advocacy.

Focus groups with consumers and case managers. Selected consumers and case managers were asked at the 12-month milestone to participate in separate focus-group interviews designed to gather additional in-depth information about consumer-case manager relationships. Case managers and consumers were asked questions regarding familiarity with CDS purposes and goals, use of Outcomes Survey skills and products, changes in participation in recovery programs and self-advocacy, and attitude toward consumer self-advocacy.

Treatment Participation Index. Case managers completed the one-question Treatment Participation Index (McGurrin & Worley, 1989) prior to CDS training and again at six- and 12-month intervals following CDS training. The TPI is an instrument designed to measure the level of consumer participation during treatment ranging across Full Participation, Moderate Participation, Marginal Participation, Low Participation, Very Low Participation, and Non-Participation.

Recovery Progress Index. Case managers also completed a survey examining the consumer's progress toward recovery in a variety of areas including managing symptom distress and medication, creating treatment plans and goals, health and safety, independent living skills, maintaining relationships with family and friends, employment and advocacy.

Procedures. All aspects of participation were described to consumers by researchers from BGSU, members of the Lucas County Mental Health Board (LCMHB), Ohio Department of Mental Health, and Lucas County Consumers Union. Informational luncheons lasted from April to June. All pre-test materials for the consumers in both the training and the wait-list control group were administered at the initial meetings. After consumers were identified, their case managers were contacted by the Lucas County Mental Health Board and asked to volunteer. Consumers and case managers received \$20 gift cards for completing each round of surveys. CDS training consisted of 10 to 12 hours of content presented over three days delivered by trained CDS teachers who have been prepared by OAMH personnel. Specifically, the content of CDS training included a pre-test, lessons on recovery, lessons on the Outcomes Survey, taking the Outcomes Survey, scoring the Outcomes Survey, using the Outcomes Survey during recovery, consumer advocacy, and a post-test.

The mid-test and post-test packets were completed by consumers and case managers six months later and 12 months after pre-tests. There were 20 consumers who completed all assessments but chose not to participate in the CDS training. As expected, there was a high mortality rate for consumers who did not complete the full year of the project (37%). Consumers and case managers were asked approximately 10 questions on the CDS training, the Outcomes Survey, consumer advocacy, recovery progress, and treatment participation at the focus group one year after training.

Results

Short-term effects of CDS training on consumers. The short-term results, six months after training, for consumers who had received CDS training were analyzed with a related-sample *t*-test for the Ohio Outcomes Survey Subscales, Consumer Advocacy, and Satisfaction with Case Management. Consumers' baseline scores completed at the orientation were used as the pre-test. Consumers then completed a mid-test six months after training. There were no significant differences between pre-test and mid-test scores except for Satisfaction with Case Management (see Table 1). For Treatment Participation, Recovery Progress, and Case Managers' Perceptions of Consumer Advocacy reported by case managers, there were no statistically significant findings (see Table 1).

Table 1. Related-sample *t*-tests for Short-term Effects for CDS Consumers on Outcomes and BGSU Surveys

Dependent Variable	Pre-test Mean	Mid-test Mean	<i>t</i>	<i>p</i>
<i>Outcomes Survey</i>				
Quality of life: Financial Status	2.20	2.46	.95	.36
Empowerment: Self-esteem/self-efficacy	3.01	2.97	.44	.67
Empowerment: Power/powerlessness	2.72	2.74	.14	.89
Empowerment: Community activism & autonomy	3.33	3.16	1.85	.09
Empowerment: Optimism & control over the future	2.77	2.67	.65	.53
Empowerment: Righteous anger	2.62	2.58	.31	.77
Empowerment: Overall	2.92	2.87	.64	.54
Symptom distress: Overall	36.92	32.46	1.62	.13
Quality of life: Overall	2.86	3.17	1.35	.20
<i>BGSU Surveys</i>				
Consumer Advocacy	2.57	2.65	.84	.41
Satisfaction w/ Case Management	3.68	4.25	2.68	.02
Case Manager: Treatment Participation	6.30	6.20	.42	.67
Case Manager: Recovery Progress	3.10	2.97	1.40	.19
Case Manager: Consumer Advocacy	2.50	2.60	.81	.43

Short-term comparison of CDS consumers and consumers who did not receive training. The short-term results for consumers who had received CDS training versus consumers who had not received the training were analyzed with an independent-sample *t*-test. The independent variable was group membership (CDS versus Control). The dependent variables were difference scores for the surveys. The only significant result was that consumers in the control group reported more gains in community activism and autonomy (see Table 2). In addition, there were no significant results for Treatment Participation, Recovery Progress Index, or Case Managers' Perceptions of Consumer Advocacy (see Table 2).

Long-term effects of CDS training on consumers. CDS consumers' long-term results for the Outcomes subscales indicated that although there were some gains, there was only one significant difference between pre-test and post-test. Consumers perceived their Symptom Distress as significantly lower at the post-test (see Table 3). There were statistically significant results for both Consumer Advocacy and Consumer Satisfaction with Case Management (see Table 3). Case managers perceived no significant gains in Treatment Participation, Recovery Progress, or Case Managers' Perceptions of Consumer Advocacy (see Table 3).

Table 2. Independent-sample t-tests using Difference Scores for CDS versus Control Participants on Outcomes and BGSU Surveys for Short-term Effects

Dependent Variable	CDS Mean	Control Mean	<i>t</i>	<i>p</i>
<i>Outcomes Survey</i>				
Quality of life: Financial Status	.26	.07	.66	.52
Empowerment: Self-esteem/self-efficacy	-.04	.17	1.71	.10
Empowerment: Power/powerlessness	.02	.12	.70	.49
Empowerment: Community activism & autonomy	-.17	.12	2.68	.01
Empowerment: Optimism & control over the future	-.10	.04	.77	.45
Empowerment: Righteous anger	-.04	-.10	.42	.68
Empowerment: Overall	.05	.10	1.60	.12
Symptom distress: Overall	-4.46	-4.55	.03	.98
Quality of life: Overall	.31	.18	.51	.62
<i>BGSU Surveys</i>				
Consumer Advocacy	.07	.35	.36	.16
Satisfaction w/ Case Management	.57	.55	.36	.94
Case Manager: Treatment Participation	-.10	.03	.36	.72
Case Manager: Recovery Progress	-.32	.01	1.00	.32
Case Manager: Consumer Advocacy	.10	.08	.36	.89

Table 3. Related-sample t-tests for Long-term Effects for CDS Consumers on Outcomes and BGSU Surveys

Dependent Variable	Pre-test Mean	Post-test Mean	<i>t</i>	<i>p</i>
<i>Outcomes Survey</i>				
Quality of life: Financial Status	2.41	2.59	.66	.52
Empowerment: Self-esteem/self-efficacy	2.97	3.23	1.65	.12
Empowerment: Power/powerlessness	2.57	2.73	1.27	.22
Empowerment: Community activism & autonomy	3.19	3.32	1.08	.30
Empowerment: Optimism & control over the future	2.93	3.13	1.41	.18
Empowerment: Righteous anger	2.70	2.81	1.16	.26
Empowerment: Overall	2.87	3.06	1.79	.09
Symptom distress: Overall	38.33	27.83	2.74	.01
Quality of life: Overall	3.00	3.29	1.50	.15
<i>BGSU Surveys</i>				
Consumer Advocacy	2.51	2.89	2.19	.04
Satisfaction w/ Case Management	3.47	4.17	4.05	.001
Case Manager: Treatment Participation	6.47	6.20	.59	.56
Case Manager: Recovery Progress	3.30	3.10	1.05	.31
Case Manager: Consumer Advocacy	2.61	2.58	.25	.80

Long-term comparison of CDS consumers and consumers who did not receive training. The long-term results for consumers who had received CDS training versus consumers who had not received the training were again analyzed with an independent-sample t-test. There were no significant differences between consumers who received CDS training and the control group for the Ohio Outcomes Survey, Consumer Advocacy Survey, and Satisfaction with Case Management (see Table 4). There were no significant findings for case managers' perceptions of consumers' Treatment Participation, Recovery Progress, or Perceptions of Consumer Advocacy.

Table 4. Independent-sample *t*-tests using Difference Scores for CDS versus Control Participants on Outcomes and BGSU Surveys for Long Term Effects

Dependent Variable	CDS Mean	Control Mean	<i>t</i>	<i>p</i>
<i>Outcome Survey</i>				
Quality of life: Financial Status	.19	-.05	.70	.49
Empowerment: Self-esteem/self-efficacy	.27	.06	1.00	.33
Empowerment: Power/powerlessness	.16	.02	.96	.35
Empowerment: Community activism & autonomy	.13	-.03	1.21	.24
Empowerment: Optimism & control over the future	.21	-.12	1.73	.09
Empowerment: Righteous anger	.11	-.10	1.21	.24
Empowerment: Overall	.19	-.01	1.61	.12
Symptom distress: Overall	-10.50	-2.53	1.65	.11
Quality of life: Overall	.29	-.09	1.30	.20
<i>BGSU Survey</i>				
Consumer Advocacy	.37	.30	.25	.80
Satisfaction w/ Case Management	.69	.42	1.21	.23
Case Manager: Treatment Participation	-.26	.27	.67	.50
Case Manager: Recovery Progress	-.35	.00	.98	.33
Case Manager: Consumer Advocacy	-.03	.32	1.58	.12

Consumer and case managers focus groups. One year after the completion of CDS training, consumers were asked about the training and the impact the training made on their lives. When asked to identify the purpose of the CDS training, consumers replied: working toward recovery, learn rights, improve your quality of life, to not be embarrassed or ashamed of their diagnosis, to learn more about their diagnosis and understand it better, learn how to advocate for yourself, focus on specific areas of recovery that you can change. When asked about incorporating training into their daily lives, 90 percent of the consumers stated they referred specifically to CDS training during treatment or meetings with their case managers. Twenty percent of consumers reported they brought in their CDS workbooks during treatment. Many consumers reported that prior to CDS they were ashamed of their illness, but now they no longer felt ashamed and felt they could “rise above the stigma and the situation.” All consumers at the focus group agreed that self-advocacy was very important. One consumer stated, “If you don’t stand up for yourself, then no one else will.” The consumers who attended CDS training expressed confidence and satisfaction with the program. Many consumers credited this program with changing their lives in a positive, affirmative manner.

One year after the completion of CDS training, case managers discussed aspects of the training as well as what impact the training made on the consumers' lives as well as case managers' beliefs and opinions on consumer advocacy and the Outcomes Survey itself. Case managers' knowledge of CDS was limited to areas of symptom management and independent living. No case manager mentioned consumer advocacy as a component of the program. Case managers stated that only one consumer brought in his or her workbook. However, the majority of case managers stated at least one instance where noticeable changes occurred for CDS consumers in their recovery programs. Case managers stated that CDS consumers were becoming more insightful, consistently staying on their medications, keeping appointments, showing more confidence, and supporting other consumers. When asked about consumer self-advocacy, case managers affirmed that consumers had increased their self-advocating skills.

Case managers' attitudes towards consumers' self-advocacy were discussed, and case managers made the distinction between appropriate and inappropriate self-advocacy. Appropriate self-advocacy was viewed as having positive outcomes for recovery. The consumers were better able to say what was and was not working, knew how to contact for services and how to advocate for their rights. Case managers viewed inappropriate self-advocacy as demanding rather than asking for services, threatening legal action, or demanding transportation or appointments at the last minute. Case managers stated that inappropriate self-advocacy did not foster positive outcomes and consumers taking responsibility for their own behaviors.

Case managers reported that they used the Ohio Outcomes Survey sporadically and only when appropriate for a specific consumer. Only a few case managers stated that they reviewed and discussed the results with the consumers. Case managers also expressed that the instrument could be frustrating for consumers because they felt that many of the questions were repetitive and ambiguous. Also, case managers wanted the instrument report to be user-friendly by shrinking the size of the graphs to fit more on a page. Case managers stated that the instrument did help them get to know and help their consumers. One case manager said that the instrument helped them target red-flag areas that needed to be worked on for the consumer. It also gave the consumer a starting point and foundation for dialog with the case manager.

Discussion

The most important quantitative result of this investigation was the finding that there were few significant differences between the CDS group and the wait- list control group (see Tables 2 and 4). On the Outcomes Survey instrument which measures a variety of constructs related to the CDS objectives of consumer advocacy, of the 18 comparisons, only one, Empowerment: Community Activism, achieved statistical significance favoring the control group. On the Consumer Satisfaction with Case Management Services, Consumer Attitudes toward Consumer Advocacy, Case Manager Perception of Consumer Treatment and Recovery Process, and Case Manger Perception of Consumer Advocacy scales (see Tables 2 and 4) there were no statistically significant differences favoring either group.

The second most important finding was that there were relatively few statistically significant changes across time for any group of participants in this study. For example, on the Consumer Outcomes Survey (see Tables 1 and 3) there were no significant differences on any of the nine subscale scores between the pre-test and mid-test and only one significant difference on one subscale between the pre-test and the post-test. Given the largely insignificant changes that occurred across time, it would be predicted that there would be little difference between groups. Similar results (i.e., little significant change across time for consumers) were found on the other surveys as well (see Table 1 and 3) for both the short and long term.

The third most important result was the finding that there were statistically significant differences across time on the Consumer Satisfaction with Case Managers scale which indicated more consumer satisfaction, especially when comparing pre-test and post-test scores. (See Tables 1 and 3). Thus, over time consumers became significantly more satisfied with their case management services.

While the most important results of the quantitative analysis were finding few significant changes, the opposite is true for the qualitative results for consumers. Interviews and focus group responses of consumers indicated that they viewed the CDS intervention positively, that they believed that the training had positively affected their lives, and that they had become better self-advocates. However, the interviews and focus group responses of the case managers were less demonstratively positive. Case managers demonstrated less knowledge of the advocacy goals of the CDS training, reported less use of the Outcomes Survey during recovery, and identified a number of perceived shortcomings in the Outcomes Survey. In spite of the apparent lack of case manager connections between CDS training and consumer advocacy, case managers stated that they believed that appropriate consumer self-advocacy was a desired attribute that would contribute positively to consume recovery and effective communication between case managers and consumers.

Though the findings are limited by the overall lack of significant differences, there are additional caveats that further limit the results. First, there was a very high mortality rate for consumers, with 37 percent leaving before the end of the study. Second, mental health agencies, in general, report a high turnover rate among case managers, and this was true in our sample as well. Third, the sample size was lower than intended which compromised the ability to reach statistical significance in the analyses. Fourth, there was some variability in the timing of the mid- and post-test administrations, caused by the fact that these tests were administered by case managers during scheduled appointments that varied by as much as two weeks. Finally, there is equality of the CDS and control group. While every effort was made by mental health staff to offer the CDS training to the control group, none of the 20 consumers in this group followed through, and enrolled and took the training. Thus, it is possible that there may have been a fundamental difference between consumers who took the training and those who stated that they would take the training, but failed to do so when offered.

The results of this study failed to affirm the impact of CDS training on consumer self-advocacy. However, the findings raise an interesting but unanswered question: Does education of consumers provide them with more mental health service information, and result in a change in their perceptions that they are already receiving quality mental health services?

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**FAMILIES OF WOMEN WITH CO-OCCURRING
MENTAL HEALTH AND SUBSTANCE ABUSE DISORDERS:
FAMILY CAREGIVER INVOLVEMENT, ROLES AND WELL-BEING**

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Problem Statement

Chronic illnesses, such as chemical dependency, have significant effects on families. Providing care to a person with chronic illness especially affects family caregivers, those family members who provide the most support and assistance to their ill family member. Data from the 2003 National Survey on Drug Use and Health indicates that over 19 million adults 18 years and older in the U.S. (9.1% of the population) met criteria for current substance abuse and dependence. For women, the focus population for this study, approximately 6.5 million (5.9%) women aged 18 years and older met criteria for current substance abuse or dependence. As compared with men, women with substance abuse problems are more likely to be living with a partner who has a substance abuse problem and to be caring for dependent children (United Nations, Office of Drugs and Crime, 2004; Office of Applied Studies, 2004).

Findings from the National Comorbidity Study (NCS), based on a nationally representative sample, document a high prevalence of co-occurring mental and addictive disorders. In the NCS, 41 to 65 percent of participants with a lifetime occurrence of addictive disorder also reported a lifetime occurrence of at least one mental disorder, and 51 percent of those with a lifetime occurrence of mental disorder reported a lifetime occurrence of at least one addictive disorder as well (Kessler et al., 1996).

Largely separate literatures in the substance abuse and mental illness fields over the past decade have examined the role of families of persons with substance abuse and/or mental illness. The substance abuse literature on family involvement has placed more emphasis on the impact of family involvement on client outcomes and has not paid significant attention to the mental health impacts of family involvement on family members themselves nor on the predictors of the mental health impacts of substance disorders on family members. In fact, the concept of “burden” of family members does not appear in the substance abuse literature. On the other hand, the mental health literature has placed significantly more emphasis on the impact of the client’s illness on the family. Research findings from the mental health literature indicate that both stressors and resources are important in explaining caregiver burden.

A number of sources of stress for families who provide care for an adult family member with a substance and/or mental disorder have been identified. Among those most often cited are the following: isolation; coping with behavioral problems; relationship problems between family members; family violence; not having enough help in providing care for their relative, and insufficient help from treatment professionals. Effects of these stresses that have been documented include: worry, anger, guilt, and shame; financial and emotional strain; marital dissatisfaction and discord; diminution in the quality of life and hopefulness of family members; physical victimization; negative impacts on the normal growth and development of other children, and physical effects of the stress of living with a substance abuser (e.g., migraines, colitis, ulcers) (Biegel, 1998; Biegel, Song, & Milligan, 1995; Cavaiola, 2000; Freeman, 1993; Lefley, 1996; Velleman, 1996).

Families are the primary source of social support to persons with a co-occurring substance abuse and mental disorder, providing direct care as well as financial support to their ill relatives. Due to the significantly worse symptomatology with which individuals with a co-occurring substance abuse and mental disorder present and to the nature of these symptoms (Drake, Rosenberg & Mueser, 1996), the impact on their families can be expected to be more significant than that on families with a member with a single disorder.

Despite the large numbers of adults with dual diagnoses, as noted above, there has been very little research that has examined the effects of these co-occurring disorders on family members' own well-being (Brown, Melchior, & Huba, 1999). Attention to the stresses and needs of families is important, because such stresses may have a negative effect on the support that family members can provide to their relative with co-occurring substance and mental disorders. Of the eight studies of families of persons with dual diagnoses reported in the literature, only two studies (Salyers & Mueser; 2001; Silver, 1999) examined the burden of family members of persons with a co-occurring substance abuse and mental disorder.

Another significant gap in the literature is that few studies have focused on co-morbidity between substance use disorders and psychopathology among women (Merikangas & Stevens, 1998). Women with co-occurring disorders report higher levels of physical, sexual, and emotional victimization compared to women in general and as compared to men with co-occurring disorders (Gearson & Bellack, 1999; DiNitto, Webb, & Rubin, 2002). Women with co-occurring disorders are more likely to be diagnosed with post-traumatic stress disorders, major depression, and generalized anxiety as compared to men (Brady & Randall, 1999; Chander & McCaul, 2003).

Thus, we know very little about the levels and types of involvement of family caregivers with their ill relative with a co-occurring substance abuse and mental disorder and about the impact of caregiving (i.e., burden) upon them (Clark, 1996). This is an important knowledge gap since family support and involvement has been shown to be positively related to retention in treatment and to treatment outcomes for persons with substance abuse disorders (Higgins, Budney, Bickel, & Badger, 1994; Siddall & Conway, 1988). However, family caregivers who are stressed by the caregiving experience and who subsequently develop physical and/or mental health problems of their own may not be able to provide adequate support and assistance to their ill family member.

Research Questions and Hypothesis

Unmet family caregiver needs can, therefore, pose barriers to treatment and/or can negatively impact treatment outcomes of their ill family members and so increase the risk of exacerbation of the substance abuse and/or psychiatric disorders. The purpose of this study, therefore, was to enhance understanding of the impact upon families of having a female family member with a substance disorder or co-occurring substance abuse and mental disorder. Two research questions guided this study: What are the predictors of subjective burden--worry, stigma, and displeasure--and objective burden--family disruption--for family members of women with substance disorders or co-occurring substance and mental disorders? Are there different predictors for different types of burden? It is hypothesized that family members of women with co-occurring substance and mental disorders will have higher levels of burden than family members of women with substance disorders only and that having a co-occurring disorder will be a significant predictor of family member burden.

Methods

Subjects. The study sample consisted of women participating in either outpatient or residential substance abuse treatment programs and a family member nominated by each of these women. To be eligible for the study, the women had to be at least 18 years old, have no diagnosis of schizophrenia and no current use of any medication typically prescribed for a major thought disorder, and to have been in substance abuse treatment for three weeks or more. In addition, women included in the study were those willing to nominate the family member or significant other who provided them with the most social support. Social support was defined as emotional support (e.g., listening to my problems), instrumental support (e.g., financial aid) and/or informational support (e.g., employment advice).

Almost all of the women who met these study eligibility criteria (97%) were successfully contacted about the study. Of these, 96% ($N = 87$) agreed to participate and provided the name of a family member. Nominated family members were contacted subsequent to the woman's interview, and 95 percent ($N = 82$) of the family members agreed to be interviewed. Only two family members refused to participate in the study and three others were unable to be contacted. The final study sample was comprised of 82 women and 82 family members (one for each woman).

Study Design and Procedures. This study utilized an exploratory, non-experimental cross-sectional survey design. Data were collected by trained interviewers in separate face-to-face interviews with women and their identified family member. For ease in describing the measures used in the study and in relating study findings to the larger body of literature on caregiving, the women in the study will be referred to as "care recipients" and their family members will be referred to as "caregivers."

Measures. A stress-coping model was utilized to identify stressors and resources hypothesized to impact subjective burden (worry, stigma, and displeasure) and objective burden (family disruption) (Biegel & Schulz, 1999; Pearlin, Mullan, Semple, & Skaff, 1990). Based upon the research model, the potential predictors of burden were categorized as stressors, as resources or as contextual variables (care recipient and caregiver characteristics) as discussed below. All study measures had acceptable levels of internal consistency.

I. Stressors

- a. **Care recipient behavioral problems.** The Client Behaviors Scale developed by Biegel and colleagues (Biegel, Milligan, Putnam, & Song, 1994) for use with family caregivers of persons with mental illness was adapted for the current study. Using a five-point scale ranging from "Never" to "Constantly or almost constantly," caregivers were asked to report the frequency with which the care recipient had displayed a wide range of behaviors in the last 12 months. A summated score was computed, with higher scores indicating a greater degree of care recipient behavioral problems.
- b. **Care recipient criminal justice status.** The care recipient was asked to report whether or not she had been in jail or prison in the last six months (1 = Yes).
- c. **Care recipient substance abuse and mental disorders.** Care recipient substance use disorder was assessed at treatment intake by the structured Clinical Intake Assessment Interview-Cleveland (CIAI-C), a computerized assessment instrument yielding a DSM-compatible diagnosis. Mental disorders were assessed by use of the generalized anxiety disorder,

depression, dysthymia, post traumatic stress disorder, and mania/hypomania sections of the Computerized Diagnostic Interview Schedule (C-DIS).

As was expected, all of the care recipients in this study met the criteria for at least one current (last 12 months) substance use disorder (either abuse or dependence). Care recipients were coded as having a dual disorder if the C-DIS indicated the current presence (last 12 months) of at least one of the targeted mental disorders (anxiety, depression, dysthymia, PTSD, or mania/hypomania).

d. Extent of care recipient's alcohol and/or drug problems. Caregivers were asked to assess the extent of the care recipient's drug and/or alcohol problems over the past 12 months on a four-point scale ranging from Not at All to Severe. A higher score indicates more problems.

e. Extent of care recipient's emotional problems. Caregivers were asked to assess the extent of the care recipient's emotional problems over the past 12 months on a four-point scale ranging from Not at All to Severe. A higher score indicates more problems.

II. Caregiver Resources

a. Overall social support. The Interpersonal Support Evaluation List (ISEL) was used as a measure of overall social support. This 16-item scale has been well-validated (Cohen, Mermelstein, Kamarck & Hoberman, 1985). A summated score, from 0 to 48, was computed to represent the level of caregivers' perceived social support, with higher scores indicating more overall social support.

b. Caregiving specific social support. Caregivers were asked to rate the amount of caregiving help and support they received from family, friends, and substance abuse and mental health professionals. Each caregiving support source was rated separately on a five-point scale from "much less than needed" to "much more than needed." The variables were then recoded into two dichotomous variables: Amount of help received from family/friends/professionals is "just right or more" or "less than would like."

c. Support received from the care recipient. Respondents were asked to rate, from (0) "none" to (3) "a lot," the amount of assistance received from the care recipient in ten areas, including: meal preparation and other household chores, financial assistance, care during illness, and companionship. A summated scale was created, with higher scores indicating higher levels of support received from the care recipient.

d. Caregivers' Likelihood to Ask for Help. Caregivers were asked their likelihood of asking people they know for help in providing support for their family member. This variable was measured on a four-point scale from Very Unlikely to Very Likely.

III. Contextual Variables

a. Caregiver gender. (1) Male or (0) Female.

b. Caregiver age. Caregiver age was recorded in years.

c. Caregiver relationship to care recipient. (1) Significant other or (0) Non-significant other.

IV. Caregiver Outcomes

Based on findings from previous research, burden was conceptualized as having both subjective and objective components (Biegel et al., 1994; Tessler & Gamache, 1995). Subjective and objective burden was measured by four subscales of the Family Experiences Interview Schedule which have established construct validity and reliability (Tessler & Gamache, 1995).

- a. Worry. Caregivers reported the frequency with which they experienced worries concerning the care recipient during the past 12 months. The scale's seven items were rated on a five-point scale from "Never" to "Constantly or almost constantly". A summated score was computed, with a higher score indicating a greater degree of worry.
- b. Displeasure. The displeasure scale assesses the extent of agreement with eight statements regarding negative feelings that caregivers may have experienced in the past 12 months, in relation to the care recipient. The eight items were scored on a four-point scale from "strongly agree" to "strongly disagree". Responses to the eight items were summed to create a total score, with higher scores indicating a greater degree of displeasure.
- c. Stigma. The stigma scale measures concerns that caregivers had in the past 12 months about the way they would be perceived or treated by others in their social environment. The scale includes nine items, scored on a five-point scale from "Never" to "Constantly or almost constantly". A summated score was computed, with a higher score indicating a greater degree of stigma.
- b. Impact. The impact scale indicates the degree to which the caregiver's life was disrupted by the caregiving role in the past 12 months on a five-point scale from "Never" to "Constantly or almost constantly."

Results

Demographic and socioeconomic characteristics of the sample. Care recipients ranged in age from 21 to 55, with a mean age of 34 years. Only one-half of care recipients (50%) had a high school education or greater. The majority (81.7%) of the care recipients were African American, the remaining were Latino (11.0%) or of other origin (7.3%). Slightly more than half (51.2%) of the care recipients were currently residing at an inpatient treatment program, one-third (32.9%) lived in their own home, with the remainder residing in the family caregiver's home (12%) or were living with a relative or friend (3.6%).

Caregivers ranged in age from 18 to 77 years, with a mean age of 40 years. Differently from other caregiver populations, 40.2 percent of the caregivers were male, while 59.8 percent were female. Almost one-third (31.7%) of the caregivers were the significant other of the care recipients, while the remaining caregivers were either a sibling (23.2%), parent (19.5%), child (11.0%), or other relative (14.6%). Half of the caregivers (50.0%) were never married, 24.4 percent were divorced/separated, 22.0 percent were married and the remaining 3.7 percent were widowed. Similar to the care recipients, 84.1 percent of the caregivers defined themselves as African American, 12.2 percent as Latino, and 3.6 percent as other. More than third (37.8%) of the caregivers worked full time; 22 percent worked part time, and 29.0 percent were unemployed.

Substance and Mental Disorders. Over half (56.1%) of the care recipients met the criteria for a current dual disorder (mental illness and substance use disorder), while 43.9 percent had only a current

substance use disorder. When asked to assess the extent of their care recipients' drug or alcohol problems, over half (56%) of family caregivers perceived these problems to be moderate or severe. Care recipients' current mental disorders included Major Depression (40.2%), Post-Traumatic Stress Disorder (28%), Mania (22%), Generalized Anxiety Disorder (13.4%), Hypomania (3.7%), and Dysthymia (2.4%). When asked to assess the extent of their care recipients' emotional problems, one-half (50%) of family caregivers perceived these problems to be moderate or severe. Very few caregivers (3.6%) had a current substance dependence disorder.

Caregiver Support Systems. Over half (56%) of family caregivers indicated that they were unlikely to ask others for help in providing support for their care recipient. Almost half (48%) of family caregivers had no contact with their relative's treatment provider during the past six months.

Caregiver Burden. As can be seen in Table 1, the degree of caregiver burden varied by burden type. As a group, caregivers in this sample experienced moderate levels of Worry and Displeasure, and lower levels of Stigma and Impact.

Predictors of Caregiver Burden. Because the number of potential predictor variables was too large to enter in the regression analyses for each dependent variable given the sample size, bivariate Pearson correlation analyses were conducted first. Those variables that were statistically significant in the bivariate analyses were then used as predictor variables in the regression analyses. Although the care recipient's dual disorder status was not significantly correlated with any of the burden scales in the bivariate analyses, it was still utilized as a predictor in the regression analyses given its importance in addressing the study hypothesis.

A series of separate multiple regression analyses for each of the four burden scales were conducted, utilizing predictor variables that were statistically significant in the respective bivariate analyses. Table 1 includes descriptive statistics for variables utilized in the regression analyses of one or more burden scales. Because different variables were used in each regression equation, we will not attempt to compare explained variance across regression models. Rather, explained variance will be discussed within each of the four models below.

Table 1. Descriptive Statistics for Variables Used in the Multivariate Analyses

	<i>M</i>	<i>SD</i>	<i>Actual Range</i>	<i>Potential Range</i>	<i>α</i>
<u>Dependent Variables</u>					
<i>Subjective Burden:</i>					
Worry	18.30	6.30	3 to 28	0 to 28 (low to high)	.79
Stigma	8.96	8.84	0 to 30	0 to 36 (low to high)	.89
Displeasure	20.70	5.70	8 to 32	8 to 32 (low to high)	.90
<i>Objective Burden:</i>					
Impact	4.90	3.90	0 to 15	0 to 16 (low to high)	.79
<u>Predictors</u>					
CR Behavioral Problems	89.76	47.09	2 to 194	0 to 232 (low to high)	.97
CR Jail or Prison in Past 6 mos.	.19	.39	---	(1 = Yes)	---
CR Dual Diagnosis	.57	.50		(1 = Dual Diagnosis)	---
Extent of CR's Drug/Alcohol Prob. in the Past 12 mos.	1.68	1.29	0 to 3	0 to 3 (not at all to severe)	---
Extent of CR's Recent Emotional Problems	1.43	1.18	0 to 3	0 to 3 (not at all to severe)	---
Overall Social Support	35.99	7.65	7 to 48	0 to 48 (low to high)	.81
Less Help from Family	.41	.49	--	(1 = less help)	---
Less Help from Friends	.50	.50	--	(1 = less help)	---
Support from CR	14.28	8.63	0 to 30	0 to 30	.91
CG Gender	.40	.49	--	(1 = male)	---
CR Age	34.12	8.50	21 to 55		---

Note. CR= Care Recipient; CG= Caregiver

1. Worry. Eight predictors of Worry were included in the model: frequency of care recipient behavioral problems, care recipient’s institutional status, care recipient dual disorder, extent of care recipient’s perceived drug/alcohol problem, extent of care recipient’s perceived emotional problems, support from care recipient, the care recipient’s age, and caregiver’s gender. As shown in Table 2, the regression equation explained 34 percent of the total variance in caregiver’s worry ($R^2 = .34, p < .001$). Of the eight predictor variables, only the frequency of care recipient behavioral problems was significant after controlling for the effect of the other predictor variables, greater behavioral problems predicted higher levels of worry ($B = .05, p < .01$).

Table 2. Multiple Regression Analysis of Caregiver Burden: Worry ($n = 79$)

Variable	<i>B</i>	<i>Worry SE B</i>	<i>Beta</i>
CR Behavioral Problems	.05**	.02	.39
CR in Jail or Prison	2.75	1.71	.18
Extent of CR’s Drug/Alcohol Prob. in the Past 12 mos.	.44	.56	.09
Extent of CR’s Recent Emotional Problems	-.10	.61	-.02
Support from CR	-.01	.09	-.13
CR Age	.08	.08	.11
CG Gender	-2.07	1.44	-.17
CR Dual-Disorder	1.34	1.38	.11
$R^2 = .34***$			
$F = 4.44 (df= 78)$			

Note. CR= Care Recipient; CG= Caregiver
 * $p < .05$, ** $p < .01$, *** $p < .001$

2. Stigma. Table 3 reports findings of the multiple regression analysis of Stigma. Predictor variables for stigma were the frequency of care recipient behavioral problems, care recipient’s institutional status, care recipient dual disorder, extent of care recipient’s perceived drug/alcohol problem, overall social support, help from friends, and caregiver gender. The overall model accounted for 28 percent of the total variance in stigma ($R^2 = .28, p < .001$). Controlling for the effects of other predictors in the model, receiving less help from friends than the care recipient would like (compared to receiving just the right amount of help or more) ($B = 4.15, p < .05$), predicted higher levels of stigma.

Table 3. Multiple Regression Analysis of Caregiver Burden: Stigma ($n = 79$)

Variable	<i>B</i>	<i>Stigma SEB</i>	<i>Beta</i>
CR Behavioral Problems	.03	.02	.14
CR in Jail or Prison	3.61	2.56	.16
Extent of CR’s Drug/Alcohol Prob. in the Past 12 mos.	.94	.81	.14
Overall Social Support	-.20	.12	-.18
Less Help from Friends	4.15*	1.87	.24
CG Gender	2.63	1.87	.15
CR Dual-Disorder	-1.11	1.84	-.06
$R^2 = .28***$			
$F = 4.00(df= 78)$			

Note. CR= Care Recipient; CG= Caregiver
 * $p < .05$, *** $p < .001$

3. Displeasure. For Displeasure, predictor variables included the frequency of care recipient behavioral problems, care recipient's institutional status, care recipient dual disorder, extent of care recipient's perceived drug/alcohol problem, and extent of care recipient's perceived emotional problems, support from care recipient and caregiver's gender. As shown in Table 4, the regression equation explained 37 percent of the total variance in displeasure ($R^2 = .37, p < .001$). Controlling for the effect of other predictors, a higher extent of care recipient behavioral problem ($B = .04, p < .01$) and lower levels of support received from the care recipient ($B = -.19, p < .05$), predicted higher levels of caregivers' displeasure.

Table 4. Multiple Regression Analysis of Caregiver Burden: Displeasure ($n = 79$)

Variable	Displeasure		
	<i>B</i>	<i>SE B</i>	<i>Beta</i>
CR Behavioral Problems	.04**	.01	.33
CR in Jail or Prison	2.48	1.51	.18
Extent of CR's Drug/Alcohol Prob. in the Past 12 mos.	.20	.49	.05
Extent of CR's Recent Emotional Problems	.14	.54	.03
Support from CR	-.19*	.08	-.29
CG Gender	-.45	1.27	-.04
CR Dual-Disorder	.20	1.21	.02
	$R^2 = .37***$		
	$F = 5.91(df = 78)$		

Note. CR= Care Recipient; CG= Caregiver

* $p < .05$, ** $p < .01$, *** $p < .001$

4. Impact. Table 5 presents the findings of multiple regression analyses of Impact. Predictor variables included the frequency of care recipient behavioral problems, care recipient's institutional status, care recipient dual disorder, extent of care recipient's perceived drug/alcohol problem, overall social support, help from family, and caregiver gender. The overall model accounted for 34 percent of the total variance in impact ($R^2 = .34, p < .001$). Controlling for the effect of other predictors in the model, a higher extent of care recipient behavioral problems ($B = .03, p < .01$) and perceived less help from family than the care recipient would like (compared to receive just the right amount of help or more) ($B = 2.06, p < .05$), predicted a greater Impact of the caregiving role.

Table 5. Multiple Regression Analysis of Caregiver Burden: Impact ($n = 78$)

Variable	Impact		
	<i>B</i>	<i>SE B</i>	<i>Beta</i>
CR Behavioral Problems	.03**	.01	.31
CR in Jail or Prison	1.46	1.1	.15
Extent of CR's Drug/Alcohol Prob. in the Past 12 mos.	.58	.36	.19
Overall Social Support	-.02	.05	-.04
Less Help from Family	2.06*	.85	.26
CG Gender	1.17	.86	.15
CR Dual-Disorder	.02	.80	.00
	$R^2 = .34***$		
	$F = 5.06(df = 77)$		

Note. CR= Care Recipient; CG= Caregiver

* $p < .05$, ** $p < .01$, *** $p < .001$

The care recipients' behavioral problems was the only variable that predicted more than one type of caregiver burden, showing statistically significant effects in three of the four regression equations. In order to obtain a fuller understanding of the kinds of behavioral problems that caregivers reported as most problematic, we examined the frequency distributions of each of the 58 behaviors included on the Behavioral Problems Scale. The most problematic care recipient behaviors were: managing money ($M = 2.9$); too much time on her hands with nothing to do ($M = 2.7$); too dependent, irritability (both $M = 2.55$); lying or being untruthful ($M = 2.52$); mood swings ($M = 2.43$); and being anxious or worried, and displaying feelings of depression or extreme sadness (both $M = 2.33$).

Discussion

Family caregivers in the current study experienced moderate levels of two of the three types of subjective burden (Worry and Displeasure), and lower levels of Stigma. The level of objective burden (Impact), was relatively low. Study findings demonstrate the multidimensional nature of caregiver burden and the need to separately examine burden types. The finding that family caregivers experienced moderate levels of Worry and Displeasure extends previous research concerning the impact of chronic illness to family caregivers of women with substance abuse and suggests the need for substance abuse professionals to address the needs of family caregivers, as discussed further below. It should be noted that the methodology of this study may have resulted in an underestimation of the level of burden of family caregivers. Because study subjects had been in treatment for various lengths of time when interviewed for this study, it might be expected that burden levels of family caregivers of the women who had been in treatment for a while, especially inpatient treatment, might be lower than for caregivers of women early in the treatment process or for caregivers of women not in treatment.

Consistent with findings from previous caregiving research, care recipient behavioral problems was a significant predictor of caregiver burden, cutting across types of burden. Thus, higher levels of Worry, Displeasure, and Impact were predicted by higher levels of care recipient behavioral problems.

The role of social support as predictor of caregiver burden was also consistent with previous research (Biegel et. al., 1994). The need to examine specific types of caregiving social support, rather than social support in general, has been identified in previous study findings. Therefore, when examining social support of caregivers, it is important to focus on social support in the context of their caregiving experience. In the present study, we found that consistent with the above, overall social support was not predictive of the levels of caregiver burden. However, caregiver-specific social support and support from the care recipient played an important role. Thus, a higher level of Stigma was predicted by less perceived help from friends, and a higher level of caregiver Displeasure was predicted by less support from the care recipient, whereas a higher level of caregiving Impact was predicted by less perceived help from family members.

We did not find any relationship between the care recipients having a dual disorder, as compared to a substance disorder alone, and caregiver burden in any of the bivariate or multivariate analyses. Therefore, the study hypothesis was not supported. The small sample size of the current study restricted our ability to fully examine all potential elements of the stress-coping model. Thus, our analyses were limited to examining main effects of substance disorder only versus dual disorders. Our simplified conceptual model did not allow examination of potential mediators and moderators that may influence burden outcomes. It is conceivable, for example, that care recipient dual disorder status may exacerbate the effects of other stressors or attenuate the effects of specific resources on different types of caregiving burden. In addition, the concept of dual disorders may be too generic. Most care recipients in our study were dependent on more than one substance, and of the women with dual disorders, most had more than one current mental disorder. Given our limited sample size, we were unable to examine different

combinations of substance use and mental disorders and the potential impact of these various combinations on caregiver burden.

These findings suggest several implications for practice and policy in the substance abuse field. As discussed earlier, substance abuse agencies have stressed the importance of involving families in the treatment of clients, believing that family involvement can improve client treatment engagement and outcomes. However, the needs of family caregivers themselves have not been addressed by the substance abuse treatment system. In fact, while caregiver burden is acknowledged and addressed by interventions to reduce caregiver burden, this concept is a foreign one to substance abuse treatment agencies. Thus, it is important for substance abuse treatment agencies to address issues of family burden of caregivers of clients with substance abuse problems. Research in the mental health field indicates that family caregivers of adults with mental illness often have substantive levels of depressive symptomatology. Such symptoms may undermine caregivers' abilities to provide support to their family member or to participate in their family member's treatment. Therefore, involvement by substance abuse treatment agencies in addressing family caregiver burden, in addition to addressing the clients' needs, may also positively impact clients' treatment.

Interventions to address the needs of family caregivers are more likely to be effective if they are tailored to address the causes of different types of family caregiver distress. The findings of this study suggest that interventions to address caregiver burden should be focused on helping caregivers address care recipient behavioral problems and strengthening caregiver support systems. Concerning the former, across chronic illnesses, caregivers indicate that they want information to both help them understand the nature of the care recipient's behavioral problems such as the ones identified in this study (e.g., problems managing money, mood swings, anxiety, worry, irritability, depression) as well as about strategies to address these problems. Psychoeducational interventions for family caregivers that have been developed in the mental health field can be adapted for use by family members of persons with substance abuse problems to help them address such behavioral problems (McFarlane, 2002).

Study findings concerning caregiver-specific social support demonstrate the importance of addressing multiple sources of informal social support, from family members, from friends and from the care recipients themselves. The finding that almost one half of the family caregivers in this study indicated that they were unlikely to ask anyone for help with their caregiving role suggests that substance abuse agencies need to provide outreach to family members. Family education programs and family support groups have been used successfully with a variety of chronic illnesses and could help family members of persons with substance abuse problems strengthen their social support systems in a non-threatening, non-stigmatizing fashion.

The finding in this study that over one-half of the care recipients receiving outpatient or inpatient treatment for substance dependence also had a co-occurring mental disorder, suggests the need for substance abuse agencies to address the mental health problems of their clients. The substance abuse agencies that treated the low-income women in this study offered very limited mental health services because funding from the mental health system was focused on individuals with severe and persistent mental illness rather than the diagnoses common to these women.

Future research studies are needed that utilize larger samples and longitudinal study designs. This would allow testing of a more comprehensive stress-coping framework to address mediating and moderating as well as direct effects. It would also allow for further examination of various combinations of specific substance and mental disorders, the role of caregiver relationship (e.g., parent, spouse/partner, and sibling), and caregiver gender. Further study of caregiver gender in the context of substance use and dual diagnosis is important since previous research in other caregiving situations has found that male

caregivers experience lower levels of caregiver burden. Future studies should also control for length of time in treatment episode by interviewing women and caregivers early in the treatment process and perhaps by also including a sample of women with substance disorders who are not currently in treatment.

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Other Publications of the Research to Date

- Biegel, D.E., Ishler, K., Katz, S., & Johnson, P. (in press). Predictors of burden in families of women with substance disorders or co-occurring substance and mental disorders. *Social Work Practice in the Addictions*.
- Biegel, D.E., Katz, S., Tracy, E., & Townsend, A. (in press). Predictors of quality of relationship in families of women with co-occurring substance and mental disorders. *Journal of Dual Diagnosis*.
- Townsend, A., Biegel, D.E., Ishler, K., Wieder, B., & Rini, A. (in press). Families of persons with substance and mental disorders: A conceptual framework and literature review. *Family Relations Journal*.
- Tracy, E.M., & Biegel, D.E. (in press). Personal social networks and dual disorders: A review of the literature and implications for practice and future research. *Journal of Dual Diagnosis*.

Presentations of the Research to Date

- Katz, S., Biegel, D.E., & Townsend, A. (2006, January). *The Impact of Caregiver-Care Recipient Relationship Quality on Family Caregivers of Women with Substance Use Disorders or Co-Occurring Substance and Mental Disorders*. Paper presented at Tenth Annual Conference of the Society for Social work and Research, San Antonio, TX.
- Biegel, D.E. (2005, May). *Families of Women with Substance Disorders or Co-Occurring Substance and Mental Disorders*. Paper presented at Research to Practice Workshop, NIDA Dual Disorders Research Program, Case Western Reserve University, Cleveland, OH.
- Biegel, D.E., Tracy, E., Katz, S., & Townsend, A. (2005, March). *Predictors of Quality of Relationship in Families of Women with Co-Occurring Substance and Mental Disorders*. Paper presented at 7th All Ohio Institute on Community Psychiatry, Cleveland, OH.
- Biegel, D.E. (2005, March). *Predictors of Burden in Families of Women with Substance Disorders or Co-Occurring Substance and Mental Disorders*. Invited paper presented at Child Welfare, Drug Abuse and Intergenerational Risk Seminar Series, School of Social Welfare, State University of New York at Albany, Albany, NY.
- Biegel, D.E., Ishler, K., & Johnson, P. (2005, January). *Predictors of Burden in Families of Women with Co-Occurring Substance and Mental Disorders*. Paper presented at Ninth Annual Conference of the Society for Social Work and Research, Miami, FL.
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THE IMPACT OF SUPPORTED EMPLOYMENT FOR CONSUMERS WITH CO-OCCURRING MENTAL AND SUBSTANCE USE DISORDERS

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Individuals suffering from mental illness have many obstacles to overcome on the road to recovery. Recovery is even more difficult for consumers with co-occurring or dual disorders, mental illness and substance use. Approximately 50 percent of consumers suffering from mental illness also suffer from substance abuse (Sengupta, Drake & McHugo, 1998). It is estimated that 10 million people each year are affected by a dual disorder (Hamilton, 2004). Individuals with dual disorders gain the most confidence with their ability to recover or develop independent living skills and to meet their daily living needs when they experience incremental successes through stages of change. One such success is the attainment of gainful employment (Drake, McHugo, Becker, Anthony, & Clark, 1996).

Employment is an important facet of life. It helps to define who we are and is an avenue to develop friendships. Unfortunately, the current rate of employment among persons with severe and persistent mental illness is very low. Over 90 percent of the people suffering from severe mental illness in the United States are unemployed (U.S. Surgeon General, 1999). In Ohio alone, approximately 70,000 of the consumers with severe mental illness are unemployed (Ohio Department of Mental Health, 2001). Additionally, only 25 percent of consumers with mental illness in Ohio are working or volunteering, and only 16 percent reported that they received income from working (Ohio Mental Health Commission, 2001).

Unfortunately for consumers with mental illness, obtaining and maintaining competitive employment can be difficult. Jayakody and Stauffer (2000) found the presence of a mental health disorder to be associated with a 25 percent lower likelihood of working, even after controlling for socio-demographic variables such as marital status, education and race. Many obstacles may hinder a consumer's ability to work in a competitive atmosphere, including work history, stress, stigma, and reduced work performance due to mental illness (Honey, 2003). For consumers with co-occurring disorders, barriers to employment may be even harder to overcome (Mitchell, Betts & Epling, 2002). Individuals with dual disorders are likely to experience higher rates of unemployment (Hamilton, 2004) and to have fewer experiences with working (Pickett-Schenk, Cook, Grey, Bangart, Rosenheck, & Randolph, 2002).

Given the difficulties present in securing employment for consumers with co-occurring disorders, the need to deliver vocational services to meet their needs is salient. Traditional vocational programs focus on prevocational services prior to placement in work programs, commonly referred to as "train-place." These prevocational services include assessment, skills training and sheltered work experiences

(Quimby, Drake & Becker, 2001). Traditional vocational approaches, however, are largely ineffective because they tend to keep consumers in the prevocational settings too long (Bond, Becker, Drake & Vogler, 1997) and, therefore, their application to adults with dual diagnoses is questionable. The focus has shifted from traditional vocational services for consumers with mental illness to a new type of vocational program commonly referred to as “Supported Employment.”

Theoretical Background and Literature Review

Having a dual diagnosis increases consumers’ difficulties in securing competitive employment. However, such employment is very important because it is the crux of recovery for consumers with dual disorders and working has been shown to help consumers pursue goals and develop motivation to address their substance use problems (Mueser, Noordsy, Drake, & Fox, 2003). Competitive employment helps consumers develop self-awareness, self-confidence and self-assertiveness. It also elicits feelings of accomplishment and productivity, all of which can aid in recovery from mental and substance disorders.

It is now recognized that the traditional vocational model that required long periods of training of clients before placement in competitive employment is not effective for clients with severe mental illness. The Supported Employment model is a “place and train” model that focuses on securing employment first and then providing on-the-job training and support. This model has been tested in clinical trials and demonstrated to be an effective evidence-based approach to employment for persons with mental illness (Bond, 2004; Bond et al., 2001).

Supported employment is an evidence-based practice that is part of the treatment for mental illness. It is designed to assist consumers who want to work to find competitive employment. Supported employment further helps these individuals to locate a job that matches their preferences and provides them with the level of professional assistance needed (Bond et al., 2001). Supported Employment is comprised of seven major components (Bond et al., 2001):

Zero exclusion policy. This tenet of Supported Employment encourages all consumers to apply for work. All consumers who want to work are eligible for help. The presence of severe mental illness therefore does not inhibit a consumer’s ability to seek competitive employment.

Consumer preferences are important. Mental health case managers and employment specialists help each consumer identify his or her personal strengths, skills, and interests. Job placement is based on consumer preferences, their strengths and work experiences. Employment specialists are trained to give as much or as little help as the consumer wants. Case managers at mental health agencies also help consumers identify personal strengths that will motivate consumers to consider work as an attainable goal.

Rapid job search. In the Supported Employment model, once consumers express a desire to work, they are referred to an employment specialist. There is no requirement to complete pre-employment assessment, training, or workshops. The employment specialist assists consumers in the necessary steps required to secure employment, including researching available jobs, filling out employment applications and interviewing with potential employers. The employment specialist advises consumers on benefit requirements, income ceilings, work incentives, and other issues and regulations related to employment benefits.

Competitive employment. For consumers meaningful employment means employment in the competitive workforce. Competitive employment is a departure from traditional vocational programs which focus on prevocational training prior to employment. In the Supported Employment model,

employment specialists help consumers find either a part-time or full-time competitive job, rather than sheltered employment.

Employment is integrated with mental health services. Mental illness affects an individual's ability to perform successfully in the workplace. Combining mental health services with employment to provide ongoing support to consumers helps to address these difficulties.

Time-unlimited support. Consumers participating in supported employment do not receive services on a time-limited basis. Consumers are never discharged from employment services, unless they request it.

Benefits Counseling. the primary purpose of benefits counseling is to help consumers understand their benefits. Consumers are more likely to try and obtain employment if they understand Social Security Administration work incentives.

Employment specialists facilitate relationships among consumers, employers, multidisciplinary service teams, and job counselors. These employment specialists help agencies integrate employment with mental health treatment by attending weekly team meetings to discuss the progress of each consumer with case managers, psychiatrists, nurses, criminal justice professionals, family caregivers, and other members of the treatment team. The multidisciplinary team members openly discuss consumer problems and find solutions for clinical issues that affect work performance, such as medication side effects, persistent symptoms, cognitive difficulties, and other rehabilitation needs. This focus helps consumers maintain mental health and develop the confidence and skills necessary to manage the difficulties and challenges experienced in the workplace.

Individuals with dual disorders experience many barriers to employment. In all likelihood these individuals have few experiences with working (Pickett-Schenk et al., 2002), and many go without the opportunity to work given their low priority on the rehabilitative process (Laudet, Magura, Vogel, & Knight, 2002). Although there have been some studies examining employment for adults with dual diagnoses, there is a need for additional research examining vocational programs for persons with dual diagnoses (Bell, Greig, Giel, Whelahan & Bryson, 2002).

Consumers with co-occurring mental and substance disorders may benefit the most from work opportunities. Drebing et al. (2002) analyzed differences in work functioning and vocational rehabilitation among participants with psychiatric disorders alone, substance use disorders alone, and psychiatric disorders with co-existing substance use disorders. The findings suggest that persons with dual diagnoses had better work functioning, more participation in vocational rehabilitation, and better outcomes when compared to those with only a psychiatric disorder. Poorer functioning was also seen for participants with substance use disorder alone.

Bell et al. (2002) similarly researched employment outcomes for consumers suffering from schizophrenia and schizoaffective disorders. The authors were interested in examining the employment history of those who had a history of substance use and active substance use during the work program. They found that substance use did not directly affect work participation, such as the number of weeks worked or the number of hours worked. Work participation also did not affect substance use. The authors concluded that working may be therapeutic for these individuals because it may help consumers alter their use pattern in order to minimize the impact it would have on their ability to work. Given these findings, the authors encourage programs that engage consumers with schizophrenia or schizoaffective disorder and substance use, rather than insisting on total abstinence before entry into a vocational program (Bell et al., 2002). Sengupta, Drake & McHugo (1998) similarly found that the presence of substance abuse in

individuals suffering from severe mental illness was not a major hurdle to employment; substance abuse disorder was not significantly associated with competitive employment.

Traditional vocational programs such as day treatment facilities and programs which focus on prevocational training prior to competitive employment may not be adequate to help individuals with dual disorders find and maintain gainful employment. Mueser et al. (2003) advocate that Supported Employment may be the most effective approach to vocational rehabilitation for persons with dual disorders. ODMH has chosen Supported Employment as the service model of choice for persons with severe mental illness because of the research that supports it. This evidence-based practice has demonstrated the success of Supported Employment versus traditional vocational programs in helping people with severe mental illness find and keep competitive jobs. However, research has not addressed whether Supported Employment would demonstrate similar benefits for individuals with dual disorders.

Laudet et al. (2002), who have examined employment difficulties for individuals with co-occurring mental illness and substance disorders, note the need for research on the applicability of Supported Employment for these consumers.

Only one study was found which examined Supported Employment for persons with dual diagnoses. In an ethnographic study of consumers with a dual diagnosis in a Supported Employment program, Quimby, Drake & Becker (2001) identified problems encountered by consumers, employment specialists and clinicians during the implementation of the Supported Employment program. While this study is one of the first forays into the application of Supported Employment services for the consumers with co-occurring disorders, its significance is limited in that it only identified problems and barriers encountered during implementation of the program. It did not examine the potential benefits that this type of program may have for these consumers. In addition to the research which suggests that individuals with dual disorders may benefit from this type of service, more research is needed to gain a better understanding of the service needs for these consumers. Given the low employment rate for consumers in Ohio, there is a significant need for programs that help consumers obtain competitive employment, including consumers with a co-occurring disorder.

Research Objectives, Research Questions and Hypotheses

The purpose of this study is to improve our understanding of the impact of a Supported Employment intervention for adult consumers with co-occurring mental and substance use disorders.

RQ1: What are the demographic, socioeconomic and illness characteristics (baseline) of consumers who are referred for Supported Employment services as compared to consumers who are not referred for services?

RQ2: What are the effects of consumers' demographic, socioeconomic, and illness characteristics (baseline) on the amount of Supported Employment services that they use?

RQ3: What are the effects of consumers' demographic, socioeconomic and illness characteristics (baseline) on hours worked and wages earned in competitive employment?

RQ4: What is the effect of consumers' stages of substance abuse treatment on hours worked and wages earned in competitive employment?

H1: Consumers who are more advanced in their stages of substance abuse treatment and recovery will work more hours and earn more wages in competitive employment than consumers who are less advanced in treatment and recovery.

RQ5: For consumers who are competitively employed, what is the effect of competitive employment on consumer functioning, symptomatology, psychiatric hospitalization, alcohol and drug use, quality of life and empowerment?

H2: Competitive employment will enhance consumer functioning, quality of life and empowerment and reduce consumer symptomatology, psychiatric hospitalizations, and alcohol and drug use.

Methodology

Study Design and Procedures. This two and one-half year study utilizes a longitudinal quasi-experimental research design with three data collection points (baseline, six, and 12 months after each subject's enrollment in the study). Study participants will include 100 consumers with co-occurring substance use and mental disorders from four Integrated Dual Disorder Treatment (IDDT) programs who have been referred for Supported Employment services, a comparison group of 100 randomly selected IDDT program consumers from these same four IDDT programs who have not been referred for Supported Employment services during the first year of the study, and the case managers for each of these consumers. Referral for Supported Employment services for the purpose of this research project is defined as referral to the Supported Employment Program through self-referral, case manager referral, or referral by the employment specialist within 12 months of the start of this research study.

In order to select people for the comparison group, three months after enrollment of the first group of consumers referred to Supported Employment services into the study, we will draw a random sample of non-referred consumers at each agency. The size of the random sample drawn at each agency will be 25 percent greater than the number of consumers referred to Supported Employment services in the study at the agency in order to allow for attrition due to comparison group subjects who later become referred to Supported Employment services. The same procedures will be followed at three-month intervals during the remaining enrollment period of subjects into the study. The reason for the enrollment of comparison group subjects at each agency over time is to more evenly spread out data collection by the agencies throughout the study.

Before the study begins we will meet with all case managers at each agency to discuss the study purpose, procedures, enrollment criteria and informed consent procedures. Case managers will have a script to use for informed consent discussions with clients. The procedures used for selection of consumer subjects into this study will be the determining factor of case manager recruitment and selection. Intervention group subjects will be selected from consecutive new referrals for Supported Employment services, while comparison group subjects will be selected randomly. The case managers in the study will be the case managers of both intervention and comparison group consumers in the study. Case managers will secure clients' consent to participate in the study, will administer consumer interviews, and will completed self-administered questionnaires concerning the consumers. The investigators will provide reminders to participating case managers several weeks prior to consumers' follow-up interviews. Case managers will be asked to sign consent forms.

Summary

Despite the potential benefits of employment for clients with co-occurring substance use and mental disorders, Supported Employment has not been evaluated for this population. With the success Supported Employment has had with individuals suffering from severe mental illness, it is hypothesized that it can help eliminate some of the roadblocks to employment for clients with a dual diagnosis and thus it appears to be an important intervention tool. By examining the impact of Supported Employment on clients with co-occurring mental illness and substance use disorders, this study will provide valuable data

about the characteristics of the users of Supported Employment services and the impact of such services on both client employment and well-being.

It is anticipated that Supported Employment will benefit these consumers by increasing their rate of competitive employment, as well as increasing their number of hours worked and longevity of employment, thus helping consumers move toward economic independence. Increasing the employment and economic independence of people recovering from serious mental illness is one of the Department of Mental Health's strategic themes (Ohio Department of Mental Health, 2001).

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Presentations of the Research to Date

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**SUBJECTIVE EXPERIENCE
OF ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD)
AND BIPOLAR SPECTRUM DISORDERS (BPSD) IN YOUTH AND FAMILIES**

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This study is an ethnographic anthropological examination of the subjective experience of Attention Deficit Hyperactivity Disorder (ADHD) and Bipolar Spectrum Disorders (BSPD) in youth and families. Specifically, the research aims to investigate: (a) how participants perceive the bodily experience and cultural meaning of ADHD and BPSD, psychotropic medications, and treatment; (b) features of sociocultural context, specifically sex, ethnicity, and family emotional atmosphere, that may mediate illness experience; and (c) aspects of clinical characteristics, specifically diagnosis, that may mediate illness experience.

Conceptual Framework and Study Design

We find it striking that in spite of the recent dramatic increase in the numbers of children diagnosed with emotional and behavioral disorders, the voices and lived experiences of families are largely absent from contemporary scientific investigations into these disorders. In-depth, qualitative investigation into children's psychiatric disorders is crucially needed. The importance of obtaining knowledge of families' experiences and understandings of children's psychiatric disorders is made clear by: (1) the public health significance of the problem; (2) the biopsychosocial nature of ADHD and BPSD; (3) the severe impairment in social functioning associated with BPSD; (4) the striking underutilization of mental health services by children and adolescents; (5) the need for mental health research in racial and ethnic minority populations; and (6) the need for an understanding of how emotional and behavioral disorders in youth are situated within family dynamics.

The public health significance of children's behavioral and emotional disorders has been underscored by a recent mental health report by the Surgeon General (USDHHS, 1999) reporting that there are approximately six to nine million children and adolescents in the U.S. with serious emotional disturbances, accounting for nine to 13 percent of all children. A review of epidemiologic studies by Kadzin (1993) reports that 17 to 22 percent of children under the age of 18 suffer from developmental, emotional, and behavioral problems, accounting for 11 to 14 million children in the U.S.

Second, ADHD and BPSD are biopsychosocial disorders arising from complex, multilayered interactions between children and their environment (including parent, sibling, and family relations, peer and neighborhood factors, and the broader sociocultural context). This study seeks specifically to contribute to knowledge of the sociocultural environment of youth diagnosed with ADHD and BPSD and their families.

Third, BPSD is associated with severe impairment. Scholars have described BPSD as "derailing" mood, energy, cognition, and behavior and "wreaking havoc" on family life, school functioning, and peer relationships (Hellander, 2003; Lofthouse & Fristad, 2004; Lewinsohn et al. 2003).

Fourth, there is a need for understanding potential personal, social, and cultural barriers to receiving mental health services given the striking underutilization of services by youth populations. In particular, the study aims to understand the sociocultural context and subjective experience of youth mental disorders, mental health treatment, psychotropic medications, and stigma.

Fifth, the Surgeon General's report on *Culture, Race, and Ethnicity* (USDHHS, 2001) highlights the issue of health disparities in relation to access, availability, and underutilization of services by minorities; poorer quality of care for minorities; and under-representation of minorities in mental health research. Furthermore, the report states, "More is known about disparities than the reasons behind them" (USDHHS, 2001, p.3). Ethnographic investigation of the lived experience of these disorders may shed light on racial and ethnic disparities by identifying social contexts in which youth and their families perceive and experience stigma, and culturally-specific expressions of psychological distress through discourse analysis of patient-provider communication.

Finally, there is a need for understanding of how disorders in youth are situated in family dynamics. At present, little is known about how family emotional atmosphere and cultural values may influence risk and resilience for BPSD or ADHD in families. The study seeks to assess the family emotional atmosphere of youth diagnosed with ADHD and BPSD in order to identify dimensions of family life that either (a) contribute to support and tolerance of emotional and behavioral disorders or (b) promote negative perceptions and experiences associated with these disorders.

Recruitment. Participants for primary data collection are recruited from Applewood Centers, Inc. of Cleveland, Ohio and University Hospitals of Cleveland from among families participating in a research study titled, "Improving the Assessment of Juvenile Bipolar Spectrum Disorder" (5R01 MH066647, E. Youngstrom, Principal Investigator). The main goals of the R01 include determining how frequently BPSD occurs in community mental health settings, and to evaluate and improve parent- and adolescent-report checklists that could lead to earlier and more accurate identification of BPSD.

Participant inclusion criteria include: (1) diagnosis of ADHD or BPSD with comorbid ADHD as assessed through the K-SADS-PL Plus, an adapted version of the Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present and Lifetime version (K-SADS-PL) (Kaufman et al., 1997); (2) youth ages 5 to 17; (3) Euro-American or African-American ethnicity; (4) youth and parent/guardian willing to provide informed consent; (5) both caregiver and youth are conversant in English.

Sample. The proposed total *N* of the study is 32 families. A family is defined as one youth diagnosed with either ADHD or BPSD with comorbid ADHD, his/her parent(s)/guardian(s), and his/her siblings. The sample will be balanced by ethnicity and will consist of Euro-American and African-American participants. The sample will also be balanced by gender, diagnosis, and socioeconomic status. From the total *N* of 32, a subset of eight families will be selected for intensive ethnographic observation.

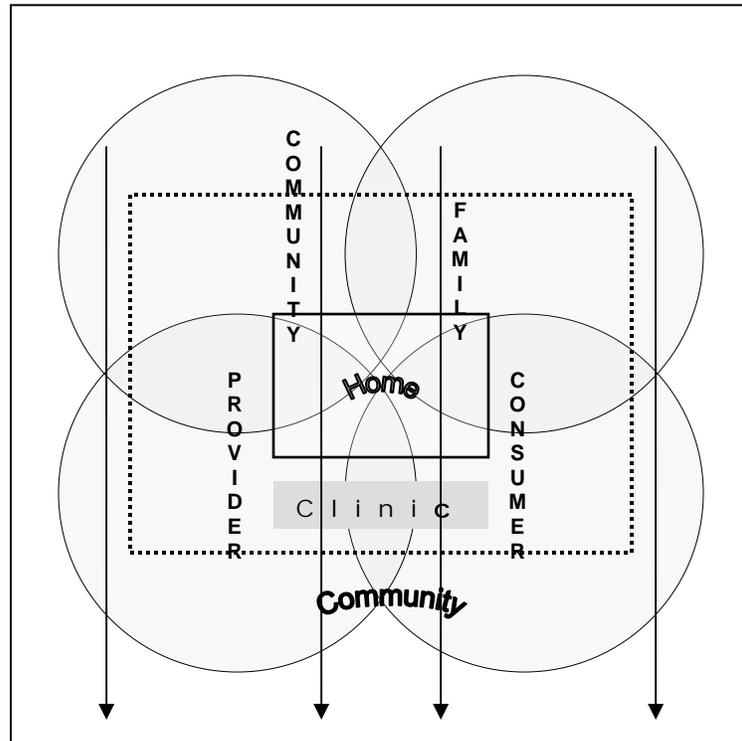
Description of the Research Objectives

The study is designed to provide a means to systematically identify and describe:

- (1) How various stakeholders (to include consumers, family members, mental health providers, and others in the community) conceptualize and subjectively experience youths' problems;
- (2) The multiple social contexts and settings (to include home, clinic, and community—such as schools, churches) in which youths' emotional and behavioral problems are identified and/or made salient.

Below, a preliminary visual representation of our conceptual model is presented. In this visual model, the distinct but intersecting perspectives of multiple stakeholders are illustrated by overlapping circles. These multiple perspectives are situated and expressed within multiple social contexts, as represented by the concentric rectangles. Finally, in keeping with the anthropological axiom of “meaning shapes behavior,” understanding the social fields of emotional and behavioral disorders is expected to provide insight into pathways to treatment, attitudes toward treatment and medications, and sociocultural contexts of stigma.

Figure 1. Social fields of emotional and behavioral disorders.



Pathways to Treatment, Attitudes toward Treatment, Contexts of Stigma

Overview of the Methodology

The study necessitates access to interpretations and experiences of both youth and parents. Data relating to attitudes, perceptions, and lived experience are best obtained through building long-term relationships with participants. To that end, lived experiences and cultural meanings of ADHD and BPSD are being explored through naturalistic observation and informal and semi-structured interviewing of families in both clinic and home settings. The use of multiple, complementary methods provides opportunities to capture both verbal and non-verbal pathways for the communication of attitudes toward illness, treatment, and medications. Anthropological approaches seek to obtain empirical data on the multiple perspectives of various stakeholders in the management of mental health, to include consumers (children and adolescents), family members, mental health providers, and others in the community.

We are currently conducting the Subjective Experience of Illness and Medication in Youth (SEIMY), a semi-structured interview adapted from the Subjective Experience of Medications Interview (SEMI) (developed for use in NIMH R01 grant MH-60232; J.H. Jenkins, Principal Investigator). The

SEIMY is adapted for use with parents/guardians and children respectively. The SEIMY investigates the meaning of ADHD and BPSD from the standpoint of (1) experiences of, and attitudes toward, the identification, treatment, and course of ADHD or BPSD; (2) the lived experience of parenting a child diagnosed with ADHD or BPSD; (3) youth's perception of how ADHD and BPSD affect school work, social (peer) interactions, and family interactions; (4) perceptions and experiences of stigma; and (5) how youth experience ADHD and BPSD as mental and bodily phenomena.

A subset of eight families will be selected from the overall sample of 32 families (selected to maximize diversity by ethnicity, gender, and diagnosis) to participate in more intensive ethnographic clinic and home observations. Clinic observations are crucial to obtain data regarding patient-provider communication for youth diagnosed with ADHD and BPSD. In addition to the importance of collecting data on youth with ADHD and BPSD in a non-clinical setting, home observations are vital to obtain data to include siblings, extended family, and caregivers who may play key roles in the everyday lives and illness experience of these youth.

The qualitative data analytic procedures are inherently multi-method in focus and designed to be substantively convergent. The SEIMY is designed to provide a forum for discussion of specific dimensions of the bodily experience and cultural meanings of emotional and behavioral disorders and treatment with psychotropic medications. Although the SEIMY addresses interpersonal domains of experience (social contact, neighborhood, school functioning) the focus is primarily upon individual illness experience. The addition of multi-site ethnographic observations is intended to provide further contextualization for understanding illness as not only individual experience but as substantially informed and influenced by familial and clinical dynamics. Ethnographic home observations provide the opportunity to interact intensively with siblings, extended family, and caregivers who may play key roles in youths' everyday lives and illness experience. Ethnographic observations are expected to provide a non-interview, naturalistic means to investigate experiences, social and familial dynamics, and family burden. Ethnographic clinic observations are intended to provide insight into dimensions of therapeutic relationships that may contribute to youths' and families' attitudes toward illness and treatment.

Preliminary Results

At present, we are in the process of data collection, which will continue through August, 2006. Twelve families are currently enrolled and 48 home interview visits have been made. Analysis of the data is ongoing and we are particularly interested, at this stage, in identifying broad thematic categories related to families' conceptualizations of children's disorders and the primary sociocultural contexts in which these problems are made salient. Proceeding via an inductive approach to the interview and observational data, several analytic categories of interest are emerging. Thus far we are documenting a wide range of attitudes toward mental health treatment, experiences with medications and other forms of treatment, and interpretations of children's problems. For example, we already are finding tremendous variation in relation to how families conceptualize their children's problems, linking such problems to factors as diverse as family dynamics, communication, genetics, chemical imbalances, and "bad nerves." Perhaps most intriguing, such explanations are not mutually exclusive, but rather co-exist as constellations of meaning as families struggle to make sense of and to cope with these complex issues. Likewise, orientations toward mental health services exhibit similar variation, from fathers who feel "insulted" by the prospect of treatment, to parents grateful that their child is being shown "alternatives to getting mad, that there's alternatives to wanting to die."

Potential Significance and Implications of the Study Results

This study aims to provide insight toward improved treatment interventions for ADHD and BPSD by identifying how youth and families understand, interpret, and experience these disorders in everyday lived experience. Clinically, knowledge of the subjective experience of ADHD and BPSD will provide insight into the challenges of utilization of mental health services, provision of culturally-appropriate care, adherence to medications regimens, and stigma from the point of view of patients and their families. In particular, this study seeks to illuminate possible reasons for the documented under-diagnosis of behavioral and emotional disorders among minority populations in the U.S. (Diller 1999; Schmitz & Velez, 2003) through ethnographic methods designed to uncover attitudes toward treatment and medications, symptom expression, and socio-cultural contexts of stigma among an ethnically diverse sample of families.

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THE EFFECT OF MOTIVATION ON JOB SEARCH AND WORK OUTCOMES AND THE DEMAND FOR SUPPORTED EMPLOYMENT SERVICES

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The unemployment rate for adults with severe mental disabilities (SMD) is among the highest for any distinct population segment with disabilities. Two out of three adults with SMD are without jobs, despite data that indicate most of these individuals want to work, many of them could work (New Freedom Commission on Mental Health, 2003), and that benefits from employment would accrue not only to these individuals, but also to their families and the larger communities in which they live.

The Ohio Department of Mental Health (ODMH) has identified work or involvement in a meaningful activity as one of nine essential components of the recovery process among adults with SMD (Townsend et al., 2000). Consequently, ODMH has committed to dramatically increase competitive employment rates for adults with SMD over the next several years. For example, ODMH recently funded a Coordinating Center of Excellence to promote Supported Employment (SE), an evidence-based practice (Hyde, Falls, Morris & Schoenwald, 2003) that focuses on moving adults with SMD rapidly into the workforce while providing a wide range of supports to maximize the chances of success on the job. Research indicates that vocational programs founded on SE principles are significantly more effective than traditional programming when it comes to securing competitive employment for adults with SMD.

While SE programming is effective, it also can be costly and difficult to access. This may be due, in part, to the criteria that define effective SE programs. According to these criteria, SE programs should 1) have no admission requirements for participants beyond the desire to be competitively employed, 2) have modest staff/client ratios (i.e., no greater than 25:1), and 3) offer continuous and time-unlimited services to clients. As a result, as demand for admission to SE programs grows, programs that maintain strict adherence to the core principles of SE are likely to face demands that exceed availability. Therefore, it is important to identify variables that may enhance or hinder the effectiveness of SE for program participants. This research hypothesizes that motivational factors will account for differences in both job search outcomes (e.g., effort invested in the search process, success finding a job) and work outcomes (e.g., tenure, commitment to supervisor) for adults with SMD who are involved in supported employment programming. The research also hypothesizes that client demand for SE services will be negatively related to motivation to work and positively related to the reported existence of barriers.

Methods

Subjects of this research include adults who have given informed consent to participate in the research and who have participated in a work-readiness program (i.e., rehabilitation readiness - RR) and/or an SE program (i.e., employment services - ES) offered by the Center of Vocational Alternatives (COVA). COVA is a community-based, vocational rehabilitation agency that assists persons with mental illness choose, get, and keep employment in competitive jobs.

This research primarily focuses on clients who are involved in COVA's ES program. This program has high fidelity (Finch, Nofziger, Panzano & Seffrin, 2005) to the core principles of the SE approach known as Individualized Placement and Support (IPS) (Bond, Drake, Mueser & Becker, 1997). Nearly 90 percent of the adults involved in the ES program at COVA have been diagnosed as SMD and/or having substance abuse problems. Past experience also indicates that a portion of ES clients have previously participated in the RR program. Consequently, data gathering was expanded to RR in order to a) collect baseline data on clients who subsequently get referred to ES, b) examine similarities and differences of clients in these core, related programs, and c) determine if participation in RR effects change in variables related to attraction to work.

The Job Profile Questionnaire-Preview Version (JPQ-Preview) prospectively evaluates motivation to work, expectations about working and barriers to employment and, therefore, is administered at the point at which clients enter these two COVA programs (i.e., RR and ES). The JPQ-Preview is grounded in Expectancy Theory (Vroom, 1964) and is tailored for use with adults who face a variety of challenges to seeking and obtaining employment (Panzano, Seffrin, & Chaney-Jones, 2003). Table 1 lists a subset of scales from the JPQ-Preview and a sample item from each.

Another version of the JPQ, the JPQ Current Version (JPQ-Current) (Panzano & Seffrin, 2005) is administered to the clients who obtain employment at four weeks and again at twelve weeks on the job (or upon leaving the job, whichever occurs first). The JPQ-Current is based on Hackman and Oldham's (1976) Job Characteristics Model (JCM) and is parallel in many ways to the Job Descriptive Survey (JDS), the instrument designed to test the JCM. However, the JPQ-Current is tailored for and validated on the population of interest in this research (Panzano et al., 2003). As with the JDS, in addition to tapping motivational variables and important psychological reactions to a job, the JPQ-Current evaluates important worker views about a variety of employment outcomes (e.g., intention to quit, job satisfaction).

Additional objective data needed to test study hypotheses are obtained from COVA's management information system including several objective measures of employment outcomes (e.g., duration of job search, tenure, rate of pay) and information about the types and amounts of SE services received by participants. Finally, during the job search process, career developers affiliated with the ES program provide monthly assessments of the level of effort invested by each client in job search activities.

Results

Data gathering is still in progress so results reported here are partial and preliminary. Thus, the focus is primarily on 96 ES clients who provided informed consent to participate in the research. Independent-samples *t*-tests compare 78 of these clients who obtained employment to the 18 who did not in terms of staff ratings of client effort invested in the job search and JPQ-Preview scale scores. An additional 66 RR clients completed the JPQ-Preview twice, once upon entry to RR and once upon completion, in keeping with a pre-test/post-test design. Consequently, a total of 228 JPQ-Preview assessments are considered for the calculation of Cronbach's alpha for the internal consistency of scales.

The data obtained from the RR clients allowed an analysis of the extent to which motivational factors, views about barriers, etc., change as a result of participation in RR. This information is expected to have important programming implications for COVA if these factors are subsequently found to be related to important outcomes like success in the job search process and on the job.

Table 1. Sample Items from Selected JPQ Preview Scales

JPQ Preview Scale Name	Sample Item ^a
Able to Get a Job	Currently, I am able to get a job.
Awareness: Benefits Programs	I am aware of programs that might allow me to work without losing financial subsidies.
Commitment to Working	I am very committed to getting a job.
Concern: Losing Benefits	I worry about how working will affect my eligibility for financial assistance.
Empowerment	I have a positive attitude about myself.
Expected Job Strain	I think I will be stressed out at work.
Expected Skill Match	I currently have the skills and abilities that I need to get the job I want.
Favorable Expectations	I'd be a lot better off if I got a job.
General Barriers & Obstacles	There are obstacles I must deal with before I get a job.
Identity as a Worker	I think of myself as a working person.
Knowledge: Jobs	I have a good idea about the duties and tasks required for many different types of jobs.
Knowledge: Self as Worker	I have a good understanding of what type(s) of jobs are most appropriate for me.
Overall Motivation to Work	I think I would be happier if I had a job.
Ready to Work	I am ready to get a job now.
Symptom Interference	The symptoms of my mental illness interfere with my daily living activities.
Symptom Presence	The symptoms of my mental illness are present when I carry out my daily living activities.
Urgency to Work	It is important to me to get a job as soon as possible.
Willing to Work	I am more than willing to get a job at this time.

^aMost items are Likert-type with a 7-point response scale and a Don't Know option.

Results of preliminary analyses are presented below. First, demographic information about study participants is provided followed by information about the internal consistency of JPQ-Preview scales and Job Search Effort ratings. Then, pre-test/post-test JPQ-Preview findings pertaining to the 66 RR study participants will be reviewed. Finally, findings for 96 ES clients will be discussed. JPQ-Preview scales and staff effort ratings will be used to compare ES clients who obtained employment to those who did not, and correlations between the JPQ-Preview and staff effort ratings will be presented.

Participants. One hundred and sixty-two COVA clients diagnosed with SMD participated in this research. Of those, 54 percent were female and ages ranged from 16 to 61 ($M = 40$). Most were Caucasian (62%) or African American (34%) and a majority were single (88%). The levels of education included less than high school (16%); diploma or GED (36%); Associate Degree or Trade School (19%); and some college to graduate degrees (29%). Only 4.2 percent reported being satisfied with NOT working; 11.9 percent stated that transportation to a job is a barrier to employment; 40.5 percent had worked most or all of the time in the preceding five years; 46.4 percent reported being in good health, and 82.7 percent stated that their family had a strong work ethic. Most were willing to pursue further education (88.8%) and/or enroll in training (90.0%) in order to obtain a job.

Internal consistency of JPQ-Preview scales and Job Search Effort ratings. Internal consistency of scales of the JPQ-Preview was tested using Cronbach's alpha (range = .63 to .87) and was judged to be adequate to very good (see Table 2). Five single-item scales (e.g., support from vocational staff) addressed issues that are well-suited to using a global item approach (Wanous et al., 1997). Alphas are not reported for single-item scales. Finally, the three-item, job search effort rating scale demonstrated excellent internal consistency with an alpha of .91.

Pre-post analyses of JPQ-Preview data for RR clients. Scale means for the JPQ-Preview pre-test and post-test were compared using a paired samples t -test for the 66 RR participants. Post-test scores on seven of 21 scales were significantly ($p < .05$) different than pre-test scores (see Table 2), indicating that certain client views related to employment (e.g., 'able to get a job') are more positive upon completing RR than prior to RR.

Analyses of JPQ-Preview data and Staff Effort Ratings for ES clients. By the end of 2005, 78 (81.25%) of the 96 ES clients had started working while 18 (18.75%) had not. Independent-samples t -tests found significant differences between these two groups for eight of 21 JPQ-Preview scales ($p < .05$, see Table 2). For example, the group that obtained jobs reported a significantly "greater urgency to work" ($M = 6.08$) than the group that had not obtained jobs ($M = 5.53$).

As mentioned previously, COVA career developers make monthly ratings of the effort put forth by each ES client (e.g., This month, how often has this individual satisfied attendance standards related to job search activities?) From these ratings, three effort scale scores were created for each individual: 1) "initial effort ratings" is the average of the effort ratings for the first month of ES service; 2) "last month effort ratings" is the average of the effort ratings for the final month of service (i.e., either the last month of service prior to job start or the last month that ratings were made leading up to these analyses, if not working); and 3) "average effort ratings" is the average of all effort ratings across all available months.

Paired samples t -tests suggest that these effort ratings differentiated the clients who eventually gained employment from those that did not. The "initial effort ratings" just missed distinguishing working ($M = 4.80$, $SD = 1.77$) from non-working clients ($M = 4.04$, $SD = 1.97$) using traditional levels of significance ($t = 1.63$, $p = .06$). However, the "last month effort ratings" did differentiate ($t = 2.43$, $p = .01$) working clients ($M = 4.91$, $SD = 1.92$) from those who had not obtained employment ($M = 3.69$, $SD = 1.96$). The average effort ratings scale also statistically differentiated ($t = 2.41$, $p = .01$) the group of working clients ($M = 4.89$, $SD = 1.53$) from the non-working group ($M = 3.89$, $SD = 1.83$).

Finally, relationships between JPQ-Preview scales and the "initial effort ratings" were examined using Pearson product-moment correlations (see Table 2). The initial ratings were deemed most appropriate for this analysis, because they are less likely to be affected by history effects such as changes related to employment barriers (e.g., a change in transportation or child care status). Fourteen of 24 correlations were statistically significant ($p < .05$). For example, higher scores on the "willing to work"

JPQ-Preview scale were related to higher “initial effort ratings” ($r = .25; p < .01$). Also, higher scores on the JPQ “general barriers and obstacles” scale were related to lower “initial effort ratings” ($r = -.25; p < .01$).

Discussion

Preliminary findings indicate that JPQ-Preview Scales and staff ratings of Job Search Effort are internally consistent. Analyses suggest that programs aimed at reducing barriers and educating clients about work such as COVA’s RR program can effect positive change in variables related to motivation to work. Also, findings suggest that data gathered prospectively from clients about motivation to work (e.g., JPQ-Preview administered at client admission) and from career developers (i.e., effort ratings regarding client job search activities) differentiate between clients who subsequently get a job and those who do not. Finally, independent data provided by clients on the JPQ-Preview and their career developers on initial effort ratings are significantly related, indicating that the JPQ-Preview may predict some client behaviors related to job search. If supported by further data and analyses, these findings may have important implications for maximizing the efficiency of SE services. Also, they suggest that adjunct programming targeted at client motivation and related factors (e.g., barrier reduction), such as COVA’s RR program, may offer an avenue for improving client readiness to work from a motivational standpoint.

Besides repeating the above analyses related to ES clients on a larger sample, several additional analyses will be conducted in order to fully test key study hypotheses. First, we will examine whether motivation to work as assessed by the JPQ-Preview is related to need/demand for SE services. Then we will examine whether motivation to work measured prospectively by the JPQ-Preview explains variability in important objective (e.g., job tenure, hours worked, etc.) and subjective (e.g., job satisfaction) employment outcomes. Finally, we will explore whether aspects of jobs as seen by clients and as measured by the JPQ-Current explain demand for SE services and employment outcomes such as tenure.

Table 2. Scale Names, Number of Items, Internal Consistencies, Descriptive Statistics and Results of Hypothesis Testing

Scale Name ^a	Items	α	RR pre		RR post		ES pre no job		ES pre with job		Initial Ratings Correlations
			<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Able to Get a Job ^b	2	.63	5.02	1.51	5.45	1.15	5.72	.98	5.79	1.19	.09
Anxiety ^b	3	.75	3.84	1.55	3.48	1.50	3.94	1.64	3.32	1.45	-.13
Awareness: Benefits Programs ^b	1	n/a	4.38	1.96	5.02	1.44	4.56	1.82	4.47	1.97	.02
Barriers – Frequency ^d	7	n/a	12.15	4.24	11.56	3.02	10.86	2.85	10.52	2.53	-.20
Commitment to Working ^{c, d}	2	.67	6.23	.88	6.21	.70	6.11	.74	6.50	.59	.20
Concern: Losing Benefits ^{c, d}	2	.64	4.04	1.74	3.88	1.81	4.33	1.68	3.46	1.66	-.19
Empowerment ^d	4	.77	5.55	.99	5.64	.92	5.72	1.01	5.96	.98	.25
Expecting Low Job Strain ^{c, d}	2	.87	4.06	1.61	4.01	1.64	3.56	1.50	4.47	1.68	.17
Expected Skill Match	1	n/a	4.62	1.73	4.87	1.58	5.00	1.75	5.46	1.65	.14
Favorable Expectations ^d	2	.74	6.16	.73	6.13	.73	6.22	.79	6.45	.62	.24
General Barriers & Obstacles ^{c, d}	3	.63	3.94	1.30	3.94	1.19	3.96	1.21	3.28	1.43	-.25
Identity as a Worker ^d	2	.69	5.55	1.25	5.73	1.15	5.36	1.64	5.87	1.13	.20
Knowledge: Jobs ^{b, d}	2	.80	5.36	1.34	5.62	1.17	5.44	1.54	5.60	1.28	.24
Knowledge: Self as Worker ^b	4	.76	5.14	1.22	5.39	1.13	5.73	.75	5.77	1.11	.16
Overall Motivation to Work ^{c, d}	7	.80	5.84	.84	5.88	.78	6.11	.64	6.38	.62	.28

Scale Name ^a	Items	α	RR pre		RR post		ES pre no job		ES pre with job		Initial Ratings Correlations
			<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Table 2 continues.</i>											
Ready to Work ^{c, d}	2	.82	5.12	1.50	5.20	1.61	5.53	1.36	6.07	.99	.26
Symptom Interference ^c	1	n/a	3.57	1.49	3.62	1.54	4.07	1.91	3.04	1.45	-.03
Symptom Presence ^b	1	n/a	4.41	1.53	4.17	1.49	4.03	2.07	3.69	1.70	-.02
Urgency to Work ^{c, d}	3	.85	5.64	1.15	5.56	1.18	5.53	1.34	6.08	1.01	.24
Vocational Support: Agents ^{b, c, d}	1	n/a	5.53	1.40	5.94	.99	5.38	1.54	6.26	1.01	.31
Willingness to Get a Job ^d	2	.69	6.19	.85	6.12	.80	6.06	.78	6.40	.85	.25

^aAll items have a 7-point response scale except for Frequency of Barriers, which is an additive scale with a potential total of 28.

^bMeans of RR post-test are significantly more positive ($p < .05$) than means of RR pre-test.

^cMeans of ES clients who obtained employment are significantly ($p < .05$) different from means of ES clients who did not obtain employment.

^dJPQ scale scores for ES clients are significantly ($p < .05$) correlated to Initial Client Effort Ratings made by ES career developers.

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**WORK AND RECOVERY:
MOTIVATIONAL JOB DESIGN EXPLAINS IMPORTANT WORK,
DEVELOPMENTAL AND RECOVERY-RELATED OUTCOMES
FOR ADULTS WITH SEVERE MENTAL DISABILITIES**

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The unemployment rate for adults with severe mental disabilities (SMD) is among the highest for any distinct population segment of persons with disabilities. Two out of three adults with SMD are unemployed despite data indicating that most of these individuals want to work and can work (New Freedom Commission on Mental Health, 2003) and mounting evidence that employment is key to the recovery process for many adults with SMD (Cook, Carey, Panzano, Burke & Blyer, 2002).

It is clearly time to maximize strategies to enhance employment opportunities for adults with SMD. Fortunately, momentum on behalf of those who wish to work appears to be mounting. For example, interest is increasing in evidence-based practices, such as supported employment (SE) programs, which have proven to be effective in facilitating entry of adults with SMD into competitive work settings (New Freedom Commission on Mental Health, 2003). SE programs have consistently outpaced traditional programs in terms of competitive employment rates (Bond, 2004), suggesting that the odds of getting a job are improved for SE program participants. Yet, there is still room for improvement as differences generally have not been found between SE and other programs with regard to important outcomes such as job tenure (Bond, 2004). Additional research is needed to identify adjunct approaches that can be integrated with and further strengthen the effectiveness of existing evidence-based programs such as SE.

With this in mind, our research examined the extent to which a widely tested model of motivational job design, the Job Characteristics Model (JCM) (Hackman & Oldham, 1976), explains variability in important work outcomes linked to tenure among a sample of working adults with SMD. While strong support has been found for the JCM with regard to a multitude of worker populations (e.g., Fried & Ferris, 1987), this study is the first known test of the model in reference to working adults with SMD.

For a variety of reasons, a motivation-based approach to job design (e.g., Hackman & Oldham, 1976; Wrzesniewski & Dutton, 2001) may hold the most promise for designing jobs for working adults with SMD. This type of approach aligns with the growing interest among mental health and vocational experts in the role of motivation in job seeking and on-the-job behavior. In fact, some experts claim that motivation to work is the only strong predictor of employment (Wagner & McMahon, 2004). Empirical findings lend support to this claim. For example, Bybee and colleagues found that positive work attitudes, desire to work, and expectations that a job will be obtained are strongly associated with finding a job among adults with SMD (Bybee, Mowbray & McCrohan, 1996 cited in Ridgway and Rapp, 1998). Similarly, Casper (2003) asserted that motivation may be an important factor in understanding drop-out rates among supported employment program participants. Further, Cook and her colleagues (2002) identified motivational variables as key to understanding job search and work outcomes for adults with SMD.

The Job Characteristics Model (JCM) is by far the most widely studied motivation-based framework for examining the motivational potential of jobs. A vast body of empirical research on the JCM indicates that certain core characteristics of jobs as seen by the worker (e.g., autonomy) impact work outcomes (e.g., job satisfaction) because they affect psychological reactions to the job (e.g., meaningfulness of one's work). In other words, the JCM claims that how a worker sees his/her job impacts thoughts and feelings about the job which, in turn, impact outcomes like satisfaction and thoughts of quitting.

The JCM proposes the following core job characteristics or structural features of jobs: 1) skill variety – the perceived variety and complexity of skills and talents required to perform the job; 2) task identity – the extent that the job is seen as involving a whole, identifiable task; 3) task significance – the extent that the job is seen as affecting the well-being of others; 4) autonomy – the extent that the job is seen as allowing for personal initiative in performing one's work; and 5) feedback from the job – the extent that the job, itself, provides information about quality of performance.

The JCM suggests that worker perceptions of these five structural features of jobs impact work outcomes through their effects on three important psychological responses to the job: 1) experienced meaningfulness of one's work – the extent that the work is seen as making a difference; 2) felt responsibility – the extent that the worker assumes accountability for his/her work; and 3) knowledge of results – the extent to which the worker is cognizant of the quality of his/her work performance. Specifically, the JCM predicts that jobs seen by workers as high on the five core job characteristics (e.g., high skill variety) will be seen as more meaningful, will engender greater feelings of responsibility by workers, and will provide unambiguous cues about the quality of the work performed.

The JCM also predicts that psychological reactions to the job will impact five specific work outcomes that have been linked to tenure. The five outcomes are general job satisfaction, perceived job performance, internal work motivation (i.e., the extent that the worker is motivated by doing good work), satisfaction with growth (i.e., the extent that the worker is satisfied with the opportunity to learn new things on the job) and thoughts of quitting. Finally, the two linkages in the model are expected to be moderated by growth need strength. In other words, the linkages between job characteristics and psychological reactions to the job and between psychological reactions to the job and outcomes are expected to be significantly stronger for those individuals who are highly motivated to learn and grow on the job.

Published research supports the prediction that worker satisfaction, motivation and performance are higher among individuals who see their jobs as high in the five core job characteristics (Fried & Ferris, 1987). For example, a meta-analysis of JCM research based on the original assessment instrument, the Job Diagnostic Survey (JDS), estimated the correlation between job characteristics and job satisfaction to be $r = .39$ ($p < .05$) and concluded that employees who have a high need for growth and who see their jobs as being high on the five core job characteristics have the most positive work outcomes (Loher, Noe, Moeller & Fitzgerald, 1985). Some research also supports the notion that the effects of perceived job characteristics on outcomes are partly or fully mediated by the critical psychological states (Fried & Ferris, 1987).

The major purpose of this research is to test the JCM on a sample of working adults with SMD. Our major study hypothesis is that the JCM applies equally well to the population of working adults with SMD as it has to other segments of workers. In other words, the five core job characteristics are expected to explain significant variability in psychological states which, in turn, are expected to explain significant variability in work outcomes. In addition, psychological states are expected to mediate the effects of job

characteristics on outcomes, and growth need strength is expected to moderate the link between job characteristics and psychological states and between psychological states and outcomes.

Methods

Validation study. An instrument development phase preceded the model testing phase. It was necessary to modify the Job Descriptive Survey (JDS), the instrument originally designed to test the JCM, because the JDS requires advanced reading ability, is very lengthy, and involves response formats that are cognitively complex. There was strong agreement among experts, including adults with SMD, that the JDS needed to be shortened and simplified in order for it to be feasible to use with most members of the target population.

A variety of activities was carried out in order to produce the Job Profile Questionnaire (JPQ), a modified and expanded version of the JDS, for use in this research. Over a two-year period, interviews and focus groups were conducted involving working adults with SMD and other subject matter experts such as vocational counselors in order to 1) evaluate the potential relevance of the model to this population, 2) identify needed additions to the model (e.g., outcomes), 3) suggest appropriate rewording of items included in the JDS, and 4) consider options for administering the JPQ to working adults with SMD (Panzano & Baird, 2000; Panzano, Baird & Seffrin, 2002).

Three rounds of pilot testing of the JPQ involving approximately 20 working adults with SMD per round were carried out to fine-tune the wording of items. As a result of the pilot testing, a final hard copy version of the JPQ instrument was produced. In addition, an electronic version allows the JPQ to be administered on a computer.

Finally, a validation study of the JDS and JPQ was conducted involving case managers employed by three mental health and/or substance abuse service provider organizations. Internal consistency reliability was computed using Cronbach's alpha (Cronbach, 1983) for all original JDS and revised JPQ scales. Although alphas are routinely reported in published examinations of the JCM, it is important to note that the range of alphas reported tends to vary by study. For example, in their meta-analysis of empirical tests of the model, Fried and Ferris (1987) reported a wide range of alphas for job characteristic and psychological state scales (see Table 1). In addition to examining the internal consistency of scales, bivariate correlations were computed using Pearson's Product Moment coefficient for pairs of parallel scales (see Table 1). Once the JPQ was developed as a measurement instrument of the JCM for working adults with SMD, the researchers moved on to the model testing phase of the study.

Participants and research sites. Participants for the test of the JCM for working adults with SMD were recruited from five comprehensive mental health agencies in Ohio that specialize in vocational services programming. These agencies were located in rural, urban and suburban areas. In exchange for participation, representatives from these agencies were invited to attend a statewide briefing at which aggregated results were reported.

One hundred fifty-six adults with SMD completed the Job Profile Questionnaire (JPQ). Of these, 134 (85.9%) were currently working while 22 (14.1%) responded to the JPQ referencing a recent job. Job tenure ranged from one week to 18 years ($M = 2.1$ years; $SD = 3.22$), and participants worked one (21.0%), two (22.5%), three (24.6%), four (16.7%) or five (15.2%) days per week.

Participants held a wide range of jobs including factory or assembly worker (34.0%), cleaning or food services worker (21.5%), office worker (11.0%), sales person (5.0%) and other (28.5%). Most (57.6%) found their jobs through assistance from programs or caseworkers within their mental health agencies.

Table 1. Internal Consistency and Inter-scale Correlations for JCM Scales

Scale	Sample JPQ Item ^a	α Range ^b	JDS (JPQ) Validation	JDS- JPQ r^c	JPQ test α	# of Items
Skill Variety	My job requires me to do different things that use different skills.	.20-.91	.76 (.57)	.57 **	.37	3
Task Identity	My job is set up so I do the whole job from start to finish.	.31-.90	.71 (.81)	.56 **	.56	2
Task Significance	My job makes a difference in the lives of other people.	.38-.87	.67 (.61)	.64 **	.62	3
Autonomy	I am the one who decides how to do my work.	.35-.90	.76 (.81)	.69 **	.57	3
Feedback from Job	The job, itself, gives clear clues about whether I am performing well.	.36-.94	.70 (.80)	.60 **	.39	2
Dealing with Others	To do my job I work closely with other people.	n/a	.65 (.26)	.50 **	.54	2
Experienced Meaningfulness Felt	The work I do on this job is very meaningful to me.	.74-.81	.78 (.79)	.78 **	.65	3
Responsibility	I take the credit or blame for the work I do.	.57-.77	.70 (.66)	.57 **	.55	3
Knowledge of Results	I usually know if my work on this job is acceptable.	.72-.84	.68 (.74)	.64 **	.45	3
Growth Need Strength	How important is: The chance to learn new things at my job?	n/a	.80 (.80)	.55 **	.85	3
Job Satisfaction	I like this job.	.65-.95	.35 (.78)	ns ^d	.93	3
Internal Work Motivation	I feel satisfied when I do this job well.	.63-.88	.71 (.73)	.61 **	.63	2
Satisfaction with Growth	How satisfied are you with: The chance to learn new things?	.69-.95	.90 (.90)	.87 **	.83	2
Perceived Job Performance ^e	My supervisor is pleased with my overall job performance.	n/a	n/a	n/a	.70	3
Thoughts of Quitting ^e	I think about quitting this job.	n/a	n/a	n/a	.83	2

^a scales: strongly disagree - strongly agree, very unimportant – very important, very dissatisfied – very satisfied.

^b reported by Fried and Ferris, 1987.

^c Pearson's correlation coefficient between the JDS and JPQ versions of a scale.

^d Non-significant correlation between JDS and JPQ versions of the Job Satisfaction scale is partly attributable to the low alpha of the JDS Job Satisfaction scale.

^e Model variables originally measured with supervisor performance evaluation and tenure are operationalized as Perceived Job Performance and Thoughts of Quitting in this study.

* $p < .05$; ** $p < .01$

Participants' ages ranged from 18 to 64 ($M = 42.4$; $SD = 9.8$). Somewhat more than half (58.9%) were male while the distribution among ethnic groups included Caucasian (63.0%), African American (30.4%) and Other (6.6%). Only 11.4 percent of participants reported being married or having a live-in partner while the rest (88.6%) were single, separated or divorced.

Measures. Thirteen scales designed to measure the original constructs in the JCM were derived from the JDS. See Table 1 for sample items and the number of items in each scale. Note that Hackman and Oldham (1976) used hard measures of job performance and tenure that could not be recreated for this study. Therefore, self-report measures (perceived job performance and thoughts of quitting) were adapted from existing scales.

In addition to suggestions gleaned from relevant literature, interviews and focus groups with subject matter experts led to the identification of additional outcomes variables of importance to this population. Exploratory outcomes added for this research are grouped in three categories: Recovery-Related, Developmental and Other Traditional Working Outcomes. Recovery-Related outcomes added to this study included empowerment, perceived improvement of general health and perceived improvement of mental health (Ohio Department of Mental Health, 1998). Identity as a worker, career maturity (Crites, 1978) related to the job, and career maturity related to the worker comprised the Developmental outcomes added. Finally, Other Traditional Outcomes measured in this research included job strain and satisfaction with supervision (Saal & Knight, 1995).

Analyses. Data were analyzed at the individual level of analysis. Internal consistency reliability was computed using Cronbach's alpha, although a great variation in alphas across studies suggests that these scales are multidimensional and additive in nature as opposed to sampling a single homogenous domain. Consequently, establishing the internal consistency of every scale was not seen as a prerequisite for proceeding with analyses. Scale correlations were computed using Pearson's Product Moment primarily in the interest of examining whether direct linkages in the model are supported by our data.

Two composite measures were developed to examine mediator and moderator effects. The Motivating Potential Score (MPS) is a composite of the job characteristics. While a variety of additive and multiplicative combinations of the job characteristics has been suggested, Fried and Ferris (1987) advocated using a simple approach of summing and averaging the scale scores for the five original job characteristics. A psychological states combination score was also created for each individual using the same method.

Baron and Kenny's (1986) recommendations for assessing mediation were followed. Three prerequisites must be established before mediation can be considered. For this study, these include: 1) the MPS must explain significant variance in the psychological states combination score; 2) the MPS must explain significant variance in the outcomes (e.g., Job Satisfaction); and 3) the psychological states combination score must explain significant variance in the outcomes. If those requirements are met, total or partial mediation can be inferred if the variance explained in the outcomes by the MPS is no longer significant or is diminished once the psychological states combination score is controlled. Hierarchical regressions were used to test the moderator's influence in the model. This process allows the unique contribution of each independent variable and interaction term to be assessed.

Results

Validation study. Fifty-seven of an estimated sixty-five case managers (88%) completed the combined JPQ/JDS survey for purposes of the validation study. As shown in Table 1, reliabilities of revised JPQ scale equivalents were good to very strong (with the exception of the Dealing with Others scale, which was included as an exploratory variable). Findings from the validity study provide solid

support for using the JPQ revised scales for purposes of testing the JCM with working adults with SMD.

The internal consistency of scales as assessed by Cronbach's alpha varied dramatically from a low of .37 to a high of .93 although most alphas were acceptable to very good. However, as noted earlier and consistent with other published studies, the scales that evidenced lower internal consistency were those adapted from the JDS (Hackman & Oldham, 1976) and tend to deal with job characteristics (e.g., skill variety, dealing with others). These findings are consistent with our prior assertion that several of the original and revised JDS scales tap domains that are multi-dimensional in nature.

Test of the original JCM. The JCM specifies relationships between five core job characteristics and three psychological states (e.g., that feedback from job will explain variance in knowledge of results). Hackman and Oldham (1976) also predicted that a sixth job characteristic--dealing with others--would add explanatory value to the model although they did not specify expected relationships. Therefore, dealing with others was included in this research as an exploratory variable.

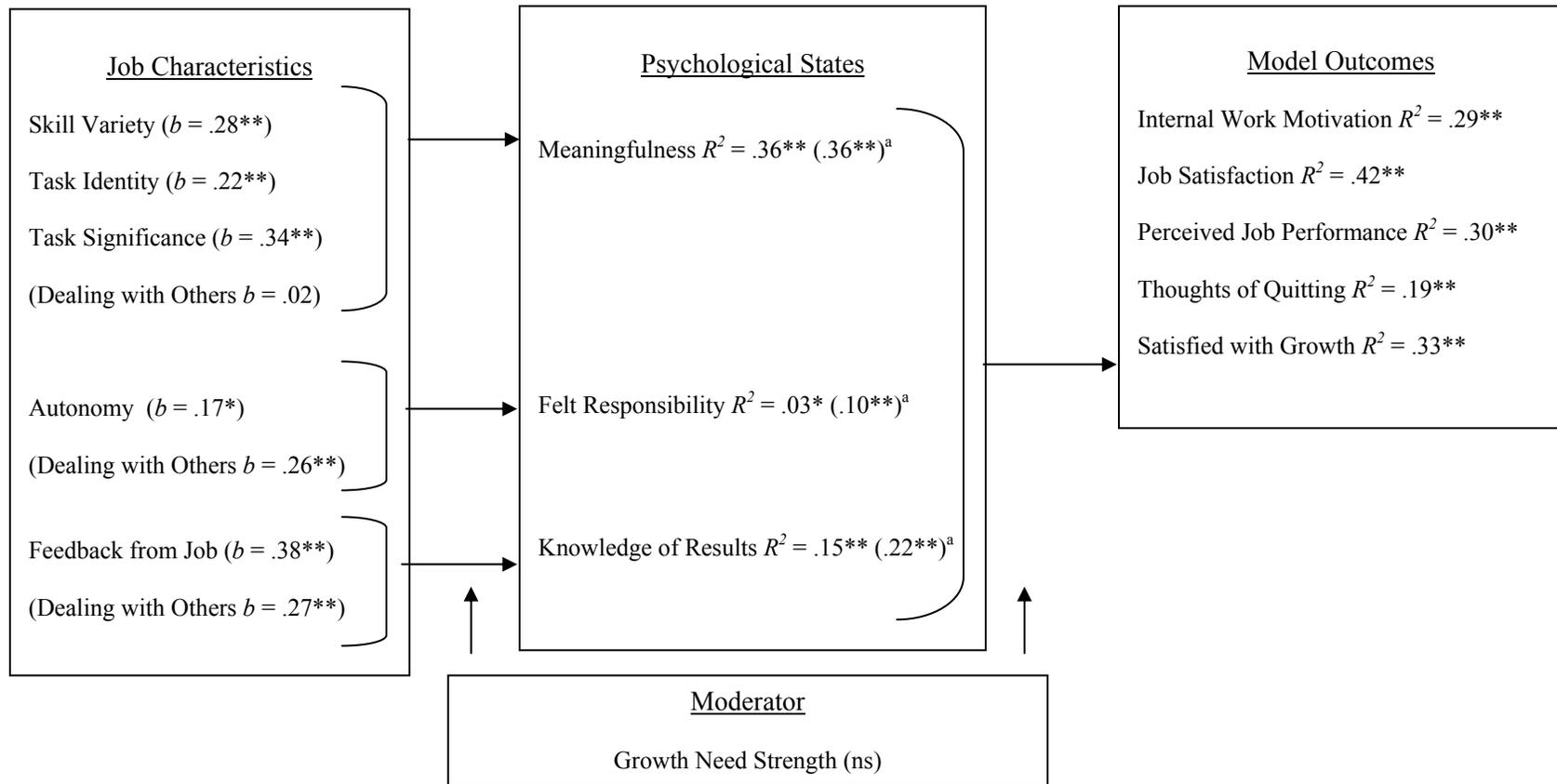
Relationships between job characteristics and psychological states appear in Figure 1. As predicted by the model, skill variety, task identity and task significance explained significant and substantial variance in meaningfulness ($R^2 = .36, p < .01$). Dealing with others did not explain additional variance in meaningfulness. Also in accordance with the model, autonomy explained significant variance in felt responsibility ($R^2 = .03, p < .05$), and dealing with others added explanatory power ($R^2 = .10, p < .01$). Finally, feedback from the job explained significant variance in knowledge of results ($R^2 = .15, p < .01$) while dealing with others again explained additional variance ($R^2 = .22, p < .01$).

Next, expected links were examined between psychological states and the five original outcomes from the JCM. Figure 1 reveals that psychological states explained significant variance in all model outcomes, including internal work motivation ($R^2 = .29, p < .01$), job satisfaction ($R^2 = .42, p < .01$), perceived job performance ($R^2 = .30, p < .01$), thoughts of quitting ($R^2 = .19, p < .01$) and satisfaction with growth ($R^2 = .33, p < .01$).

Mediation hypotheses were tested using the Motivating Potential Score (MPS) and the psychological states combination score. Table 2 shows that the psychological states combination score did not mediate the MPS for Job Satisfaction and Perceived Job Performance. However, the psychological states combination score partially mediated the relationships between MPS and two model outcomes: Internal Work Motivation and Thoughts of Quitting. The relationship between MPS and Satisfaction with Growth was fully mediated by the psychological states combination score.

Finally, the JCM predicts that Growth Need Strength (GNS) acts as a moderator between job characteristics and the psychological states and between psychological states and each outcome. Again for this test, the additive combinations of job characteristics (MPS) and psychological states were used. GNS did not moderate the relationship between MPS and the psychological states combination score (interaction term $b = .732, p = .13$). In addition, GNS did not moderate the relationships between the psychological states and any of the model outcomes (b ranged from .32 to .77; p ranged from .16 to .57). Overall, there was a high level of GNS in this sample, with 73.6 percent agreeing or strongly agreeing that they are strongly motivated by a desire to learn, develop and grow on the job.

Figure 1. Job Characteristics Model (with variance explained).



^aParentheses in Psychological States box surround variance explained when Dealing with Others is included in the regression model.

* $p < .05$; ** $p < .01$

Table 2. Mediation Regressions (Do Psychological States Mediate the Relationships between MPS and Outcomes?)

		Int Work Motiv	Job Satisfaction	Prvcd Perf	Thoughts/Quitting	Sat w/ Growth
MPS	<i>b</i> =	.57	.57	.57	.57	.57
explains	<i>t</i> =	8.38	8.38	8.38	8.38	8.38
Psych States	<i>p</i> =	.001	.001	.001	.001	.001
MPS	<i>b</i> =	.41	.59	.62	-.36	.41
explains	<i>t</i> =	5.50	8.91	9.66	-4.76	5.35
Outcomes	<i>p</i> =	.001	.001	.001	.001	.001
Psych States	<i>b</i> =	.38	.39	.26	-.20	.45
explain	<i>t</i> =	4.34	5.06	3.45	-2.08	5.28
Outcomes	<i>p</i> =	.001	.001	.001	.04	.001
MPS	<i>b</i> =	.19	.36	.48	-.25	.14
explains	<i>t</i> =	2.15	4.78	6.23	-2.61	1.65
Outcomes	<i>p</i> =	.033	.001	.001	.010	.10
(Psych States Controlled)						
Mediation		Partial Mediation	No Mediation	No Mediation	Partial Mediation	Full Mediation

Eight exploratory outcomes were investigated in this study due to their relevance to the population of working adults with SMD. These outcomes were regressed on the individual job characteristics and psychological states. In all cases, model variables explained significant variance in these outcomes (empowerment $R^2 = .42$; perceived improvement of health $R^2 = .29$; perceived improvement of mental health $R^2 = .23$; career maturity job $R^2 = .23$; career maturity worker $R^2 = .35$; identity as a worker $R^2 = .18$; job strain $R^2 = .25$ and satisfaction with supervisor $R^2 = .33$).

Discussion

The JCM, a motivation-based model of job design, provides a good framework for understanding the experience of work as reported by adults with SMD. As with other populations of workers, findings show that workers’ views about the structural features of their jobs (job characteristics) account for important psychological reactions to work such as views about the meaningfulness of the work. In turn, these psychological reactions explain traditional work outcomes such as job satisfaction, perceived job performance and thoughts of quitting. The model also explains other recovery-related (e.g., empowerment) and developmental (e.g., identity as a worker) outcomes that are vitally important for working adults with SMD. The findings from this research suggest that attention to job design can facilitate positive work experiences and enhance recovery processes among adult workers with SMD.

In addition, findings related to growth need strength (GNS) suggest that most adults with SMD, about 75 percent in this sample, are strongly motivated by a desire to learn, develop and grow on the job. However, in this study, GNS did not moderate either the relationship between job characteristics and psychological states or the relationship between psychological states and outcomes. This finding is likely related to the lack of variability in GNS in this study.

Support for the JCM with regard to the original outcomes examined by Hackman and Oldham (1976) and the expanded set of developmental and recovery-related outcomes suggests important

implications for vocational programming. For example, findings suggest that discussions about job preferences should address not only the type of work (e.g., landscaping) but also the structure of work (e.g., amount of autonomy). Job titles traditionally reflect the type rather than the structure of the work. Jobs with the same title can be structured in a myriad of ways. For example, a landscape worker for one organization may perform the same task(s) at every work site (e.g., mowing) and may report having little skill variety. Another landscape worker may perform different tasks at different sites (e.g., mowing, edging, trimming, mulching, planting). Thus, although the job title may be the same, the structural features of these jobs are substantially different. Prospective workers need to be educated about how the same “job” can vary in structure so that faulty conclusions are not drawn about the desirability of certain professions.

Findings also reinforce the notion that worker perceptions are important (e.g., Wrzesniewski & Dutton, 2001). One cannot assume that a specific job will be perceived the same way by two different individuals, such as two workers or a worker and his/her vocational counselor. Consequently, it is imperative for vocational specialists to understand how a particular individual perceives a specific job.

Support for the JCM also suggests that jobs can be redesigned to be more appealing using various strategies which include, but are not limited to, combining tasks, forming natural work units, establishing client relationships, and opening feedback channels (Hackman, Oldham, Janson & Purdy, 1975). These types of interventions can be both low cost and effective.

The finding that the vast majority of workers with SMD are motivated by a strong desire to learn and grow on the job suggests that it is important to actively identify and emphasize job-specific opportunities for growth. All jobs offer some potential for growth and learning and, consequently, have implications for increasing a worker’s skill set and, hopefully, increasing a worker’s value in the marketplace. Discussions about mining such opportunities need to be ongoing and explicit.

In addition, because the JCM is fundamentally based on workers’ perceptions of their jobs, it is important to periodically reassess perceptions of a particular job. Workers’ views about a job can change with experience, changes in personnel, and as a result of intentional and unintentional changes in how the job is structured in terms of core characteristics (e.g., a coworker’s resignation may result in an expanded list of job duties for a worker). Reassessment over time affords workers an opportunity to gain insight into the positive and negative reactions they may be experiencing that are linked to structural changes in their jobs. In addition, the concepts in the JCM and the questions used to assess them can provide a meaningful and common vocabulary for discussing important aspects of jobs.

Finally, results related to the work outcomes (i.e., original JCM outcomes and the developmental and recovery-related outcomes added as a result of expert input) suggest that it is important to expand the operational definition of job success for adults with SMD. While program level outcomes such as employment rates, tenure, and turnover rates should continue to be tracked, greater attention needs to be given to employee level outcomes, including traditional performance and attitudinal outcomes (e.g., general and facet satisfactions, job strain), developmental outcomes (e.g., identity as a worker, career maturity), and recovery-related outcomes (e.g., empowerment as a worker).

In summary, findings from this research are exciting and important for several reasons. First, and perhaps most important, they suggest that processes related to perceiving, experiencing, and reacting to jobs operate for workers with SMD as they do for other segments of the working population. Consequently, principles of job design aimed at increasing the appeal of jobs are likely to generalize to working adults with SMD. Second, findings imply that the design of jobs should be considered (in addition

to desired type of work) in the course of the job development process. Finally, support for the model suggests that prospective workers with SMD and the professionals working with them may benefit from exposure to job design principles and approaches like the JCM.

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**THE INNOVATION DIFFUSION AND ADOPTION RESEARCH PROJECT (IDARP):
A PROCESS OVERVIEW AND A PREVIEW OF QUALITATIVE DATA FROM INTERVIEWS**

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“What circumstances led to your initial thinking about this evidence – based practice?” “Given your experience implementing this practice, what do you think should have been done differently if you could turn back the clock to the time when you first got involved with this practice? These are just two of the many questions posed during interviews with decision makers, champions, implementers and others regarding their experiences with the evidence-based and other innovative mental health practices examined in the Innovation Diffusion and Adoption Research Project (IDARP).

The IDARP study was conceived soon after the initiation of the Ohio Department of Mental Health’s (ODMH) Quality Agenda. The agenda dictates that action be taken in three arenas: consumer outcomes, quality improvement, and evidence-based practices (EBPs). ODMH hopes to improve quality of care by facilitating the adoption and assimilation of EBPs and other innovative mental health practices (IMHPs) by service providers within the state.

Coordinating Centers of Excellence (CCOE) were established as key structural mechanisms for facilitating the uptake of EBPs within the system. Initially, CCOEs were designed to serve as statewide champions and technical experts for a single EBP. Within the last couple of years, some CCOEs have expanded their missions to represent multiple practices.

IDARP is a longitudinal study that systematically examines the decisions and actions of organizations that interacted with CCOEs regarding the potential adoption of one of four practices: cluster – based planning (CBP); multi-systemic therapy (MST); the Ohio medication algorithms (OMAP) and integrated dual diagnosis treatment (IDDT). Drawing on an extensive research base (Panzano et al., 2004; Panzano & Roth, 2006), IDARP addresses two broad questions: What factors influence the adoption of innovations by behavioral healthcare provider organizations? What factors and processes influence the longer-term outcomes of IMHPs in organizations?

Four models were proposed to address the two major research questions. These models provided roadmaps for the specific variables to be measured and the methods for doing so (i.e., interviews, surveys, archival data records). One model posits a risk-based framework for understanding the decision to adopt an innovative mental health practice (e.g., Panzano & Roth, 2006). The other three models propose distinct but complementary frameworks for explaining the extent to which efforts to implement practices are successful (e.g., Panzano et al., 2004). Analyses of survey data lend support to the four models. However, a rich and largely untapped cache of qualitative information gathered during face-to-face

interviews is now available and is expected to further inform our understanding of the decision and implementation processes.

A shift in focus to data gathered from face-to-face interviews

The IDARP study is exceptional due to its longitudinal design and because it involves both quantitative and qualitative data gathering components. Data gathered from surveys were augmented with qualitative information gathered during face-to-face interviews with key informants (e.g., Kumar, Stern, & Anderson, 1993) who had intimate knowledge about the decision – making and/or implementation processes pertaining to the four practices studied. Although this qualitative information is costly to gather and analyze, its value is high. It can be used to triangulate findings from surveys and also provides important insights about patterns of findings that would otherwise go undiscovered. Consequently, substantial resources were invested in the interview component of the research.

But, in contrast to the findings already presented from survey data, relatively few findings from interviews have been reported to date. This is because the process of coding qualitative information from interview transcripts is much more labor-intensive than the process of entering survey responses into a database. Interviews must be transcribed, verified and edited. Content codes also need to be developed a priori (and subsequently refined) to capture the essence of segments of text within transcribed interviews. Researchers must be adequately trained as coders and exhaustive efforts need to be made to insure coding consistency both within and between coders. In addition, rules need to be established for resolving coding inconsistencies and decisions need to be made about how to synthesize information gathered from several interviews into an internally consistent and comprehensive project story.

We now are positioned to report qualitative findings from interviews – both independent of and in conjunction with survey data. The last of the third round of IDARP interviews was conducted in November 2005 and the coding of qualitative data from all three rounds of interviews was completed in the spring of 2006. In fact, several papers are about to be submitted for publication or published based on these qualitative data. One of these papers focuses on patterns of reported barriers and facilitators reported from first round interviews (Seffrin et al., 2006). A second manuscript examines the inter-organizational dynamics linked to the decision to adopt MST (Carstens et al., 2006). A third brief report uses data from third round interviews to explore what organizations would do differently with regard to implementing practices, given the benefit of hindsight (Massatti, 2006). Finally, a fourth contrasts the experiences of projects in which implementation has been sustained with a match paired of projects that have stopped implementing (e.g., Sweeney et al., 2006).

In contrast to these manuscripts, which examine specific questions pertaining to the adoption and implementation of IMHPs, the primary goals of this chapter are to describe the structure of the qualitative dataset and to introduce some methodological issues pertaining to its development. Accordingly, the chapter has three objectives, the first two of which pertain to methods whereas the third relates to results. The first aim is to describe the structure of IDARP interview protocols and to summarize the codes and coding processes used to capture information contained in interview transcripts. The second objective is to summarize the process used to convert codes linked to interview transcripts that reside in Atlas TI, a qualitative data analysis program, to data modules and to introduce some conceptual and methodological issues that were considered in this process. Finally, the participating individuals and projects will be described along with a sample of findings.

Methods

IDARP involved three rounds of data gathering separated in time by about one year. Following accepted practice for this type of research (e.g., Kumar et al., 1993; Meyer & Goes, 1988; Nutt, 1992), key informants provided critical information about the decision and implementation processes and outcomes. Typically, between two and five key informants provided information about the projects that were the focus of the study during face-to-face interviews and also on post-interview surveys (e.g., Panzano et al., 2004). Active projects, defined as those for which a) the adoption decision was pending or b) a decision to adopt was recently made, or c) implementation was underway, were contacted at each of the three data gathering rounds in order to get updates about progress. For some projects, in the course of initial or follow-up contacts, we learned that the project was no longer active: either a decision had been made not to adopt the practice or a decision had been made to stop implementing a practice that had been underway. These projects were considered to be inactive. Even so, we conducted exit interviews and administered follow-up surveys that allowed us to complete our records about what had transpired in the interim between the prior contact and the final contact.

Interview protocols and process. Questions addressed during interviews and also on surveys either pertained to the decision-making process and outcomes, the implementation process and outcomes, or both, depending on the status of developments. With regard to interviews, although specific questions varied based on whether the project was active or inactive, protocols shared a common structure. First, they included several pre-interview questions designed to verify the decision status of the project (i.e., will never adopt, will not adopt now but may in the future, still considering whether to adopt, recently decided to adopt, implementing, discontinued implementing) (Panzano & Roth, 2006). It was important to verify decision status at the time of the interview to insure that the most appropriate versions of the interview and follow-up survey were administered and for subsequent data analyses.

Interview protocols shared a common sequence of questioning. First in the sequence were questions pertaining to the interviewee (e.g., formal title, project role, management level, tenure, highest degree earned). These biographical questions were followed by a series of open-ended, probing questions aimed at prompting interviewees to tell the story of the organization's introduction to the particular practice and, if applicable, to describe the adoption decision process and outcome and the organization's experience with implementation to-date.

The open-ended portion of the protocols was adapted most directly from the work of Paul C. Nutt (2004). Questions were geared to eliciting information about developments that primarily occurred prior to the formal adoption decision. Specifically, we were interested in understanding how the actual structure of the organizational decision-making/planning process compared to a specific five-stage by three-step prescriptive framework which research and theory suggest is related to the long-term success of implementation efforts among adopter organizations (e.g., Nutt, 1992). In addition, we hoped to classify other aspects of the decision process (e.g., nature of constituency building efforts) that research suggests are likely to have a bearing on success.

A set of structured or semi-structured questions followed the open-ended portion of the interview. Structured questions were adopted or adapted from the work of a variety of scholars who have studied implementation and/or innovation processes in organizations with the intent of understanding factors associated with the successful assimilation of innovations by organizations (e.g., Dutton & Duncan, 1987; Hickson, Butler, Crey, Mallory, & Wilson, 1986; Klein, Con, & Sorra, 2001; Nutt, 1992; Van de Ven, Angle, & Poole, 2000; Yin, 1978). However, specific sets of structured questions varied substantially

across versions of the protocol depending on decision status (e.g., still considering adopting, never will adopt, engaged in implementation).

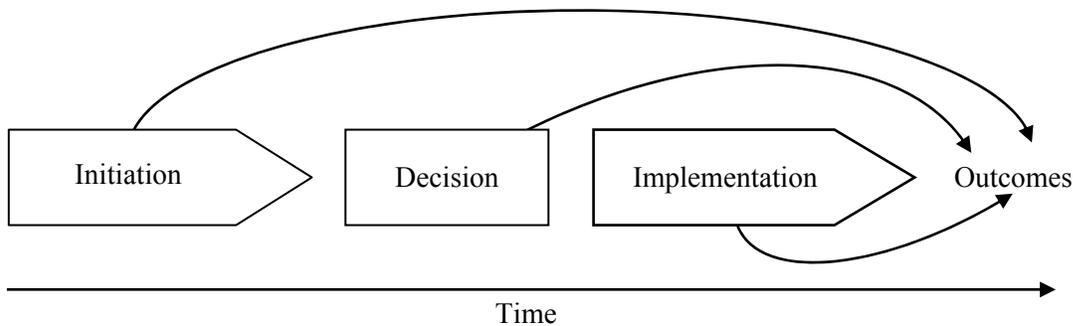
Interviews typically were conducted with multiple informants associated with participating projects. Interviews were carried out by trained teams that included a lead interviewer and a scribe, each of whom had a copy of the appropriate interview protocol close at hand. After getting permission from the interviewee, the scribe typically used a laptop computer for recording responses to interview questions. For a given interview round, the team typically interviewed all interviewees connected to a particular project on the same day.

Within one or two business days, the complete set of interview transcriptions was sent by the scribe to the lead interviewer for review and editing. The process of refining individual transcripts within the set continued until both members of the team were satisfied with the written account of the interview. Final interview transcripts then were saved as electronic text-only files and bundled together in an electronic folder labeled by project name and contact point.

Coding interview transcripts. Electronic text files for each interview were then imported into the Atlas TI qualitative software package for coding by trained coders. The research team developed a priori lists of codes that were made available for use within the Atlas software. Many of these codes tended to be relevant to all projects regardless of decision status (e.g., barrier and facilitator codes) but others typically were not. (e.g., implementation outcomes codes).

Codes included in the Atlas software for use by coders have a basis in the three models of implementation success that guided the overall study. For instance, one of those models, the cross-phase model (Panzano et al., 2004) which is shown below (see Figure 1), conveys the important idea that aspects of each of the three key phases of the innovation adoption process (Rogers, 1995) are important to consider due to their likely impact on implementation success. In fact, research suggests that factors connected to each component of this model are related to implementation outcomes.

Figure 1. Cross-phase model of implementation success.



Accordingly, there are qualitative codes that are inked to the initiation, decision, and implementation phases of the model and also to outcomes. For example, codes that deal with a) the planning process are linked to the initiation phase, b) decision status are associated with the decision phase, c) post-kick-off evaluation activities pertain to the implementation phase and d) implementation

outcomes clearly deal with the outcomes portion of the model. In addition, some codes such as barriers and facilitators are relevant to all components of the cross-phase model.

Approximately 150 individual codes made available in Atlas for use by trained coders pertained to the following broader categories:

- Informant characteristics (e.g., project role, authority, expertise domain(s))
- Decision status (e.g., non-adopter, implementer)
- Planning process features (e.g., constituency building strategy, planning model)
- Type of barriers encountered (e.g., money, system, CCOE, staff, other) crossed with timing of barrier (e.g., pre-decision, post-kickoff, anticipated)
- Type of facilitators encountered (e.g., money, system, CCOE, staff, other) crossed with timing of facilitator (e.g., pre-decision, post-kickoff, anticipated)
- Costs (actual and anticipated)
- Benefits (actual and anticipated)
- Fidelity (e.g., high versus low)
- Assimilation (e.g., strong versus weak)
- Evidence of reinvention
- Post-kickoff program evaluation activities (e.g., process, outcomes)
- Goal-setting activities
- Post-kickoff outcomes (i.e., positive, negative) crossed with expected versus unexpected

Coders used specific codes (e.g., financial barrier) within these broader categories to classify segments of text that appeared in interview transcripts. Often, more than one code was attached to a single segment of text. For example, the codes “barrier-money” and “post-kickoff” were applied to the phrase: “We expect to run into financial problems (i.e., barrier-money) after we actually begin implementing this practice (i.e., post-kickoff).

Categorizing coded variables into modules. To facilitate data analyses, including the task of merging interview data with survey data, codes were structured into five modules: demographic, decision status, project planning, barrier and facilitator, and kick-off. Conceptual issues related to level of analysis (Rousseau, 1985; Klein, Dansereau, & Hall, 1994) and project phase were considered in constructing these modules. For example, the demographic module was structured at the individual level of analysis because it includes variables that are conceptually attached to a person (e.g., project role). In contrast, the other four modules are constructed at the project level.

Compared to the coded variables included in the decision status, barrier and facilitator, and kickoff modules which are reasonably self-explanatory, coded variables included in the project planning module require more explanation. For that reason, a brief account of the logic underlying the coded variables in that module is presented below. Please see Nutt (1992, 2004) for a much more thorough account of the planning morphology that underlies this module.

The project planning module deals with events that occur primarily during the initiation phase (see Figure 1). Variable codes pertain to decision making and planning efforts that typically precede the decision to adopt a practice. Many pertain to a prescriptive project planning framework developed by Nutt (1992, 2004) which is a synthesis of planning models from varied disciplines ranging from engineering to healthcare. Accordingly, the module includes coded variables that deal with overall strategy, five decision making/planning stages (i.e., formulation, concept development, detailing, evaluation, and

implementation) and the extent to which these stages are carried out comprehensively (i.e., extent to which the search, analysis and synthesis steps were carried out at each stage).

It is important to note that the meaning of the decision making/planning stage variables which are included in the project planning module often depart from common usage. For example, the evaluation stage does not deal with program evaluation activities. Instead, because the evaluation stage occurs during the initiation phase (see Figure 1), it is focused on pre-implementation evaluation activities (e.g., pilot studies, simulations, expert opinion) directed toward estimating the feasibility and likely impact that a practice is likely to have if implemented. Similarly, within the context of the project planning module, coded variables associated with the implementation stage deal with activities related to constituency building. For example, variables pertain to strategies employed to build support among key stakeholders who can ultimately impact the success of subsequent implementation efforts.

Nutt (1992) asserts that the most appropriate planning model to employ for a prospective project depends on the outcomes an organization is interested in achieving should the focal product or service be adopted (e.g., quality, innovativeness, acceptability). However, in general, planning efforts that are more comprehensive and traverse the full range of stages in the framework (i.e., formulation, conceptualization, detailing, evaluation, implementation/constituency building) and involve all component steps (search, synthesis, analysis) are expected to meet with the broadest definition of success.

Reliability. Consensus and consistency were the goals of the coding process. Consequently, a great deal of effort was devoted to establishing agreement among raters in the codes they attached to segments of text. In fact, several strategies were employed to maximize the reliability and validity of codes attached to transcripts. A coding dictionary, written coding guidelines and other supporting material were provided to team members. IDARP researchers also participated in preliminary and ongoing coder training sessions. For example, three one-day training sessions separated by practice sessions were conducted by Paul Nutt of the Ohio State University about the application of planning process and strategy codes on the basis of his empirical work examining over 400 planning efforts and their outcomes (Nutt, 2004). Team members also participated in additional training sessions to review and discuss the meaning and use of a priori codes and new codes. In addition, coding practice sessions and work sessions were conducted by the senior researcher in charge of developing the qualitative database for the study. These meetings provided a forum for team members to further modify and refine codes, to continue to work on building inter-rater coding consistency, to discuss and reconcile difficult cases, and to get updated coding assignments. Further, all coded transcripts from second-round interviews were formally reviewed for consistency by two members of the research team (i.e., one member whose dissertation work was based on IDARP data and also by the senior researcher in charge of developing the qualitative database). Finally, all coded transcripts from the third round of interviews were reviewed for consistency by that same senior researcher. Consequently, in contrast to the typical approach of establishing acceptable levels of inter-coder consistency during coder training sessions and checking levels of agreement for a sample of cases thereafter, in order to maximize reliability and validity, every IDARP interview transcript was coded by at least two trained coders. When discrepancies were discovered, they were reconciled either by the senior qualitative researcher, as a result of discussion among coders, or most often, through a combination of both of those processes. Consequently, we are confident that coding consistency is uniformly high across interview transcripts.

Exporting codes from Atlas to SPSS. After coding was completed for all the interviews in a project's electronic folder for a particular interview round, data then were further prepared for export from Atlas to the Statistical Package for the Social Sciences, more commonly known as SPSS. Because each project at each time period was identified in Atlas as a separate Hermeneutic Unit (HU), these

individual project HUs were subsequently merged together to create four composite practice-level HUs, for Time 1 interviews (i.e., Time 1 CBP HU; Time 1 MST HU; Time 1 OMAP HU, and Time 1 IDDT HU). Separate practice-level HUs were also created for second and third round interviews.

It is important to note that when codes attached to a particular interview transcript are exported from Atlas to SPSS, the resulting SPSS file is a “mention level” file. That is, each record or line of data in the SPSS file (that is created as a result of the export) is associated with a single coded phrase from the focal interview. In addition, in the resulting SPSS file, there is a one-to-one correspondence between the SPSS variable list and the code list residing in Atlas T1. Further, unless special formatting is created in Atlas, by default, the variables exported from Atlas to SPSS are treated as dichotomous: those SPSS variables that apply to that phrase receive a value of “1”; the codes that do not apply receive a value of “0.” These binary/dichotomous variables can be converted to scaled variables, if appropriate, either by writing syntax in SPSS or within Atlas by formatting the coding list in a way that produces scaled variables upon export to SPSS.

For example, the quotation: “the money piece is what will be really hard” would appear as a single record in a larger SPSS data file that includes additional records for each coded segment of text from the single interview from which that quotation came. Let us assume that two codes (i.e., “post adoption decision barrier” and “money barrier”) were attached to that specific quotation within the Atlas database. If so, when codes from that interview are exported to SPSS to create a data file for that interview, one record within that file will pertain to the quotation: “the money piece is what will be really hard.” Further, within that record, two variables will have a value of “1” (i.e., “post adoption decision barrier” and “money barrier”) and all variables in the SPSS variable list will have values of zeros.

These mention/quotation-level records, which contain series of zeros and ones attached to coded phrases, can then be aggregated by summing (or using an alternative aggregation strategy) across records to create a single record that captures the sum total of codes affiliated with a single interview. Codes attached to a single interview, in turn, can be further aggregated to create project-level and practice-level files assuming of course, that project, practice and subject-identification codes have been assigned in Atlas to each interview transcript.

Results

The demographic module. Table 1 provides counts of projects and interviewees by practice and interview round. The conduct of one or more first-round interviews was the metaphorical gateway by which a project got added to the list of focal projects examined in IDARP.

Consequently, all 91 projects represented during round-one interviews were discussed by at least one of the 207 informants involved in interviews during round one. About two thirds of those projects ($n = 61$) participated in the second round of interviews roughly one year later. A little over 80 percent of those round-two interviews ($n = 51$) were represented during round three interviews. A decision not to adopt or a decision to discontinue with implementation accounted for the reduction in the number of projects represented over time.

The 207 round-one interviewees involved individuals with a range of formal authority including: top executives (40%), first-line supervisors (44%) and line staff (16%). The majority had master’s degrees (62%) followed by MDs (12%), and PhDs and bachelors degrees (10% each). Their self-reported expertise was mental health (55%), mental health and substance abuse (26%) followed by substance abuse (7%) and other (12%). Furthermore, they described their role as decision maker (33%), IMHP

champion (16%), implementer (35%) or other (16%). This information can be contrasted with informant profiles from round two and three interviews.

Table 1. Projects and Interviewees by Innovative Mental Health Practice and Interview Round

Round	Innovative Mental Health Practice (IMHP)									
	Clustering		Multi-systemic therapy		OMAP		IDDT		Total	
	Projects	Interviewees ^a	Projects	Interviewees ^a	Projects	Interviewees ^a	Projects	Interviewees ^a	Projects	Interviewees ^a
First contact	23	42	17	45	15	33	36	87	91	207
Second contact	11	24	10	31	12	20	28	58	61	133
Third contact	10	25	7	21	9	11	25	54	51	111

^a Interviewees = project informants; in several cases, one individual served as an informant about multiple projects.

The planning process module. The planning model alluded to by project informants was mapped against Nutt’s (1992) five-stage by three-step planning morphology. Table 2 displays the mean planning process comprehensiveness scores (range = 1 to 6 for each stage) across planning stage for several subcategories of active and inactive projects. Please note that scores are based on round-one interview data only.

Space limitations restrict the extent to which the data in Table 2 can be explored in detail. Suffice it to say that, generally speaking, comprehensiveness scores get stronger as we move from the first category of ‘non-adopter never’ projects to the adopter and implementer groups (see final column total of row means in Table 2). The pattern of total comprehensiveness scores shown in Table 2 is not particularly surprising given that organizations are likely to invest more time and effort into the planning process (e.g., constituency building activities reflected in the comprehensiveness score for implementation) as it becomes more likely that a practice will be adopted. However, in that regard, these data may be seen as validating decision stage.

A potentially interesting pattern did emerge for the de-adopter group: their total planning comprehensiveness score (13.00) is noticeably lower than scores for adopters (18.00) and implementers (17.95) particularly with regard to the concept development, evaluation and implementation stages. These differences suggest that de-adopters may have invested less time in a) conceptualizing the problem they hoped to address by implementing the practice (i.e., concept development), b) evaluating the feasibility of implementing the practice (i.e., evaluation) and c) constituency-building activities (i.e., implementation) which are key to longer-term success. However, a much more in-depth analysis of planning process data is required in order to understand the nature and possible impacts of differences in planning approaches across project (Nutt, 2004).

Table 2. Project Decision Status by Comprehensiveness of Planning Process Stages Reported at Time 1

	Planning Process Stage Comprehensiveness Scores (range: 1 – 6)					
	Formulation	Concept Development	Detailing	Evaluation	Implementation	Total of Row Means (range: 3 – 18)
Project Decision Status	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Sum of row means
Non-adopter: never (n = 6)	3.33 (2.73)	1.00 (2.46)	1.17 (2.40)	1.00 (2.45)	1.50 (1.97)	8.00
Non-adopter: possible (n = 11)	3.73 (1.95)	0.82 (1.76)	2.27 (2.49)	0.82 (1.83)	2.64 (2.77)	10.24
Still considering (n = 11)	4.55 (2.54)	3.09 (2.84)	1.45 (2.34)	0.18 (0.40)	2.73 (2.87)	12.00
Adopter (n = 9)	5.11 (1.76)	3.67 (2.18)	3.33 (2.00)	1.56 (2.60)	4.33 (1.80)	18.00
Implementer (n = 46)	4.91 (1.99)	2.17 (2.60)	4.87 (1.97)	1.15 (2.19)	4.85 (1.75)	17.95
De-adopter (n = 6)	4.50 (2.51)	1.17 (2.40)	4.83 (2.40)	0	3.50 (2.51)	13.00

The barrier and facilitator module. Barriers and facilitators were mentioned by interviewees throughout the course of all interview rounds and initially were coded into five content domains: money, system, CCOE, staff and other. In addition, as noted earlier, barrier and facilitator codes were crossed with a time variable (i.e., pre-decision, post decision, and post kickoff) when the interview transcript conveyed enough information to do so (e.g., Roth et al., 2006).

Data from the round-one and round-two barrier and facilitator modules were merged in order to examine possible changes in references made to barriers and facilitators over time. Table 3 reports the average number of times different barriers and facilitators were mentioned during round-one versus round-two interviews but only for the forty (40) projects that were classified as implementers at both points of contact. The final two columns of the table display composite means based on references made to all barriers and to all facilitators, respectively.

Table 3. Mean Number of References Made to Barriers and Facilitators during Round-One and Round-Two Interviews Pertaining to Those Forty (40) Projects Classified as Implementers during Both Time Periods

Mean number of references made about sub-categories of barriers and facilitators during round-one (T1) and round-two (T2) interviews (n = 40 projects)												
	CCOE		Money		Other		Staff		System		Total references	
IMHP	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
Barriers	1.40	1.80	5.20	2.48**	5.45	5.20	6.32	7.65	4.25	3.57	22.6	20.7
Facilitators	5.35	3.30**	3.85	1.22**	10.98	5.78**	5.65	6.42	6.30	3.60**	32.13	20.35**

**2-tailed paired *t*-test is significant at $p < .01$ regarding difference in references made to specific barriers and facilitators between T1 and T2.

A series of paired *t*-tests were conducted to examine whether or not changes occurred in the number of references made to barriers and facilitators between round-one and round-two interviews by those 40 implementer projects. However, because there were no a priori hypotheses regarding expected direction of change in barrier and facilitator mentions, 2-tailed tests of significance were employed.

Overall, findings suggest that the total number of references made to the presence of barriers remained quite stable over time (mean = 22.6 versus 20.7, $t = 0.89$, $df = 39$, 2-tailed $p = NS$). More specifically, as noted in Table 3, a significant change was seen in the number of references made about only one of the five barrier categories, namely money. That is, a significant reduction was observed in the number of references made to financial barriers between round one (mean = 5.20) and round two (mean = 2.48, $t = 4.47$, $df = 39$, 2-tailed $p < .000$).

In contrast, substantial change was observed in the number of references made over time to the presence of implementation facilitators. Overall, facilitators tended to be mentioned less frequently during round-two interviews (mean = 20.35) than they had been during round-one interviews (mean = 32.13, $t = 3.7$, $df = 39$, 2-tailed $p < .001$). In addition, as shown in Table 3, there were significant reductions in the number of references made to four of the five facilitators with staff facilitators being the exception to that rule. Specifically, fewer references were made between round-one and round-two to a) CCOE facilitators (mean = 5.35 vs. 3.30, $t = 2.67$, $df = 39$, 2-tailed $p < .01$), b) financial facilitators (mean = 3.85 vs. 1.22, $t = 4.47$, $df = 39$, 2-tailed $p < .000$), c) other facilitators (mean = 10.98 vs. 5.78, $t = 4.08$, 2-tailed $p < .000$), and d) system facilitators (mean = 6.3 vs. 3.6, $t = 2.57$, 2-tailed $p < .014$). In other words, for the forty projects classified as implementers at both round one and round two, references made to barriers remained relatively stable but references to facilitators decreased.

Clearly, these findings from the round-one and round-two barrier and facilitator modules are only the tip of the iceberg when it comes to possible analyses that can be conducted related to barriers and facilitators. As mentioned earlier, Seffrin and colleagues (2006) already have taken an in-depth and fascinating look at these data based on round-one interviews, only. Future analyses will focus on longitudinal data and also on merging these data with data from surveys. For example, we might examine whether plans to persist as reported on surveys are related to changes in barrier and facilitator ratios over time.

The kickoff module. In contrast to the planning module, which includes information about the planning activities that occur prior to implementing a practice, variables included in the kickoff module pertain to developments reported by interviewees that either have occurred or are expected to occur after implementation has gotten underway (i.e., post-kickoff). As noted earlier, variables in the module deal with post-kickoff program evaluation activities (e.g., process, outcome evaluation) and also to implementation goals and outcomes.

Table 4 displays a sample of information from second-round interviews captured in the round-two kickoff module. Specifically, it conveys the number of references made to traditional program evaluation activities that are either in place or planned and which are aimed at evaluating the actual impact of the practice being implemented. References made to program evaluation are seen as positive because they imply that implementation-enhancing performance monitoring activities are underway or planned (e.g., Klein & Sorra, 1996; Panzano et al., 2004).

The data reported in Table 4 suggest that program evaluation is on the agenda of organizations engaged in implementing the practices studied in IDARP. These references made to program evaluation activities, at a minimum, convey an awareness of the need to systematically evaluate the impacts of practices on clients and agency performance. However, differences were observed across practices in the typical number of references made to program evaluation activities [$F(3, 57) = 3.6, p < .05$]. In fact, post hoc tests revealed that significantly more references to program evaluation typically were made by informants linked to MST projects (28.5) than by those linked to CBP (15.6) or OMAP (8.1) projects. In addition, more references to program evaluation activities were typically made by IDDT project informants (21.3) compared to OMAP project informants (8.1). One potential implication of these findings is that the salience of program evaluation activities may vary across practices such that it is particularly salient within MST and IDDT projects.

Table 4. Mean Number of References Made to Implementation-Related Program Evaluation Activities by Interviewees During Round-Two Interviews

Innovative Mental Health Practice	Mean references made to outcomes evaluation ^a	Mean references made to process evaluation ^b	Mean references made to evaluating the impact of implementing the IMHP ^c	Mean total references made about program evaluation ^d
Cluster – based planning ($n = 11$)	2.9	5.0	7.7	8.2
Multi-systemic therapy ($n = 10$)	8.0	6.7	13.8	28.5
Ohio Medication algorithms ($n = 12$)	2.2	1.9	4.1	15.6
Integrated dual diagnosis treatment ($n = 28$)	3.7	8.3	12.4	21.2

^a One-way ANOVA suggests significant differences across practice: $F(3,45) = 3.7, p < .05$

^b One-way ANOVA suggests significant differences across practice: $F(3,45) = 5.0, p < .01$

^c One-way ANOVA suggests significant differences across practice: $F(3,45) = 3.7, p < .05$

^d One-way ANOVA suggests significant differences across practice: $F(3,57) = 3.6, p < .05$

Next steps

Previously reported findings from IDARP which are primarily based on survey data lend support to the explanatory power of the four models that guide the research. These findings have implications for influencing the decision to adopt innovative practices (e.g., Panzano & Roth, 2006) and for facilitating successful implementation among those organizations that decide to adopt (e.g., Panzano et al., 2004). As we begin merging interview-based qualitative data with survey data, we expect to gain additional important insights into specific actions that might be taken at the organization, system and project levels to increase the likelihood that implementation of practices within the Ohio Mental Health System will meet with greater success in the future.

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THE EXPERIENCE OF ADOLESCENT DEPRESSION: MANAGEMENT STRATEGIES AND SERVICE UTILIZATION PATTERNS

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The prevalence of mental health problems in youth is a serious public health concern in the United States. In adolescents, the prevalence of major depressive disorder (MDD) is reported to be as high as 8.3 percent, and the prevalence of dysthymic disorder (DD) in this group is thought to be as high as three percent. Many adolescents who experience depression as teens will relapse as adults (U.S. Department of Health and Human Services [USDHHS], 1999, 2000). Depression in adolescents is associated with many negative effects, including increased risk of suicide, interpersonal problems, and missed education and job opportunities (USDHHS, Weissman et al., 1999). Young adults who experienced MDD as adolescents report increased levels of a variety of psychosocial and health-related difficulties (Lewinsohn, Rohde, Seeley, Klein, & Gotlib, 2003).

The past two decades have shown numerous advances in psychotherapeutic and psychopharmacological treatments for children and adolescents with depression (Kaslow, McClure, & Connell, 2002; Kazdin, 2004; Keller, 2001). Yet only 20 percent of children with serious emotional problems receive specialty mental health care (U.S. Department of Health and Human Services [USDHHS], 1999, 2000). Multiple factors have been associated with underutilization of mental health services by children, including economic disadvantage and family dysfunction (Flisher et al., 1997). Child mental health service use is often determined by parents' perceptions of their child's emotional problems. While the severity of children's symptoms predicts whether they will get specialty mental health care, the degree to which parents experience problems that they perceive to be caused or exacerbated by their child's symptoms (burden) is an important factor in determining service use (Angold et al., 1998). Children who are depressed are less likely to receive mental health services than children who have disruptive disorders (Wu et al., 1999). In addition, African American children are less likely than Caucasian children to receive outpatient treatment but more likely to receive residential treatment (Chabra, Chavez, Harris, & Shah, 1999).

Because depression in adolescence is associated with a number of short-term effects, especially risk for suicide, and long-term outcomes, including a number of psychological and social problems in adulthood, identification of teens who are depressed and provision of effective and accessible mental health care is crucial. Equally important, however, is determining why so few adolescents and their families utilize available mental health services. While some factors have been identified that are associated with mental health service use by teens, processes by which depressed adolescents and their families utilize mental health services (e.g., decide to seek services, access services, navigate treatment systems, evaluate services, withdraw from services, transition to adult services) have not been described. In addition, little is known about how families manage adolescent depression, especially in the absence of mental health treatment. The goal of this research was to develop a theoretical framework that describes how adolescents manage their illness and seek and utilize mental health services.

Conceptual framework and study design

Symbolic interactionism (Blumer, 1969; Mead, 1931/1967) is the conceptual framework that guided the study. A basic assumption of symbolic interactionism is that life experiences are interpreted through interactions with others and influenced by social and cultural factors. Grounded theory (Glaser & Strauss, 1967), a research approach in which narrative data related to a group's life experiences are simultaneously gathered and analyzed, was used to build a theoretical model. Grounded theory was chosen because we believe that adolescents who are depressed share a common problem and the ways in which they and their families manage their experiences of depression, including seeking mental health services, are best understood as a series of complex interactions that change over time and are influenced by their sociocultural context. The method allows exploration of (a) the complexities of people undergoing change, (b) the influence of social interactions on outcomes, (c) critical junctures that affect processes of adaptation, and (d) how the social environment influences human experiences (Benoliel, 1996). The main analytic technique of grounded theory is constant comparison, a process in which similarities and differences in the narratives of participants are continually examined. Constant comparison results in codes, categories, relationships among categories, basic psychosocial processes (common changes in action/interaction patterns), and a core category (a category that explains much variation in the data).

Research objectives

The primary goal of this project was to develop a theoretical framework that describes how adolescents who are depressed and their families manage their illness and seek and utilize mental health services. The research questions are:

1. How do adolescents who are depressed and their families manage depressive illness?
2. How do adolescents who are depressed and their families utilize mental health services?
3. What environmental (setting) factors facilitate and hinder the utilization of mental health services by depressed adolescents and their families?

Methodology

Women and men between the ages of 18 and 21 living in the greater Akron, Ohio, area who experienced depressive symptoms as adolescents and a small number of their parents and area professionals were included in the sample. We recruited young adults because we were interested in processes that occurred throughout the teen years and believed this age group could reflect on their adolescence in its entirety while still remembering in some detail important experiences and events.

Adaptive sampling techniques (Campbell & Salem, 1999) were used to recruit the sample. The sampling area was divided into regions according to zip codes. Regions were selectively chosen for recruitment based on demographic data obtained for each zip code to ensure diversity of socioeconomic status and ethnicity. Recruitment fliers, listing common symptoms of depression and study information, were placed at locations at which young adults were likely to gather (e.g., malls, bars, health facilities, coffee shops, gyms, student unions). The fliers invited potential participants to call the toll-free number to hear a recording containing study information and inviting them to leave contact information if they were interested in participating.

If potential participants passed a brief phone screening to rule out particularly vulnerable individuals, they were scheduled for an interview. Open ended interviews, conducted by advanced

practice psychiatric nurses, focused on how the participants and their families managed the depression and utilized mental health services. The participants were also given the depression module of the Diagnostic Interview Schedule, DIS-IV (Robins, Marcus, & Reich, 1996). After completing the interview, participants were asked if their parents or other invested family members might be willing to talk with a researcher to share their perspectives related to the participant's depression. If a participant provided contact information for an adult family member, that individual was contacted and invited to participate in the study. We also interviewed several area professionals who worked with youth in different capacities to obtain descriptions of their insights and experiences related to adolescent depression. Each participant interviewed was reimbursed \$35.00.

The interviews were audio taped and transcribed. The research team, including the Principal Investigator and the research associates, analyzed the data using constant comparison methods, as described above (Glaser & Strauss, 1967).

Results

The final sample included 52 young adults, 4 parents, and 9 professionals. Seventeen ($n = 17$) of the young adults were male (9 African American and 8 Caucasian) and 35 were female (15 African American and 20 Caucasian). Almost half of the young adults (44%, $n = 23$) were students; thirteen percent ($n = 7$) were unemployed, and the rest were engaged in a variety of occupations, including retail salesperson, health care worker, food service worker, and entertainer. The majority of young adult participants (90%, $n = 47$) reported an income under \$15,000 a year. Most (94%, $n = 47$) were single. Five had one child and three were pregnant. The family members included three of the participants' mothers (two Caucasian and one African American) and one participant's father (Caucasian). The professionals included a teacher, coach, pediatric nurse, case manager, choir director, social service agency program direction, school counselor, and youth minister.

According to the DIS-IV (Robins et al., 1996) interviews, 96 percent of the young adults met criteria for depressive disorder in their lifetime: 79.2 percent ($n = 38$) met criteria for Major Depressive Disorder (MDD); 14.6 percent ($n = 7$) met criteria for MDD and Dysthmic Disorder (DD), and one individual meet criteria for DD only. The DIS-IV interview questions to determine the presence of a mood disorder during the 12 months prior to the interview were completed with 47 participants; approximately 30 percent ($n = 14$) met criteria for MDD and 6.4 percent for DD. The majority (63.8 %, $n = 30$) did not meet criteria for any depressive disorder during the prior twelve months.

A wide variety of illness trajectories, life histories, and treatment experiences were described by the participants. Despite variations in the course and severity of the depression, the findings indicate that adolescents who are depressed all struggle to feel connected with or guided by important people in their lives. While the project focused on depression, the narratives were primarily about significant disruptions to and meaningful connections in relationships in the participants' lives.

In grounded theory, the researcher attempts to identify a basic psychosocial problem, which is the problematic situation that participants share (Schreiber, 2001). The psychosocial problem is a common, central concern for the group as a whole. As the participants described the experience of adolescent depression as a painful drifting through life because interpersonal connections that might have grounded or directed them eluded them, we concluded that the basic psychosocial problem of teens who are depressed is *being adrift*. To be adrift is to be "floating without being moored or steered" or to be "without purpose or guidance; lost or confused" (McKean, 2005).

In grounded theory, the shared resolution to a basic psychosocial problem is referred to as a basic psychosocial process. A basic psychosocial process is often a trajectory of social interactions or psychological responses that change over time (Schreiber, 2001). Our data suggest that the resolution to the psychosocial problem of *being adrift* is the psychosocial process of *becoming settled* (Draucker, 2005a). There are several meanings of the word “settled” that we believe particularly captured the commonalities of the narratives that describe how teens manage, and even move beyond, the depression. To settle means to “adopt a more steady or secure style of life,” to “become more calm or quieter,” or to “begin to feel comfortable or established in a new home, situation, or job” (McKean, 2005). For depressed teens, *becoming settled* is a process whereby they respond to the problem of *being adrift* by establishing connections with people who matter to them, finding a comfortable place in their social world, and, with the help of others, gaining a sense of direction or purpose.

Being adrift and *becoming settled* occur in the context of complex, shifting, and multidimensional relationships. The three groups that were identified as important in the teens’ problem of *being adrift* and the process of *becoming settled* were: (a) important adults, including family members (e.g., parents and other relatives) and other individuals who interact with adolescents in their daily lives, especially school personnel and community- and faith-based youth workers, (b) members of the therapeutic community (health care personnel, mental health professionals), and (c) peers. Troublesome dynamics with individuals in each of these groups contributed to the problem of *being adrift*, and, similarly, positive dynamics with individuals in each group facilitated the process of *becoming settled*.

We examined the adolescent’s experiences of *being adrift/becoming setting* in the context of these three groups, identifying a core psychosocial process for each group. For the three core psychosocial processes, three stages, or sub-processes, inherent in each were also identified. A summary of the three core psychosocial processes and the stages or sub-processes of each, are presented in Table 1.

Managing the Façade

The participants indicated that it is common for both adolescents who are depressed and the important adults in their lives to ignore, hide, or minimize the adolescents’ distress by putting up a “happy front” – a façade (Draucker, 2005b). Because being depressed is “not normal,” and being “not normal” is particularly aversive to teens, teens and adults work to hide the depression and pretend “things are fine.” While the façade allows the teens and adults to maintain a sense of normality, it can also impede the teen from getting help. Once constructed, the façade of normality must be managed by the teens and adults. The participants described three interaction processes whereby adults and teens manage the façade: maintaining the façade, poking holes in the façade, and breaking down the façade (Draucker, 2005b).

Maintaining the façade. In this process, teens conceal their depression, and adults block out an awareness of the depression. Teens “engage in strategies to conceal depressive or negative thoughts, feelings, or experiences” (Draucker, 2005b, p. 951) by trying to stifle their emotions and keep negative experiences, such as abuse, substance use, or self-destructive behaviors, secret. Meanwhile, adults “prompt or reinforce [the] teens’ efforts to conceal their depression in a variety of ways” (p. 951), such as by not paying attention to the teens or by silencing them with responses that are abusive, shaming, or threatening.

Poking holes in the façade. In this process, teens hint at some aspects of their experiences of depression, and adults become at least somewhat aware of the teens’ suffering. Hinting occurs when teens “do not directly articulate their troubles [but] indirectly disclose their distress to adults” (Draucker, 2005b,

p. 953). They may raise red flags by engaging in behaviors that reflect their depression (e.g., drawing dark pictures) or dropping clues that let adults know a piece of what they are feeling (e.g., telling a “watered down” version of how sad they are). Adults respond “in ways that indicate that they are somewhat, but not completely, aware of the problems experienced by the teen” (p. 954). Adults may pick up on the teens’ problems but not address them directly, or adults may notice that something is wrong but misperceive the seriousness of the problem.

Table 1. Managing Adolescent Depression: From Being Adrift to Becoming Settled

	Core Psychosocial Processes		
<p><i>Being Adrift</i></p> 	<p><i>Managing the Façade</i> (Important Adults)</p>	<p><i>Venturing through the System</i> (Mental Health Professionals)</p>	<p><i>Finding a Place in the World</i> (Peers)</p>
	<p>Maintaining the façade</p>	<p>Steering clear</p>	<p>Being the outcast</p>
	<p>Poking holes in the façade</p>	<p>Holding back</p>	<p>Finding connections</p>
	<p><i>Becoming settled</i></p>	<p>Breaking through the façade</p>	<p>Letting it take hold</p>

Breaking down the façade. In this process, teens reach out to adults and adults break through to the teens. Teens who reach out “find a way to disclose what they are feeling and experiencing and give themselves permission to be themselves” (Draucker, 2005b, p. 955). They do this by revealing previously hidden feelings and secrets and by exposing what they believe to be their “real selves.” The adults break through “by having an open eye, an open door, and an open ear” (p. 956) as they actively look out for signs of distress, create opportunities for the teens to talk, and listen in an attentive and respectful way. Breaking through also entails consistently pushing the teen to seek help and remain in treatment.

Venturing through the System

The participants indicated that obtaining mental health treatment when you are a depressed adolescent is fraught with pitfalls, which are risks and dangers inherent in the system (Draucker, 2005c). The participants revealed that as adolescents they feared if they received mental health services they would be seen as “crazy,” personal information about them would be revealed, and the mental health professional would not understand their thoughts, feelings, and experiences. Receiving help meant that they must venture through the system.

To venture is to proceed despite possible risk or danger, and a system is the prevailing social order, the establishment. Venturing through the system is the process of getting help for an adolescent’s depression while attempting to avoid, manage, or overcome the actual or perceived pitfalls of the mental health system (p. 158).

The participants described three processes of venturing through the system: (a) steering clear, (b) holding back, and (c) letting it take hold.

Steering clear. Some participants tried to avoid pitfalls by having no contact with mental health professionals if at all possible (Draucker, 2005c). Steering clear occurred when either teens or one or more of their caretakers were adamant that involvement with the mental health system would hurt the teen or the family in some way (e.g., the teen would be on harmful drugs, the family would be reported to the authorities, the teen would be shamed). Descriptions of the process of steering clear were especially common with African American participants, several of whom were leery of a mental health system staffed by clinicians who were mainly Caucasian.

Holding back. Other participants tried to manage the pitfalls by receiving mental health services but resisting full involvement with the treatment (Draucker, 2005c). The teens would hold back by not revealing their true feelings, intentionally deceiving the therapist, downplaying their distress, or being generally uncooperative. They might attend a few sessions and then convince their parents they should stop going because they were “better.” Parents contribute to holding back by stopping the teen’s treatment, and professionals contribute to holding back by being “clueless” or disinterested and not “pushing” the teen to work hard. Typically, the treatment just “fizzles out” over time.

Letting it take hold. Some teens and families overcome the pitfalls and do become fully engaged with treatment (Draucker, 2005c). Treatment takes hold when teens and clinicians form a meaningful connection or bond. The teens have to take a risk to trust the clinician, and the clinician must be understanding and respectful and encourage the teens to “dig deep” to get to the root of their problems. Taking hold occurs when three conditions are present: (a) a parent or caretaker is tenacious in ensuring that the teen gets to treatment and stays in treatment, (b) a clinician “hangs in there” until the therapy takes hold, and (c) a teen is able to let down his or her guard and examine painful issues.

Adolescents Who are Depressed and Their Peers

Many participants described their relationships with their peers as problematic, and in most of the narratives, peers played an important role. Participants revealed that their social lives, especially in school, often involved conflict with others or exclusion from “normal” activities. Getting better was often associated with finding a comfortable place in their social world. *Being adrift/becoming settled* in regard to peer relationships is described as *finding a place in the world*. For the participants, this frequently involved the processes of being an outcast, finding connections, and becoming rooted.

Being an outcast. The participants indicated that as depressed teens they did not “fit in” with their peers and often labeled themselves as “social outcasts.” They described having no friends, not being accepted, being different, and feeling lonely and isolated. In some cases, they were ignored and excluded from activities; in other cases, they were teased and bullied. A few of the participants indicated that their physical appearance or a disability was the cause of the mistreatment. Some were ridiculed for being overweight or for not wearing clothes that were fashionable. A few participants described severe physical and emotional abuse at the hands of their peers. Many acknowledged that they put up barriers between themselves and peers by refusing invitations to social events, acting depressed and “moody,” and in some cases, acting aggressive towards others.

Finding connections. Peer relationships often began to improve if the participants were able to make some sort of a connection with their peers. The participants recalled that some of their attempts at connections were misguided. Several described how they would try to “act like everyone else” to gain acceptance, only to feel like a fraud. Some who were mistreated responded by “sticking up” for themselves in ways that backfired, such as acting aggressively and pushing peers further away. Many described incidents in which they experienced a positive breakthrough in their relationships with peers--a time when things started to get better. For many of the participants, this occurred when they found one friend with whom they felt comfortable and accepted, someone with whom they “just seemed to click.” For others, it was finding a particular activity or group that they felt “okay” about. They talked about joining the marching band, finding a church group that was accepting and welcoming, becoming engaged in a service learning project, or finding a sport in which they could participate. Finding “like” others or an enjoyable activity allowed them to begin to feel like they were “a part of something.”

Becoming rooted. If they were able to make connections that lasted, the participants gained a sense of security and belongingness. They spoke of finding a place where they felt they could be themselves and did not always need to fight for acceptance. They talked of feeling rooted; that is, they were attached to and secure with a peer group. Once rooted, they had a sense that they were “normal.” Some participants spoke of not just participating in activities, but excelling in them as well; they described becoming a section leader in the band, an editor of the school newspaper, and a team captain.

Significance

These findings suggest that teens who are depressed need opportunities to form relationships that will help them move from *being adrift* to *becoming settled*. The participants’ narratives were not focused primarily on the signs and symptoms of depression, but rather on how they felt disconnected from the adults, peers, and professionals in their lives. Because they did not feel anchored by their relationships, they lacked connection, direction and guidance. Moving beyond the depression for the participants involved relinquishing the need to appear “normal” and happy, committing to mental health treatment to confront their problems, and finding a place to fit in with their peers.

Implications

These findings have a number of implications for the mental health system. The concept of the façade, for example, suggests that combating adolescent depression involves an awareness of the powerful role that the fear of stigma plays in the lives of teens who are depressed and the adults who care about them. While anti-stigma mental health campaigns aimed at communities may be helpful in combating societal forces that produce stigma, attention to the interpersonal processes that adolescents who are depressed use in their everyday lives to manage the stigma is crucial. Only if these processes are identified can the adolescents and adults drop the façade and open up to the possibilities of help-seeking.

While we agree with the common recommendation that parents and adults who work with teens receive education about the signs and symptoms of depression, our findings suggest that more is needed: promoting facilitative interactions between teens and adults is crucial. Parents, caretakers, and school and community-based personnel need to recognize “hints,” listen to the teen’s concerns, and persist in pushing the teen to seek help. Several of the adults we talked with expressed the concern that if they “nagged” a teen to open up or to get help, they might push the teen further away. The results of this study suggest, however, that only adults who persist in showing concern and who are tenacious in encouraging the teen to follow through with treatment had a meaningful impact on the course of a teen’s depression.

School-based mental health services that are woven into the fabric of everyday school activities need to be readily available for teens who are depressed. Participants often hinted about their distress to school personnel, but rarely requested help directly. Many believed that teachers or coaches were somewhat aware that they were having difficulty and often showed kindness and concern. Few, however, proactively reached out to ensure that the teen’s emotional problems or turbulent home situations were adequately addressed. Some of the professionals in the study confirmed that school personnel, such as guidance counselors, are often burdened with many administrative responsibilities (e.g., college placement, class scheduling) and are not able to do extensive follow-up with troubled students. These professionals recommended that school systems provide counselors whose primary responsibility is the provision of school-based mental health care for students.

Mental health professionals should consider that teens and their families have considerable concerns about the pitfalls of obtaining mental health care. In order to avoid creating pitfalls, the mental health community needs to develop specific strategies to:

- a) convey to adolescents and their families that the adolescents will not be treated as “crazy,” nor will the clinician “only push drugs,”
- b) address the issue of information-sharing directly with teens and give them as much input as possible over when and how “their business” is shared either with the “authorities” or with their families, and
- c) relate to teens in ways that reflect an appreciation of their age, their ethnic background, and their specific life circumstances (Draucker, 2005c, p. 161).

Furthermore, mental health professionals should appreciate that when teens hold back in treatment, this may reflect a legitimate fear of pitfalls, rather than resistance. Only clinicians who were able to weather a period of holding back by teens or their families proved successful in ensuring the treatment took hold.

Because concern for the pitfalls was especially pronounced for our African American participants, our findings support federal reports that call for the development of alternative treatment approaches for minority consumers (USDHHS, 2001). For our African American participants, natural

mentors were especially important, especially those from faith-based or community-based organizations (Draucker, 2005c).

Because interpersonal disruptions played such a crucial role in the experience of depression for our sample, we recommend that an empirically-supported treatment that addresses relationship issues be considered in a comprehensive treatment plan for adolescents who are depressed. Interpersonal psychotherapy for adolescent depression (IPT-A) (Mufson, Moreau, Weissman, & Klerman, 1993), for example, is based on the assumption that depression occurs in a social and interpersonal context that influences the course of the depression (Fombonne, 1998). Interpersonal psychotherapy might focus on family conflicts or peer relationships.

Any treatment of adolescent depression must address peer relationships. The feeling of being an outcast can be pervasive in the lives of depressed teens, who may experience incidents of cruel exclusion and teasing. Teens' experiences with bullying, either as the victim or as the aggressor, should be assessed. Several of the participants revealed persistent and severe maltreatment by peers that was not addressed by school personnel or other adults and that the participants never disclosed to their parents. Assisting depressed teens to develop the social skills they need to form meaningful relationships with peers and to find a niche in their social world is recommended for those who struggle with fitting in.

Perhaps most importantly, the mental health system, faced with demands for empirically-supported therapies, needs to reexamine the role of caring in mental health treatment. Very few of the participants described a particular approach used by their therapists (e.g., cognitive-behavioral treatment), whereas each of the participants who perceived treatment as being helpful pointed to a specific clinician whom they found to be concerned, caring, understanding, and respectful.

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EVALUATION OF MENTAL HEALTH SERVICES TO JUVENILE OFFENDERS PROJECT: FOLLOW-UP STUDY

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Summary of Project History

The Task Force on Mental Health Services to Juvenile Offenders set forth recommendations that resulted in the implementation of three pilot projects designed to serve youth with serious mental health/behavioral disorders and who committed a violent offense(s). The pilot projects were designed to: 1) improve the systems' knowledge regarding the profile of these youth; 2) improve the systems' ability to divert appropriate youth to the mental health system for treatment; 3) provide jurists with alternatives to Ohio Department of Youth Services (ODYS) commitment, and 4) demonstrate effectiveness of community-based interventions.

Three sites were selected to provide Juvenile Offenders Project (JOP) services: Cuyahoga County (CC), Lorain County (LC), and a collaborative of southwest Ohio counties including Hamilton, Warren, Clermont and Butler Counties (SW). Each of these sites was to secure treatment beds for offending mentally ill youth, enhance the local continuum of care for this population, and increase collaboration among key systems and agencies in the provision of culturally competent and gender specific services. Each site also developed its own youth selection criteria and procedures. At the end of the initial project on June 30, 2002, 131 adolescents had been assessed for the JOP. Of these 131 assessed youth, 72 were admitted (referred youth) for treatment in the JOP, of which 39 had been released from the program.

To assess the effectiveness of this program, the Institute for the Study and Prevention of Violence (ISPV) at Kent State University contracted with the consortium of funding agencies to carry out a process and outcomes evaluation. A summary of the initial project and results are included in the Ohio Department of Mental Health's *New Research in Mental Health, Volume 16*. A separate project, *Evaluation of Mental Health Services to Juvenile Offenders Project: Follow-up Study* was completed to determine the current status of those youth and their families who were referred/released from the initial Mental Health-Juvenile Justice project from each of the three participating sites' projects. The second project is described in detail below.

Follow-up Study

The scope of the study was to compile information that would reflect what had happened to the youth and family from the time they exited the program until follow-up. Attempts were made to contact all the referred/released youth from two of the three sites who agreed to participate in the follow-up study

(LC = 27, CC = 18, total $n = 45$); the southwest consortium (SW = 23) decided not to participate in the follow-up study. A telephone survey was recommended to project sites to survey parents/caregivers and possibly youth who have reached 18 years of age, to the extent that they could be located and provide consent.

A telephone survey was developed by ISPV and participating sites to determine the current status of all referred/released project youths' parent/guardian at the two participating sites. Participating sites were responsible for gathering follow-up information and for procedures related to confidentiality, specifically permission from parents to collect data on the youth. Sites selected the most appropriate person to complete the follow-up surveys based on the context of their relationship with the family and/or appropriate access. Lorain County utilized Integrated Services Partnership to complete their follow-up surveys while Cuyahoga County designated Juvenile Court staff to conduct the follow-up survey. Sites were given the option to use a stipend (e.g., cash bonus or gift card) with families as an incentive to complete the survey. Lorain County utilized this option. Completed surveys were sent to Kent State University's Institute for the Study and Prevention of Violence (ISPV) for analysis and write-up. Reasons for non-participation (refusal, can't locate, etc.) were documented.

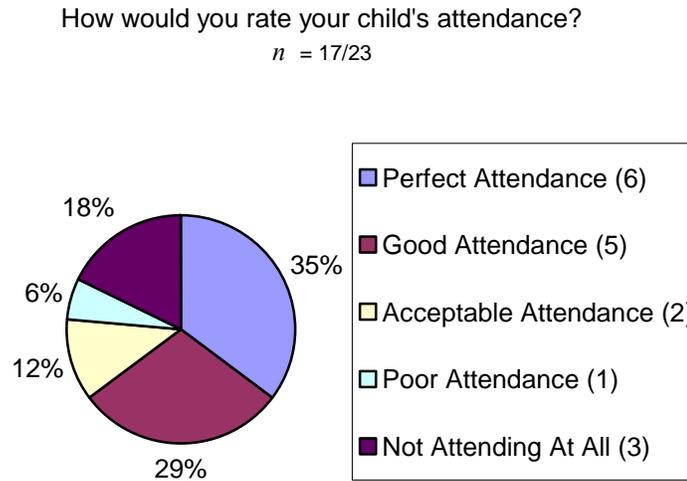
Lorain County (LC) submitted follow-up surveys on August 5, 2004. Twenty three surveys were received from LC. Cuyahoga County (CC) submitted follow-up surveys on June 1, 2005. Twenty two surveys were received from CC with only three sections filled out: the client identification number, county name and "Can't locate" indicated as the reason for non-participation. Therefore, because no data had been collected, no analysis was completed for Cuyahoga County.

Results

Because of the absence of data from two of the three sites for the follow up study, the following results include only highlights from the data submitted by Lorain County. Of the 27 referred/released youth, forms were received from 23 (85.2%) participants. Of the 23 forms received, 17 (73.9%) were completed. Of the six missing, three refused and the location of three could not be identified. Of those six who refused or could not be located, attempts were documented. Parents completed seven of the 17 forms (41%), LCCS (Lorain County Children Services) workers completed four forms (23.5%) and the other six forms were completed by a CSB (Children Services Board) worker (1), probation officers (2), Ohio Department of Youth Services (1), an 18-year-old youth (1) and a sister (1). For the purpose of this report, the above survey respondents will be identified as "participants" in the following results.

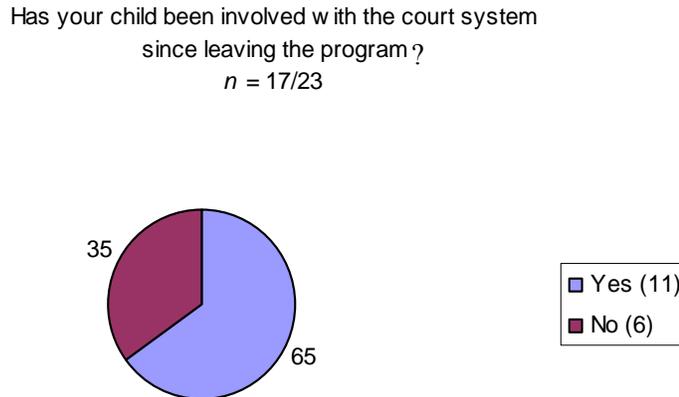
Education. In regard to rating the child's attendance at school since leaving the program, 13 (76.5%) indicated acceptable attendance or better (Perfect Attendance – 6; Good Attendance – 5; Acceptable Attendance – 2). The remaining four indicated the youth were Not Attending at All (3) or Poor Attendance (1) (See Figure 1 below).

Figure 1. Child's school attendance.



Court Involvement. Since leaving the program, 11 out of 17 (64.7%) respondents indicated the youth had been involved with the court system (see Figure 2 below). Ten of the 17 had been involved with Juvenile Court (58.8%) and one of the 17 had been involved with Adult Court (5.9%). Those involved with Juvenile Court had been Indicted (1), Adjudicated (3), Warned (1), Committed to ODYS (3), or Other (2). The youth who was involved with Adult Court was sent to Jail (1).

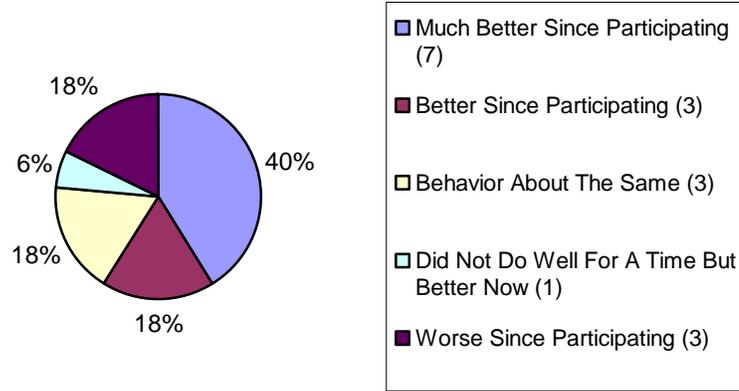
Figure 2. Court involvement.



Behavior. The survey asked participants to rate the youths' behavior since participating in the program. Of the 17 responses, 10 (58.8%) indicated that the youth's behavior was better or much better since participating (Better Since Participating – 3; Much Better Since Participating – 7). The remaining participants indicated the youth's behavior was the Same (3); Worse Since Participating (3); or Did Not Do Well For A Time but Better Now (1) (see Figure 3 below).

Figure 3. Youths' behavior.

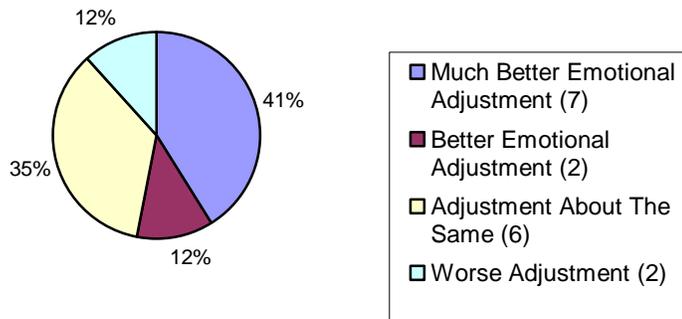
How you as the parent/guardian generally say your child is doing since participating in the program - BEHAVIOR
n = 17/23



The survey also asked participants to rate the youths' mental health since participating in the program. Of the 17 responses, nine (52.9%) indicated that the youth's mental health was better or much better. Two responses indicated the youth's mental health was worse since participating and six indicated it was about the same (see Figure 4 below).

Figure 4. Youths' mental health.

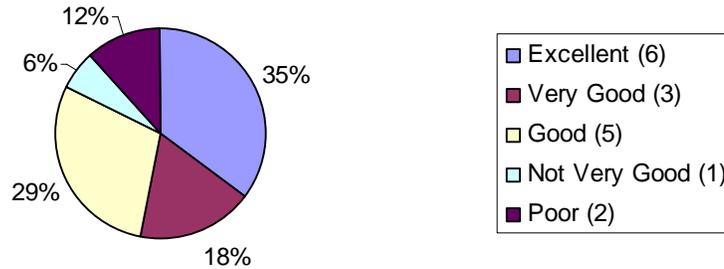
How you as the parent/guardian generally say your child is doing since participating in the program - MENTAL HEALTH
n = 17/23



Overall project experience. Overall, eighty two percent (82%) of the survey participants indicated that the youths' experience or involvement with the project was good or better (Good – 5; Very Good – 3; Excellent – 6). One thought the youth's experience/involvement was Not Very Good and two thought it was Poor (see Figure 5 below).

Figure 5. Overall project experience.

Overall, how would you describe your child's experience or involvement with the project?
n = 17/23



Youth Recidivism

There have been a number of definitions used throughout the project to describe youth recidivism. The definition of recidivism for ODYS is: “recidivism can occur through arrest, adjudication, commitment (to DYS or DRC), or death related to the commission of a criminal act.” As such, all youth who return to ODYS on a revocation with no new charge would be considered a recidivist, or any youth who receives a new charge by the court but for whatever reason is not recommitted to the court is also considered a recidivist. In general, **any contact** with ODYS is considered recidivism.

As indicated in our initial report (Flannery et al., 2005), based on this definition and the data available through ODYS, recidivism rates for both the ODYS general population and identified mental health population at ODYS were as followed:

- 36.6 percent at six months for all ODYS youth being released from the institution for Fiscal Year 2002.
- 48.7 percent at six months for ODYS identified mental health population being released from the institution for Fiscal Year 2002.

The recidivism definition from the initial JOP project was determined based on youth who were served in the program who had subsequently been **recommitted** to ODYS. As reported in our initial report, based on this definition, the JOP project youth recidivism rate was 15.3 percent at six months. Although the JOP definition for recidivism was stricter than that used by ODYS, there is a substantial difference between the JOP recidivism rate (15.3% at 6 months) versus the ODYS recidivism rate (36.6% at 6 months) for the general population and 48.7 percent at 6 months for the ODYS identified mental health population.

As for the follow-up study, the survey measured “If the youth had involvement with the court since leaving the program,” in which 11 out of 17 (64.7%) respondents indicated the youth had been involved with the court system (see Figure 2). Here recidivism was measured as any involvement with

the court system which is similar to the ODYS definition of any contact with ODYS. If we use the stricter definition that was used in the initial JOP project, the initial recidivism rate was 15.3 percent at six months and at the time of follow up 36.4 percent (4 out of 11 youth) were recommitted to ODYS or to an adult facility (e.g., jail).

Lessons Learned

In completing the Evaluation for Mental Health Services to Juvenile Offenders Follow-up Study, a number of lessons were learned in regard to gathering the initial follow-up data. First, it is apparent that in order to obtain significant, measurable data from grant participants, the follow-up data collection procedures need to be included in the original proposal. By including the follow-up data collection in the original proposal, it would solidify the commitment from participating sites and secure the necessary procedures for data collection. The original agreements to participate in the program would include release forms from the youth and family in order for appropriate follow-up to take place. The parents/youth would agree while in treatment, which would allow for follow-up data collection after treatment.

Second, by conducting the follow-up data collection within a reasonable amount of time after completion of the program, the interest and the commitment to the program would still be present. By waiting to conduct the follow-up, participating grant sites have already initiated and committed time and resources to other programs.

Third, if recidivism will be a measure to determine program outcomes, the definition of recidivism should be clarified at the start of the program. In this way recidivism can be measured appropriately and followed up with court documentation. Although the initial project did not consider recidivism to be a program measure, ultimately, when dealing with court systems and follow up, recidivism's importance emerges.

Summary

The intent of the Follow-up Study was to determine current status of those youth and their families who were referred/released from the Mental Health-Juvenile Justice project. There are a number of limitations with this study that should be noted. Because the Southwest consortium decided not to participate and data had not been successfully collected from Cuyahoga County, results are based on the data submitted by Lorain County ($n = 17/68$). As a result of the small number of respondents in only one of the three sites, it is difficult to generalize the follow-up results to the JOP population served. Another limitation is that the survey results were based on self report by youth, family and/or county service workers. Court or other information was not accessed to verify the self-report data.

There are three main points that can be generalized from the follow-up study. First, based on the ODYS and the JOP youth recidivism definitions, there appears to be an increase in recidivism over time. As indicated in our initial report, 48.7 percent of the ODYS-identified mental health population at six months recidivated based on the ODYS definition. Based on the follow-up survey respondents, 64.7 percent indicated the youth had been involved with the court system since leaving the program. If we compare to the original JOP definition of recidivism (youth recommitted to ODYS), the original JOP project youth recidivism rate was 15.3 percent at six months whereas 36.4 percent recidivated at the time of follow up. In summary, high risk, multi-system-involved youth do well while in treatment, but after treatment their risk of recidivism increases.

The second point is that there appears to be some improvement from the JOP youth based on participation in the program. In regard to rating the youth's attendance at school since leaving the program, 13 (76.5%) responded that attendance was acceptable or better. Along with attendance, behavior and mental health functioning in general was above average. Fifty-eight percent indicated that the youth's behavior was better or much better since participating in the program, and 52.9 percent indicated that the youth's mental health was better or much better. Overall, 82 percent of the survey participants indicated that the youths' experience or involvement with the project was good or better.

The third point is to learn from other research projects. Lessons learned from conducting research in the field are invaluable to future projects so that past project strengths and weaknesses can be adapted to new research projects.

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ASSESSING RISK OF VIOLENCE USING THE NEW VIOLENCE RISK SCREEN (VRS)

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The Violence Risk Screen (VRS) was developed by the Ohio Department of Mental Health in response to the need for a brief violence risk screening instrument to be used during the evaluation of individuals seeking mental health services who do not have a forensic legal status. The immediate goal was to develop and test a violence risk assessment instrument that will identify the individuals who need a more in-depth assessment.

The significance of violence risk assessment in the mental health and criminal justice communities has grown dramatically over the past three decades. Keeping communities safe is possible only in so much as we are able to prevent violence by effectively identifying individuals and situations that pose the greatest risk. Presented here is a preliminary review and recommendations of an instrument developed to assist in the task of violence risk assessment among non-forensic persons with mental illness – the Violence Risk Screen (VRS). The Ohio Department of Mental Health will review these preliminary findings and recommendations to determine what adjustments are needed to the VRS.

Responsibility for the identification and treatment of individuals who pose the greatest risk of committing violence falls heavily on mental health agencies and criminal justice institutions. One step in ensuring safety is the assessment of individuals to determine level of risk. Upon assessment, time, treatment, and financial resources can be allocated appropriately. While the significance of violence risk assessment is widely recognized by mental health professionals, the particular means of assessment are not.

The purpose of this paper is to introduce a risk assessment strategy using the VRS. The VRS would potentially be administered before proceeding to a more time-intensive, and comprehensive assessment using an empirically sound measure such as the HCR-20 (Webster, Douglas, Eaves, & Hart, 1997). In addition to introducing the VRS, this paper presents the results of analyses used to investigate the relationship between the VRS to the HCR-20 as a means of illustrating the validity in using the VRS as a predecessor to the HCR-20.

Methods

Sample and Procedure. The sample consisted of 393 individuals who were over the age of 18 and were receiving mental health services in Ohio. The participants were either adults seeking mental health services in community mental health agencies or adults being treated at a state mental hospital. Four large, urban community mental health agencies and two state mental hospitals acted as the data collection sites.

Two screening instruments, the Violence Risk Screen (VRS) and the HCR-20, as well as a demographic sheet, were completed by a clinician during a consultation and/or diagnostic assessment. In 83 percent of the cases this consultation was the initial assessment of the client. The remaining 17 percent were existing clients. The demographic sheet contained the client's age, race, gender, ethnicity, legal status, employment status, and DSM-IV diagnosis. Of the participants, 56 percent were male and 44 percent female. Clients' ages ranged from 18 to 80, with a mean of 37.9 years ($SD = 11.5$ years). Results indicate that the age distribution is normally distributed (skewness < 2 and kurtosis < 7) (Tabachnick & Fidell, 2001). Fifty percent of the participants were Caucasian, 47 percent African-American, and three percent "Other." At the point of assessment, 90 percent were unemployed, six percent employed part-time, and four percent were employed full-time (40 hours or more a week). It is worth noting that the hospital sample included a much larger proportion of males than did the community mental health agencies sample (74% as compared to 53%).

Measures. The HCR-20 Violence Risk Assessment Scheme (HCR-20) serves as a violence risk assessment tool for mentally ill patients and prisoners (Douglas, Webster, Hart, Eaves & Ogloff, 2001). The HCR-20 consists of 20 items that fall into three categories: Historical (10 items), Clinical (5 items), and Risk Management (5 items). Classified as a structured professional judgment tool, the HCR-20 includes both static (historical) and dynamic (clinical) variables and assesses for mitigating risk factors, such as the lack of personal support or feasible plans. Thus, the HCR-20 incorporates both empirical evidence and clinical practice into the final judgment, rather than a strictly actuarial or clinical approach which rely solely on one or the other (Douglas, 1999).

All 20 items are scored on a 3-point scale with zero indicating no presence, 1, a possible presence and 2, a definite presence, with a maximum score of 40. Upon completion clinicians use the total score and their professional judgment to make the final risk judgment of low, moderate, or high (Webster et al., 1997). The degree of treatment needed to prevent violence then is tailored to the assigned risk level. Assignments of low, moderate, or high risk are not based on particular scores, but in most instances, a "high" risk level indicates the presence of more risk factors than a "low" risk level (Douglas & Kropp, 2002).

The HCR-20 has been studied in several settings including, but not limited to, civil psychiatric settings, forensic psychiatric settings, and correctional settings (Douglas, 2004). Several studies offer evidence of acceptable interrater reliability (Belfrage, 1998; Douglas, & Webster, 1999; Strand, Belfrage, Fransson & Levander, 1999). Additionally several studies report its predictive ability (Douglas, Ogloff, Nicholls & Grant 1999, 2003; Gray et al., 2003; McNiel, Gregory, Lam, Binder & Sullivan, 2003; Nicholls, Ogloff & Douglas, 2004; Strand et al., 1999).

It should be noted that a 19-item version of the HCR-20 was used in this study. The HCR-19 did not include item H7 (psychopathy). The item was eliminated based on the level of training necessary to administer the Psychopathy Checklist Revised (PCL-R) which is the basis for scoring H7. To supplement the absence of item H7, clinicians were asked to complete a short diagnostic checklist on the condition that sufficient information was available. Contained in this form was whether or not the patient met the diagnostic criteria for Antisocial Personality Disorder, Narcissistic Personality Disorder, Borderline Personality Disorder, or Histrionic Personality Disorder. If any of these personality disorders was present, clinicians were asked to report the presence of personality traits characteristic of the aforementioned disorders, such as superficial charm, inflated sense of self-worth, pattern of lying and deceitfulness, lack of remorse/guilt, lack of empathy, and the failure to accept responsibility for one's own actions.

The Violence Risk Screen (VRS) was developed by the Ohio Department of Mental Health (ODMH) in response to the need for a brief violence risk assessment tool to be used during evaluation of individuals seeking mental health services who do not have a forensic legal status. The immediate goal was to introduce an instrument that will identify the individuals who need a more in-depth assessment. Thus the VRS is intended *only* to be used as a screening tool to determine whether or not a comprehensive assessment using an instrument such as the HCR-19 is necessary. Additionally, it is hypothesized that by using the brief screen prior to conducting full assessments, individuals will be more readily classified into low- and high-risk categories allowing more time to address the high risk cases. Also, because the HCR-19 must be administered by an individual possessing a post-doctorate degree, which the VRS does not, the instrument will assist in more efficiently managing risk assessment by reducing staffing costs and time.

The nine-item VRS was designed to encompass five general areas: history of violence, substance abuse, instability, anger/impulsivity/threats, and mental problems/noncompliance with treatment. A point value ranging from one to six is assigned to each item. Value determination was based on previous research and clinician knowledge of the risk factor's correlation with violence. A response of "Yes" or "No" is given to each question. If a "Yes" response is entered the full number of points is awarded. The maximum score for the VRS is 29.

Analyses and Results

To investigate the relationship between the VRS and the HCR-19, correlations were first computed between the items on the VRS and the HCR-19. While many of the values are significant, many of the correlation terms are relatively low. However, two indicators of violence on the VRS ("Have you ever injured a person so that medical treatment was necessary?" and "Have you ever been arrested for assaulting someone?") display moderate statistically significant correlations (.493 and .599) with the two indicators of violence on the HCR-19 ("Previous violence" and "Age at first violence incident"). The statistically significant correlations provide evidence that participants responded similarly to the sets of questions on each instrument. Additionally, the substance abuse components on the VRS ("Have you recently [within the last 6 months] used any drugs or alcohol excessively?") and the HCR-19 ("Substance use problems") display a statistically significant, strong moderate correlation (.667).

Secondly, independent sample *t*-tests were performed to determine whether the two populations (community mental health agencies sample and hospital sample) exhibited similar means on the two instruments. The results indicate a statistically significant negative difference in means between the community mental health agencies population and the hospital population on the VRS. The mean number of total points on the VRS was significantly lower for the community mental health agencies population ($M = 9.03$, $SD = 6.27$) than it was for the hospital population ($M = 11.87$, $SD = 6.50$) ($df = 391$, $p < .01$). Perhaps the results indicate that the hospital population, while not displaying more risk factors, is displaying risk factors considered to be potentially more serious than the community mental health agencies population, as indicated by a greater number of points.

Next, to investigate whether differences exist between the populations identified as low/high risk on the VRS and the low/high risk populations on the HCR-19, the VRS scores were classified into risk groups using percentile scores. It should be noted that listwise deletion was used to exclude the participants in the sample who, for one reason or another, were not tested with both instruments. This was responsible for the decrease in sample size.

By using percentiles we were able to identify the 25th, 50th, and 75th percentile scores on the VRS as they actually occurred in the sample. Scores below the 25th percentile were classified as “low,” scores between the 25th and 75th percentile as “moderate,” and scores above the 75th percentile as “high.” Using these percentile scores, each case was classified into “high,” “moderate,” or “low” risk groups. On the VRS, scores greater than or equal to 14 (out of a total 29) are classified as “high” risk; scores greater than 4 and less than 14 are classified as “moderate” risk, and scores less than or equal to 4 are classified as “low” risk. Table 1 displays the demographics of VRS risk classifications using percentile scores.

Table 1. Demographic Distribution of VRS Risk Classifications (25th, 50th, and 75th percentile)

Variable		Low-Risk (≤4) (N = 111)	Moderate-Risk (5-14) (N = 172)	High-Risk (≥14) (N = 110)
Age (Mean)		40.7	36.7	37.0
Ethnicity	Caucasian	55%	52%	41%
	African American	41%	46%	56%
	Other	5%	2%	4%
Gender	Male	37%	60%	68%
	Female	63%	40%	32%

As Table 2 illustrates, when using the percentile scores to determine the risk category, 93 percent of the individuals identified as high risk by the VRS are also identified as moderate or high risk by the HCR-19. When using this scheme, only seven percent or seven individuals are classified as high risk on the VRS but as low risk on the HCR-19.

Table 2. Crosstabulation of VRS and HCR-19 Risk Classifications (using percentile scores)

VRS Classification	HCR-19 Classification		
	Low Risk	Moderate Risk	High Risk
Low-Risk	77% (N = 80)	20% (N = 21)	3% (N = 3)
Moderate-Risk	37% (N = 58)	41% (N = 65)	23% (N = 36)
High-Risk	7% (N = 7)	43% (N = 45)	50% (N = 52)

Conclusions and Recommendations

The results of the item correlations indicate that numerous statistically significant correlations exist between the VRS items and the HCR-19 items. While many of the correlations are relatively low (< .300) support is offered by the moderate to high statistically significant correlations between particular items on the instruments that are intended to be similar indicators (i.e., previous violence, substance abuse). For instance, the “History of Violence” items on the VRS (#1 and #2) and the two items on the HCR-19 that specifically relate to violence (H1 and H2) displayed correlations ranging from .493 to .599 ($p < .01$). Additionally the VRS item intended to measure substance abuse (#3) and the HCR-19 substance abuse indicator (H5) displayed a correlation of .667 ($p < .01$).

As a screen, the risk judgments assigned by the VRS appear to be similar to the final risk judgments as indicated by the HCR-19. However, if used, the VRS should be used only as a preliminary screening instrument as its validity and reliability have yet to be established.

To ensure accurate scoring, it would be helpful to align the points assigned to each question directly next to the responses of “Yes” and “No” rather than next to the question. As the data were cleaned, some indications surfaced that clinicians were confused about scoring. For instance, in some cases clinicians simply tallied up the number of “Yes” responses to calculate the total score rather than using the point values assigned to each question.

Lastly, a violence risk screen instrument seems valid only inasmuch as it is able to effectively identify individuals who have an increased propensity for committing violence. To establish this predictive validity a behavioral measure of violence is necessary. Thus, further analyses using a measure of violence, such as prior record of violent arrests and/or convictions, should be incorporated.

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**RELIABILITY AND VALIDITY OF THE RECOVERY ASSESSMENT SCALE
FOR CONSUMERS WITH SEVERE MENTAL ILLNESS
LIVING IN GROUP HOME SETTINGS**

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Many attempts have been made to define recovery from severe mental illness. The earliest author to measure recovery was Eugen Bleuler, a renowned Swiss psychiatrist and psychologist from the early nineteenth century. Since that time, descriptions of recovery have ranged from an individual's ability to have complete absence of symptoms (Warner, 1985) to their ability to live "a satisfying, hopeful, and contributing life even with limitations caused by the illness" (Anthony, 1993, p. 15).

Factors other than variability in the definition are important to consider when measuring recovery. Many instruments have used behaviors which are observed by the investigator. Such behaviors include the presence of a safe living environment, minimal social disruptions, and the ability to return to work. This leaves little to no opportunity for input by the consumer. The two attitudinal surveys on recovery which do exist, exclude performance factors commonly reported by consumers in qualitative studies. That is, readiness to change and engagement in meaningful everyday tasks. Another consideration in doing survey research with this population is the level of cognitive functioning which may compromise the reliability of their responses. Finally, research has been limited with regard to the recovery efforts of individuals who live in group home settings. Studies reported that individuals were attending consumer-operated service programs, community-based treatment programs, or outpatient treatment. Specific living situations, such as group home residence, were excluded from the demographic information.

Several important research questions follow. Is there an instrument which provides adequate score reliability and validity? Are there significant relationships between the construct of recovery and the constructs of readiness to change and the ability to perform daily tasks? Do different types of raters agree with the ratings of consumers? To investigate these questions, a research study was developed to measure the internal consistency, the construct validity, and the concurrent-related validity of the Recovery Assessment Scale (RAS) for individuals with severe and persistent mental illness. In addition, the RAS was validated on the population of individuals living in group home facilities. Finally, the inter-rater reliability was analyzed between the scores of the individuals with severe mental illness, their caretakers, their case managers, and their treating occupational therapy staff members.

Methodology

Sampling plan. The Kent State University Review Board approved the investigator's application to use human participants in research. In compliance with the board's recommendations, the study utilized consumers with severe psychiatric disorders who lived in group home settings. Group homes were defined as residences where personal care services are provided for individuals who had a primary diagnosis of severe mental illness. Services included assisting residents with activities of daily living, facilitating medication management, and preparing special diets which have been prescribed (Ohio Department of Health, 2003). To identify a comprehensive list of group home facilities, the names of Accredited Care Facilities (ACF) in Ohio for the year 2003 were obtained from the Ohio Department of Health for seven Northeast Ohio counties. Additional group homes were identified from county boards of

mental health, local and state chapters of the National Alliance of Mentally Ill (NAMI), a newsletter sent to group home managers, and case managers providing direct service to consumers with severe mental illness residing in quasi-independent settings.

Over a five month period, every facility in the geographical area was contacted by telephone to determine its willingness to participate in the study. The investigator visited every facility where a contact person could not be reached by telephone. Informational flyers were left at the group homes where personal contact could not be made. In one county, the residential specialist from the Community Mental Health Board encouraged group home managers to participate in the research.

The criteria for including participants in the study were that group home managers explained and encouraged residents to participate in the study. Once approval was obtained from the managers, all the residents from the group home were given the opportunity to participate in the study. A financial incentive was provided to encourage participation in the study (Dillman, 2000). Each participant received \$4.00. Each group home manager received \$4.00 for each participating resident. Individuals were excluded if they were younger than 18 years of age, if the personal data form had four or more incorrect answers, or if the resident refused to sign the consent form.

Participant Characteristics. A total of 200 group homes in seven Northeast Ohio counties were identified for the main study. Of these homes, 69 facilities (35%) were either closed, had house damage due to recent fires or storms, were not willing to house consumers with severe mental illness, or had empty beds. Of the remaining 131 facilities, 36 percent ($n = 47$) did not respond to the investigator and 12 percent ($n = 16$) did not support the study, felt the residents were unable to complete the surveys, or could not get permission from the residents' guardians. The remaining 52 percent of the facilities ($n = 68$) were willing to participate in the study. As a result, 452 subjects were identified and 79 percent ($n = 356$) of the individuals agreed to take part in the study. Tables 1 and 2 present the descriptive statistics.

Recovery Assessment Scale (RAS). In 1995, Giffort, Schmook, Woody, Vollendorf, and Gervain (Corrigan et al., 2002) published content validity information on the RAS using individuals who had been diagnosed with severe mental illness. In a second study, Corrigan et al. (1999) found an acceptable test-retest score reliability ($r = .88$) and good internal consistency. Concurrent criterion-rated validity was found between the construct of recovery and several variables (age, absence of psychiatric symptoms, size of support networks, self esteem, quality of life, and empowerment). Self esteem, empowerment, and age predicted 61 percent of the variability in scores of the RAS. In a third study, Corrigan et al. (in press) identified a five-factor model representing 24 items. The factors were described as personal confidence, hope, willingness to ask for help, goal and success orientation, reliance on others, and symptom coping.

Stages of Change Questionnaire (SOCQ). McConaughy et al. (1983) developed the *University of Rhode Island Change Assessment* (URICA) scale to measure the stages of change model. Content validity was established using 165 outpatients with mental illness. Exploratory factor analysis reduced the scale to 32 items and sufficient internal consistency ($\alpha = .88$) was reported. The study was replicated by McConaughy et al. (1989) and Rogers et al. (2001) and the same factors were produced. The items were reworded and renamed the *Change Assessment Questionnaire for Severe and Persistent Mental Illness* (CAQ-SPMI) by Hilburger and Lam (1999). The same factors were produced as the previous studies. Bellis (1993) developed a shortened version of the CAQ-SPMI based on findings from exploratory and confirmatory factor analyses. Renamed the *Stages of Change Questionnaire* (SOCQ), an 18-item measure fit the four-factor model of stages of change.

Table 1. RAS Sample Demographics

Characteristic	<i>n</i> (%)
Gender	
Male	222 (62.5%)
Female	133 (37.5%)
Ethnicity	
Caucasian	205 (57.7%)
African American	141 (39.7%)
Hispanic	9 (2.5%)
Age	
18-39	64 (18.0%)
40-49	114 (32.1%)
50-59	101 (28.5%)
60-or More	76 (21.4%)
Education	
Not Finish H.S	118 (34.3%)
Complete H.S./GED	129 (37.5%)
Post H.S.	97 (28.2%)
Marital	
Single	267 (75.6%)
Married, Separated, Divorced or Widowed	86 (24.4%)

Table 2. Mental Health and Work Histories

Characteristics	<i>n</i> (%)
Primary Diagnosis	
Schizophrenia	217 (61.1%)
Mood Disorders	64 (18.0%)
Anxiety Disorders	12 (3.4%)
Multiple Diagnoses	37 (10.4%)
Multiple Diagnoses and Substance Abuse	25 (7.1%)
Hospital Admissions in Past 2 Years	
None	212 (60.4%)
1-3	120 (34.2%)
4 or More	19 (5.4%)
Currently Working	
No	316 (89.0%)
Yes	39 (11.0%)

Flinn Performance Screening Tool-Short Version (FPST-S). Flinn developed a pictorial card sort for clients to identify meaningful life activities which are difficult to perform. Content validity was established with over 200 rheumatology and orthopedic patients. Adequate test-retest reliability was found, as 92 percent of the 365 photographs had an acceptable level of agreement among raters using the criterion of Kendall Tau $> .80$ and/or agreement of 97 percent or above (Flinn, Ventura & Goodman, 1997). Sixteen items were selected for this study based on the domains of self-care and interpersonal communication suggested in the ICDH-2 (WHO, 2001).

Procedures. Group home managers who met the inclusion criteria were identified. Open meetings were held with the residents to explain the purpose of the study, to clarify that their participation in the study was voluntary, to explain that subjects could withdraw at any time without reprisal, to assure participants that their anonymity was protected in the computation and reporting of results, to encourage subjects to respond honestly and not to guess at answers, and to offer a financial incentive of \$4.00 for completed surveys.

Written and verbal directions were provided for each instrument. Subjects requesting assistance received aid from the investigator, a research assistant with previous experience in working with individuals diagnosed with severe mental illness, or the group home managers. Assistance was provided in the form of reading surveys, explaining unclear statements, and writing responses for the respondent. Participants were given as much time as needed to complete the surveys.

Findings

The findings suggest:

1. The construct validity of recovery, using a five-factor model, was supported using confirmatory factor analysis. The first factor, Hope, represented nine items on the RAS and was highly correlated with the factors defined as Goal Directed and Rely on Others. The second factor, Ask for Help, represented three items of the RAS and was highly correlated with the factor defined as Rely on Others. Three additional factors were confirmed and include Goal Directed, Rely on Others, and Symptom Management. Moderate correlations were found between these factors. A full measurement model is available from the author upon request.
2. The RAS and three of its five subscales, Hope, Ask for Help, and Rely on Others, had acceptable levels of internal consistency ($\alpha = .70$) for individuals with severe mental illness.
3. Positive significant relationships were present between recovery, especially scores on the Goal Directed Subscale, and readiness to change and between recovery and performance in daily activities.
4. The responses from the participants and independent raters were significantly correlated when occupational therapists and case managers were used, when the raters knew the participants for a minimum of thirteen months, and when various daily living tasks were assessed.
5. On the average, this study found that *all* 16 daily activities were perceived as important. In addition, the top scores by rank order were eating, sleeping, taking medications, and handling money. Generally, doing chores at the group home and shaving were considered lower priorities by the participants.

6. On the average, the individuals in the study ranked their ability to perform daily activities between just okay to very good. The top scores by rank order were taking medications, eating, dressing/washing self, and sleep. Generally, areas of perceived difficulty by rank order included vacuuming, shaving, dusting, taking out the garbage, and making the bed.

Implications

Individuals with severe mental illness who live in group home settings could provide valuable information about their recovery efforts, their readiness to make changes, their performance in daily activities, and the activities which are important to them. Participants were found to be reliable informants on questions related to orientation and self-performance. Some of the statements used to check the reliability of their responses included the date they completed the survey, the names of familiar people in their lives, and the city where they reside. The responses of the participants showed a high degree of consistency among the 24-item Recovery Assessment Scale. Finally, there are significant levels of agreement between the participants' ratings of their performance in daily activities and the same ratings by group home managers, case managers, and occupational therapists. The best raters are the individuals who knew the participants between 13 and 24 months.

The findings support that the concept of recovery includes the presence of hope and optimism, the ability to ask for help, goals, reliance on others, and coping with symptoms. "Recovered" individuals say that the process of recovery begins with a strong desire to change undesirable behaviors followed by action-oriented behaviors to maintain the desired change. The literature also suggested that one important way which individuals can make changes was through their desire to take care of themselves and to connect with other individuals in meaningful relationships.

Individuals with high recovery scores also had high scores in contemplating the need for change and in being actively engaged in making changes. Consumers with high scores on the Goal Directed Subscale, one of five factors associated with recovery, had high change scores. The findings suggest that the presence of meaningful personal goals seems to be an important factor in making changes.

Home managers may be better at preparing their residents to live more independently and in recommending an individual's readiness to move into a less-restricted community setting. Clinical staff, such as occupational therapists and case managers, may be better at assisting individuals with integrating successfully into the community and with enhancing their roles such as hobbyist, spiritual participant, friend, volunteer, and worker.

The project elicits more research questions for future studies. Continued modifications of the RAS may yield improved psychometric properties of this instrument. Removing poorly worded items and supplementing homogenous items for the Rely on Others Subscale could be helpful in improving the reliability and predictive validity of the items found on this subscale. Generic statements used in this subscale could be improved with replacements of more specific needs. Crane-Ross, Roth, and Lauber (2000) found that reliance on others differed by gender, age, and diagnoses. Including reliance-on-others items such as obtaining transportation, identifying medical and dental care, dealing with crises, and/or talking about problems would be valuable.

Similarly, the Symptom Coping subscale has two of three items that are poorly worded. In addition to rewriting the majority of items on this subscale, new items are recommended which relate to specific areas of symptom coping such as severity of symptoms, impact of symptoms on social functioning, and the level of an individual's psychological well-being (Meyer, 2001).

Efforts to identify reliable cut-off scores for recovered individuals would be useful for various decision-making and outcomes purposes. Classification of individuals by acceptable scores in each of the five subscales of the *RAS* would provide useful information for mental health workers to develop possible intervention strategies. However, legal and ethical concerns can develop from withholding treatment from individuals classified as having poor *RAS* scores and thereby, perceived as unable to demonstrate viable recovery efforts.

Studies would be valuable in collecting demographic information about the group home managers and the size of group homes which facilitate better recovery experiences. Generalizability studies could be done to explain other reasons for variance in recovery of individuals with severe mental illness, such as the recovery philosophy of group home managers or the ideal number of residents in a group home. These kinds of studies could improve the reliability and dependability of the *RAS* and support the training and the incentive programs that are being suggested for preferred group homes.

Replication of studies would be valuable to support the construct validity of recovery for individuals with severe mental illness. Individuals who are homeless or who are admitted for psychiatric hospitalization may be valid participants in future studies regarding their ability to recovery from psychiatric disorders. Longitudinal studies would be useful in seeing the effects of good recovery attitudes for individuals with severe mental illness in areas such as job acquisition, work retention, and quality of life.

The findings of this study suggest that changes in the approach to working with individuals with severe mental illness may be useful. The expectations that are held by group home managers and clinical staff should include the beliefs that people who live in group home settings may have goals of their own. Recovery should be supported in independent living and supportive employment plans. Since the *RAS* survey can be easily administered within 15 minutes, the opportunity to expand dialogue and to encourage personal growth of consumers with severe mental illness can be enhanced. Many of the participants of this study were appreciative of being asked their opinions and found that the *RAS* increased their awareness of recovery possibilities.

Finally, there can be an issue related to the informants used to rate the performance of individuals with severe mental illness who live in group home settings. Since many of the group home residents aspire to live in their own apartments, it becomes important to represent their functional capabilities in an accurate manner. By using raters from different backgrounds, especially occupational therapy, who have a minimum of one year of experience in working with the residents, consumers with psychiatric disorders can be assessed on the necessary skills that they need to learn to be independent in their own homes and can be encouraged to make a successful transition into the community.

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- Flinn, S. (2005, February). Recovery for individuals with severe mental illness living in group home settings. Paper presented at the Cleveland District Ohio Occupational Therapy Association Mental Health Member Support Group, Cleveland, OH.
- Flinn, S., Ventura, D., & Bonder, B. (2005, October). Recovery for individuals with severe mental illness living in group home settings; the worker role. Poster presented at the Ohio Occupational Therapy Association Annual Meeting, Columbus, OH.
- Flinn, S. (2006, October). *The reliability and validity of the Recovery Assessment Scale for individuals with chronic mental illness who live in group homes*. Poster presented at Research Results Briefing 2006: Knowledge to Transform Mental Health Services in Ohio, Columbus.

**THE QUALITY OF LIFE OF PEOPLE WITH MENTAL ILLNESS:
EFFECTS OF PARTICIPATION IN AKRON'S MENTAL HEALTH COURT
ON CONSUMERS' QUALITY OF LIFE**

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The shift of care of people with serious mental illness to community-based settings (Grob, 1991, 1994; Mechanic & Bilder, 2004), coupled with factors such as increased risk of poverty, under-employment, homelessness, criminal victimization, and substance abuse (Dowdall, 1999; Morrissey, 1999), has led to an increase of interactions between people with mental illness and the criminal justice system. This increase, as well as difficulty accessing treatment services in a fragmented mental health service system (New Freedom Commission on Mental Health, 2003), contribute to an increased risk of people with serious and persistent mental disorders being arrested and incarcerated. This phenomenon, often referred to as the criminalization of the mentally ill, is a national problem (Hiday, 1991; Munetz, Grande, & Chambers, 2001; Teplin, 1984; Teplin, Abram, McClelland, Dulcan, & Mericle, 2002; Torrey et al., 1992). As a result, many communities have recently begun to form extensive partnerships between the mental health, judicial, and criminal justice systems to address this problem.

One such community is the Summit County (Ohio) public mental health system, which is attempting to systematically address the needs of individuals with serious and persistent mental disorders in order to minimize inappropriate incarceration of such individuals (American Psychiatric Association, 2003). This involves two initiatives: a pre-arrest and a post-arrest diversion program (Munetz & Griffin, 2006, in press). The post-arrest diversion program is the Akron Municipal Court's Mental Health Court.

Though initiation of such programs has been a recent phenomenon in many communities (Steadman & Naples, 2005; Stratton, Blough, & Hawk, 2004), there have been few systematic evaluations of the effects of these programs. Evaluations are needed to determine if, how, and for whom these programs work, whether or not these programs improve quality of life of those with mental illness, and if there are any unintended consequences of the programs. Our research program, funded through the Ohio Department of Mental Health and the Ohio Office of Criminal Justice Services, is currently exploring these and other aspects of post-arrest diversion programs. Our theoretically grounded research provides the opportunity to understand the consequences of diversion programs and their effects on consumers, police, and community systems of care as well as to inform best clinical practices. These research results can inform the planning for the effective introduction of similar programs in the State of Ohio and across the country (Harris, Munetz, Ritter, & Woody, 2004). In this research report, we will be discussing one

aspect of our research: the impact of a post-arrest diversion program on consumers of mental health services.

In January 2001, the Alcohol, Drug Addiction and Mental Health Services Board and The Akron Municipal Court collaborated to create the Akron Municipal Mental Health Court as a method to divert persons with mental illness from the local jail and the criminal justice systems. The mission statement describes the court as offering “a therapeutically jurisprudant approach to support a psychiatrically stable and crime-free lifestyle for persons with mental illness” (Akron Municipal Court, 2001). Admission criteria to the program include a Primary Axis I diagnosis of schizophrenia, schizoaffective disorder, or bipolar disorder; misdemeanor charge(s) (excluding sex offenses) with a potential sentence of at least 90 days in jail; competence agreement to participate and cooperate in the program, including willingness to take medication; and victim consent for those charged with crimes of violence. If the defendant meets the admission criteria and is medically and mentally stable, s/he will be permitted to enter the program upon a plea of no contest. A two-year probationary program follows with weekly court appearances initially. As progress is made through the program, court appearances become less frequent with the last year of the program envisioned as including more traditional, less intensive, case and probation services. The transition protocol provides for appropriate linkages dependent upon need for when the defendant has completed the program (Akron Municipal Court, 2001). Failure to comply with program requirements necessitates a court appearance with the defendant’s case manager. The court uses a graduated sanction model and may impose jail time, house arrest, treatment at a residential facility, additional alcohol/drug meetings, community service and/or courtroom observation. Re-arrest does not necessarily result in termination from the program but may result in sanctions. Positive rewards for program compliance are also possible and include gift certificates or public acknowledgement. The Mental Health Court program goal is that by the end of the probation period, defendants will be stabilized at the least restrictive level (Akron Municipal Court, 2001).

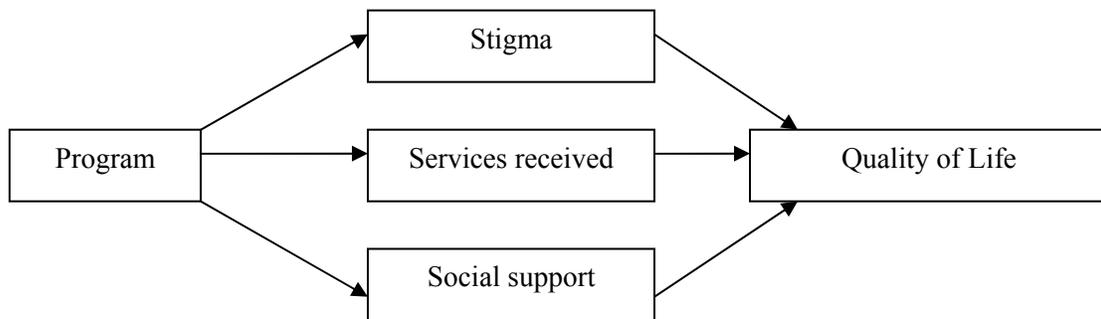
Summit County has other court programs outside of the criminal justice system that are aimed at improving the quality of life of mentally ill individuals. A type of treatment program, outpatient civil commitment, involves people who have been involuntarily committed for at least six months to the local mental health services board through the Probate Court (Appelbaum, 2001; Munetz, Grande, Kleist, & Peterson, 1996; Petrla, Ridgely, & Borum, 2003; Swanson, Swartz, Elbogen, Wagner, & Burns, 2003; Torrey & Zdanowicz, 2001). It is a coercive intervention, although presumably less so than incarceration through the justice system. In contrast, the mental health court program is a voluntary program, but it is a criminal justice system program with considerable potential coercion, including a commitment on the part of the consumer to comply with a treatment plan over a two-year period or face sanctions. These sanctions are substantially more aversive than those available through the civil commitment process. Both programs may have effects on participants’ feelings of self-efficacy.

Feelings of low self-efficacy are often a problem among people with chronic mental illness. Researchers have argued that receipt of certain psychiatric services can increase individuals’ sense of mastery and self-esteem to protect and enhance general feelings of well-being and subjective quality of life (Rosenfield, 1992 & 1997). Specifically, services that give individuals with mental illness greater power in terms of status or economic resources should positively affect their self-conceptions (Owens, 1993). However, there is a body of literature that suggests being identified as a person with mental illness can often have negative consequences as well (Link, 1987; Link, Cullen, Struening, Shrout, & Dohrenwend, 1989; Link, Struening, Neese-Todd, Asmussen, & Phelan, 2001; Markowitz, 1998 & 2001). Self-concept can be defined as the individual’s perception of who s/he is. This perception is affected by the types of interactions the person has with others. The more that stigma is incorporated into an individual’s self-concept, the greater the likelihood that the illness is long term, that self-esteem is

lowered, and that there are negative social psychological, mental health, and behavioral outcomes. One of the goals of the current study is to assess whether participating in diversion programs improves quality of life via use of services and/or reduces quality of life via stigma. An increase or a decrease in perception of stigma may be one of the unintended consequences of participation in a diversion program. Although the main focus of this paper is the effects of the mental health court program, we investigate the impact of both that program and the outpatient commitment program on quality of life, and determine how each program relates to stigma, social support, and service usage.

Figure 1 depicts the research model. In addition to examining the direct relationship of program participation on subjective perception of quality of life, we examined how perception of stigma, types of services received, and level of social support may help to explain the relationship between the program and quality of life.

Figure 1. Effect of program participation on quality of life.



One of the goals of the mental health court jail diversion program is to reduce perceptions of stigma associated with having a mental illness. The perception is that those who perceive less stigma because of the illness will experience a better quality of life and have fewer depressive symptoms. Those with a great degree of social support will also have an improved quality of life and fewer depressive symptoms. In addition to direct effects on these outcomes, we wanted to determine if program participation was related to stigma, service use, and social support. Participation in the mental health court jail diversion program is theorized as reducing stigma, increasing access to services, and may be related to higher levels of social support.

Methods

We administered a confidential, one-hour, semi-structured interview to 390 consumers of mental health services. The interviewers asked questions concerning the types of services received, perceived stigma, and the kinds of social support the interviewees had with which to cope with aspects of daily living. The questionnaires also included questions on quality of life.

We compared three groups of people who had been in a treatment program. The first group, the outpatient civil commitment group, had been involuntarily committed for at least six months to the local mental health services board through the Probate Court. Those who accepted mental health court and successfully completed the program were the second group. Successful completion meant that the participant met all the requirements of the court and completed the two-year probationary period. Those

who accepted mental health court and were currently active in the program were the last group. So that we could demonstrate the effects, if any, of the programs and to insure that we were not picking up differences between the groups, we included a group of people with mental illness who had not participated in either program. These people had either some sort of police contact, recently experienced a mental illness crisis, or were current clients of Community Support Services, a treatment facility.

Measures

Quality of Life. Quality of life was evaluated using global life satisfaction questions presented at the beginning and end of the survey to assess how the respondent felt about his or her life in general (Lehman, 1988, 1991 & 1997). The responses were a seven-point Likert scale, which ranged from “terrible” to “delighted,” Higher scores indicate more positive feelings about their life in general (Cronbach’s alpha .86, range 2 to 14, mean 4.31 ± 1.52).

Stigma. We used four measures of stigma. The first measures taps devaluation and discrimination, and consists of twelve items assessing the extent to which an individual believes most people will devalue or discriminate against a person with mental illness (Link, 1987). The items were asked in a six-point “strongly agree” to “strongly disagree” Likert scale, with a higher score indicating the belief that other people devalue or discriminate against a person with mental illness. The scale is formed by summing the twelve items (Cronbach’s alpha .85, range 12 to 72, mean 47.59 ± 9.86).

The second measure of stigma is internalized shame. This is a five-item scale used to assess the respondents’ internalized experiences of shame and includes feeling set apart from others who are well, blaming oneself for the illness, and feeling a need to maintain secrecy about the illness (Fife & Wright, 2000). Items are asked in a six-response Likert scale then summed. Higher scores indicate the most sense of internalized shame (Cronbach’s alpha .71, range 5 to 30, mean 17.87 ± 5.21).

The third measure of stigma is defensive strategies and deals with how respondents cope with stigma by using strategies that would minimize possible stigma or discrimination through withdrawal or inaction in a variety of situations (Wright, Gronfein, & Owens, 2000). There were eleven items where respondents answered “yes” or “no.” Affirmative responses were counted to yield the measure of defensive strategies (range 0 to 11, mean 5.71 ± 1.84).

The final measure of stigma is social isolation. It is a seven-item scale used to assess a respondent’s internalized experience of social isolation as a result of mental illness (Fife & Wright, 2000). There were seven Likert items asking about loneliness, inequality with others, and uselessness with higher scores indicating the most sense of being isolated (Cronbach’s alpha .83, range 7 to 42, mean 26.38 ± 7.55).

Services Received. Respondents were asked if they had used any of twenty-seven services over the past year. Services included a list of specific agencies (e.g., PES or SAMI PACT) or generalized treatment (e.g., case management, drug/alcohol treatment in general or residential). Factor analysis clustered these services which were further refined into eleven domains: psychiatric case management, psychiatric hospitalizations, counseling, crisis services, group services, residential services, housing assistance, payeeship, peer support services, day treatment, and drug/alcohol treatment.

Over two-thirds of the respondents reported utilizing case management, counseling, and crisis services. About half of the respondents utilized peer support services or had been hospitalized for psychiatric services, including pre-screening. Almost 43 percent used group services such as SAMI

PACT or group counseling. About one-third of the respondents reported they had payeeship, some form of housing assistance, or day treatment. Twenty-nine percent indicated they had participated in some sort of drug and/or alcohol treatment, while almost 23 percent had some sort of residential service such as living in a group home. Table 1 lists the distribution of service use.

Table 1. Distribution of Services

Type of service	Percent
Psychiatric case management	93.8
Counseling	73.6
Crisis services	73.6
Peer support services	51.5
Psychiatric hospitalizations	45.6
Group services	42.8
Payeeship	37.2
Housing assistance	34.4
Day treatment	33.1
Drug/alcohol treatment	29.0
Residential services	22.6

Instrumental Social Support. Respondents were asked to name individuals with whom they had or could have had supportive exchanges during the past year. The four questions asked about who might take care of the respondent's home if the respondent was away, who might help with household tasks, who would watch children (if the respondent had children), and from whom the respondent could borrow a large sum of money. The number of people who were available to support the respondent were summed and the presence or absence of children statistically controlled in the analysis.

Forty-one people (10.5 percent) reported no one who could provide instrumental social support. Almost 59 percent of the sample had one to three people that they could count on for social support. The average number of people the respondents could call on was 2.95 ± 2.42 , range 0 to 20.

Table 2. Instrumental Social Support

Number of Supports	Percent
0	10.5
1	14.9
2	26.4
3	17.4
4	12.6
5 through 20	18.2

Results

Demographics. The sample was 59 percent male, 56 percent white, and averaged a little over 38 years old. More than 11 percent were currently married or cohabiting and 52 percent lived in their own house or apartment. Nineteen (5%) people had been involuntarily committed as an outpatient; 108 (28 %) were active at the time of their interview in mental health court. Twenty-nine (7%) had successfully completed mental health court. Sixty-six (17%) had some sort of police contact. We also interviewed 97 (25%) people who at the time of their interview had recently had a mental health crisis where they required intervention at Psychiatric Emergency Services and a sample (71 or 18 %) of clients of Community Support Services who had not recently experienced a crisis.

Direct effect of program participation on quality of life. The first multivariate analysis focused on the direct effect of programs on overall quality of life of respondents. We initially included all program statuses (outpatient committed, mental health court active, mental health court successful, those not in crisis, those in crisis, and statistically controlled for those who had police contact) and demographic variables (race, sex, age, married, and current living situation). We discovered that program status, specifically those who were either active in mental health court or those who were successful completers of mental health court, had statistically significantly better perceptions of their quality of life when compared to the other groups. However, after controlling for stigma, services, and social support, none of the program statuses had a direct effect on quality of life. Thus, we further analyzed the effects of perception of stigma, services received, and availability of social support in order to explain why participation in mental health court leads to an improved quality of life.

Direct effects of stigma, support, and services on quality of life. As expected, we found that stigma is negatively associated with quality of life. As perception of stigma increases, quality of life is diminished. Specifically, social isolation and feeling devalued and discriminated against are statistically significant and are associated with reduced quality of life. As expected, instrumental support is associated with an increased quality of life. Results for use of services are mixed, with some services related to improved quality of life and others related to a reduction in quality of life. Specifically, those who received crisis services in the past year had the perception of a reduced quality of life, while those who received group services (SAMI PACT or group counseling) and case management or psychiatric MD/RN services perceived an increased quality of life.

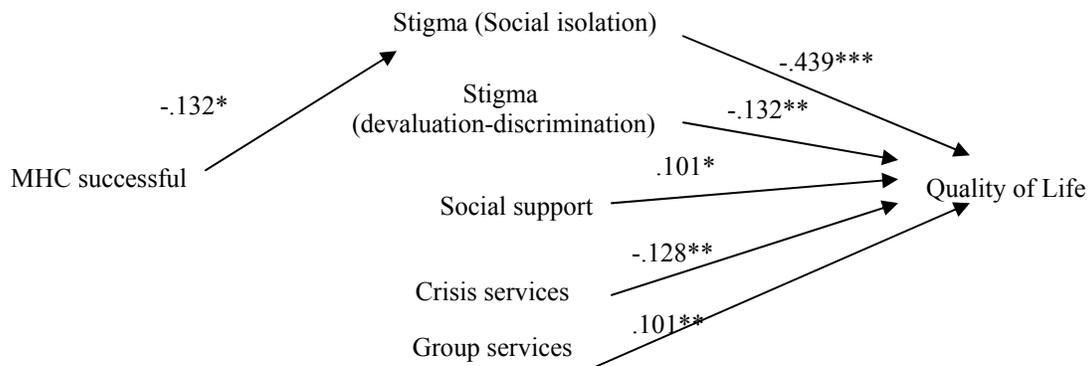
Figure 2 depicts the relationship between successful mental health court participation and quality of life. The direct effects are represented by the arrows between each variable. The higher the stigma of social isolation a person felt, the lower their perception of their quality of life ($\beta = .439, p < .001$). Those who felt devalued or discriminated against because of their illness also experienced a lower quality of life ($\beta = .132, p < .01$). Additionally, the more instrumental social support a person has, the higher their quality of life ($\beta = .101, p < .05$). Receipt of crisis services in the past twelve months reduced quality of life ($\beta = -.128, p < .05$), while receipt of group services increased quality of life ($\beta .101, p < .05$). Overall, the model suggests that those who were successful participants in mental health court have an improved quality of life by reduction of stigma ($\beta = -.132, p < .05$). Specifically, those who successfully completed mental health court were less likely to feel socially isolated. The reduction in social isolation experienced by successful mental health court participants contributed to overall improved quality of life.

Discussion

In this study we assessed the ways in which program participation affected quality of life. Initially, we assessed direct effects of program participation and found that when controlling for stigma,

social support, and service use, there were no direct effects on quality of life by program status (outpatient civil committed, successful mental health court, and active mental health court participants). That is, just being in one of the programs did not change a person's quality of life. Next, we assessed the ways stigma, social support, and service use affected the relationship between successful completers of mental health court and quality of life. As expected, we found that stigma is associated with a reduced quality of life and social support with an improved quality of life. Using group services is positively related to quality of life, but using crisis services is negatively associated with quality of life. Most importantly, we found that successful mental health court completers experienced a higher quality of life through stigma reduction, with feelings of decreased social isolation. In other words, successful mental health court completers had a higher quality of life than the people in the other groups. This may be because they felt better about themselves since they perceived themselves as less stigmatized.

Figure 2. Subjective perception of quality of life for successful mental health court participants.



Note. Values are standardized regression weights.
* $p < .05$, ** $p < .01$

Conclusions

Evaluating diversion programs is a necessary task to identify how the programs work and for whom. Though we have presented only a portion of our ongoing research program, the results indicate that the post-arrest program increases quality of life by lowering perceptions of stigma. Perceptions of stigma may affect the experiences of those with mental illness. To understand the effects of diversion programs, these experiences need to be accounted for in order to interpret the outcomes of such programs. Our research provides the opportunity to understand the consequences of diversion programs and their effects on consumers, police, and community systems of care as well as to inform best clinical practices.

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**THE QUALITY OF LIFE OF PEOPLE WITH MENTAL ILLNESS:
AKRON CIT OFFICERS' DISPOSITIONS OF CALLS
INVOLVING PEOPLE WITH MENTAL ILLNESS**

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The locus of care of people with serious mental illness has successfully and dramatically shifted from primarily institutional settings at mid-century to largely community-based settings (Grob, 1991 & 1994; Mechanic & Bilder, 2004). This shift has created opportunities for many people with mental disorders to live successfully in our communities. It has also created challenges for those with serious mental illness and the communities fostering their recovery. Individuals living in the community with serious mental illness face many difficulties, including poverty, under-employment, homelessness, and criminal victimization (Dowdall, 1999; Morrissey, 1999). There is an increased risk of substance abuse and dependence (Kessler & Zhao, 1999). These factors, as well as difficulty accessing treatment services in a fragmented mental health service system (New Freedom Commission on Mental Health, 2003), contribute to an increased risk of people with serious and persistent mental disorders being arrested and incarcerated. This phenomenon, often referred to as the criminalization of the mentally ill, is a national problem (Hiday, 1991, & 1999; Munetz, Grande, & Chambers, 2001; Teplin, 1984b; Teplin, Abram, McClelland, Dulcan, & Mericle, 2002; Torrey et al., 1992). The increase in interactions between people with mental illness and the criminal justice system has led to many communities forming extensive partnerships between the mental health, judicial, and criminal justice systems.

The Summit County (Ohio) public mental health system has been attempting to systematically address the needs of individuals with serious and persistent mental disorders in order to minimize inappropriate incarceration of such individuals (American Psychiatric Association, 2003) with two initiatives: a pre-arrest and a post-arrest diversion program (Munetz, & Griffin, 2006, in press). The pre-arrest component of this effort is the Akron Police Department's Crisis Intervention Team (CIT).

The CIT model was started in 1988 by the Memphis Police Department (Cochran, Deane, & Borum, 2000). It is a partnership between local law enforcement agencies, the public mental health system, consumers of mental health services and their family members. CIT is a program that provides intensive training about mental illness and the local system of care to volunteer patrol officers who then are available to respond to mental disturbance calls at all times. The goals of the CIT program are to increase officer, suspect, and overall community safety by better preparing officers to handle crises involving persons with mental illness (Vermette, Pinals, & Appelbaum, 2005). Additionally, the program aims to make the mental health system more understandable to the police and to make the mental health system maximally responsive to law enforcement to facilitate referral of individuals in need of treatment (Steadman, Deane, Borum, & Morrissey, 2000).

Though initiation of such programs has been a recent phenomenon in many communities (Steadman & Naples, 2005; Stratton, Blough, & Hawk, 2004), there have been few systematic evaluations of the effects of CIT on officer interactions with those they believe are mentally ill. Our research program, funded through the Ohio Department of Mental Health and the Ohio Office of Criminal Justice Services, is exploring many aspects of this pre-arrest diversion program. Our theoretically grounded research provides the opportunity to understand the consequences of diversion programs and their effects on consumers, police, and community systems of care as well as to inform best clinical practices. The results of this research inform the planning for the effective introduction of similar programs in the State of Ohio and across the country (Harris, Munetz, Ritter, & Woody, 2004). In this research report, we will be discussing one aspect of our research: the effects of a pre-arrest program on the dispositions of mental disturbance calls.

As police have become the first responders to individuals in a mental illness crisis (Lamb & Weinberger, 2001), situational variables influence the outcomes of interactions with people with severe and persistent mental illness. These situational variables depend on the amount of discretion the officers may have, options available to officers outside the criminal justice system (Teplin, 1984a, & 2000; Teplin & Pruett, 1992), and the degree of knowledge that police officers have about these options within the mental health treatment system (Green, 1997; Patch & Arrigo, 1999). When officers believe a person has committed a felony, they may perceive that arrest is mandatory. In this case, the desired outcome is an end to the crisis without injury to either party. More often, however, the deviant behavior is such that police officers do have discretion and may choose among arrest, informal dispositions in which no formal action is taken (counsel and release, advise, or no action), or transport to a medical or psychiatric facility (Green, 1997; Patch & Arrigo, 1999). Counsel and release may include recommendations that the individual follow up with mental health treatment as an outpatient. CIT officers are trained to recognize symptoms of mental illness and to decide which option available to them will best serve the individual.

Previously we examined data from the Akron Police Department (APD) computerized dispatch system to study the impact of implementation of the CIT program on disposition of encounters identified at the time of the call as probably involving mental illness (Teller, Munetz, Gil, & Ritter, 2006). In this report, we examine the effects of the CIT program based on analysis of CIT officers' direct documentation of all encounters they believe to involve individuals in a mental illness crisis. We discuss these police officers' interactions with people who may be exhibiting symptoms of mental illness, demographic characteristics of the people, and how these encounters are resolved.

The Akron Police Department CIT program began May 2000 with training based upon the Memphis CIT model (Dupont, 1998; Steadman et al., 2001). Between May 2000 and May 2005, 92 APD officers were trained as CIT officers. All calls for service are routed through dispatchers who assign a code depending upon the dispatchers' evaluation of the call. Examples of dispatch codes that can be assigned to a call are mental disturbance call, potential suicide, fight, drunk, or traffic accident.

Once the officers arrived on the scene, they determined the disposition of the call to best serve the needs of the individuals in crisis. The Summit County Alcohol, Drug Addiction, and Mental Health (ADM) system is well situated to be responsive to these needs. The ADM Crisis Center houses two emergency programs open 24 hours per day, 365 days per year: a free-standing Psychiatric Emergency Room (PES) which additionally serves as the pre-screening unit for admission to the state facility and an alcohol/other drug detoxification facility. The ADM Board has encouraged a "no wrong door" approach, which means that police officers are not responsible for determining if problems relate primarily to mental illness or to substance abuse. If a patient is found to be on the wrong floor (e.g., in need of emergency mental health services rather than emergency detoxification), the two programs are supposed

to arrange an internal transfer. Referral sources, including patients' families, are not expected to have the technical expertise to make such determinations prior to arrival at the Crisis Center. Summit County also has four general hospital systems within its borders, including two teaching hospitals in the Akron city limits, each with inpatient psychiatric units. First responders are trained to take patients in need of non-psychiatric medical attention or medical clearance to a hospital emergency department rather than to the ADM Crisis Center.

Despite the "no wrong door" philosophy, it appears the community practice is for individuals with significant co-morbidity (i.e., mental illness and substance use) to be taken to hospital emergency departments rather than to the Crisis Center. Hospitals play a major role in treatment of those suspected of mental illness as officers determine to which "door" people are taken first. This community is therefore considerably different than Memphis, where CIT officers clearly have but one place to bring people in a mental illness crisis, a county general hospital emergency department.

Methods

The data set we are using is the Akron Police Department's CIT "stat sheets." CIT officers complete stat sheets after each encounter where they suspect the person of being mentally ill. The encounter may or may not have been originally coded by police dispatchers as involving someone with mental illness; the completion of stat sheets reflects officers' assessments after CIT officers are on the scene. Dispositions recorded on the stat sheet include transport to one of the treatment facilities, arrest, or some other disposition. Other dispositions include stabilization of the subject, referral to mental health treatment, handled by emergency medical services, transportation to some other location (e.g., a family member's home or the local homeless shelter), or original complaint unfounded. That is, the original dispatch code did not reflect the reality of the encounter; however, the officer believes the person might have a mental illness. When officers determine that the original complaint was unfounded, they want to alert the mental health system that the subject may be in need of mental health treatment or outreach. One of the purposes of the stat sheets is to document for the ADM Board those with mental illness who have interactions with the criminal justice system in order to insure that individuals identified by the police as needing the mental health treatment system receive the appropriate follow-up by the mental health system.

A major component of the CIT program is the expansion of officers' verbal de-escalation skills to defuse an encounter. The use of these verbal techniques is documented on the stat sheets. Use of handcuffs and tasers and whether the person went to a treatment facility voluntarily or involuntarily are also recorded. Officers also have the opportunity to note if they experienced "slight" or "severe" injuries during the encounter and whether any others were injured prior to or during the encounter.

All identifying information concerning the subjects was removed prior to the research team's analyses of the stat sheets. To determine if the team had all copies of the stat sheets, selected members of the team had access to the APD database of the logged encounters. Research committees of all involved agencies plus Kent State University and Northeastern Ohio Universities College of Medicine (NEOUCOM) Institutional Review Boards approved the research. All research team members successfully completed the National Institutes of Health "Human Participant Protections Education for Research Teams." Data analyses were conducted using SPSS version 12.0.

Officer training occurred in June of each year. Some officers trained in the beginning of the program have been promoted and are therefore no longer on patrol. The number of officers currently on patrol (as of June 2005) is 76 with an additional 16 officers trained but in non-patrol positions. For the

period June 2000 to May 2005 (60 months), officers submitted 2,508 stat sheets for incidents involving people age 18 or older.

Forty-three primary dispatch codes were listed on 2,502 stat sheets; six stat sheets did not list a dispatch code. After consultation with APD officers, some of the dispatch codes were combined into categories such as emergency calls for assistance, crimes against property, or disturbance/warrants. Six codes accounted for 2,159 or 86.3 percent of the 2,502 stat sheets noting a dispatch code. The other dispatch codes included a broad range of situations (such as drunks, warrants, traffic accidents, shootings, stabbings) that disproportionately require arrest. The six codes comprising the majority of the sample are person suspected of mental illness, suspected suicide attempt, fight, domestic fight, suspicious person, and meet a person (a dispatch code indicating that the officer needs to meet someone to make a report or to get information). The following analyses will concentrate on the stat sheets with these six dispatch codes, while controlling for the other dispatch codes.

Analyses used descriptive statistics and analysis of variance (ANOVA) to test the null hypothesis that the group means of the interval level (proportions) dependent variable are equal. The groups are defined by categorical variables. If differences were detected in the means at $p < .05$, one-way ANOVA Scheffe post-hoc tests were run to identify the category of difference. In comparison to other tests, Scheffe is a conservative estimate as a larger difference in means is required for significance.

Results

Demographics. The people represented by the stat sheets were 55 percent male, 63 percent white, and almost 38.5 years old. Eleven percent of the people were injured prior to the police encounter, while a little over one percent were injured during the encounter. Ten officers noted slight injuries (0.4 percent) during the interaction; there were no reports of severe officer injury.

Dispatch coding of calls. Six calls did not have a dispatch code and were dropped from the analysis. The majority of the 2,502 calls were dispatched as suspected mental illness ($n = 970$, 38.8 percent) or suspected suicide ($n = 640$, 25.6). Fights comprised 8.4 percent ($n = 209$) of the calls, domestic fights were 3.7 percent ($n = 93$) of the calls while meeting a person ($n = 116$) and suspicious person ($n = 131$) were both approximately five percent. The remainder of the calls ($n = 343$, 13.7 percent) were dispatched with some other code.

Disposition of calls. Table 1 presents the dispositions of the calls for the six dispatch codes. The most common disposition (76.1 percent) reported on the stat sheets was transport to one of the treatment facilities. No transport was the disposition for 14.8 percent of the calls. Transport to jail occurred for 5.1 percent of the encounters. Four percent of the calls involved other dispositions (for example, transport to a family member's home or transport to a homeless shelter).

We examined the rates over time for these four dispositions (data not shown). There were fluctuations in all categories over time, but these were not statistically significant.

Dispatch code by disposition. Disposition differed as a function of type of call (see Table 2). For the entire sample, transport to treatment was the most common disposition, ranging from almost 93 percent of calls dispatched for suspected suicide to a low of 52 percent for domestic fights. Slightly more than five percent of the sample were transported to jail. Not surprisingly, there are differences in the arrest rate by code. Fights, whether domestic (19.4 percent) or other fights (17.2 percent), resulted in transport

to jail, while about three percent of the persons with suspected mental illness were taken to jail. More than half of the sample who were arrested (69/111) had dispatch codes of suspicious person or fight.

Table 1. Dispositions Recorded on Stat Sheets for the Six Dispatch Codes

	Frequency	Percent
No transport	319	14.8
Transport to treatment	1643	76.1
Transport to jail	111	5.1
Other disposition	86	4.0
Total	2159	100.0

Table 2. Disposition by Dispatch Code ($n = 2159$)

Disposition ^a		Dispatch Codes						Total
		Suspected suicide	Suspected mental illness	Fight, not domestic	Fight, domestic	Suspicious person	Meet Person	
No transport ^b	Count	30	154	21	21	32	42	319
	%	4.7	15.9	22.6	22.6	24.4	36.2	14.8
Transport to treatment ^c	Count	594	747	118	487	72	64	1643
	%	92.8	77.0	56.5	51.6	55.0	55.2	76.1
Transport to jail ^d	Count	10	30	36	18	15	2	111
	%	1.6	3.1	17.2	19.4	11.5	1.7	5.1
Other disposition ^e	Count	6	39	15	6	12	8	86
	%	.9	4.0	7.2	6.5	9.2	6.9	4.0
Total	Count	640	970	209	93	131	116	2159
	%	100	100	100	100	100	100	100

^aChi square $\rho = .000$, $df = 15$

^b ANOVA $df = 5,2153$; $F = 23.631$, $\rho = .000$. Scheffe: Suspected suicide is significantly different from suspected mental illness (.000), fight (.000), domestic (.001), suspicious person (.000), and meet person (.000). Additionally, meet person is significantly different from suspected mental illness (.000) and fight (.003).

^c ANOVA $df = 5,2153$; $F = 52.300$, $\rho = .000$. Scheffe: Both suspected suicide and suspected mental illness are significantly different from all other dispatch codes.

^d ANOVA $df = 5,2153$; $F = 29.795$, $\rho = .000$. Scheffe: Suspected suicide, suspected mental illness, and meet person are significantly different from fight, domestic, and suspicious person.

^e ANOVA $df = 5,2153$; $F = 63959$, $\rho = .000$. Scheffe: Suspected suicide is different from fight (.006) and suspicious person (.002).

Discussion

Akron CIT officers use the stat sheets as designed to document their encounters and alert the mental health system about people who may have mental illnesses and/or who may need services. Officers completed these forms for people they believed required services regardless of how calls were initially coded. There is reason to believe that CIT officers under-report encounters with individuals with

mental illness. Stat sheets are additional paperwork for already over-burdened officers. It is possible that they choose not to document some encounters that do not result in transport to treatment or jail or those interactions with people with whom the officers have frequent contact. This possibility is substantiated by examination of the dispatchers' logs. From previous work (Teller et al., 2006), the calls coded by dispatchers as involving persons suspected of mental illness or suicide which were handled by CIT officers totaled 1,967 during this time frame. The number of stat sheets for these same codes during a slightly longer period of time number 1,081, indicating no more than 55 percent of the calls for these codes are being documented on the stat sheets. However, we do note that not all calls dispatched as involving mental disturbances accurately reflect the situation the officers find at the scene. For example, for calls dispatched as involving persons suspected of mental illness or suicide, approximately one-third of those calls resulted in no need for transport to any type of treatment facility. While each of the two available data sets (stat sheets and automated dispatch data) have limitations, examining them both provides a more complete picture and identifies areas for further research.

Surprisingly there were no differences over time in the number of arrests by the CIT officers. CIT is conceptualized by mental health experts as a pre-arrest jail diversion program. Law enforcement is more inclined to view it as a program to enhance public safety by decreasing injury and harm to officers and others involved in the encounter. For example, CIT in Memphis started in response to an encounter in which a person with schizophrenia was shot and killed by a Memphis police officer. Not surprisingly, where people are transported differs by the type of call. When officers believe, for example, that a domestic violation occurred, then there is no discretion as officers must transport to jail. These data suggest that the program is more successful, at least in Akron, in enhancing community safety than it is in reducing arrest and incarceration.

Using both data sets to examine the Akron CIT program, computerized dispatch data (Teller et al., 2006) and officer stat sheets, we failed to find decreases in arrests and incarcerations. Interpreting this finding in Akron is complicated by the fact that Akron Municipal Court began its Mental Health Court in January 2001, six months after the start of the CIT program (Shoaf, 2004). CIT officers are well informed about the Mental Health Court during their CIT training and are aware that the purpose of the Court is to enhance the likelihood that individuals who frequently present to the criminal justice system will be connected to, and remain in, mental health treatment. Thus officers may be inclined to arrest such individuals and refer them to the mental health court program. While arrest and incarceration rates have not changed, it is possible that the long-term effect of having both CIT and mental health court in place will result in long-term decreases in jail bed days over time. An ongoing study of the Akron Mental Health Court should help clarify if that is, in fact, the case.

Conclusions

Evaluation of diversion programs is a necessary task to identify how the programs work and for whom. Though we have presented only a portion of our ongoing research program, the results indicate that the pre-arrest program appears to be effective in providing care for those who face challenges through the criminal justice system because of mental illness. Our research provides the opportunity to understand the consequences of diversion programs and their effects on consumers, police, and community systems of care as well as to inform best clinical practices.

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**THE EFFECTS OF NEUROFEEDBACK TREATMENT ON CHILDREN
WITH BEHAVIORAL, ATTENTION AND CONCENTRATION PROBLEMS:
PRELIMINARY RESULTS**

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Children who participate in the psychoeducational programs of the Kobacker Partial Hospitalization Program (PHP) at the Medical University of Ohio have significant behavioral and emotional problems. These children have been referred to the program because the behavioral problems arising from their emotional disorders compromise the effectiveness of regular school settings. Current treatment approaches utilize medication to biologically minimize brain dysfunction and psychosocial interventions to improve behavior. However, these children could benefit from additional psychophysiological interventions such as neurofeedback to help them control their inattention, lack of concentration, and impulsivity. Although neurofeedback has been studied as a treatment modality in children with attention deficit hyperactivity disorder (ADHD) with positive results, the effect of neurofeedback in children with ADHD complicated by psychiatric and behavioral problems is unknown.

Conceptual Framework and Study Design

The Kobacker Center is a teaching hospital of the Medical University of Ohio (MUO) in Toledo, Ohio, established as a collaborative effort between Toledo Public Schools and the MUO Department of Psychiatry. A team of mental health clinicians offers psychiatric evaluations, medical management and counseling services, and direct behavioral interventions, while special education teachers provide instruction in academic subjects in a partial hospitalization format (PHP). The goal of the program is to improve the children's functioning to facilitate their return to a regular school classroom. In addition to the services already in place at the PHP, children could benefit by training that specifically addresses the brain wave patterns associated with inattention and poor concentration.

Biofeedback is a process by which a subject receives information (feedback) about and learns to control a specific physiological function such as the excess muscle tension that occurs during headaches (Schwartz & Andrasik, 2003). Neurofeedback is a specific form of biofeedback, in which the subject learns to control brain wave activity (EEG). Some brain wave patterns, specifically the theta/beta ratio, are associated with good concentration and attention, while other patterns reflect inattention and poor concentration. Control is achieved by monitoring and displaying the brainwave activity (theta/beta ratio) in a format that is understandable to the child. Then the computer provides information, in the form of visual displays or auditory tones showing how well the subject is doing at decreasing the ratio (the desired direction). In time, subjects are able to produce the desired types of brain waves more reliably, i.e., behavioral shaping of the brain wave pattern. With multiple sessions over several months, children may be able to apply neurofeedback to improve specific skills such as reading and arithmetic.

The mechanism of how neurotherapy helps children with ADD/ADHD relies on the premise that brainwave patterns are an indicator of underlying brain activity whether normal or abnormal (Lubar & Lubar, 1999). Children with ADD and ADHD produce excess theta activity and lower amounts of beta activity (Clarke, Barry, McCarthy & Selikowitz, 2001). These children are neurologically inclined to daydream, and less inclined to focus and concentrate. EEG biofeedback training functions to reverse this brain wave abnormality in ADD/ADHD children by inhibiting the amount of theta and simultaneously increasing beta activity.

One of the pioneers in the field of neurofeedback, Joel Lubar PhD, has shown neurofeedback to be efficacious in helping children improve cognitive and psychological functioning (1997, 1999, & 2000). Kaiser and Othmer (2000) reported on a multi-site study of 726 children with ADHD and found that symptom improvement occurred in 85 percent of those children receiving neurofeedback treatment, thus demonstrating that positive treatment effects could be seen in a large-scale study. Monastra et al., (1999) compared the effects of stimulant therapy with and without neurofeedback. Students in both treatments improved on the Attention Deficits Disorders Evaluation Scale and on the Test of Variable Attention. However, when medication was withdrawn, only the neurofeedback group maintained their improvement.

Research Objectives and Hypotheses

The goal of this study is to determine if neurofeedback training will allow children with serious emotional disturbances to improve their classroom behavior at the PHP and eventually to transition more easily back to the Toledo Public Schools.

The hypotheses are that:

1. Neurotherapy will be integrated into the PHP program at the Kobacker Center.
2. Children will be able to complete the required number of sessions associated with direct benefit in previous published studies in other clinics.
3. Children receiving neurofeedback will learn control of the theta/beta ratio.
4. Children receiving neurofeedback who learn brain wave control will decrease the types of brain waves associated with inattention and poor concentration and increase the brain waves associated with good concentration and attention.
5. Children who complete all of the sessions will show the most improvement.
6. Children receiving neurofeedback will transduce the learned brain wave patterns into improved behavioral scores as indicated by the Conners Parent Rating Scale.

Methods

Participants. Thirty-one children admitted to the PHP who received a disruptive behavior disorder diagnosis (e.g., ADHD) following diagnostic evaluation and who had high scores (a T-score of 65 or higher) on the ADHD Index of the Conners Parent Rating Scale-Revised (short form) were asked to participate in the study. Children with diagnoses of mental retardation, autism, or a psychotic disorder were excluded from the study. The children and their parents (or legal guardians) received detailed information about the research project and gave informed consent. Children gave assent. No standard medical or psychiatric therapies are withheld from a child who takes part in the study. Parents were asked to inform staff about any medical illness in their child. Each child's psychiatrist was told that the child is participating in this study so that changes in medicine could be documented.

Of the children entering the study, 24 were males and seven were females. There were 18 African American, ten European American and three Hispanic children. Average age was 8.9 years (range from 7 to 12). In addition to problems with attention and concentration, subjects had the following psychiatric diagnoses: depression, oppositional defiant, bipolar, intermittent explosive and obsessive-compulsive disorders. Six of the 31 dropped out of the study. Three left the school program. Three children remained in the PHP program but left the study. One could not complete the assessments due to a high frustration level; one thought the gel required for the EEG sensors was too messy and one refused to return. None withdrew their consent.

Data Collection

The following measures were used to assess improvement: the Gordon Diagnostic System (Gordon & Mettelman, 1988), the Conners Rating Scales, both teacher and parent short forms, and the Achenbach Teacher Report Form (Achenbach, 1991). In addition, the team assessed each participant's behavioral grades, calculated as the average of ten daily grades during the two weeks prior to the beginning of treatment and two weeks following treatment. The Conners Rating Scales-Revised assess for ADD and ADHD in children ages three through 17 (Conners, Parker, Sitarenios, & Epstein, 1998; Conners, Sitarenios, Parker, & Epstein, 1998). The short forms of the parent and teacher versions contain four subscales, oppositional behavior, hyperactivity, cognitive problems/inattention, and an ADHD index. At this time, data are available from the Conners Teacher version and the behavioral grades. Information from the Achenbach Teacher Report Form and the Gordon Diagnostic System will be analyzed when the study is complete.

Procedures

The protocol was reviewed and approved by the MUO Institutional Review Board. Each subject was assigned a code number and data were entered into the SPSS statistical program by code number only and not by name of the child or initials. Research files are separate from the child's school file and treatment file.

The clinical director, classroom social worker, classroom mental health technician, and the educational staff working with the child met to identify the children who met the inclusion criteria and who had the potential to benefit from the treatment. Then, the research team randomly assigned the children to either the neurofeedback (experimental) group or the wait list control group. Children who completed the control period were then offered participation in the neurofeedback program. During the two weeks before and two weeks after treatment (or control), the outcomes measures (EEG theta/beta ratio, behavioral grades and Conners-Teacher version) were assessed. During the initial session, the mental health technician (MHT) explained the neurofeedback equipment and the tasks to be completed to the parent and child in simple terms and provided a demonstration of how the child should use the equipment (Sears & Thompson, 1998).

Each child in the experimental group participated in 30 training sessions of 45 to 60 minute duration, two to three times per week; actual neurofeedback consisted of 10 to 22 minutes of each session. The variability in EEG feedback time was based on the child's ability to sit still and the child's physical and emotional condition during the session. A MHT administered all the sessions and was present for the entire time. At each session, sensors are positioned on the child's scalp without bruising or breaking the skin. The sensors are connected to an instrument that measures the brain waves from the area of the brain being monitored. The child is given a visual and auditory signal, or feedback, from the computer so that he or she can learn to increase or decrease specific brain wave activity. The feedback is usually in the

form of a game, which holds the child's interest. At each subsequent session, the child attempts to produce the same brain wave pattern, and success is reinforced. Trainers also provided verbal encouragement and an incentive system. When a child becomes frustrated or asks to stop the session, the MHT stops the session and restarts when the child is ready.

Analysis

This is a controlled study with simple randomization. Descriptive statistics (mean, standard deviation) illustrate the characteristics of the sample. Qualitative description addresses the first two hypotheses that deal with incorporation of neurofeedback into the PHP program, and the children's ability to first make the transition from classroom to feedback setting and then to complete the required sessions. The independent variable in this study is the group intervention or wait-list control to which the participant was randomly assigned. The outcomes measures are the average theta/beta ratio in the EEG, the Conners Rating Scales, and behavioral grades. Analysis of variance was used to compare the two groups (EEG biofeedback and standard care) on the dependent variables pre- and post-intervention (group x time). The results were not analyzed by gender, since there is no evidence that girls or boys of any racial or ethnic group are better able to learn the neurofeedback techniques.

Preliminary Results

Mental health providers, public school teachers and the study trainers devised a schedule so that the children would leave the classroom three times a week for 50 to 60 minutes to participate in the EEG biofeedback training sessions. Cooperation amongst all the entities involved was excellent. Teachers and mental health providers had been given a detailed explanation of the study including literature review, details of past successful programs in other settings, and goals and hypotheses for this study, so they were aware of the protocol. During the first weeks of the study, some disruption occurred in the classroom routine for children attending the study sessions. However, within one month, all of the service providers as well as the children were well aware of the schedule and there were no further problems. Thus, hypothesis 1, that the neurofeedback sessions would be successfully integrated into the existing psycho-educational program was confirmed.

The research team enrolled 31 children, ages seven through 12, to undergo neurofeedback therapy during the first year of the study. Fifteen were assigned to the experimental group, 12 males and three females. There were seven African Americans, seven European Americans and one Hispanic. Their ages ranged from eight to 12 years of age. Average age was 9.7 years (range 8 to 12 years). Children who participated as wait-list controls consisted of eight males and two females; seven were African American, two were European American and one was Hispanic. Average age was 10.2 years (range 7 to 12 years). Fifteen children completed all of the treatment sessions, despite the necessity for longer total treatment times because of physical illness or time out of school. So, hypothesis 2, that children would be able to complete the required treatment sessions, was confirmed.

Analysis of EEG data focused on a comparison of the theta/beta ratio from baseline to post-treatment. Figure 1 presents a graph of the ratio for the treatment sessions for one of the children in the experimental group, showing the desired decrease in the theta/beta ratio during the 30 sessions of treatment. More than 50 percent (8 of 15) of the children trained with neurofeedback were able to reduce the ratio by the end of treatment. Table 1 summarizes the baseline and post-treatment session means for the theta/beta ratio. Although the magnitude of the EEG changes was small, the children reported a greater ability to focus on the computer screen and to pay attention to the required tasks. Hypotheses 3

Table 1. Theta/Beta Ratio Session Means, Pre- and Post-Treatment Year 1 Experimental Group Subjects

ID#	i/r-pre	i/r-post
900	5.27	<u>4.41</u>
902	3.41	<u>2.92</u>
903	3.37	<u>2.83</u>
904	4.52	<u>3.89</u>
905	4.58	<u>4.56</u>
906	3.70	<u>3.31</u>
910	2.18	2.28
911	4.49	<u>3.55</u>
912	4.40	<u>3.39</u>
914	3.29	5.48
915	4.60	4.75
916	2.46	2.81
920	3.42	3.80
922	3.48	4.00
923	1.72	2.73

Note: All underlined figures indicate a change in the desired direction.

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SESSION IMPACT AND ALLIANCE IN INTERNET BASED PSYCHOTHERAPY

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Currently, the most common mode of delivery for Internet psychotherapy is asynchronous text-based e-mail (Grohol, 1998). This mode of delivery would be expected to be less stimulus rich than conventional face-to-face therapy (i.e., to lack the nonverbal cues), but it may not necessarily impair interaction quality (Grohol, 1999). Indeed, anecdotal reports have indicated that clients and therapists may evaluate text therapy as similar to traditional therapy. For example, Fenichel and his colleagues (2002) commented on the "... similarity between a text-based transcript and a comparable office session" and more specifically on "...the expressiveness and depth of the text-based communication" (p. 26).

We compared online text therapy with face-to-face therapy with respect to the participants' evaluations of their relationship (alliance) and their sessions (impact). The alliance is widely regarded as a vehicle for conveying therapy's active ingredients and perhaps a key active ingredient itself (Hartley & Strupp, 1983). Session impact encompasses participants' evaluations of their session but also participants' post-session affective state (Stiles, Reynolds, Hardy, Rees, Barkham, & Shapiro, 1994).

Among the few studies that have attempted to compare these modalities, Cohen and Kerr's (1998) therapy analogue study examined a single meeting between face-to-face psychotherapy and text chat psychotherapy for anxiety. Participants (24 undergraduate volunteers as clients and six male counseling graduate students as therapists) scored higher on the SEQ (Session Evaluation Questionnaire) post-session arousal scale after face-to-face sessions than after online sessions, but not on any other SEQ scales.

Cook and Doyle (2002) compared Working Alliance Inventory (WAI) scores after the third session between 15 predominantly female therapy consumers mainly using e-mail and a representative archival sample of 25 traditional face-to-face therapy clients. They found that Internet therapy consumers' scores on the goal subscale and composite score of the WAI were significantly higher than those of face-to-face therapy clients.

In psychotherapy process research, most participant ratings have been collected using a paper-and-pencil-format. However, several unpublished projects have indicated that psychotherapy process researchers (including ourselves) are slowly embracing the possibility of collecting data with the assistance of the Internet (e.g., Barak, 2004).

Study Design, Research Hypothesis, and Rationale

We report preliminary results regarding the comparability of alliance and session impact ratings of online therapy conducted via asynchronous text with previously published results from ratings of face-to-face psychotherapy sessions. We expected that participants using e-mail therapy would evaluate their relationships and session impacts similarly to participants in face-to-face therapy. This expectation was

based on the common-factors notion that similar outcomes are found for the various theoretical orientations in face-to-face therapy (e.g., Wampold, 2001) because it suggests that similar processes (which mediate outcome) would be found for various modes of conducting psychotherapy.

Participants

Therapists ($N = 16$) each saw from one to 10 clients ($Mdn = 1$) for a total of 178 therapist-rated sessions whereas clients ($N = 17$) had a total of 205 rated sessions.

The therapists were primarily female (62%), Caucasian (81%), ranged in age from 23 to 62 years ($Mdn = 47$), and were married/partnered (56%). They were predominantly licensed to practice in the United States ($n = 10$ therapists) and worked mainly from a Cognitive/Behavioral perspective (44%).

The 17 clients' ages ranged from 22 to 55 ($Mdn = 39$) with 71 percent female, 82 percent Caucasian, and 53 percent married/partnered. All except one client had completed high school. Their most common self-reported presenting problems (given the option to report multiple problems) were depression (8 clients), stress and anxiety (4), and childhood abuse (2).

Measures

Demographic Questionnaire. The demographic questionnaire requested information on the respondent's e-mail address, date of birth, marital status, gender, ethnicity, highest year of education, and either the client's presenting problem or therapist's full name, location of face-to-face therapy licensure, and theoretical orientation.

Session Evaluation Questionnaire (SEQ). The SEQ (Form 5; Stiles et al., 2002) consists of 21 7-point bipolar adjective items on which respondents were instructed to "Please select the appropriate number to show how you feel about your therapeutic exchanges this week:"

The stem "**The therapeutic exchanges this week were:**" precede the first 11 *session evaluation* items. There is one global item (i.e., bad-good). Five items comprise the *depth* scale (i.e., valuable-worthless, deep-shallow, full-empty, powerful-weak, and special-ordinary), and five items comprise the *smoothness* scale (i.e., easy-difficult, relaxed-tense, pleasant-unpleasant, smooth-rough, and comfortable-uncomfortable).

The stem "**Based on the therapeutic exchanges this week, I feel:**" precedes the second 10 *post-session mood* items, aggregated into two additional scales. Five items comprise the *positivity* scale (i.e., happy-sad, pleased-angry, definite-uncertain, confident-afraid, and friendly-unfriendly) whereas five items comprise the *arousal* scale (i.e., moving-still, excited-calm, fast-slow, energetic-peaceful, and aroused-quiet).

Agnew Relationship Measure (ARM). The ARM version used in this study was a 12-item short form (Stiles, Hardy, Cahill, Barkham, & Agnew-Davies, 2003) of the 28-item ARM (Agnew-Davies et al., 1998). Both versions are rated on parallel forms by clients and therapists using a 7-point scale anchored "strongly disagree" to "strongly agree." Instructions on the online short form read, "Thinking about your therapeutic exchanges this week, please indicate how strongly you agreed or disagreed with each statement by clicking on the appropriate response." The short form ARM includes four factor-based scales, named *bond* (e.g. "I feel friendly towards my therapist"), *partnership* (e.g., "My therapist and I

agree about how to work together”), *confidence* (e.g. “I have confidence in my therapist and his/her techniques”) and *openness* (e.g., “I feel I can only express my thoughts and feelings to my therapist”).

Procedure

Therapist-client pairs were recruited online from private practitioner sites, e-clinics, and mental health related discussion boards with the assistance of an undergraduate research team and two external investigators. Interested therapists had the option to invite current clients to take part. However, either the therapists or the clients could participate alone. On their initial visit to the study’s online site, participants completed a consent form and then the demographic forms. A subsequent weekly e-mail with an embedded link to the login screen was sent on Mondays to all participants who had yet to complete the forms for the previous week. When providing their ratings for a given week of exchanges, they entered the number of sent and received e-mails, completed the ARM and SEQ, and returned to an updated status screen. When participants logged out, they were reminded to visit again next week.

Preliminary Results

Feasibility was demonstrated by therapists and clients from various login locations registering with the online database and completing the online process measures consistently over most of their therapeutic relationship.

Descriptive Statistics and Internal Consistencies. Table 1 indicates the means of almost all the online ARM and SEQ scales were above the midpoint of 4.0, indicating that, on average, dyads considered their alliance and their sessions as positive. The alpha coefficients showed that the 5-item SEQ indexes were generally reliable whereas the 3-item ARM indexes were somewhat less reliable. We decided to combine the bond and partnership indices because their alpha coefficients were low and their intercorrelations were high.

Mean Comparisons. Online therapy session impact ratings were within the range of the reported averages for face-to-face therapy from the previous studies with a few exceptions (see Table 1). Therapists' online SEQ depth, smoothness and positivity ratings and online ARM confidence ratings were above the range of the means from the prior studies, whereas the clients' online ARM openness mean was below the range of means from the prior studies.

Discussion

Summary. Our results suggested that alliance and impact were as strong in these online therapies as in face-to-face therapies studied previously. Thirteen of the 14 mean alliance and session impact index comparisons indicated that online therapy participants rated their exchanges the same as or higher than their face-to-face therapy counterparts. Online therapists, as compared to face-to-face therapists, tended to perceive their online exchanges as somewhat deeper and smoother, and they felt more positive and more confident about their therapeutic relationships.

Limitations. We hasten to add that our findings are preliminary, with a limited number of participants representing narrow ranges of demographics (primarily female Caucasian adults) and presenting problems (mostly depression and stress/anxiety issues). Further, we cannot rule out self-selection biases, insofar as our participants volunteered to participate in this study.

Table 1. Clients' and Therapists' Internal Consistency Reliabilities (Coefficient Alpha), Means, Standard Deviations, and Previous Studies' Range of Means for Session Evaluation Questionnaire (SEQ) Indexes and the Agnew Relationship Measure (ARM) Indexes

Index	No. of items	Alpha	<i>M</i>	<i>SD</i>	Previous Range of Means ^a
<i>Client ratings</i>					
SEQ					
Depth	5	.96	4.78	1.74	4.65 to 5.85
Smoothness	5	.93	4.28	1.43	4.13 to 5.28
Positivity	5	.93	4.39	1.68	4.38 to 4.88
Arousal	5	.63	4.03	.79	3.82 to 4.40
ARM					
Bond and Partnership	6	.87	5.97	1.26	5.88 to 6.43
Confidence	3	.85	6.19	1.24	5.74 to 6.29
Openness	3	.60	5.27	1.42	5.39 to 5.76
<i>Therapist ratings</i>					
SEQ					
Depth	5	.87	5.23	1.00	4.25 to 5.10
Smoothness	5	.82	4.80	1.23	3.86 to 4.52
Positivity	5	.80	5.39	.95	4.38 to 5.16
Arousal	5	.67	4.14	.92	3.95 to 4.58
ARM					
Bond and Partnership	6	.66	5.72	.94	5.24 to 5.89
Confidence	3	.74	5.76	.99	4.85 to 5.31
Openness	3	.75	4.73	1.55	4.47 to 5.70

Note. *n* = 178 sessions for therapists and *n* = 205 for clients. Indexes were calculated as the mean of therapists' and clients' ratings on constituent items. SEQ and ARM items could range from 1 to 7. Alpha = internal consistency measured by coefficient alpha.

^aThe previous means were culled from several prior studies of the SEQ (Cummings, Slemon, & Hallberg, 1993; Dill-Standiford, Stiles, & Rorer, 1988; Kivlighan, Angelone, & Swafford, 1991; Nocita & Stiles, 1986; Reynolds, Stiles, Barkham, Shapiro, Hardy, & Rees, 1996; Stiles et al., 1994; Stiles, Shapiro, & Firth-Cozens, 1988; Stiles & Snow, 1984; Tryon, 1990) and ARM (Agnew-Davies et al., 1998; Stiles, Agnew-Davies, et al., 2002; Stiles et al., 2003).

Implications. The higher session impact ratings by online therapists may stem from the asynchronous form of communication, which allows for a "zone of reflection" (Suler, 1999, p. 8). Therapists can edit unclear phrasing which might help them to consciously convey main points and avoid the awkward fumbling for words that is common in face-to-face interactions which increases the perceived depth and smoothness of their sessions, respectively. The therapists' higher ARM confidence responses relative to previous studies might reflect the reduced-cues environment and client characteristics. Perhaps using e-mails gave them a heightened sense of control over the impression they conveyed, or perhaps they felt more powerful because clients who receive information via the computer would tend to believe it more (Cohen & Kerr, 1998). Of course, we had no index of treatment outcomes, so we cannot say whether their confidence was justified.

Our clients' lower ARM openness ratings could have reflected their ability to selectively present themselves online, avoiding material that face-to-face therapists detect through nonverbal behavior (King & Moreggi, 1998). For example, one of our therapists frustratingly discovered after several weeks that his client who had been medically advised to quit cigarettes was actually smoking during their text exchanges.

Potential Significance. Our preliminary results offer a qualified encouragement for future therapists and clients who are considering using online therapy. Our hypothesis of finding session evaluations and therapeutic relationships as strong in online therapy as in face-to-face therapy was supported. Based on this investigation of session processes, online e-mail exchanges appear to hold promise as a manner of conducting psychotherapy.

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EFFICACY OF INDIVIDUAL FAMILY PSYCHOEDUCATION FOR EARLY-ONSET BIPOLAR DISORDER

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Bipolar disorder (BPD) in children is a chronic, cyclical, relapsing, severe and highly comorbid condition (Findling, Kowatch & Post, 2003; Geller et al., 2003; Lewinsohn, Seeley & Klein, 2003). It is associated with significant psychosocial impairment at home, in school and with peers; mental health utilizations and multiple hospitalizations; and suicidality (Geller et al., 2003; Lewinsohn et al., 2003; Wozniak et al., 1995).

Over the past ten years, our research group has initiated a series of coordinated efforts to develop and examine family-based interventions for eight to eleven year-old children with mood and comorbid disorders. Our overall treatment strategy is based on a psychoeducational approach designed to teach parents and children about mood disorders, symptoms and co-occurring disorders; pharmacological, mental health and school-community focused interventions; and coping and self-preservation skills. This approach is also biopsychosocial in nature and includes many treatment components and delivery systems found to be effective for adult-onset BPD, childhood unipolar disorder and child anger management training (see Lofthouse & Fristad, 2004). Interventions are time-limited, with the expectation that ongoing work of a similar nature will be required to maintain treatment gains over time for this chronic illness. It is anticipated that increasing parents' and children's knowledge of BPD and its treatment and expanding their repertoire of individual and family coping skills will lead to more effective and efficient use of existing and future treatments.

Goals and Hypotheses of the Current Study

Transportability issues regarding Multi-Family Psychoeducation Group (MFPG) led us to develop a second form of intervention, Individual Family Psychoeducation (IFP). Our previous research has demonstrated that family-based psychoeducation programs for BPD, incorporating information sharing and skills building treatment components, lead to healthier outcomes in terms of an increase in parental knowledge of mood disorders, treatment utilization and children's perceived social support, and a decrease in familial expressed emotion. In this report, we present the initial findings from our two-year ODMH-funded trial of IFP. This pilot study builds on our previous work and examines the efficacy of IFP for families of children with BPD. Hypotheses to be tested are as follows:

1. The IFP+TAU (treatment as usual) group will function better than the WLC (wait-list control)+TAU group at Times 2 and 3 on the following:
 - a. Children will have: 1) lower mood symptom severity; 2) more social support; 3) higher overall functioning.
 - b. Parents/primary caregivers will have: 1) more knowledge of mood disorders; and 2) lower levels of expressed emotion.
 - c. Mental health treatment utilization: Families will access a more complete array of adequate services.

2. All families will evidence improvement in the above-mentioned variables from immediately pre-treatment to immediately post-treatment (IFP+TAU, Time 1 to Time 2; WLC+TAU, Time 3 to Time 4).

Method

Participants. Thirty-four families with children aged eight to eleven were screened for participation within a six-month period. Of these, 28 (82%) passed the screen and came to the baseline assessment. Of these, 20 (71%) met study inclusion criteria. Recruitment resources included: psychologist (40%); media (35%); psychiatrist (10%); school counselor (5%); library poster (5%); and MFPG study (5%). Most children were male (85%), Caucasian (90%) and came from two-parent (including step-parent) families (65%). Incomes were equally distributed, with 20 percent below \$39,000, 40 percent between \$40,000-\$79,000 and 40 percent over \$80,000. Many families (40%) traveled from rural or geographically remote areas to participate (participants' average roundtrip: M and $SD = 70$ miles ± 70 miles, range 14 to 344 miles).

Primary mood disorder diagnoses include Bipolar I Disorder (40%--10% manic; 30% mixed); Bipolar II Disorder (35%); and Bipolar Disorder—Not Otherwise Specified (BP-NOS 25%). Children have, on average, been impaired a considerable length of time (manic episode, $M = 482.2$ days, $SD = 880.2$; Major Depressive Disorder (MDD), $M = 73.5$ weeks, $SD = 121.8$; and Dysthymic Disorder (DD), $M = 85.3$ weeks, $SD = 145.7$). Family history was significant for bipolar disorder. Deleting from the analyses one adopted child for whom family history data were unattainable, 53 percent OF children had first and/or second degree relatives with BPD; 79 percent had first and/or second degree relatives with depressive disorders, and 84 percent had first and/or second degree relatives with BPD and/or depressive disorders.

Seven families dropped out before study completion, four Immediate (IMM) families (two completed treatment, two did not) and three WLC families (none completed treatment). Study drop-outs were not statistically different from study completers on relevant baseline variables. Given the study's small sample size, the occurrence of a few unfortunate events (i.e., family illness, out-of-state move) had a relatively high impact. In addition, due to the very small budget for this study, participant compensation for completing follow-up assessments was limited. Two IMM families dropped out after five IFP sessions, one because of scheduling problems and one after the IFP therapist reported bruises on the child to Children's Services. Between Time 2 and Time 3, one IMM and three WLC families discontinued due to a serious family illness, the child moved out-of-state to live with relatives, a mother's concern that participation would disrupt her child's current stable mood and a family who did not return scheduling phone-calls or letters. Between Time 3 and Time 4, one IMM family did not return phone-calls or letters requesting they schedule an assessment.

Measures. At the initial assessment (Time 1), comprehensive family, developmental, medical, social and school histories were taken, along with a mood lifeline and a brief intelligence test to determine study eligibility and clearly demarcate onset, duration, severity, impairment and offset of mood symptoms during the child's life. The **Children's Interview for Psychiatric Syndromes-Child and Parent Forms** (ChIPS; Weller et al., 1999a; P-ChIPS; Weller et al., 1999b) are structured clinical interviews designed to assess 20 DSM-IV (APA, 1994) Axis I behavioral, anxiety, and mood disorders, and a variety of psychosocial stressors the child might have experienced throughout his or her lifetime. Both have demonstrated high test-retest reliability with both inpatient and outpatient groups (Fristad et al., 1998). The ChIPS and P-ChIPS were administered to the parent and child separately at Time 1 and at 12-months follow-up (Time 3) to assess mood and comorbid DSM-IV psychopathology.

The **Children's Depression Rating Scale-Revised** (CDRS-R; Poznanski et al., 1984) was used to measure children's depressive symptom severity. The CDRS-R is a 17-item interview-based rating-scale, rated from 1 to 5 or 1 to 7 depending on the item, with total scores ranging from 17 (no depressive symptoms) to 113 (severe depressive symptoms). Interrater reliability, test-retest reliability, and validity are all adequate (Poznanski et al., 1984).

The **Mania Rating Scale** (MRS; Young et al., 1978) is an 11-item interview-based rating scale designed to rate manic symptoms on a continuum of severity. Depending on the item of the scale, ratings range from 0 to 4 or 0 to 8, with total scores ranging from 0 (no manic symptoms) to 60 (severe manic symptoms). Validity and reliability are considered good for child samples (Fristad, Weller, & Weller, 1992).

At the initial assessment, worst lifetime functioning (WST) and current functioning (CUR: i.e., during the two weeks preceding the evaluation) were ascertained for manic and depressive symptoms. During subsequent follow-up interviews (6 months, Time 2; 12 months, Time 3; and 18 months, Time 4), the CDRS-R and MRS were administered to examine the severity of depressive and manic symptoms, respectively, for the worst episode of functioning since the last interview (WST-SLI) and for the current (CUR) two weeks preceding the evaluation. After each assessment, a **Mood Severity Index** (MSI: $[\text{CDRS-R score} - 17 \times 11/17] + \text{MRS}$) was calculated to determine the severity of mood during the CUR and worst mood episodes (WST, WST-SLI). Adjustments were made to account for the CDRS-R having a minimum score of 17 versus the MRS minimum of zero and for the greater number of items on the CDRS-R. Also, since both scales have an irritability item, this was down-weighted by 0.5 on each instrument to avoid doubling that item's weight. The MSI was considered the primary outcome variable. Both parent and child report scores were calculated for current and worst time periods (i.e., MSI-P-CUR; MSI-P-WST; MSI-C-CUR; MSI-C-WST).

The **Children's Global Assessment Scale** (CGAS; Shaffer et al., 1983) is a clinical rating scale used to document children's overall functional capacity. Scores range from 1 (indicating a severely impaired child) to 100 (indicating a child with superior functioning). Reliability and validity are adequate. The CGAS was completed at each time period (Time 1 to Time 4) via consensus conference, as discussed below, to provide a severity of impairment index for the SLI and CUR time periods.

The **Kaufman Brief Intelligence Test** (K-BIT; Kaufman & Kaufman, 1990), is a standardized intelligence test for a child that provides an estimation of verbal and non-verbal abilities with a norm-based sample which matches the US Census data. Reliability and validity are well established (Kaufman & Kaufman, 1990). The K-BIT was administered at Time 1 to estimate children's overall, verbal and non-verbal intellectual abilities.

To examine familial expressed emotion, the **Expressed Emotion Adjective Checklist** (EEAC, Friedmann & Goldstein, 1993) was used as a self-report instrument at each time period (Times 1 to 4) with primary caregivers. The EEAC is a scale initially developed for use with families of adults with serious mental illness. It lists 20 positive and negative descriptors of criticism and emotional overinvolvement. Items were administered twice, first to record the informant's behavior toward a target person, second to record the target person's behavior toward the informant. The EEAC has been shown to measure expressed emotion comparably to the Camberwell Family Interview (Vaughn & Leff, 1976) and the Five Minute Speech Sample (Magaña et al., 1986).

Families' utilization of medication, therapy, and school-focused services were measured by the **Medication Usage Grids and the Mental Health Grids** (Goldberg-Arnold & Fristad, 1999; Davidson et

al., in submission) given to the primary caregiver at each time period. These grids are semi-structured interviews designed to record and rate service utilization. The primary informant was queried about each medication the child has taken/is taking. Data on the dose, age started, length of trial, reason for addition, side effects, and side-effect management were collected. For treatment/school-services, the following data were collected: the type of treatment provider/school service; the age at which the treatment/service was initiated; length of the intervention; reason for the addition; and, if applicable, reason for termination. Primary informants were also asked to rate each medication and treatment provider/school service on a 5-point scale, with 1 being “the least helpful” to 5 being “the most helpful”. In a small pilot study, correlations of .99 and .92 were found between data collected via the Medication Usage and Service Provider Grids, respectively and information found in patients’ medical charts (Davidson, et al., in submission).

The **Therapy Evaluation Parent and Child Forms** are 15 item anonymous self-report forms designed to ascertain participants' post-treatment evaluation of IFP. We used 15 and 13 item anonymous parent and child self-report forms, respectively (Fristad and Gavazzi, 1994). Parent self-report items assessed parent evaluations of the benefits of information sharing (psychoeducation) and skill building, treatment format, treatment content and the benefits of treatment to their child. Similarly, child self-report items assessed child evaluations of the benefits of information sharing and skill building, treatment format, treatment content and the benefits of treatment to their parents. Each item was rated on a 5-point Likert scale ranging from “strongly agree” to “strongly disagree.”

These forms were given to the parent and child in envelopes by the treatment therapist immediately after their final IFP therapy session. After completion, the parent and child placed the form in a sealed envelope and returned it to the treatment therapist to give to the principal investigator. Evaluations were administered to all IFP participants immediately following IFP participation (Time 2, IFP+TAU; Time 4, WLC+TAU).

Procedure. All recruited families completed Time 1 baseline assessment batteries and the obtained information was presented at an initial case review to determine study eligibility. If eligible, participants were randomized, by pairs, into the immediate IFP plus treatment-as-usual condition (IFP+TAU, $n = 10$) or a wait-list-control condition plus TAU (WLC+TAU, $n = 10$). Statistical analyses revealed the IFP+TAU and WLC+TAU groups were similar on all baseline demographic variables (i.e., child’s sex, age, IQ, ethnicity, family structure).

The IFP+TAU group then received 16 50-minute sessions, alternating between parent-only sessions and, after the requisite “check-in,” child-only sessions, as previously described. Table 1 presents information about the IFP Sessions. Fifteen sessions dealt with specific issues associated with BPD. One “in the bank” session was available for use at anytime for families to deal with crises and/or review previous material. The MFPG “group games” treatment component was deleted, but a unit on “Healthy Habits” was added that focused on improving sleep hygiene, diet and exercise. This was done because impaired sleep can trigger a manic episode (Malkoff-Schwartz et al., 1998); exercise can decrease depression (Pollock, 2001); and many medications used to treat BPD are associated with significant weight gain, with behavioral alterations needed to combat this adverse side effect (Kowatch et al., in press). Therapists included two clinical psychology post-doctoral study coordinators and one clinical psychology doctoral candidate who also serves as a parent advocate for the Child & Adolescent Bipolar Foundation (CABF).

Follow-up assessments of both groups were conducted at Time 2 (6 months after study entry) and Time 3 (12 months) and at Time 4 (18 months). Following the Time 3 assessment, the WLC+TAU group

received IFP. After each assessment, participants' data were reviewed independently by two licensed psychologists well acquainted with BPD to finalize mood diagnoses, rate mood severity and course, assign current and worst C-GAS scores, and rate treatment utilization (i.e., medication, therapy, school, "other" and overall services).

Table 1. Individual Family Psychoeducation (IFP) Sessions

Session	Who Attends	Objective	Project
1	C	Learn about symptoms and disorders	"Fix-It-List" treatment goals
2	P	Learn about symptoms and disorders	"Mood Monitoring Logs"
3	C	Learn about medications, therapy and school-focused treatments and how to separate the self from the symptoms ("enemy")	"Naming The Enemy" and "How to be a Team Player" in treatment
4	P	Learn about medications	Record important information about "My Child's Medication"
5	C	Manage feelings/mood using a "Tool Kit"	Develop and use the "Tool Kit" to manage feelings/mood.
6	P	Learn about school and treatment systems and teams	Identify "Education and Treatment Teams"
7	C	Learn connection between thoughts, feelings and actions to manage feelings/mood	Use "Thinking Feeling, Doing" to manage feelings/mood
8	P	Learn about negative family cycles and learn connection between thoughts, feelings and actions to manage feelings/mood	Use "Thinking Feeling, Doing" to manage feelings/mood
9	C	Develop problem solving skills to manage feelings/mood	Problem-solving using "Stop, Think, Plan, Do, Check"
10	P	Learn about parent coping and develop family problem solving skills.	Problem-solving using "Family Problem Solving"
11	C/P	Learn and develop "Healthy Habits" (nutrition, exercise, and sleep)	Monitor "Healthy Habits" goals
12	P	Continue to learn about parent coping, and identify and change "hurtful" to "helpful" communication	Change communication using "Out With the Old, In With the New"
13	C	Learn about verbal and nonverbal communication skills and identify and change "hurtful" to "helpful" communication	"Paying Attention to Feelings" charades and request parents to use "helpful" communication via "Let's Talk"
14	P	Learn and develop symptom management skills	Develop future "Fix-It-List" goals
15	C/P	Integrate all IFP information and discuss generalization	Continue to work on future "Fix-It-List" goals
16	C/P	"In the Bank" Session ^a	As needed

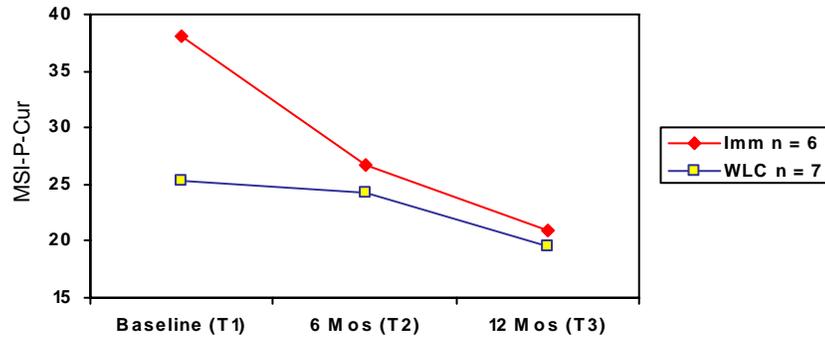
Note. C = Child; P = Parent

^aAdditional open session for parent, child or both for a topic of their choosing (e.g., crisis session, inviting school personal to session, going over a previous session). Can be used at any time during treatment.

Results

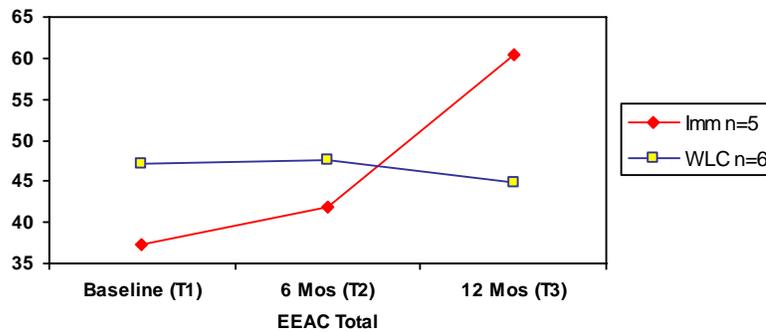
Impact on children's mood. Children improved immediately following treatment, with gains continuing for 12 months post-IFP (see Figure 1 below; high scores = more symptom severity). Power calculations (Cohen, 1988) using $\alpha = .05$ and power = .80 indicate that from baseline to six months, an effect size of .45 was detected, with 64 participants per cell needed to find significance in a larger sample. From baseline to 12 months, an effect size of .60 was detected, with 36 participants per cell needed to detect significance.

Figure 1. Impact of IFP on children's mood.



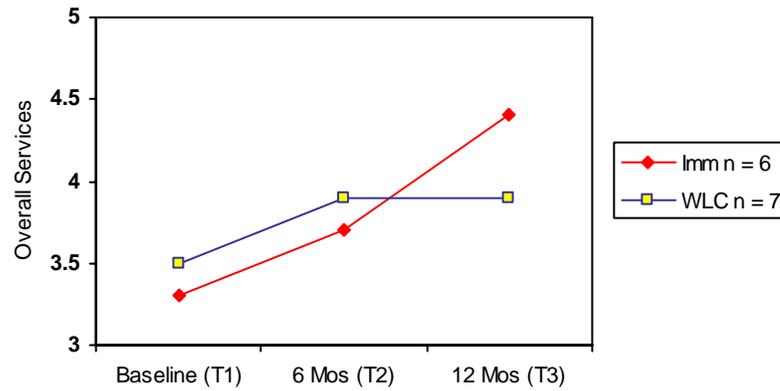
Impact on family climate. Changes in EEAC-Total Score were significantly better for IMM families [$F_{(2,8)} = 3.16, p < .10$, see figure below; high scores = better family climate]. Power calculations (Cohen, 1988) using $\alpha = .05$, power = .80, and assuming a two-tailed alternative hypothesis indicate 37 participants per cell would be needed to find significance in a subsequent study.

Figure 2. Impact of IFP on family climate.



Impact on treatment utilization. Overall service utilization improved in the IMM families to a nonsignificant degree (see Figure 3 below; high scores = better treatment utilization), $F_{(2,10)} = 2.28, p = .15$.

Figure 3. Impact of IFP treatment and utilization.



Consumer Evaluation. In addition to the seven study drop-outs, two mothers and three children did not complete treatment evaluations following their final therapy session. (In contrast to the MFPG study, in which evaluation forms are completed at the end of the final session after the therapist leaves the room, and for which evaluation completion rates are much higher, this IFP study had families mail back evaluation forms to the principal investigator. In the current study, we had families complete evaluation forms after the final session after leaving the therapist's office). Thus, only 11 parent and 10 child evaluations were available for review. Parents endorsed 15 items and children 13 items. Evaluations were positive (parent $M = 1.6$, $SD = 0.6$; child $M = 1.7$, $SD = 0.6$ using a Likert scale with 1 = strongly agree and 5 = strongly disagree), as shown below in Table 2.

Discussion

This pilot study suggests IFP may be an efficacious adjunctive intervention for children with BPD and their families. Children's mood severity declined, family climate improved and treatment utilization improved following treatment. Consumer satisfaction was high. More detailed study of IFP is warranted. In that regard, an NIMH grant application will be submitted to determine the efficacy of IFP in 165 children aged eight to 11 with BPD. In August, 2006, an NIMH STTR grant was awarded to the author to publish the training manual. The grant is titled, Developing Psychotherapy Training Materials for Pediatric Bipolar Disorder.

Table 2 Post-Treatment Parent ($n = 11$) and Child ($n = 10$) Evaluations for Individual Family Psychoeducation

	Parent		Child	
	M^a	(SD)	M	(SD)
<u>Attending sessions helped me understand:</u>				
Child's/My symptoms	1.6	(0.7)	1.6	(0.7)
Child's/My medications	2.2	(1.1)	1.4	(0.8)
How to get appropriate therapy	1.7	(0.9)	--	
How to manage child's/my mood symptoms	1.5	(0.7)	1.8	(0.9)
What to do/not do at home to help child/How to get along better in my family	1.3	(0.5)	1.9	(1.2)
How to work with my child's school/How to get along better at school	1.8	(0.9)	1.7	(1.2)
My child's problems are not my fault	2.0	(1.0)	--	
How to get along better with my friends	--		1.7	(0.9)
<u>Individual sessions made me feel:</u>				
Comfortable sharing personal information	1.4	(0.7)	2.6	(1.7)
Supported	1.6	(0.8)	1.4	(0.7)
<u>I benefited from:</u>				
Workbook	1.6	(0.7)	--	
Therapist's input/My therapist	1.3	(0.5)	1.3	(0.7)
Child's participation in therapy/Doing role plays	1.8	(1.1)	1.3	(0.7)
Family projects	1.8	(1.1)	--	
Parent projects	1.6	(0.7)	--	
<u>My child benefited from:</u>				
His/her participation/I benefited from other activities/discussion	1.5	(0.7)	1.3	(0.7)
My parent's behavior toward me is:				
Better since we came to these sessions	--		2.1	(0.9)
Worse since we came to these sessions ^b	--		1.6	(0.8)
<u>Overall Mean Rating^b</u>	1.6	(0.6)	1.7	(0.6)

^aItem Ratings were 1 (strongly agree) to 5 (strongly disagree)

^bItems reverse were scored, as needed, to reflect 1 = strong endorsement of IFP and 5 = weak endorsement of IFP.

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Presentations of the Research to Date

- Fristad, M.A. (2005, May). Workshop presenter and Keynote speaker. Mental Health Awareness Conference. Southern Tier Environments for Living, Dunkirk, NY.
- Fristad, M.A. (2005, April). *Bipolar disorder in children: Best practices in assessment and treatment*. Full-day workshop for the National Association of School Psychologists, Atlanta, GA.
- Fristad, M.A. (2005, March). *Psychoeducation: What it is and what it does for children with bipolar disorder*. Grand Rounds, State University of New York—Buffalo, Buffalo, NY.
- Fristad, M.A. (2005, March). *Like a bridge over troubled water: Helping families of children with bipolar disorder*. Grand Rounds, University of Cincinnati Medical Center, Cincinnati, OH.
- Fristad, M.A. (2005, February). *Mood disorders in children: Educational implications*. Half-day workshop and 1.5 hour break-out session for the Central Ohio Special Education Regional Resource Center (COSERRC), Columbus, OH.

- Fristad, M.A. (2005, January). *Mood disorders in children: Education implications*. Full-day workshop for the Lincoln Way Special Education Regional Resource Center (SERRC), Canton, OH.
- Fristad, M.A. (2005, January). *Treatment of bipolar disorder in children*. Full-day workshop for the Applewood Centers, Inc., Cleveland, OH.
- Fristad, M.A. (2004, November). *Raising moody children: Helping families cope with depression and bipolar disorder*. Presentation at the Harvard Medical School's Continuing Education program, Bipolar Disorder: From Childhood to Adulthood, Cambridge, MA.
- Fristad, M.A. (2004, October). *Outcome and management over the developmental trajectory: Putting the child in context*. Presentation at the University of Michigan Depression Center and the Mental Illness Research Association (MIRA)'s full-day symposium Bipolar and Depressive Disorders: Detect and Treat Early or Pay the Price, Dearborn, MI.
- Fristad, M.A. (2004, September). *Like a bridge over troubled waters: Helping children with bipolar disorder & their families cope*. Paper presented at the Medical College of Virginia's half-day symposium, Bipolar Disorder in Children: Predictable Problems and Promising Possibilities, Richmond, VA.
- Fristad, M.A. (2004, September). *Raising a moody child*. Paper presented at the University of Cincinnati/Depression and Bipolar Support Alliance (DBSA)'s full-day symposium, Helping Children and Adolescents with Bipolar Disorder: Current Research and Strategies for Management, Cincinnati, OH.
- Fristad, M.A. (2004, September). *Bipolar disorder in children and adolescents: Biopsychosocial assessment and treatment*. Full-day workshop, for the Altoona Hospital Behavioral Health Services, Altoona, PA.
- Fristad, M.A., & Lofthouse, N. (2004, November). *Individual-Family Psychoeducation (IFP) for children with bipolar disorder*. Paper presented in E.A. Youngstrom's (Chair) symposium, Assessment and Treatment of Children and Adolescents with Bipolar Disorder, at the American Association of Behavior Therapy's 38th Annual Convention, New Orleans, LA.
- Quinn, C. A., Lofthouse, N., Fristad, M. A., & Dingus, C. A. (2004, November). *Comorbidity and early-onset mood spectrum disorders in childhood: Profiles, gender associations, developmental onset, and psychosocial functioning*. Poster presented at the Association for the Advancement of Behavior Therapy Annual Convention, New Orleans, LA.
- Sisson, D.P., & Fristad, M.A. (2004, November). *Child factors related to parental expressed emotion in early-onset mood disorders*. Poster presented at the Association for the Advancement of Behavior Therapy Annual Convention, New Orleans, LA.
- Fristad, M.A. (2004, October). *Psychosocial interventions for children with bipolar disorder*. Paper presented in B. Geller's (Chair) symposium, Treatment of bipolar disorder in children and adolescents: New issues, American Academy of Child & Adolescent Psychiatry, Miami, FL.
- Griffith, A., Fristad, M.A., Lofthouse, N., & Dingus, C. (October, 2004). *The school behavior and academic performance peer functioning of children with early-onset bipolar spectrum disorders*.

- Poster presented at the Kansas Conference in Clinical Child and Adolescent Psychology (Division 53), Lawrence, KS.
- Klaus, N., & Fristad, M.A. (2004, October). *A comparison of two expressed emotion measures in families of children with mood disorders*. Poster presented at the Kansas Conference in Clinical Child and Adolescent Psychology, Lawrence, KS.
- Kljun, J., Fristad, M.A., Lofthouse, N., & Dingus, C. (2004, October). *The effects of early-onset bipolar spectrum disorders on past and current school and peer functioning*. Poster presented at the Kansas Conference in Clinical Child and Adolescent Psychology (Division 53), Lawrence, KS.
- Lofthouse, N., & Fristad, M.A., Splaingard, M., & Kelleher, K.(2004, October). *Sleep problems associated with early-onset bipolar spectrum disorders*. Poster presented at the Kansas Conference in Clinical Child and Adolescent Psychology (Division 53), Lawrence, KS.
- Quinn, C. A., Hoffman, N., Fristad, M. A., Dingus, C. A. (2004, October). *Gender differences in eligibility for special education services among children with early-onset bipolar spectrum disorders*. Poster presented at the Kansas Conference in Clinical Child and Adolescent Psychology, Lawrence, KS.
- Stewart, H., Quinn, C., Fristad, M., & Dingus, C. (2004, October). *A new severity scale for childhood mood disorders: An analysis of clinical utility, validity, and predictive power*. Poster presented at the Kansas Conference in Clinical Child and Adolescent Psychology, Lawrence, KS.
- Theodore-Oklota C., Fristad, M.A., & Lofthouse, N., & Dingus, C. (October, 2004). *Prediction of treatment utilization in families of children with early-onset bipolar spectrum disorders*. Poster presented at the Kansas Conference in Clinical Child and Adolescent Psychology (Division 53), Lawrence, KS.
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CAREGIVER STRESS IN PARENTS OF CHILDREN WITH MOOD DISORDERS

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Chronic psychological stress has been associated with adverse health outcomes including increased risk for developing mild hypertension (Grant et al., 2002), hastening the progression of coronary artery disease (Vitaliano et al., 2002), aggravating the course of rheumatoid arthritis (Zautra., Burleson, Matt & Roth, 1994), and increasing susceptibility to colds (Cohen et al., 1998). As parents of children with mood disorders experience chronic stressors (Goldberg-Arnold, Fristad, & Gavazzi, 1999), it is possible these parents' physical health and immunity may be affected; however this has not been tested.

Conceptual Framework & Study Design

Caregiving for a child with mood disorders can be stressful, as parents are often blamed for their child's mental illness and associated behavioral problems (Goldberg-Arnold et al., 1999). Caregiving for adult relatives with psychopathology also carries with it unique burdens. Due to the extreme and unexpected demands of such caregiving, caregivers cope with a wide range of difficulties that may include changes in relationships with friends and relatives and financial difficulties due to limited insurance coverage for behavioral health care (Lefley, 1989; Hinshaw, 2005). Moreover, caregivers focus attention and devote time to caregiving, leading to neglect of self and others in the family (Hellander, Sisson, & Fristad, 2003). For example, caregivers of children with mood disorders list "less time to take care of self" and "less time to devote to marriage/significant relationship" as the third and fourth most stressful aspect of caregiving (Hellander et al., 2003). Often parents develop anxiety and depressive symptomatology associated with chronic stressors comparable to those described for caregivers of individuals with dementia (Goldberg-Arnold et al., 1999). However, research to date has not focused on the physical and mental health outcomes of adult family members serving as caregivers for the children with mood disorders. For that reason, examination of their immunologic function is of particular interest.

Immune function in caregivers and health implications. Stress and depression create a variety of physiological responses that begin with the brain and spread to organs throughout the body. Broadly speaking, there are two types of cytokines – anti-inflammatory cytokines (interleukin-4, interleukin-5, interleukin-10, and interleukin-13) and proinflammatory cytokines (interleukin-1, interleukin-6 [IL-6], and tumor necrosis factor [TNF- α]) (Ershler & Keller, 2000). During infection, trauma or other stress, cells generate an immune response by producing proinflammatory cytokines leading to inflammation, whereas anti-inflammatory cytokines control inflammation by controlling the activity of proinflammatory cytokines (Ershler & Keller, 2000). A homeostatic balance of both these cytokines is crucial for maintenance of health (Robles, Glaser, & Kiecolt-Glaser, 2005).

Proinflammatory cytokines are involved in stimulating production of corticotropin-releasing hormone (CRH) in the hypothalamus, which further stimulates anterior pituitary glands to produce adrenocorticotrophic hormone (ACTH); ACTH in turn stimulates the adrenal cortex to produce glucocorticoids (cortisol in humans; Maier & Watkins, 1998). Glucocorticoids bind to corticosteroid receptors in the brain, and inhibit the production of CRH from the hypothalamus and ACTH from the pituitary, which in turn inhibits IL-6 production (Pariante, 2005). This negative feedback loop (Ershler & Keller, 2000) stops the production of inflammatory processes, ensuring no destruction due to extended immune activity (Kunz-Ebrecht, Mohamed-Ali, Feldman, Kirschbaum, & Steptoe, 2003). However, with chronic stress and depression continual overproduction of proinflammatory cytokines can result in HPA axis abnormalities (Pariante, 2005).

Chronic psychological stressors (such as caregiving for a chronically impaired family member) are associated with elevated levels of IL-6 (Lutgendorf et al., 1999). Moreover, studies indicate that stress can activate the Epstein-Barr virus (EBV), a member of the herpes virus family (Sarid, Anson, Yaari, & Margalith, 2001) and that reactivation of this virus may induce chronic fatigue syndrome (Glaser et al., 1999). The physiological method involved in activation of EBV is not known; however, it is possible that stress can induce corticosteroid release which, in turn, can activate latent EBV infection (Glaser & Kiecolt-Glaser, 2005). Further, chronic stress is also associated with poor health behaviors, which in turn, are associated with elevations in proinflammatory cytokines (Kiecolt-Glaser & Glaser, 1988). In addition, depression is associated with increase in IL-6 (Pike & Irwin, 2006). For example, Pike & Irwin (2006) found that compared to age, sex, and body-weight matched controls, patients with major depressive disorder had elevated levels of IL-6.

Elevations of proinflammatory cytokines and C-reactive protein (CRP) have serious health consequences, including increased morbidity and mortality. CRP is an important risk factor for cardiovascular disease (Papanicolaou, Wilder, Manolagas, & Chrousos, 1998). In a prospective eight-year study of 543 healthy men, Ridker and colleagues found that those who subsequently experienced myocardial infarction, stroke, or venous thrombosis had higher levels of CRP at baseline (Ridker, Cushman, Stampfer, Tracy, & Hennekens, 1997). CRP and IL-6 levels predict cardiovascular mortality as well as mortality due to any cause. Harris and associates (1999) followed a cohort an average of 4.6 years. Those with higher IL-6 levels also had a two-fold greater risk for death than those with lower IL-6 levels. Individuals with higher levels of both IL-6 and CRP, had a 2.6 times increased risk of mortality than those with lower levels of both. In addition to cardiovascular disease, inflammation has been linked to a range of other major illnesses including osteoporosis, arthritis, type 2 diabetes, certain lympho-proliferative diseases or cancers (including multiple myeloma, non-Hodgkin's lymphoma, and chronic lymphocytic leukemia), Alzheimer's disease, and periodontal disease (Ershler & Keller, 2000). Moreover, chronic inflammation has been suggested as an important mechanism involved in the decline of physical functioning due to old age (Taaffe, Harris, Ferrucci, Rowe, & Seeman, 2000). Also, EBV is associated with chronic fatigue syndrome, infectious mononucleosis and possibly cancer (Glaser & Kiecolt-Glaser, 2005).

Various interventions, including pharmacological treatments (Ridker, 2003), psychological intervention (Andersen et al., 2004), relaxation and stress management training (Carrico et al., 2005), and weight loss and physical exercise (Nicklas, You & Parhar, 2005) have been shown to reduce elevations of CRP and proinflammatory cytokines. Based on these studies, interventions designed to provide social support, enhance coping, and improve family climate should positively impact immune function. However, studies to date have not focused on the physical or mental health status of the children's caregivers.

Caregiver stress. Caregivers of children with mood disorders experience a wide range of stressful experiences including the need to advocate for their child at school, worry about the future, providing care

for their high-needs child, exhaustion, physical illnesses, financial strain, isolation, stigma, guilt, and blame (Hellander et al., 2003). Historically parents have been blamed, not supported and strengthened (Hinshaw, 2005). Mood disorders in children are still not well understood, including by many mental health and school professionals (Lefley, 1992). Caregivers may experience condemnation and social isolation due to their child's anomalous behavior associated with the mental disorder (Lefley, 1992). Three research studies have tested family-based psychoeducational interventions and found them to be beneficial (Miklowitz et al., 2004; Pavuluri et al., 2004; Fristad, Gavazzi & Mackinaw-Koons, 2003). Clearly, a family-based intervention for children with mood disorders that can support, strengthen and educate families appears warranted. Multi-Family Psychoeducation Group (MFPG) is one such intervention (Fristad & Goldberg-Arnold, 2003).

Clinical description of MFPG. In MFPG, families are taught about mood disorders, their course, prognosis, medications, and management. Parents and children are taught problem solving skills to manage their symptoms; they are also taught communication skills. The mood disorder is presented as a "no-fault" illness to prevent family members from accusing or criticizing each other. Families are taught to manage the disorder, and separate the symptoms from the individual. Parents are offered support and validation for their own difficult experiences in raising a child with a mood disorder. In sum, MFPG is a non-blaming, growth-oriented, biopsychosocial model which uses cognitive-behavioral and family system techniques (Fristad, Gavazzi & Mackinaw-Koons, 2003).

Summary. Caregiver stress has primarily been studied in older adults. Studying caregiver stress in parents of children with a serious health condition (early-onset mood disorders) allows for an examination of the relationship of stress to IL-6, TNF- α , CRP and EBV in a younger population. Parents of children with mood disorders in general are highly stressed, socially isolated, are more likely than the general public to have a mood disorder themselves, and lack time for self-care. It is anticipated their IL-6, TNF- α , CRP, and EBV levels may be influenced due to the stressors associated with caregiving. Psychoeducational interventions designed to provide social support, enhance coping, and improve family climate should theoretically reduce the elevated levels of IL-6, TNF- α , CRP, and EBV.

Research Objectives and Hypotheses

This study assessed the impact of caregiving on IL-6, TNF- α , CRP, and EBV in parents of children with mood disorders in comparison with parents of children with no chronic physical or mental illness (community comparison parents), and further evaluated the effect of multi-family psychoeducation group (MFPG) intervention on these parameters of the immune system. Hypotheses tested include:

1. Parents of children with mood disorders will have elevated levels of IL-6, TNF- α , CRP, and EBV at baseline relative to community comparison parents.
2. Parents of children with mood disorders who receive MFPG intervention will experience a greater reduction in IL-6, TNF- α , CRP, and EBV six months post-baseline than parents who did not receive MFPG intervention (both the parents of children with mood disorders who do not receive MFPG and parents of community comparison children).
3. Better functioning on health conditions, mental health indices and interpersonal functioning measures will be associated with lower levels of IL-6, TNF- α , CRP, and EBV.

Methodology

Twenty-six parents of children with mood disorder ($M = 41.0$, range 28 to 52 years) and 14 parents of community comparison children ($M = 41.9$, range 30 to 54 years) were recruited. All completed a phone screen prior to enrollment to ensure they were in good physical health, females were not pregnant or nursing and no one was taking statin therapy. Additionally, parents of community comparison children were asked whether they had children between the ages of eight and 12 and if so, if these children were without chronic medical or mental health conditions. Exclusion criteria for both groups included women who were pregnant or had recently given birth, as anesthetics used or surgical trauma adversely affects immune system (Kiecolt-Glaser & Glaser, 1988). Groups did not differ significantly on age, family structure, and income level, but did on sex and race. While past research indicates African Americans have higher levels of proinflammatory cytokines than Whites (Kiecolt-Glaser & Glaser, 1988), there were only two African Americans in the entire sample, so race was not controlled for when running analyses.

There was a lower percentage of females in the caregiver sample (62%) compared to the community control sample (93%). Past research indicates that men show greater levels of TNF- α and women, greater levels of IL-6 increases in response to stress (Steptoe, Owen, Kunz-Ebrecht, & Mohamed-Ali, 2002). Therefore sex was controlled for when running analyses for Hypotheses 1 and 2.

Parents of children with mood disorders ($n = 26$) were recruited from an ongoing study assessing the efficacy of MFPG as an adjunct to treatment-as-usual in the care of children with mood disorders (age $M = 10.1$ years). Four parents had already received MFPG intervention by their baseline assessment for the current study. These parents were included in the tests of Hypotheses 1 and 3 but their data could not be used to test Hypothesis 2. An additional four parents dropped out after their baseline assessment; these parents' data were included in the testing of Hypotheses 1 and 3 only. Thirteen parents received MFPG treatment; these parents received MFPG treatment between their baseline and follow-up assessment. Five parents who did not receive MFPG intervention between their baseline and follow-up assessment were in the non-intervention group.

Fourteen parents of community comparison children (age $M = 9.8$ years) with no chronic medical or mental health conditions were recruited via word-of-mouth, public announcements, and flyers. One parent dropped out after the baseline assessment, her data were included in the testing of Hypotheses 1 and 3 only. Community comparison parents did not receive MFPG intervention.

Similar assessments occurred at baseline and a six-month follow-up. Blood samples were drawn between 4:00 p.m. and 7:00 p.m. to control for diurnal variation. IL-6 levels were assayed using a Quantikine High Sensitivity Immunoassay kit (R&D) per kit instructions (Kiecolt-Glaser et al., 2003). TNF- α , CRP levels, EBV were assayed per standard laboratory procedures.

To ensure that any immunological differences were not due to malnutrition, nutritional status (transferrin, total iron binding and albumin) was assessed. Protein markers were selected, as they provide for more or less dietary insufficiency (Kiecolt-Glaser & Glaser, 1988). Transferrin levels differed between the two groups, suggesting that caregivers had more iron deficiency than community comparison parents; therefore, transferrin was controlled for in testing Hypotheses 1 and 2.

Parents completed a variety of questionnaires that assessed socio-demographic variables, health conditions, mental health indices and interpersonal functioning. Health conditions were assessed using three instruments. The *Background Questionnaire* (Kiecolt-Glaser & Glaser, unpublished measure) was used to assess presence or absence of a wide variety of health problems as well as any medication used

for each condition, herbal remedies, vitamins, and nutritional supplements. The *Health-related Behavior Questionnaire* (Kiecolt-Glaser & Glaser, 1988) included questions on recent medication use, exercise, caffeine and alcohol intake, sleep hygiene, and weight changes. The *Pittsburgh Sleep Quality Index* (PSQI; Buysse, Reynolds, Monk, Berman, & Kupfer, 1989) assessed sleep quality and disturbances over a one-month interval.

Mental health was measured by four indices. The *Center for Epidemiological Studies Depression Scale* (CES-D; Radloff, 1977) assessed depressive symptomatology, and the Beck Anxiety Inventory (BAI; Beck, Epstein, Brown, & Steer, 1988) assessed cognitive and physiological symptoms of anxiety. The *Perceived Stress Scale* (PSS-10; Cohen, Kamarck, & Mermelstein, 1983) measured the degree to which individuals appraise situations in their life as stressful, the *Parent Stress Survey* (PrSS; Sisson & Fristad, 2001) measured parental stress due to a variety of factors.

Interpersonal functioning was measured by two instruments. The *Expressed Emotion Adjective Checklist* (EEAC; Friedmann & Goldstein, 1993) measured expressed emotion, a dyadic interaction style characterized by intrusive, critical and/or overinvolved interactions, and the *Older Americans Resources and Services Multidimensional Functional Assessment Questionnaire* (OARS; Fillenbaum & Smyer, 1981), which assessed the social functioning of caregivers.

The *Children's Interview for Psychiatric Syndromes-Parent Form* (P-ChIPS; Fristad, Teare, Weller, Weller, & Salmon, 1998), a structured psychiatric interview that assesses psychopathology according to DSM-IV criteria for children and adolescents aged six to 18 years was used to determine diagnostic status for the participants' children.

MFPG Content. MFPG involves three primary components: psychoeducation, skills development, and social support. Eight 90-minute psychoeducation sessions are conducted with families. Each session is highly formatted with specific content to be taught and skills to be practiced. Sessions are held weekly over a two-month time period. (A detailed description of MFPG can be found in Fristad, in press).

Results

Q-Q Plots were used to verify the normality of the distribution for IL-6, TNF- α , and CRP. The distribution for IL-6 and CRP was normal, however the distribution for TNF- α was not. The values of TNF- α were transformed by taking the reciprocal of the data, and Q-Q plots were used to verify the normality of the distribution of transformed data.

Hypothesis 1. Hotelling's Trace (equivalent of Hotelling T²- test in SPSS) for equal mean vectors was calculated. This analysis controlled for sex and transferrin. Vector means of IL-6, TNF- α , CRP, and EBV did not differ between caregivers and community control parents [$F(1, 39) = 2.14, p = 0.10$]. When immune parameters were considered separately, there was a significant difference between caregivers and community control parents on EBV [$F(1, 39) = 4.47, p = 0.04$], but not on IL-6 [$F(1, 39) = 0.21, p = 0.65$]; TNF- α [$F(1, 39) = 0.30, p = 0.59$]; or CRP [$F(1, 39) = 2.14, p = 0.15$]. The means were in the expected direction for IL-6 and EBV; caregivers had elevated levels of IL-6 and EBV compared to community control parents. However, the means for TNF- α and CRP were not in the predicted direction; community control parents had higher levels of these two markers than caregivers.

Hypothesis 2. Controlling for sex, transferrin and baseline IL-6, TNF- α , CRP or EBV, ANCOVA indicated no significant differences between the intervention group and non-intervention

group on any individual variables: CRP [$F(1, 22) = 0.18, p = 0.68$]; IL-6 [$F(1, 22) = 3.77, p = 0.06$]; EBV [$F(1, 22) = 0.72, p = 0.40$]; TNF- α [$F(1, 22) = 1.07, p = 0.31$]. The intervention group had increased levels of CRP, IL-6, and TNF- α and decreased levels of EBV at follow-up. The non-intervention group had decreased levels of CRP, IL-6, and EBV and marginally increased levels of TNF- α at follow-up.

Hypothesis 3. A linear regression model of health conditions (as measured on the PSQI, Health Behaviors Questionnaire, Background Questionnaire and nutritional markers), mental health indices (CES-D, BAI, PSS-10, PrSS), or interpersonal functioning variables (EEAC, OARS) on IL-6, TNF- α , CRP, or EBV was examined, including a random intercept by individual to account for any correlation between repeated measurements at baseline and follow-up assessment values. This analysis was not corrected for multiple comparisons.

For *health conditions*, higher levels of IL-6 were associated with depression ($t = 2.025, p = 0.05$), higher self-reported weight loss ($t = -2.246, p = 0.03$), and more aspirin (325 mg) usage in the prior 72 hours ($t = -2.117, p = 0.04$). Higher levels of TNF- α were associated with nicotine usage ($t = 3.108, p = 0.003$), more cigarette packs per day ($t = 6.258, p = 0.000$), less caffeine consumption per day ($t = -2.246, p = 0.03$), and less caffeine consumption in the last 24 hours ($t = -2.304, p = 0.02$). Higher levels of CRP were associated with hormone problems ($t = -2.427, p = 0.02$), more ibuprofen (200 mg) usage in the prior 24 hours ($t = 2.075, p = 0.05$), and lower albumin ($t = -2.316, p = 0.03$). Higher EBV was associated with antibiotic medication usage ($t = 2.047, p = 0.05$), higher physical activity ($t = 2.153, p = 0.04$), and fewer hours of sleep in the past night ($t = 2.440, p = 0.02$).

For *mental health indices*, individuals with higher perceived stress had elevated levels of EBV ($t = 2.083, p = 0.04$). There was no significant association for depression (CES-D), anxiety (BAI), perceived stress (PSS-10), and parent stress (PrSS) with IL-6, TNF- α , and CRP. There was also no significant association for (CES-D), anxiety (BAI), parent stress (PrSS) with EBV.

For *interpersonal functioning*, individuals with higher social support had lower levels of IL-6 ($t = -2.34, p = 0.02$); individuals with less critical family environment had lower levels of EBV ($t = -2.158, p = .04$). There was no significant association for social support (OARS) with TNF- α , CRP, and EBV and for EEAC with IL-6, TNF- α , and CRP.

Significance and Implications of the Study Results

Comparisons of caregivers and community control parents. The first goal of the study was to compare immune system parameters (IL-6, TNF- α , CRP) and EBV in parents of children with mood disorders versus community comparison parents. It was hypothesized that parents of children with mood disorders would have elevated levels of IL-6, TNF- α , CRP and EBV at baseline relative to community comparison parents. To ensure that differences on immune parameters were not due to physical illnesses and/or health-related behaviors, these latter variables were compared between groups. At baseline, the two groups differed on transferrin and sex, so these were controlled for in subsequent analyses.

Caregivers and community comparison parents did not differ on IL-6, TNF- α and CRP. However they significantly differed on EBV. EBV and IL-6 levels were in the anticipated direction, with caregivers having elevated levels of these two markers relative to community comparison parents. However, CRP and TNF- α levels were in the opposite of the predicted direction with caregivers having lower levels of CRP and TNF- α than community control parents. Consistent with the past research, stress can activate EBV (Sarid et al., 2001); however the physiological method involved in activation of EBV is not known.

It is possible that stress can induce corticosteroid release which, in turn, can activate latent EBV infection (Glaser & Kiecolt-Glaser, 2005). As outlined earlier, reactivation of this virus may induce chronic fatigue syndrome (Glaser et al., 1999); also, EBV is associated chronic fatigue syndrome, infectious mononucleosis and possibly cancer.

These results are strikingly consistent with a study by Vedhara and colleagues (2002) who investigated whether the immune dysregulation associated with stressors of caregiving seen in elderly caregivers extends to younger caregivers. They compared multiple sclerosis (MS) spousal caregivers (mean age 43 years) with non-caregiving controls. Psychological morbidity (self-reported stress, anxiety, and depression), endocrine activity and immunity were assessed. Vedhara and colleagues did not find group differences on endocrine and immune measures. Cortisol levels were in the reverse direction of their predicted findings with caregivers having lower levels than non-caregiving controls. Also, the two groups did not differ on self-reported levels of anxiety and depression. While levels of stress were higher in MS caregivers compared to non-caregivers, the stress levels were lower than levels reported in older dementia caregivers whom they had previously studied.

Taken in concert, these two studies suggest younger caregivers may respond differently to caregiving stress than older caregivers. Younger caregivers may have a “preserved” immune response when faced with chronic stress (Vedhara et al., 2002).

The Influence of MFPG Intervention on Immune System Parameters. The second goal was to evaluate whether participation in MFPG resulted in greater reduction in IL-6, TNF- α , CRP, and EBV at follow up assessment compared to participants who did not receive intervention. This hypothesis was not supported. Additional analyses were conducted to determine if the two groups differed on measures of anxiety, depression, perceived stress, social support, and critical/hostile family climate. Overall the two groups were quite similar on anxiety, depression, perceived stress and social support. The intervention group reported more parenting stress and a more critical/family climate than the non-intervention group. Thus, it appears that the associations between proinflammatory cytokines and depressive symptoms, anxiety, chronic stress observed in the past research may be limited to populations that are more clearly emotionally distressed (Steptoe, Kunz-Ebrecht & Owen, 2003).

Relationship of Health Conditions, Mental Health Indices, Interpersonal Functioning to Immune System Parameters and EBV. The final goal was to determine whether better functioning on health conditions, mental health indices, and social/interpersonal functioning was associated with reduced levels of IL-6, TNF- α , CRP, and EBV. Except for ibuprofen, all significant findings were in the predicted direction.

For *health conditions*, people who self-reported more weight loss had lower levels of IL-6, consistent with past research indicating higher BMI and obesity is associated with elevated levels of IL-6 (Ladwig et al., 2003). Taking aspirin (325 mg) in the past 72 hours was associated with lower IL-6 levels. This is consistent with past research indicating aspirin has anti-inflammatory properties. Patients with angina pectoris treated with aspirin 300 mg/day had reductions in IL-6 levels (Ikonomidis et al., 1999).

People who consumed more caffeine had lower levels of TNF- α . This is consistent with past research in which caffeine has been shown to suppress the production of TNF- α (Horrigan, Kelly, & Connor, 2004). A homeostatic balance of proinflammatory and anti-inflammatory cytokines is crucial for maintenance of health (Robles et al., 2005). Excessive suppression of TNF- α can lead to reduced immune response to infectious diseases (Horrigan, Kelly & Connor, 2004). Consistent with past research, people

who used nicotine had higher levels of TNF- α than those who do not. Also, those who smoked more cigarettes per day had higher levels of TNF- α (Wang et al., 2004). As nicotine is a risk factor in cardiovascular and various other diseases (Wang et al., 2004), this finding may shed some light on the mechanism associated between these diseases and nicotine. People with higher levels of albumin had lower levels of CRP. Research indicates that higher serum albumin has a protective effect in older individuals with no cytokine mediated inflammation; however, this effect is not seen if there is inflammation (Reuben et al., 2000). People with hormone problems had higher levels of CRP. Prior research indicates that oral post-menopausal hormone therapy is associated with increase in levels of CRP (Guthrie et al., 2005), but there are no published studies on hormone problems and their association with CRP. It is important to note that elevated levels of CRP are a risk factor for coronary heart disease among healthy, middle aged men and women (Guthrie, Clark, Dennerstein, & Burger, 2005). Also, people who slept more had higher levels of EBV. This is consistent with the literature, as EBV is associated with chronic fatigue syndrome and individuals with chronic fatigue syndrome report sleeping excessively due to fatigue (Glaser & Kiecolt-Glaser, 2005).

Several results were counterintuitive. As 200 tests were conducted, some of the associations might be spurious. In particular, people who took 200 mg Ibuprofen 24 hours prior to the blood draw had higher CRP. As ibuprofen has anti-inflammatory properties, this is counter-intuitive. Similarly, people who engage in physical activity had higher levels of EBV for unknown reasons. People who took antibiotic medications have higher EBV than ones who did not. However, as antibiotics do not effectively treat EBV, this might possibly reflect a misguided treatment plan.

For *mental health indices*, consistent with the past research, results indicated that people who report depression have higher levels of IL-6 than those who do not (Pike & Irwin, 2006). Also people with higher perceived stress had higher EBV levels. This is consistent with the research that chronic stress can activate EBV (Sarid et al., 2001).

As for *interpersonal functioning*, people with less critical/hostile family climate (EEAC) had lower levels of EBV. Critical/hostile family climate can be stressful whereby stress can activate EBV and in absence of such a climate, there may be lower levels of EBV. People with more social support had lower levels of IL-6, consistent with the finding that social support can shield people from the biological consequences of stressful experiences (Kirschbaum, Klauer, Sigrun-Heide, & Hellhammer, 1995).

Conclusions and Clinical Implications

Stress may activate EBV in younger caregiver populations. As for the remaining immune parameters (IL-6, TNF- α and CRP), these findings suggest that younger caregivers may not physically respond to the stressors associated with caregiving in the same way as do older caregivers. There may be several explanations for this. First, it is possible that due to increasing age, elderly caregivers experience a natural waning of their immune system; therefore, stress may impact the elderly to a greater degree than a younger population (Vedhara et al., 2002). Second, younger caregivers, or at least the subset who participated in this study, may have more extensive social support networks than older caregivers, which in turn may give them the ability to sustain stressors associating with caregiving. We did not find any significant differences for social support between caregivers and community comparison parents. Third, in the present study there were no significant differences between caregivers and community comparison parents on depression and anxiety symptoms measures. Depression and anxiety are associated with elevated levels of proinflammatory cytokines and CRP. However, perceived stress in caregivers was higher than in community control parents. Fourth, it is possible that the effects of caregiving on health may be long term, and not apparent until caregivers reach an older age. Therefore, psychoeducational

interventions designed to provide social support, enhance coping, and improve family climate may show health benefits over the long term. In turn, this may help caregivers avoid premature aging of the immune system due to chronic stress which makes caregivers vulnerable to a range of old-age-associated diseases (Kiecolt-Glaser et al., 2003). Finally, maintaining healthy behaviors (eating healthy, less caffeine intake, maintaining body weight, eating healthy foods, less nicotine/smoking usage, better sleep), social support and a less critical/hostile family environment may prevent decline in physical health.

Limitations and Directions for Future Research

The present study had several limitations. First, the sample size was small ($N = 40$) at baseline and even smaller at follow-up ($N = 35$). Larger sample sizes may be required for this type of study. Second, demographics of the present study (i.e., predominantly comprised of White females) limit the generalizability of the results to other groups. As TNF- α differed for Non-whites compared to Whites, future studies might examine the reasons for racial differences in immune functioning, as racial discrimination is identified as a key factor in explaining high rates of obesity, diabetes and cardiovascular diseases in African Americans (Cochran & Barnes, 2006). Third, it is possible that the community control parents may be suffering from other chronic/acute stressors that we did not examine; future research should account for this. Future research studies might focus on immune system parameters as well as pathways associated with these parameters that may differ in a younger caregiver population compared to an older caregiver population. Also future research studies might focus on physiological pathways associated with stress activation of EBV.

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Other Publications of the Research to Date

- Nadkarni-DeAngelis, R.B. (2006). *The impact of family intervention on stress and immunity in caregivers of children with mood disorders*. Unpublished master's thesis, the Ohio State University, Columbus.

Presentations of the Research to Date

- Fristad, M.A., Nadkarni-DeAngelis, R.B., Kiecolt-Glaser, J., & Glaser, R. (2006, October). *Caregiver stress in parents of children with mood disorders*. Paper presented at Research Results Briefing 2006: Knowledge to Transform Mental Health Services in Ohio, Columbus.
- Nadkarni-DeAngelis, R.B., Fristad, M.A., Kiecolt-Glaser, J., Glaser, R., Malarkey, W., & Walters, K. (2006, October). *The impact of family intervention on stress and immunity in caregivers of children with mood disorders*. Poster presented at the Kansas Conference in Clinical Child and Adolescent Psychology: Translating Research into Practice, Lawrence, KS.

**INTENSIVE COMMUNITY-BASED TREATMENT OF CHILDREN,
ADOLESCENTS, AND THEIR FAMILIES:
THE EFFECTIVENESS OF FAMILY-COMMUNITY SYSTEMS THERAPY (FCST)**

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Home-based treatment has been increasingly used for treating families with a child or adolescent who is at risk of out-of-home placement. Effective treatment of a severely disturbed child or adolescent frequently necessitates treatment of the family system as well as coordination of diverse services for the benefit of the child and the family. Different approaches to home-based treatment have been developed to address the multiple needs of these families and children. All of these treatment approaches operate from a systems theory perspective and to varying degrees are based on structural-strategic family therapy. These approaches include but are not limited to Solution-Focused Family Therapy (Berg & Kelly, 2000), Brief Strategic Family Therapy (Szapocznik, Robbins, Mitrani, Santisteban, Hervis & Williams, 2002); Multidimensional Family Therapy (MDFT) (Hogue, Liddle, Becker & Johnson-Leckrone, 2002; Hogue, Liddle & Becker, 2002), Ecosystemic Structural Family Therapy (ESFT) (Jones & Lindblad-Goldberg, 2002), and Multisystemic Therapy (MST) (Henggler, Schoenwold, Rowland & Cunningham, 2002).

Community mental health agencies are consistently challenged to develop and deliver realistic home-based, family-centered treatment that meets local needs, can realistically fit within available budget and resource capabilities, and is effective in accomplishing the following goals: (1) prevention of out-of-home placement or residential placement of the symptomatic child; (2) inclusive of families of diverse nature and problems that occur in the real world of community mental health agencies; (3) cost-effective in attaining the goals of the home-based treatment, and (4) functional collaboration with institutions that determine placement, including but not limited to, Juvenile Courts and Children Services. Family-Community Systems Therapy (FCST) is a home-based treatment model that is developed and implemented from within the community mental health system. FCST assumes that: (1) families are resilient and have strengths and resources to build solutions; (2) effective treatment of a severely disturbed child or adolescent necessitates treatment of the family system, and (3) effective treatment must include coordination and collaboration of diverse services serving the child and the family. Building on evidence-based literature regarding effective treatment for this population, FCST identifies three core treatment components that can be integrated into a coherent treatment protocol in working with children, adolescents, and families at risk. These three core treatment components are: (1) establish and maintain a therapeutic alliance with families that will facilitate the collaborative development of a common understanding of the problem, behaviorally specific treatment goals, and activities to achieve these goals with the family; (2) within the context of this therapeutic alliance, work collaboratively with the family members to change behavioral patterns that will result in solving presenting problems and achieving treatment goals, and, thus, second-order change, and (3) develop and maintain collaborative teamwork

with community agencies to address the organic needs of the family and the child. The simplicity of the model should reduce cost of training, increase utilization of case managers' and therapists' prior expertise, and create a context for focused treatment efforts and therapeutic interventions.

Goals of the Study

The research project's goal is to test the effectiveness of Family-Community Systems Therapy (FCST). In addition, we examine specific treatment components of FCST that predict positive outcomes in children and families. The ultimate purpose of conducting this study is to find out whether FCST is effective in reducing out-of-home placement of at-risk children and adolescents and improving individual and family functioning. We hypothesize that FCST treatment will be effective in achieving the long-term outcomes goals of improved functioning and reduced behavioral and/or emotional problems in the symptomatic child, which will in turn lead to the avoidance of out-of-home placement of the child. Effective treatment should also result in achieving the intermediate treatment goals of increased parental efficacy in addressing their child's issues, increased sense of empowerment of parents in relation to treatment providers, increased family participation in the treatment process, and improved family functioning (Figure 1).

Methodology

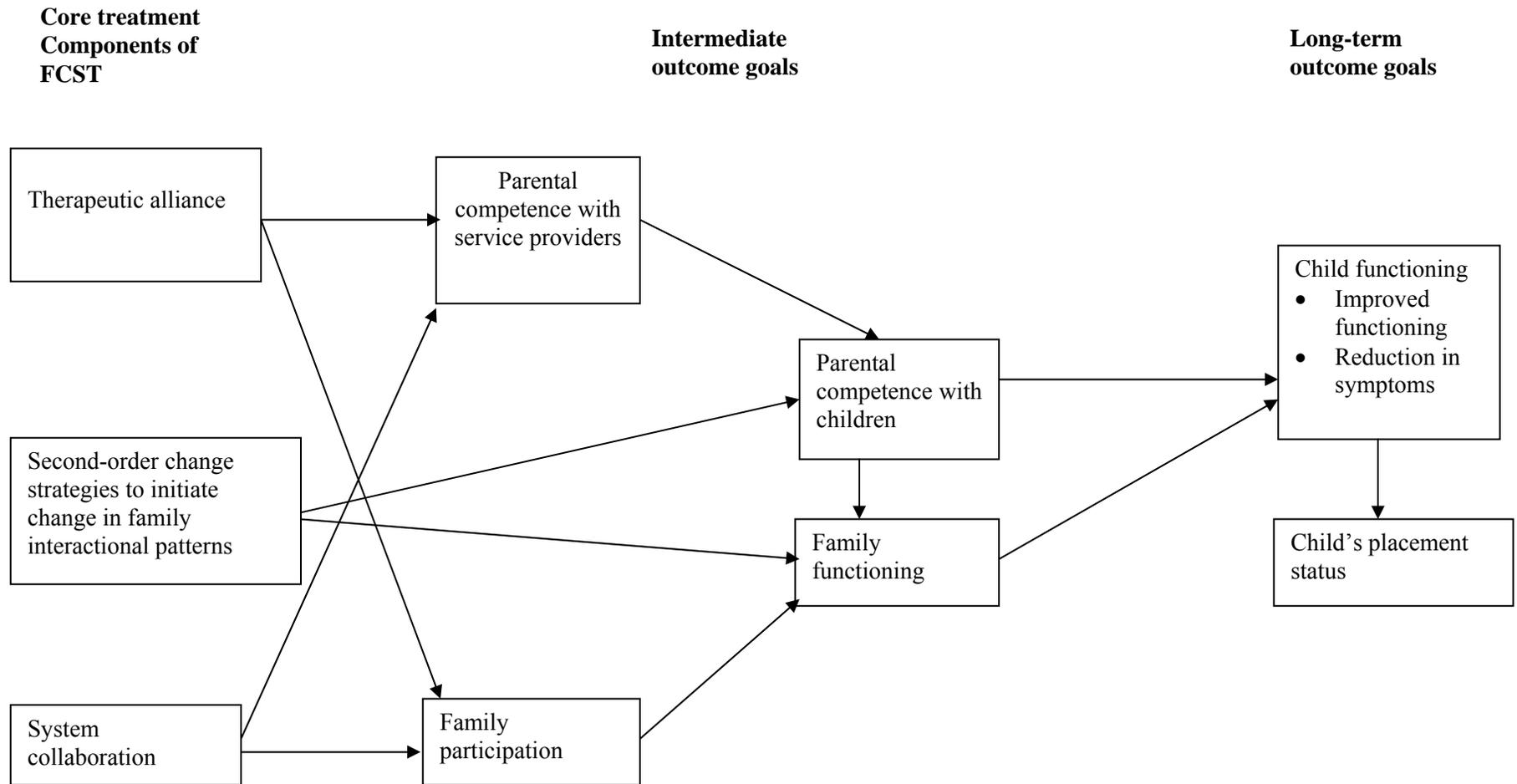
The study uses a one-group pre- and post-test design with a six-month follow-up to test the effectiveness of FCST in treating families with children at risk of out-of-home placement and receiving intensive community-based treatment. Participants of the research include families with children or adolescents at risk of out-of-home placement and receiving intensive community-based services from Scioto Paint Valley Mental Health Center or Thompkins Child and Adolescent Services. The Court, Children's Services, hospitals, or other mental health agencies can refer families to the programs. Both parents and the child(ren) who are at risk of placement and are 12 years old or older will be invited to participate in the study. Participation in the study is voluntary and formal written consent is obtained from all participants. Families participating in the study receive intensive community-based services up to a six-week period with additional six-week increments negotiated based upon the family's needs and progress. Treatment conditions are standardized by requiring the participating case managers and therapists to adhere to a standard protocol of treatment structure and techniques. Training and ongoing consultation in FCST are provided to participating case managers and therapists to ensure the standardization of treatment conditions. The FSCT Checklist is used to measure treatment fidelity.

In this study, independent variables are the core treatment components of FCST, namely, therapeutic alliance, second order change strategies for changing family patterns, and systems collaboration. Dependent variables include child's placement status, level of functioning of the child, level of severity of problems, level of family functioning, family participation in the treatment process, parental competence in relation to the child, and parental competence in relation to service providers.

Preliminary Findings

As of December 2005, we have data on 133 families for pre-treatment, 62 families for termination, and 40 families for six-month follow-up. Among the 133 children, 66.9 percent were males (89) and 33.1 percent females (44). The majority of child participants were students at middle school (40.1%) and elementary school (32.8%) with 14.6% high school students and 11.8 percent in kindergarten or preschools. Child participants were predominantly Caucasian (93.98%), with 1.5 percent African American, and 4.5 percent biracial.

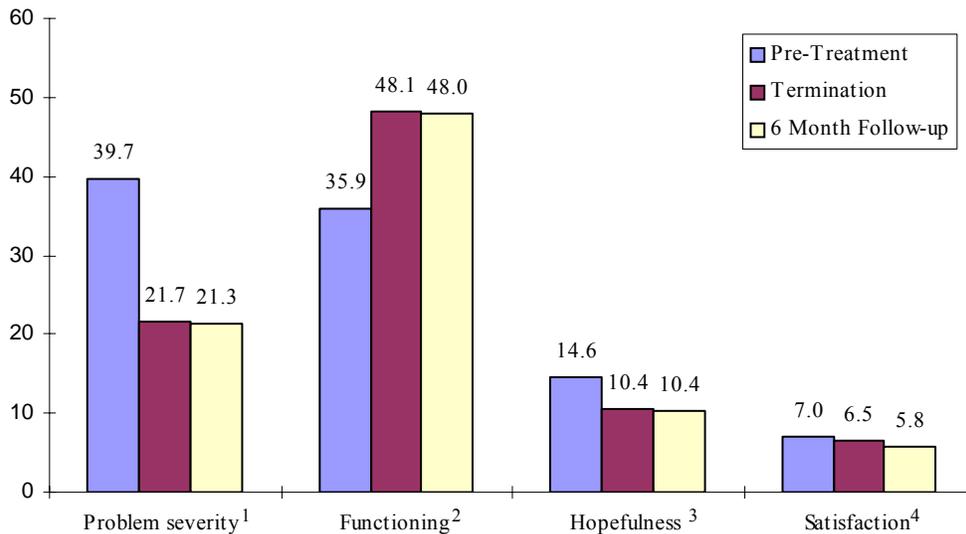
Figure 1. Framework of the study.



Child's outcomes: The Ohio Scales. The Ohio Scales-Short Form was developed by Benjamin M. Ogles (Ogles, Lambert, & Masters, 1996) to provide multi-source, multi-content measures of clinical outcomes of youth ages five to eighteen. The Ohio Scales-Short Form consists of four content areas of assessment: Problem Severity, Functioning, Hopefulness, and Satisfaction with mental health services. The parents' ratings indicated a significant improvement in the three areas of assessment including Problem Severity, Functioning, and Hopefulness from pre-treatment to post-treatment. Based on findings from paired-sample t-tests, there was a significant decrease in the severity of problem behaviors in the child ($t = 7.8$, $df = 54$, $p < .001$), significant improvement in the child's level of functioning ($t = -5.1$, $df = 36$, $p < .001$), and significantly greater hopefulness in parents about their role as parents ($t = 6.6$, $df = 60$, $p < .001$) from pre-treatment to termination based on parents' evaluations. In addition, these positive changes were maintained six months after the families terminated from the program although the observed changes were non-significant. With respect to parents' ratings of their satisfaction with the received services, there were no significant changes from pre-treatment (7.0) to post-treatment (6.4) and six-month follow-up (6.2). Findings indicated that average parents were extremely satisfied or moderately satisfied with the received services at pre-treatment, termination, and six-month follow-up (Figure 2).

Family functioning. Family functioning is defined by the scores of FACESII as completed by parents (Oslon, Portner, & Bell, 1982). FACESII evaluates cohesiveness and adaptability of families. FACESII gives rise to two scores, Cohesion and Adaptability, and their correspondence to Family Types in terms of Balanced (scores 7 to 8), Moderately Balanced (5 to 6), Mid-Range (4 to 3), and Extreme (1 to 2). Families can be categorized into four types under each evaluated dimension. Family cohesion types include Disengaged (12 to 50), Separated (51 to 59), Connected (60 to 70), and Very Connected (71 to 80). Family adaptability types include Rigid (15 to 39), Structured (40 to 45), Flexible (46 to 54), and Very Flexible (55 to 70).

Figure 2. Parents' evaluation of The Ohio Scales: pretreatment, termination, and six-month.



¹ Lower scores indicate lower severity of behavioral problems in a child in the past 30 days.

² Higher scores indicate higher level of functioning in a child in the past 30 days.

³ Lower scores indicate more hopefulness and well being about parenting.

⁴ Lower scores indicate greater satisfaction with the mental health services.

With respect to family cohesion, 120 parents completed the scale at pre-treatment, 56 at termination, and 35 at six-month follow-up. Average participating families belonged to the “Separated” type. The mean score of 55.2 ($SD = 11.0$) at termination compared favorably with the mean score of 51.8 ($SD = 12.1$) at pre-treatment. Based on findings from the paired-sample t -test, there was a significant increase in family cohesion from pre-treatment to termination based on the evaluation of parents ($t = -2.3$, $df = 40$, $p < .05$). In addition, there was a continuous increase in the Family Cohesion score from termination to follow-up (Mean = 58.7, $SD = 11.2$) although the observed increase was non-significant. With regard to family adaptability, 105 parents completed the scale at pre-treatment, 54 at termination, and 36 at the six-month follow-up. Average participating families fell in the range of “Flexible”. The mean score of 46.5 ($SD = 8.6$) at termination compared favorably with the mean score of 42.8 ($SD = 8.2$) at pre-treatment. Based on findings from the paired-sample t -test, there was a significant increase in family adaptability from pre-treatment to termination based on the evaluation of parents ($t = -2.3$, $df = 38$, $p < .05$). In addition, there was a continuous increase in the Family Adaptability score from termination to follow-up (Mean = 48.1, $SD = 11.2$) although the observed increase was non-significant. Regarding Family Type, average families fell in the “Mid-Range” type. There was a continuous increase in the Family Type score from 3.7 at pre-treatment to 4.3 at termination, and 4.8 at the six-month follow-up, indicating a trend for these families to become increasingly “Balanced” although the observed changes were non-significant.

Parental competence with children. Parental competence with children is operationally defined by the scores of the Parental Efficacy Subscale of the Parents’ Competence Questionnaire (PCQ items 12 to 21) as completed by the parents. The PCQ is a 21-item questionnaire compiled by M. Y. Lee (2001) to measure parental sense of competence in relation to service providers and their children. The Parental Efficacy Subscale of the PCQ is a 10-item scale adapted from the Parental Locus of Control developed by R. D. Lyman. The scores of the Parental Efficacy Subscale range from 10 to 50 with higher scores indicating greater parental competence in relation to children. One hundred twenty-four parents completed the scale at pre-treatment, 55 at termination, and 33 at the six-month follow-up. The mean score of 36.1 ($SD = 5.5$) at termination compared favorably with the mean score of 33.2 ($SD = 6.5$) at pre-treatment. Based on findings from the paired-sample t -test, there was a significant improvement in parental competence with children from pre-treatment to termination based on the evaluation of parents ($t = -3.2$, $df = 51$, $p < .01$). In addition, there was a continuous increase in parental competency with children from termination to the six-month follow-up (Mean = 37.5, $SD = 4.8$) although the observed changes were non-significant.

Parental competence with service providers. Parental competence with service providers is operationally defined by the scores of the Service Systems Subscale of the Parents’ Competence Questionnaire (items 1 to 12) as completed by the parents. The Service System Subscale of PCQ is an 11-item scale adapted from the Service System Subscale of the Family Empowerment Scales (Koren, DeChillo, & Friesen, 1992). The scores of the Service Systems Subscale range from 11 to 55 with higher scores indicating greater sense of parental competence in relation to service providers. One hundred twenty-nine parents completed the scale at pre-treatment, 61 at termination, and 37 at the six-month follow-up. The mean score of 56.1 ($SD = 3.8$) at six-months compared favorably with the mean score of 52.4 ($SD = 8.1$) at termination, and 53.7 ($SD = 7.5$) at pre-treatment. The mean scores of the Service Systems Subscale indicated a great sense of competence in relation to the service system as perceived by the parents throughout the evaluation period. Based on findings from the paired-sample t -tests, there was a significant increase in parents’ competence with service providers from to termination six-month follow-up ($t = -2.2$, $df = 30$, $p < .05$).

Family Participation. Family participation is operationally defined as the scores of the Family Participation Scale as completed by the parents. The Family Participation Scale is a 7-item scale

developed by Barbara Friesen and her associates at the Regional Research Institute for Human Services, Research and Training Center on Family Support and Children's Mental Health, Portland State University (2001). The scores of Family Participation range from 7 to 28 with higher scores indicating greater family participation. One hundred twenty-two parents completed the scale at pre-treatment, 59 at termination, and 30 at the six-month follow-up. There was a continuous increase in the mean scores of Family Participation Scale from 25.2 at pre-treatment to 25.4 at termination, and 26.4 at the six-month follow-up, indicating an increase in parents' self-reported level of participation in planning for their child's service and treatment. The mean scores also indicated a high level of participation as perceived by the parents throughout the evaluation period. Based on findings from the paired-sample *t*-test, the observed changes were significant treatment to six-month follow-up.

Family Therapy Alliance Scale. The Family Therapy Alliance Scale is a 40-item scale that asks families to assess the quality of therapeutic alliance between the case manager and the family on a seven-point Likert scale with 7 meaning completely agree with the statement and 1 completely disagree with the statement (Pinsof, 2003). Fifty-six parents completed the Family Therapy Alliance Scale at termination. Findings indicated an average score of 5.95 on a scale of one to seven, meaning that families generally experienced positive relationships with their intense community-based case managers.

Summary of Preliminary Findings

Preliminary findings of the project provided initial evidence that supports the effectiveness of FCST. Findings indicated that there was significant improvement in the child's behavior in terms of significant decrease in problem severity and increase in level of functioning as reported by parents from pre-treatment to termination. There was also a significant increase in parental hopefulness and competency regarding their parenting role. In terms of family functioning, findings of FACESII showed significant increases in the level of cohesion and adaptability in these families. All observed changes were significant from pre-treatment to termination with the families able to maintain these positive changes at the six-month follow-up. Findings regarding parenting competence with service providers and family participation in the treatment process indicated a higher level of satisfaction and participation throughout the evaluation period. Therapeutic alliance is one of the three core treatment components of FCST. Findings based on the Family Alliance Scale indicated that participating parents perceived a high quality therapeutic alliance with case managers.

Applicability

Family-Community Systems Therapy (FCST) is a home-based model that is developed and implemented from within the community mental health system. FCST is developed based on evidence-based common factors to intervening with at-risk families and their children and adolescents. By "stripping down" family intervention to the essential evidence-based components, it is our belief that treatment can be made as uncomplicated as possible, allow case managers and therapists to utilize their own expertise in the treatment process, and still be effective. In addition, such an integrative approach can readily mesh with the realities of everyday practice demands on staff. Preliminary findings of the study provided initial evidence that FCST was effective in improving children's outcomes and family functioning. Future findings will provide more conclusive evidence of FCST as an alternative, feasible, and effective home-based treatment model that addresses the challenges of cost containment, staff turnover, and continuity of system of care for families with children at risk of out-of-home placement.

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Presentations of the Research

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MEASURING PSYCHOLOGICAL DISTRESS IN SOMALI REFUGEES

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In recent years there has been a major change in the mix of country and culture origin of immigrants and refugees coming to the United States (Waters & Jiménez, 2005). The increasing flow of peoples from African and Asian countries not previously represented in the U.S. population has raised serious concerns about the process of assimilation and adjustments of the newcomers to American society. At particular issue is the capacity and capability of human service agencies and institutions to provide culturally competent and culturally sensitive services to the newcomers while they establish themselves in the new land. For example, in health care, it has been critical to train medical interpreters to mediate patient-physician interviews and transactions (Schwirian, Schwirian, Curry, Abel & Evert, 2002). Great strides have been made on this front in hospital care. Most large hospitals serving immigrant groups typically offer interpretation services in as many as two dozen languages. Also, physicians, nurses, and other health care providers dealing regularly with newcomer groups are acquiring sufficient knowledge about their patients' culture to factor it into their interactions. There is still much to be done on this front, especially in small independent practices.

As difficult as it has proven to be to work across cultural and language boundaries in the realm of physical health, it is even more difficult to work cross-culturally in matters of mental health (Westermeyer, Williams, & Nguyen, 1991). In fact, one highly placed Hispanic health care advocate told us that because of the cultural differences between Americans and Hispanics in matters of the basic use of metaphors in the description of mental states, it was nearly impossible for American clinical psychologists and psychiatrists to develop an adequate diagnosis of mental illness in a Hispanic patient, let alone prescribe an effective treatment regimen. As dour as this prospect may be, it nevertheless falls to the mental health care system to devise culturally appropriate approaches to both diagnosis and treatment for those troubled strangers living among us.

A major unmet need in dealing with cultural newcomers is for instruments that assist in identifying social psychological conditions and problems that they face. Accordingly, our goals in this project were twofold. First, we aimed to develop a reliable, culturally appropriate psychological distress scale for recently arrived refugees from one worn-torn country--Somalia. We call this scale the Somali Psychological Distress Scale (SPDS). Second, we examined the relationship of this instrument to a standard instrument used in the Ohio Mental Health Consumer Outcomes System, Adult Consumer Form A.

Somali Refugees

Thousands of Somali refugees have settled in several major U.S. cities, including Columbus, Ohio. Many have suffered psychological distress as a result of their experiences in the wars in Somalia, in relocation camps, and attempting to rebuild their lives in the U.S. At the current time there is no standard scale for assessing psychological distress among these people that is both culturally sensitive and practical to administer in the busy urban clinic environment where Somalis are customarily treated.

Columbus—the site of this study—has one of the largest Somali populations of U.S. cities. Current Somali community leaders place the size of the city’s current Somali population between 30,000 and 35,000. The arrival of the Somalis has presented health care providers with several challenges. These include:

1. Many of the newcomers have had serious physical health conditions such as untreated or incompletely treated tuberculosis, or medical complications from the “female circumcision” experienced in the past by up to 95 percent of adult females.
2. Many Somalis have marked levels of psychological distress and/or posttraumatic stress disorder (PTSD) that have gone largely undiagnosed and untreated.
3. The majority of adult Somalis speak little or no English. A closely related factor is that most Somalis read neither Somali nor English. This means that much of the interaction between Somalis and local health care professionals must be mediated through a bilingual Somali/English interpreter.
4. There is a large culture gap between Americans and Somalis even though a large segment of the Somali population is adapting to life in this country. This cultural gap leads to a general lack of understanding between the groups on the meaning of health, the causes of illness, the importance of preventive health practices, and the access to and course of medical diagnosis and treatment.
5. In considering psychological distress in particular, it is important to know that there are no directly comparable concepts or linguistic referents in the Somali language such as anxiety, depression, or personality disorders. In short, Somalis tend to see people who are experiencing psychological distress as simply “crazy” with few avenues for cure.

Given these challenges, it is important to be able to make adequate diagnoses and treatment provisions for newcomer groups such as the Somalis. Thus, what is required is a culturally appropriate, valid and reliable instrument for assessing the presence and degree of psychological distress experienced by these individuals. For the Somalis, no such instrument exists and no information is available in the professional literature about the applicability to Somalis of standard measures that are used with the general U.S. population.

Research Methodology Overview

A multi-method approach was employed in this study. In Phase I we began with field work in the Somali community. We then consulted past research on psychological distress among immigrant groups. We also consulted with experts in post-traumatic distress. Furthermore we reviewed several standard instruments for measuring psychological distress to identify appropriate items for an instrument for Somalis. These included the Hopkins Symptoms Checklist, the Harvard Trauma Scale, scales developed by New York University’s Department of Psychiatry, the Center for Epidemiological Studies Depression Scale (CES-D), various versions of the SF scales, the Duke Anxiety-Depression Scale, and the problem checklist assembled by the state of Minnesota’s Department of Health’s Refugee Health Program. On the basis of our fieldwork, our review of the literature, our consultation with experts in refugee mental health, the input we received from healthcare practitioners in the Somali community, and our review of existing instruments used with U.S. population members, we assembled the General Somatic Symptoms Instrument (GSSI).

The GSSI was administered to a random sample of 100 Somali patients receiving care at the Columbus Neighborhood Health Center's (CNHC) Northeast Clinic. Fifty patients were re-interviewed for purposes of establishing test/retest reliability for the scales. Through scale analysis the Somali Psychological Distress Scale (SPDS) was developed in four lengths—35 item, 15 item, 11 item, and 5 item. All are highly reliable.

In Phase II of the study, a different sample of 50 Somali CNHC patients was interviewed. This time the instrument combined culturally appropriate items from the Adult Consumer Form A scales and the 15-item version of the SPDS. The combined instrument was administered to a new sample of 50 randomly selected Somali patients at the Columbus Neighborhood Health Center. Scale analysis was performed and the results of the SPDS items were compared with those from the Adult Consumer Form A.

Background of the Somali Psychological Distress Scale (SPDS)

Background work for this project involved three areas. The first was fieldwork. In 2000 we began fieldwork in the Somali community in conjunction with the Columbus Neighborhood Health Center and Ohio State's Primary Care Research Center. Our work involved becoming familiar with the situation and experiences of the Somalis both before and after resettlement in the Columbus community. The primary focus was on the provision of culturally competent and culturally sensitive care, particularly as it was reflected in medical interactions between Somalis and American healthcare providers through bilingual interpreters. This phase of our work acquainted us with Somali culture, issues and problems in Somali healthcare, and the need for culturally appropriate screening instruments for both physical and mental health.

The second area of work involved a literature review on healthcare problems of refugees and migrants from highly different cultures. While most of the literature dealt with physical health problems there was a growing awareness of the need for mental health programs for those refugees who have experienced extreme trauma. The literature on Somalis is limited; there have been only a few articles, most of them published in only the last couple of years (Whittaker, Hardy, Lewis, & Buchanan, 2004, Halcon et al., 2004; Jaranson et al., 2004; Kinzie, 2004). The Minnesota Department of Health has taken the lead in health matters of refugees from Somalia and elsewhere (Minnesota Department of Health, 2004). The department has produced several brochures and instructional materials that cover a range of topics. In this study we have drawn on the Minnesota somatic health items in developing our measurement instrument. From this review we learned the problems associated with researching in two languages—that of the refugee and that of new culture in which the refugees find themselves. When we combined these insights from the literature review with the first-hand knowledge we had gained about the Somalis, it became clear to us that this study need to be conducted orally in the Somalian language.

The third area of background work was consultation with professionals providing direct health care to refugees, researchers working on the problems of psychological trauma and distress experienced by refugees in general and by Somalis in particular, and organization leaders representing groups concerned with minority group health. We learned several things from these consultations including: (1) in identifying psychological distress it is best to use scale items that tap somatic conditions and responses such as diet, sleep, and nerves; (2) interviews needed to be conducted in institutional settings recognized by the refugees as being legitimate places of human services; and (3) that interviews be conducted by members of the Somali community associated with the Columbus healthcare community.

General Somatic Symptoms Instrument (GSSI) Development and Administration

As a result of our field work, literature review of past work, and consultation with experts, we concluded that the best avenue for approaching the construction of a scale to assess psychological distress in Somali health care clients was to use items that asked about somatic complaints and abilities to perform the normal tasks of daily living—rather than asking general questions relating to one’s affect or “feelings.” Indeed, Gracia-Peltoniemi (1999 a & b) has argued that refugees are highly likely to present with somatic rather than emotional or psychological complaints for several reasons. First, the cultural backgrounds of most refugees discourage direct expression of feelings. Second, the culturally-shaped health beliefs tend to favor psychosomatic unity. Third, there is a lack of familiarity with the concepts of mental health as we use them. Finally, the language barrier prevents, among other things, communication in more abstract psychological terms.

Our review of the standard psychological distress instruments found that they all relied on a cultural understanding of mental health discourse not generally shared by Somali refugees. In addition, there was an enormous overlap among them in the sense that they included a number of the same or very similar items. Consequently we decided to base the distress instrument on the problem checklist from the Minnesota Refugee Health Program. It proved to be the most applicable for our needs. It contained a total of 46 items grouped under five headings: (1) sleep problems; (2) appetite problems; (3) problems with nerves; (4) problems with mood; and (5) problems with thinking and behaving. These items are in Table 1. In addition the GSSI included measures of sex, age, length of residence in the U.S. and in Columbus, marital status, number of children, additional relatives in the community, close friends, and employment.

Translation

Since many Somalis have limited ability to speak or read English, the GSSI was translated into Somali. We employed a native Somali-speaking translator who works as a medical interpreter at the Columbus Neighborhood Health Center. We first had a conference with him and went over the GSSI in detail. We answered questions he had about it and discussed with him the best approach to deal with words and concepts not in the Somalian language. He did warn us that most Somalis are not used to using the refined distinctions called for in many of the questions. For example, the distinction between “occasionally” and “seldom” in the responses to the questions does not normally exist in Somali matters. We decided to have the interpreter do the best he could about it in the translation and in presenting the questions to the interviewees. In this decision we were led by the fact that the Minneapolis researchers eventually decided that it was workable.

After the medical interpreter completed the translation, we employed a second Somali interpreter to translate the questions in Somali back into English. We then compared that translation with our original English version of the GSSI. There were few discrepancies. We then held a conference with the two Somali interpreters and discussed the differences in their translations. An agreement was reached as to the alignment of those few differences.

Sample and Data Collection

Given language and cultural considerations, it was decided that the instrument would be administered in an interview. The interviews took place at the Columbus Neighborhood Health Center. A power analysis indicated that 100 cases would be adequate for our design purposes. The initial 100 sampled were patients at the clinic. They were chosen using random digits drawn by the investigators. The respondents signed the standard Ohio State University informed consent form which had been translated into Somali and read to them by the interpreter. Only one patient refused to participate. We

think this low rate of refusal has to do with the refugee status of the people wherein they are predisposed to answers questions posed by “officials.” We worked hard to stress the voluntary nature of the participation in the study, still one could sense some concern on the part of some patients. It proved better for the investigators not to be present during the interview. Each participant was given a \$25 gift certificate to Kroger as a “thank you” for participating. Providing the gift for participation is culturally appropriate for the Somalis.

Our scale development strategy called for calculating the test-retest reliability measure along with other measures (discussed later). This required that 50 of the original sample members be interviewed a second time with the same questionnaire. They were selected by random numbers drawn by the investigators. The average length of time between interviews was approximately two months. The same procedures were used for the second interviews including giving the respondents another gift certificate. Test-retest reliability is always vulnerable to the occurrence of major conterminously intervening events. We know of no single event that took place in this period that could have biased the results. The interviews were conducted during the late fall of 2003 and winter of 2004.

Phase I Results: SPDS

Sample characteristics. The mean age for Sample 1 (100 cases) was 38.7 years with the youngest being 23 years and the oldest being 70 years. The standard deviation of 12.1 indicated a good spread by age with most respondents between 28 and 51 years. The age distribution for Sample 2 (50 cases) was similar with a mean of 39.2 years and a standard deviation of 12.1 years. (See Table 1.)

The respondents are relatively recent arrivals in the U.S. and Columbus. The mean number of years in the U.S. for Sample 1 was 4.3 and for Sample 2, 3.9. The standard deviation for Sample 1 was 2.6 years and for Sample 2, 2.4. The maximum number of years for Sample 1 was 13 years and the minimum was 0--a new arrival. For Sample 2, the highest was 11 years and the least was 3 months.

The mean number of years in Columbus was 3.1 for Sample 1 with a standard deviation of 1.5. For Sample 2 the mean was also 3.1 years but the standard deviation was 1.4. The maximum number of years in Columbus was 7 years for Sample 1 and 6 years for Sample 2.

Samples 1 and 2 were heavily female--70.7 percent and 69.4 percent of the 50, respectively. In exploring this matter we found that three reasons seemed to be operating. The first is a strong norm among Somali males that they do not admit or attend to perceived sickness. Second, males tend to define the clinics as centers of female health care. Third, since the Somalis are so highly fertile (Sample 1 averaged 3.9 children per family with a high of 12 and Sample 2 also had a high of 12), women attend clinic at a high rate for pre-natal care. Thus, a randomly selected sample is likely to result in a heavy concentration of women in the sample. The samples were well embedded socially, 75 percent of Sample 1 and 83.3 percent of Sample 2 were married. Over 80 percent of each sample had friends and relatives in the community. In Sample 1, 59 percent of the Somalis were employed and in Sample 2, 62 percent were also employed.

The similarity in means and standard deviations for Sample 1 and 2 lead us to conclude the 50 individuals in Sample 2 are sufficiently representative of the 100 persons in Sample 1 to permit a reliable test-retest reliability measure to be calculated.

Since there is no census type data available from federal, state, or local agencies, it is impossible to know how representative the sample is of all adult Somalis in the U.S. or Columbus. However, since all new refugees to Columbus had to have their basic health screening at CNHC we are fairly confident

that this sample is a reasonable aggregate for the development of an initial and culturally appropriate psychological distress scale.

Table 1. Sample Characteristics

Variable	Phase I		Phase II
	Sample 1 (100 Cases)	Sample 2 (50 Cases)	50 Cases
Mean Age	38.7 (12.1) ^a	39.2 (12.1)	42.7 (12.8)
Mean Years in Columbus	3.1 (1.5)	3.1 (2.4)	NA
Mean Years in U.S.	4.3 (2.6)	4.3 (2.6)	NA
Mean Number of Children	3.9 (2.7)	4.8 (3.1)	NA
Percent Female	70.7	69.4	78.0
Percent Married	75.0	83.3	52
Percent with Local Friends	86.0	86.0	NA
Percent with Local Relatives	80.0	86.0	NA
Percent Employed	59.0	62.0	52.0
Mean Number of Years of Education	NA	NA	7.62 (4.46)

Note. NA = not applicable

^aStandard deviations are in parentheses.

Item Analysis and Scale Construction. Our goal was to develop several reliable versions of the SPDS that would differ in length thereby providing clinicians and researchers with flexibility in their assessment of Somali refugees for psychological distress. We aimed to develop scales of 35 items, 15 items, 10 items, and 5 items. Parsimony in scale length is very important with the Somalis. They are culturally unfamiliar with the type of long psychometric instruments that in our society we take for granted. They tend to be uneasy in assessment interviews whose length we take for granted. We thought it best to keep assessment time to the minimum required for a reliable outcome.

In developing each version of the SPDS scale (35 items, 15 items, 11 items, and 5 items) we followed the same set of procedures. First, we ran a general inductive principal components analysis of the larger set of 49 items. This allowed us to identify the items that cluster together. Then we carried out a screen test for the calculated factors to determine if a single general factor was adequate to capture the largest amount of variance among the items. Third, we ordered respondents' scores from high to low on the selected items and conducted a t-test between the upper quartile and the lower quartile in order to determine if the selected items did, indeed differentiate between "high scoring" respondents and "low scoring" respondents. Fourth, we calculated the correlation of item-to-scale total scores to ascertain if the selected items did indeed have a statistically significant relationship to the total scale score. Next, we calculated the internal reliability of the subscale using Cronbach's alpha. Finally, we calculated the test-retest reliability of the scale. In addition, descriptive statistics for each subscale were also calculated.

The results of the scale analysis yielded four highly reliable scales. The items along with their measurement statistics are in Table 2. What was to be a 10-item scale became an 11-item scale because it was impossible to distinguish statistically between two good items, so we retained both items. The detailed content of the four SPDS forms appears in Table 2.

It is notable that all dimensions from the GSSI were represented in the 35-item SPDS except for the appetite items. On the basis of our fieldwork we think this reflects the difference in the food experience between Somalis and the general American population. For many Somali refugees starvation has been a serious and long standing threat. During the war and in the relocation camps adequate food was always an issue. Many have lost babies and children to starvation and diseases related to nutritional deficiencies. Therefore appetite, food intake, and weight loss or gains appear not to be relevant indicators of psychological distress for these people at this time.

Table 2 contains the quartile scores for each form of SPDS for those interested in performance norms. That is, if someone scored a 107 on the 35-item version, that person would be among the upper quartile of psychologically distressed respondents and a person with a score of 33 would be in the least distressed quartile.

Table 2. SPDS Items and Four Scale Versions

Items	Scale Loadings			
	35 Items	15 Items	11 Items	5 Items
Sleep Problems				
Not being able to sleep at night	.609			
Not being able to sleep through the night until morning	.642			
Not being able to get back to sleep after waking up at night	.613			
Being awakened at night by bad dreams or a nightmare	.543			
Wanting to Sleep all the time	.594			
Appetite Problems				
Not feeling hungry				
Only eating if someone makes sure you do				
Losing weight, noticing that your clothes are too lose				
Feeling hungry all the time				
Eating more food than you need				
Gaining weight, noticing that your clothes are too tight				
Problems with your nerves				
Feeling shakiness inside	.763	.786	.753	.742
Having body tremors or shaking	.662	.665		
Sweating a lot				
Tightness or heavy feeling in your chest				
Your heart pounding so you can feel it in your chest	.621			
Feeling as if you are choking	.535			
Feeling as if you cannot get enough air to breath	.663	.701		
Feeling as if something were crawling on your skin	.549			
Feeling as if you are going to die				
Problems with your mood				
Feeling sad all the time	.608	.639	.699	
Crying a lot				
Feeling irritable, feeling angry about things that did not bother you before	.632	.672	.701	
Arguing and yelling more with people you see every day	.529			

Table 2 (continued)

Wanting to be alone more than you use to	.544				
Avoiding others more than you used to	.580				
Sighing a lot	.557				
Feeling numb, as if you don't have any feelings anymore	.664	.617			
Feeling hopeless, as if there is nothing you or anyone can do to help your life get better	.591				
Wishing that you would die and thinking about ways to end your life					
Not getting out of bed in the morning to do things you need to do					
Not having the will to do simple tasks	.655	.680	.737		
Feeling confused	.721	.721	.749	.754	
Feeling worthless	.696	.695	.746		
Problems with the way you are thinking or behaving					
Being more forgetful than usual	.549				
Feeling like someone is out to get you					
Losing things more than usual	.642	.650			
Forgetting things you start	.673	.690	.734		
Not being able to remember information you should know	.614				
Not being able to complete simple jobs because you cannot think about or remember what you are doing	.627				
Not being able to read, watch TV, or listen to the radio because you cannot pay attention or sit still	.687	.718	.767	.777	
Not being able to learn or remember new information	.612				
Having thoughts or memories that you cannot control	.750	.762	.795	.816	
Hearing things but when you check, finding no one is there					
Having time go by without knowing how you spent that time	.615				
Feeling poorly about the future	.682	.694	.744		
Feeling fearful	.597				
Feeling lonely	.630				
Being bothered by things that usually don't bother me	.725	.717	.738	.757	
Scale alpha reliability	.954	.934	.919	.859	
<i>t</i> -test for means of upper and lower quartiles	17.42*	19.37*	18.58*	23.83*	
Test/retest reliability	.907	.921	.913	.859	
Mean (<i>SD</i>)	77.91	33.53	25.49	12.26	
Standard Deviation	25.84	11.96	9.47	4.80	
Quartile Distressed Score Ranges					
High Distress	Q4	93-146	44-65	32-53	15-24
	Q3	78-92	33-43	25-31	13-14
	Q2	60-77	23-32	18-24	8-12
Low Distress	Q1	31-59	15-22	11-17	5-7

Note. Items without loadings did not meet statistical criteria for inclusion in the scale.

*Statistically significant beyond .001.

Phase II Results: Comparison of the SPDS and the Adult Consumer Form A

The purpose of Phase II was to compare the results of the SPDS with the results of the Adult Consumer Form A scales. In working with Adult Consumer Form A, we first had the form translated into Somali using the same multiple forward and backward translation procedures that we used in developing the GSSI. Then, we eliminated two items from Form A that did not make sense in working with the Somali sample. The first item eliminated was, “I have been treated with dignity and respect at this agency.” This item is appropriate for persons receiving services at a mental health agency. However, our sample is not attending an agency. Hence the item would create confusion. The second item eliminated was, “Feeling so restless you couldn’t sit still.” There was no reasonable translation into Somali that made sense while keeping the English meaning intact. We combined the translated Form A (minus the excluded items) with the 15-item SPDS. The resulting instrument in Somali was administered to a new sample of 50 Somali patients attending the CNHC.

Table 1 shows the characteristics of the Phase II sample. As compared to the first phase samples, the second phase sample was slightly older, more heavily female, and less likely to be employed. They average about seven and one-half years of formal school. There was not a one-to-one correspondence on background items between the Phase I and Phase II items because the GSSI was finalized specifically for the Somali refugees while the Adult Consumer Form A was not.

Table 3. Correlations among Adult Consumer Form A Scales and the SPDS and Scale Reliabilities.

	SPDS-15	QOL	PHS	SDS	SRP	EM
SPDS-15	1.000	.513*	-.538*	-.822*	.012	-.531*
QOL		1.000	-.474*	-.479*	.172	-.374
PHS			1.000	.461*	-.056	.552*
SDS				1.000	-.077	.543*
SRP					1.000	-.008
EM						1.000
Scale Reliability	.948	.799	.605	.964	.469	.755

Note. SPDS-15 is the 15-item Somali Psychological Distress Scale; QOL is the Quality of Life Scale (items 1-12); PHS is the Physical Health and Stigma Scale (items 13-15); SDS is the Symptom Distress Scale (items 16-29); SRP is the Symptom Recognition and Prevention Scale (items 30-31); EM is the Empowerment Scale (items 32-59).
*correlation is statistically significant at .01

Table 3 presents the reliabilities of the scales for the Phase II sample. The scales that are referred to (other than the SPDS) are the five broad patient domains that are reflected in the Ohio Mental Health Consumer Outcomes System Adult Consumer Form A (ODMH, 2002). See Table 3 for items and domains. The 15-item SPDS proved to be highly reliable (.948) with this sample as it did with the Phase I sample. Also solid reliable scores were found for Consumer Form A’s scales, SDS (.964), QOL (.799), and EM (.755). Somewhat less reliable were PHS (.605) and SRP (.469).

Table 3 also presents the correlations among the scales for the Phase II sample. The SPDS-15 had a strong correlation of -.822 with SDS. The negative sign simply reflects the responses being scored in different directions. We did not reflect all items to be either positive or negative because we wanted to minimize confusion over the statement of the item on Form A in contrast to the form of statement of the SPDS-15. SPDS-15 also had statistically significant (beyond .01) and moderate correlations with PHS (.538), EM (-.531) and QOL (.513). Among members of this sample, SPDS-15 did not correlate (.012)

with SRP. In fact, SRP did not correlate significantly with any of the other Adult Consumer Form A scales.

The results for the comparison of the Somali Psychological Distress Scale to the Form A scales suggests that scale elements of Form A provide information comparable to the SPDS scale. In particular, the Symptom Distress Scale proved to be highly reliable and strongly correlated with the Somali Psychological Distress Scale. The SDS scale is 14 items and the SPDS is 15 items. Given the strong correlation between the 15-item and 5-item SPDS (.947), we suggest that the 5-item SPDS might be substituted for the 15 item version when used in conjunction with Adult Consumer Form A or elsewhere when parsimony is important.

Concluding Remarks

There were two purposes for this study. The first was to develop a culturally appropriate instrument for measuring psychological distress in Somali refugees that could be used both for clinical and research purposes. This we did. We have developed four highly reliable versions of the Somali Psychological Distress Scale. The longest form is 35 items. The shortest form is 5 items. We are biased toward shorter rather than longer scales when reliability can be maintained. While all forms can be used with confidence, we recommend the shorter versions. They help minimize respondent fatigue when used with other scales in a research setting. They also help minimize the time taken in a medical interview or screening when other information must be obtained.

The second purpose of this study was to compare the results of the SPDS with the scales of the Adult Consumer Form A instrument. In this phase of the research we found that the SPDS works well with elements of Form A, particularly with the Symptom Distress Scale. This suggests that the SPDS is an instrument that may be of help in working with Somali clients or patients in the mental health care system.

We have established the SPDS as a solid instrument of high potential for clinical and research purposes. Therefore a number of directions can be taken with the instrument in both areas of activity. We plan to carry it forward by investigating the correlations of psychological distress in the Somali community as the population continues to adapt to American society.

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EVIDENCE AND EMPOWERMENT AMONG CONSUMERS IN THE PUBLIC MENTAL HEALTH SYSTEM

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Statement of the Problem

Public mental health systems strive to provide high quality care to consumers with severe mental illness, limited economic resources and sparse social networks. These systems face serious obstacles to achieving their goals; they are chronically under-funded, and their psychiatrists and case managers are not always well-qualified for the work. The stigma of mental illness makes everything harder.

Over the last decades, two new approaches to mental health have promised to improve not only treatment and services, but the lives of mentally ill people. Evidence-based practice (EBP), on the one hand, promotes rigorous scientific research and its use in clinical practice. The recovery movement, on the other, seeks to empower mentally ill people and emphasizes housing, employment and the support of peers. Both approaches have been endorsed by mental health policy-makers and program officials, but little attention has been paid to the convergence of the two. What is the relationship between evidence and empowerment? Can evidence serve to empower mental health consumers? Can empowerment further the cause of EBP?

Conceptual Framework and Study Design

In mental health as elsewhere, little is known about the relationship of evidence and empowerment among consumers. Investigators have found that mental health practice departs significantly from research findings (e.g., Lehman et al., 1998), and many address themselves to the problems of dissemination and implementation (e.g., Stirman, Crits-Christoph & DeRubeis, 2004). Aarons (2004) finds that among providers, including clinicians, case managers and program managers, adoption of EBPs depends, in part, on their intuitive appeal and the context in which they are used. Denis et al. (2002) attend to the different way that stakeholders, including consumers, assess the risks and benefits of innovative interventions; they find that innovation comes about more quickly when new practices align with the values of the most powerful parties. We know little, however, about the intuitive appeal of evidence to consumers or about how they understand the risks and benefits of the treatments and services they receive. Consumers in the public mental health system do not, for the most part, feel included in decisions about their care (NAMI, 2005), but when they do, they experience both met needs and better mental health outcomes (Roth, Crane-Ross, Hannon, Cusick & Doklovic, 1998; Corrigan, Lickey, Schmook, Virgil & Juricek, 1999). Still, what constitutes “having a say” in one’s care, and what is the role evidence plays or could play?

Because there is limited research on evidence and empowerment, this study will use qualitative methodologies in the ethnographic tradition to answer the questions above. The Principal Investigator (PI) will interview consumers in the public mental health system and allow respondents to speak freely about their lives, their relationships with others, including psychiatrists and case managers, and how they know what they do about their illnesses, treatment and services. Analysis of these data will discover the meanings to consumers of: 1) evidence and evidence-related matters, including knowledge, uncertainty,

and information and 2) empowerment and empowerment-related matters, including accountability and choice.

Goals of the Research

The goals of the research are as follows:

1. To investigate and document the relationship of evidence to empowerment in the lives of consumers in the public mental health system.
2. To determine the meanings consumers attach to evidence-related matters such as knowledge, uncertainty, and information, and also empowerment-related ones, including accountability and choice.
3. Not to test hypotheses *per se*, but to reveal narrative themes and linkages on the broad topics of what and how consumers know, the role of intermediaries and interpreters (Katz & Lazarsfeld, 1955), and how consumers do or do not participate in their care, etc.
4. To determine what, if any, are the implications of the analysis for the usefulness of evidence to consumers and how it might best be communicated to them.
5. To provide policy-makers, program officials, practitioners and advocates with findings pertinent to their efforts in EBP, quality improvement and consumer involvements, and to provide a well-analyzed context for initiatives to empower consumers in an age of evidence.
6. To create new knowledge about the lives of mental health consumers--how they manage, how they make sense of things, how they think about empowerment, and what difference evidence might make. The findings of this study will be of broad interest in the fields of evidence-based mental health, psychiatric recovery and mental health policy.

Methodology

This research will use qualitative methodologies in the ethnographic tradition, primarily ethnographic interviewing or the “active interview.” The active interview is designed “to provide an environment conducive to the production of the range and complexity of meanings that address relevant issues, and not to be confined by predetermined agendas” (Holstein & Gubrium, 1995, p. 17). It is not, however, simply conversation. It is designed to elicit what a respondent thinks about a topic and how that thinking is organized. The interviewer creates an interview schedule, but it is a guide rather than a script. The instrument is highly flexible and will necessarily change during the course of an interview and across interviews.

The basic interview schedule is as follows:

1. I would like to ask you about how you are getting along. Tell me something about your life. *This question will allow the respondent to tell his story in his own terms. Follow-up: knowing, information, figuring out, getting needs met, relationships with providers.*
2. Do you talk with other people about how things are going? *Here the interviewer attends to how relationships with people might entail evidence and empowerment. Follow-up: family, friends, professionals, information-sharing.*
3. How are things going with your psychiatrist (and then case manager). Have you seen him lately; what was that like? *Here the interviewer attends to the consumer's experience of these important relationships. Follow-up: research evidence, uncertainty, choice, coercion.*
4. When your troubles first began, or when things get especially tough, how do you figure out what to do? *The respondent is asked to tell a story about understanding what happens to her and what*

she can do about it. Follow-up: ways of knowing, evidence, use of information, possibility for self-help.

5. Finally, have you ever heard of evidence-based practice? [PI defines and explains.] Have you ever experienced something like this? What do you think of the idea?

The participants in this study are 40 adult consumers in Ohio's public mental health system. The consumers will be recruited by the PI at four sites that will give the sample geographic and racial diversity, and participants at both sites will vary by age and gender. The sample will not be specified by clinical diagnosis, although consumers with a variety of disorders visit both sites.

Study respondents will be interviewed by the PI on-site; they will be paid \$20 for their participation. The interview data will be collected on audiotape. At the conclusion of each interview, the researcher will also make extensive field notes about the non-verbal content of the session, the immediate environment, etc. Audiotaped data will be transcribed by a research assistant, and transcriptions will be checked by the PI.

The PI will perform a narrative analysis to find categories and the relationships and patterns between and among categories. Bracketing will be used to identify key phrases and statements that speak directly to the research questions and the meanings of these phrases will be interpreted. The methods of constant comparison (Glaser & Strauss, 1999) and conversation analysis (Atkinson & Heritage, 1992) will be used within and across interviews. This requires immersion of the researcher in the interview transcripts and the writing of self-memos as each meaning category coheres.

Once all the data have been analyzed, the PI will use the meanings revealed to map the relationships between evidence and empowerment for the study sample. This map will then be available for further scholarly and programming purposes.

Significance and Implications of the Study Results

At the conclusion of the project, we will know more about how consumers think about their life situations, how they get and use information of various kinds, with whom they share information and decision-making, and how they figure out what to do. This knowledge will be applicable to improved services for mental health system clients in two major ways. First, to the extent that quality improvement relies on evidence-based practice, the findings of this research will guide agency efforts to involve consumers in this enterprise. Efforts might include communicating with consumers about evidence, enhancing natural networks of information exchange, or equipping consumers to discuss evidence with providers. Consumer involvement has the potential to reshape the research questions about which evidence is gathered. Second, to the extent that quality improvement relies on empowerment, the findings of this research will identify additional opportunities for the latter, especially with reference to the role of evidence. Knowing more about what it means to have a say will allow agencies and advocates to create the conditions for having it.

Although the findings of this research are likely to be directly translatable into the public mental health system, they also suggest avenues for further research. For example, the analysis of these interview data may provide a starting point for further, methodologically diverse research on consumers and evidence in mental health. It may, for example, lead other researchers to create instruments for statistical analysis or perhaps a scale for consumer attitudes toward EBP.

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MODELS OF CASE MIX ADJUSTMENT FOR OHIO MENTAL HEALTH CONSUMER OUTCOMES AMONG CHILDREN AND ADOLESCENTS

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With increased accountability among the human services, collecting data regarding the effectiveness of services is emphasized. With measurement, data collection, and analysis comes the potential for monitoring and comparing agencies, programs, and providers on various indices of service delivery effectiveness, satisfaction, and outcomes. Indeed, "it has become increasingly common for outcome data to be used to rate the performance of mental health providers, set reimbursement rates, and function as criteria for accreditation" (Phillips, Kramer, Compton, Burns, & Robbins, 2003, p. 125). As might be expected, providers are wary of these types of comparisons and often remind evaluators that clients are not randomly assigned to board areas, agencies, programs or clinicians. As a result, a number of potentially confounding or biasing factors may limit possible comparisons. To ameliorate these methodological problems, the statistical procedures associated with case-mix adjustment have been proposed to render comparisons meaningful.

Case Mix Adjustment

Case mix adjustment has been described as "a complex component of health outcomes evaluation" that accounts "for intrinsic differences among patient populations that may affect the outcomes of care" (Kramer et al., 2001, p. 287). The goal of case mix adjustment is to eliminate biases that do not correspond to actual differences between agencies in terms of the quality of care (Elliot, 2001). Since providers serve different regions with different populations and using different programs (i.e., with different case mixes), a number of factors may systematically influence service effectiveness independent of the quality of the intervention. In order to compare providers in an unbiased way, these factors must be accounted for (adjusted) before meaningful comparisons can be made. In this study, we use these methods in the first case-mix investigation of the Ohio Mental Health Consumer Outcomes System for children and adolescents.

Factors Associated with Treatment Response

A variety of factors have been studied in terms of their effects on mental health treatment outcomes for youth. Evidence suggests that youth improvement is influenced by clinical, demographic, and familial characteristics that are evident at intake (Phillips et al., 2003). Clinical characteristics of the child such as, the type of symptoms (Southam-Gerow, Kendall & Weersing, 2001), diagnosis (Kolko, 1992), and the degree of child dysfunction (Kazdin & Wassell, 1999) have all been studied in this area. Demographic factors that may be related to mental health treatment outcomes include intelligence, age, gender, and ethnicity of the child (Pfeiffer & Strzelecki, 1990; Kolko, 1992; Jayson et al., 1998; Southam-Gerow et al., 2001; Yeh, Takeuchi, & Sue, 1994). Family environment factors have also been studied relative to treatment outcomes for children and adolescents, including family socioeconomic status (Southam-Gerow et al., 2001; Kazdin & Wassell, 1999), parent psychopathology, and family structure (Webster-Stratton, 1985). However, these findings have rarely been applied to case-mix adjustment scenarios.

In perhaps the only published study of case-mix adjustment with regard to adolescent treatment outcomes, Phillips et al. (2003) identified three categories of potential case-mix variables: 1) clinical status at intake, 2) demographic and presenting problems, and 3) youth history variables. Twenty-six variables within these categories were first correlated with five outcomes measures (symptom severity, role performance, relationships, consequences, and family impact) to identify significant statistical associations. Sixteen variables were then included in subsequent regression models. Providers were compared using unadjusted models followed by adjusting the scores using several combinations of predictor variables to compare providers using case-mix adjusted models. Adjusting outcomes was more pronounced for some providers than others, but rankings did change as a result of adjusting for case mix. However, the addition of case mix adjustment variables beyond the clinical scores at intake did not substantially alter findings based on the adjusted model developed using intake scores only. The authors suggest the case mix models are important to consider, but the number of potentially meaningful variables may be smaller than originally suspected. This study makes an important initial contribution to the case-mix literature for child and adolescent outcomes. Nevertheless, additional research is needed to substantiate the findings and to extend the results to a sample with a larger number of providers.

Purpose of the Study

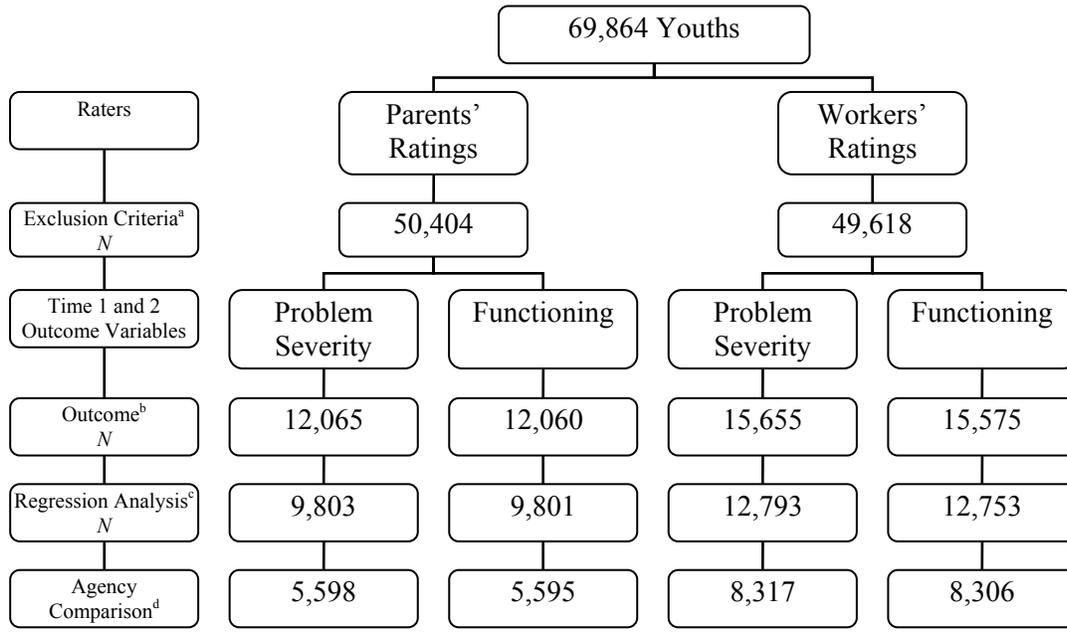
In this study, we use basic demographic and service data to investigate what, if any, factors may influence outcomes on the child and adolescent portion of the Ohio Mental Health Consumer Outcomes System in order to develop initial models of case mix adjustment. Two research questions regarding outcomes provide the structure for this research.

1. Are demographic, clinical, and family variables at intake related to the outcomes for children receiving services?
2. When comparing providers on the outcomes of services, do adjusted models present a significantly different picture of providers when compared to unadjusted models?

Method

Participants. An archival database of children receiving publicly funded mental health services in Ohio was used to conduct this study. A complete gleaning as of the fall of 2004 from the statewide Outcomes database for parent and case worker ratings of 69,864 children was sent to the investigators. Figure 1 illustrates the winnowing process for the dataset based on exclusion criteria and missing variables. The data set for examination was limited to those children who had at least two data points (9,803 parent ratings). Tables 1 and 2 include the descriptive data for the outcomes variables and covariates for youth in the sample at time 1.

Figure 1. Flowchart representing the selection of youths for the Outcomes analyses.



Note. For the present study, only parent-rated Problem Severity was analyzed.

^aYouths who satisfied the exclusion criteria: they were not younger than 5 or older than 22, more than 60 days had not elapsed between admission and completion of the parent or worker ratings, and at least 30 days, but no more than 6,205 days (17 years) had elapsed between Time 1 and Time 2 ratings.

^bYouths whose parents or workers had completed the appropriate scales at both Time 1 and Time 2.

^cYouths who were included in the regression analysis, i.e., youths who had complete data not only on the appropriate outcomes variable but also all covariates.

^dYouths who were being treated at agencies with more than 200 youth clients.

Table 1. Descriptive Statistics for Time 1 Quantitative Outcomes and Covariates

	Parent Variables			Worker Variables		
	N	M	SD	N	M	SD
Problem Severity	40,857	28.6	16.3	36,657	27.5	14.1
Functioning	40,282	45.2	15.1	36,248	44.0	12.4
Age	42,470	11.8	3.6	37,593	11.8	3.6
ROLES	38,846	2.4	1.0	35,649	2.4	1.0

Outcomes Variables. The Ohio Scales are multiple content (Problem Severity, Functioning, Hopefulness, and Satisfaction), multiple source (parent, youth, agency worker) instruments that are used to assess initial severity and outcomes for public mental health services in the state of Ohio. For this paper only the parent rated Problem Severity will be considered. Psychometric data regarding the Ohio Scales can be found in several published sources (e.g., Ogles et al., 2004; Ogles et al., 2001).

Table 2. Descriptive Statistics for Time 1 Categorical Covariates

	Parent Variables		Worker Variables	
	N	%	N	%
Sex	51,183		44,408	
Male	24,027	57.5	25,617	57.7
Female	17,791	42.5	18,791	42.3
Race	51,183		41,555	
White	25,177	64.3	26,884	64.7
Black	11,519	29.4	12,086	29.1
Hispanic	658	1.7	710	1.7
Native American	150	0.4	147	0.4
Asian	61	0.2	61	0.1
Multiracial	1,578	4.0	1,667	4.0
Primary Diagnosis	39,896		36,023	
ADHD/Disruptive Behavior	17,557	44.0	15,775	43.8
Adjustment	9,944	24.9	9,147	25.4
Mood	7,135	17.9	6,437	17.9
Psychotic	175	0.4	136	0.4
Anxiety	2,450	6.1	2,179	6.0
Pervasive Developmental	219	0.5	178	0.5
Other Childhood	923	2.3	808	2.2
Other	1,493	2.3	1,363	3.8
Detention	36,961		33,779	
1 or more	4,520	12.2	4,162	12.3
0	32,441	87.8	29,617	87.7
Self Harm	36,842		33,667	
1 or more	2,234	6.1	2,143	6.4
0	34,608	93.9	31,524	93.6
Suspension	37,086		33,878	
1 or more	6,027	16.3	5,702	16.8
0	31,059	83.7	28,176	83.2
Arrests	36,941		33,767	
1 or more	2,636	7.1	2,530	7.5
0	34,305	92.9	31,237	92.5
Agencies	51,183		50,142	
7	1	0.0	1	0.0
6	5	0.0	5	0.0
5	23	0.0	19	0.0
4	142	0.3	125	0.2
3	653	1.3	654	1.3
2	4,110	8.0	4,086	8.1
1	46,249	90.4	45,522	90.3

Case Mix Variables. The following variables were selected to consider when developing the case mix adjustment model: 1) child age, 2) child sex, 3) child race (coded as White, Black/African-American, Hispanic, Native American, Asian, or Multiethnic), 4) Weighted ROLES score, 5) diagnosis (coded as disruptive behavior disorder, mood disorder, schizophrenia, anxiety disorder, pervasive and other developmental disorders, other childhood disorders, and other disorders), 6) days in detention (coded as

none or 1 or more), 7) arrests (coded as none or 1 or more), 8) suspensions from school (coded as none or 1 or more), 9) self-harm attempts (coded as none or 1 or more), 10) number of agencies, and 11) elapsed time between time 1 and time 2 assessments.

Results

To examine the potential effects of case mix variables on outcomes, we examined the data for all parent ratings that had at least two time points. Parent (or primary caregiver) ratings of children at a subsequent time following the initial assessment were subtracted from initial ratings. Negative numbers represented an increase in symptoms and positive numbers represented improvement (or decrease in symptoms). The amount of time between time points varied and was entered as a predictor variable in analyses discussed below. Change scores were categorized using the reliable change index (Jacobson & Truax, 1991). If parent ratings on the Problem Severity scale decreased by 10 or more points, the youth outcome was classified as improved. If the parent ratings increased by 10 or more points, the youth outcome was classified as deterioration. Parent change ratings between and including 9 and -9 were categorized as no change.

In order to evaluate this difference using a single metric, we calculated a difference score in which the percentage of individuals who deteriorated was subtracted from the percentage of individuals who improved for each provider agency. The metric was based on the notion that a provider agency should be working to help as many clients as possible improve while minimizing the number who deteriorate during treatment. As can be seen in Table 4, outcomes metric rates varied from 13 to 39 percent among providers with 200 or more clients in the data base. Rates of improvement ranged from 33 to 50 percent while rates of deterioration ranged from 10 to 20 percent.

To examine the influence of case mix variables on outcomes, we conducted a multinomial logistic regression predicting outcomes category (improved, no change, deteriorated) for parent-rated Problem Severity (see Table 3). All ratings were at the initial assessment unless otherwise noted. Coded variables were used for multi-category variables as indicated in the method. All clients with two outcomes time points and a full complement of the other variables were used to create the model even though only clients from providers with 200 or more clients in the data base were used to examine provider differences in unadjusted and adjusted improvement rates.

Although several individual variables were significant predictors of the outcomes categories, the amount of variance accounted for was very small, Cox and Snell's Pseudo R -Square = .024. Nevertheless, the model was used to calculate expected or adjusted improvement rates for each provider using the following method: The Index was calculated as the proportion of individuals who improved within an agency minus the predicted portion improved (using the case mix model) after subtracting the proportion worsened minus the predicted portion worsened.

The order of providers using both the adjusted and unadjusted rankings was compared to examine the influence of case mix variables on the ranking of providers. Table 4 displays the rank order of providers using the unadjusted percentages and adjusted percentages (using the index) for the parent-rated Problem Severity. As can be seen in the Table, the adjusted index of client progress does change the rank order of agencies in some cases, but the correlation between the two indices is large, $r = .97$.

Table 3. Multinomial Logistic Regression Model Predicting Outcome Categories based on Parent Problem Severity Ratings

Predictor Variable	LR Test	Exp(B) worse	Exp(B) Same
Time between ratings	51.65*	1.08	.64*
Age	3.54	.98	.99
ROLES	16.43*	1.13*	1.01
Number of agencies	22.09*	1.24*	1.02
Sex	2.64	.90	.98
Race: Black ¹	3.02	1.00	.93
Race: Hispanic	1.93	.91	1.19
Race: Native American	.11	.86	.93
Race: Asian	.40	1.05	.76
Race: Multi-racial	.80	.91	1.03
Diagnosis: Adjustment Disorder ²	13.42*	.87	.79*
Diagnosis: Mood Disorder	2.53	1.04	1.10
Diagnosis: Schizophrenia	1.98	2.12	.97
Diagnosis: Anxiety Disorder	2.80	1.15	1.14
Diagnosis: Pervasive Developmental	.34	1.03	.85
Diagnosis: Other Childhood Disorders	4.11	1.82	1.05
Diagnosis: Other Diagnosis	3.98	1.05	.76
Number of detentions	6.26*	1.24*	1.17*
Number of self-harm attempts	21.46*	1.58*	1.44*
Number of suspensions	9.46*	.99	1.19*
Number of arrests	4.87	.84	1.13

¹ Anchor comparison group is white for all race category dummy variables.

² Anchor comparison group is disruptive behavior disorders for all diagnosis category dummy variables.

* $p < .05$

Table 4. Unadjusted and Adjusted Outcomes Indices Using Parent-Rated Problem Severity for Providers with More Than 200 Clients

Provider	% Improved	% Deterioration	Case Mix Index Actual Improved/ Deterioration	Adjusted Case Mix index %	Rank 1	Rank 2
A	50	11	39	10	1	1
B	44	10	34	7	2	3
C	44	12	32	8	3	2
D	41	12	29	4	4	4
E	40	12	28	3	5	5
F	39	11	28	0.0	5	6
G	37	12	25	-1	7	7
H	40	15	25	-1	7	7
I	38	15	23	-3	9	9
J	34	12	22	-3	10	9
K	37	16	21	-9	11	12
L	38	18	20	-6	11	11
M	33	20	13	-12	13	13

Discussion

Several findings of this study deserve brief discussion. First, parent-rated outcomes categorized using the Jacobson-Truax Reliable Change Index varied significantly among agencies and ranged from 50 to 33 percent of children within an agency identified as having reliably improved and from 11 to 20 percent identified as having reliably deteriorated during treatment. Somewhat surprisingly, the agency with the lowest rate of improvement also had the highest rate of deterioration. This variation among agencies in rates of improvement and deterioration is significant and represents the type of finding that administrative bodies (especially those paying for services) would like to more fully investigate and that agencies may dread. The collection of outcomes data leads to comparisons among providers. When viewing this type of data, it is important to remember that children are not randomly assigned to agencies and that the case mix of clients along with other factors may influence outcomes differences among agencies. Indeed, the subsequent analyses performed in this study were directed specifically toward this question.

Second, when investigating the influence of multiple variables thought to be related to outcomes through previous study, for theoretical reasons, or because of widespread clinical belief, the overall model was significant and several individual variables were predictive of outcomes for individuals in the sample. However, the proportion of variance accounted for by the predictor variables was small. Although not illustrated in this analysis, the pre-treatment score for each client remains the best predictor of outcomes when considered among the variety of demographic, clinical, and family variables considered in this study.

Third, to further investigate the influence of selected case mix variables on agency comparisons, agencies having 200 or more clients with complete data over time were compared before and after developing case mix adjustment models using the regression equations. Adjusted and unadjusted rankings of agencies did vary slightly, but the rank order correlations were large. As with the earlier case mix adjustment study (Phillips et al., 2003), the current study suggests that case mix adjustment may be important for some agencies, but for the most part, case mix adjustment does not significantly alter the rank order of agencies in terms of average outcomes. Indeed, significant differences in average outcomes rates among agencies remained even after accounting for a variety of theoretically important client demographic, clinical, and family variables. Similarly, intake levels of severity remain the best predictor of outcomes.

Finally, the analysis suggests that the central variables that are related to outcomes have as yet to be identified and that agencies differ in their average rates of success for reasons which are not currently clear. Nevertheless, agencies vary substantially in their overall rates of improvement and deterioration and further investigation into the factors that contribute to these differences is warranted.

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- Ogles, B.M., Carlson, B., Hatfield, D., Karpneko, V. (2006, October). *Models of case mix adjustment for Ohio consumer outcomes among children*. Poster presented at Research Results Briefing 2006: Knowledge to Transform Mental Health Services in Ohio, Columbus.

LEVEL OF CARE DECISIONS WITH THE CAFAS AND AGENCY WORKER RATED OHIO SCALES: PREDICTING SERVICE UTILIZATION

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Interventions within the system of care are typically offered along a continuum of care so that services can be matched to the needs of the child. For example, the framing values for building a system of care include the following principle: “Children with emotional disturbances should receive services within the least restrictive, most normative environment that is clinically appropriate” (Stroul & Friedman, 1986, p. 20). The focus on least restrictive care within the child mental health system is heavily linked to deinstitutionalization and the perception that inpatient hospitalization and residential treatment are often inappropriately used for youth (Keisler, 1993; Knitzer, 1982; Lyons, Libman-Mintzer, Kisiel, & Shallcross, 1998). As a result, the system of care philosophy emphasizes matching youth to appropriately restrictive services based on their strengths and needs.

In order to assist in the decision making process, level of care protocols are being developed to help guide the clinician. For example, Stark County mental health services used a level of care protocol based on the Child and Adolescent Functional Assessment Scale (CAFAS) to assign youth to a specified intensity of services. Similarly, level of care research attempts to identify methods of linking available mental health resources and services to corresponding consumer levels of need (Kazarian, Llewellyn, & McCabe, 1996; Uehara, Smukler, & Newman, 1994).

While level of care protocols may facilitate the standardization of decision-making, the majority of studies are being conducted with adults. In addition, many questions remain regarding the reliability, validity, and utility of level of care protocols (Foster, Saunders, & Summerfelt, 1996). For example, Bickman, Karver, and Schut (1997) examined clinicians’ ability to accurately judge the appropriateness of level of care decisions through having 18 clinicians make level of care decisions regarding the clinical profiles of 47 children. The judges used clinic written standards for making such decisions. When examining the data, the interjudge reliability was close to zero and the correspondence between judge ratings and actual placements was very low. As a result, Bickman et al. (1997) suggested that the clinic’s written standards may be too general or that clinicians need more training in using such standards. They went on to suggest that an even more basic implication might be that “preestablished criteria may not be valid representations of appropriate care” (p. 518). In addition, they suggested that level of care standards have not been linked to clinical and functional outcomes. Certainly, level of care protocols must perform at a higher level than this if they are to be useful and actuarial methods may be superior to clinical methods (Bickman et al., 1997).

Because the Ohio Mental Health Consumer Outcomes System includes the routine administration of clinical assessment instruments at or during the initial point of service, the possibility of incorporating the outcomes data into a level of care decision-making process is also being considered. In a study presented in *New Research in Mental Health, Vol. 16*, levels of care for the agency worker rated Ohio Scales were calibrated with the CAFAS (Ogles & Healy, 2003). In this study, the level of care categories are examined for their validity through a comparison to assigned levels of care and service utilization.

Purpose of the Study

This study was conducted to examine the Ohio Scales and CAFAS in relationship to clinician-assigned level of care and service utilization. Three hypotheses were proposed:

Hypothesis 1: Youth assigned to the various levels of care would have significantly different CAFAS and OS-W scores with higher impairment associated with more intense services.

Hypothesis 2: Youth assigned to the various levels of care would have significantly different rates of service utilization (as estimated via total cost) with higher costs associated with more intense services.

Hypothesis 3: Both the OS-W and the CAFAS scores would be associated with service utilization with higher scores (more impairment) related to higher costs.

Method

Sample. The Stark County data set consisted of 206 youth who were rated by agency workers on the CAFAS and OS-W at regular Outcomes administration time points. Data regarding service utilization were gathered using routine board processes then attached to the clinical data with non-identifying identifiers. In addition, level of care assignment and several other demographic and behavioral characteristics were gathered (e.g., sex, age, education, risk factors, race). This is the same data set as the 2005 Ogles and Healy study with two exceptions: 1) only the first entrance into the system for each youth is included for the nine youth who had multiple assessments, and 2) seven youth for whom data were late were included in this analysis and not the earlier analysis.

The youth consisted of 86 girls and 119 boys (1 missing) and ranged in age from six to 18 ($M = 12.27$; $SD = 3.07$). The racial composition of the youth was from the following groups: 170 White, 31 African American, seven Native American, one Hispanic, two Asian, 12 other, and three unknown. (The total exceeds 206 because multiple groups could be endorsed.) Educational level ranged from kindergarten to 12th grade (k – 1, 1st – 13; 2nd – 13; 3rd – 18; 4th – 20; 5th – 21; 6th – 16; 7th – 19; 8th – 24; 9th – 20; 10th – 18; 11th – 9; 12th – 2; missing - 12). The most frequently diagnosed disorders were in the attention-deficit and disruptive behavior disorders category ($n = 100$) with Oppositional Defiant Disorder ($n = 43$) and Attention Deficit Disorder ($n = 27$) as the most frequent diagnoses. A total of 98 youth had internalizing disorders, with adjustment ($n = 57$) and anxiety disorders ($n = 24$) being the most common.

Results

Initial Level of Care Data. Tables 1, 2, and 3 display the relationship between the level of care upon entry into the study (entry), the level of care to which youth were referred (assigned), and the level of care to which the agency worker thought the child would best be assigned if finances and services were not an issue (ideal). The assigned level of care was determined by the clinician. To make the level of care assignment decision, the clinician used the CAFAS score (including the protocol table displayed in the 2005 study) along with other clinical information.

For those youth who were not receiving services at the time of the evaluation ($n = 94$), six (6%) were considered to not be in need of service. The remaining 88 youth were assigned to various levels of care from 1 to 4. For those receiving services at the time of the evaluation ($n = 112$), a majority (60%) stayed at that same level of care following the evaluation (67/112). Of the remaining 45 who were not assigned to the same level of care, 15 moved to a higher level of care and 30 moved to a lower level of care.

For those youth who were not receiving services at the time of the evaluation ($n = 94$), in an ideal world where finances and services were not an issue, 15 (16%) were considered not to need service. The remaining 79 youth were assigned to a range of levels of care from 1 to 5. For those who were receiving services at the time of the evaluation ($n = 112$), a majority (75/112 or 67%) would stay at that same level of care following the evaluation in an ideal world. Of the remaining 37 who were not assigned to the same level of care, ideally 15 would be moved to a higher level of care and 22 would be moved to a lower level of care.

Importantly, the agency worker’s view of the ideal versus assigned level of care was not very discrepant. Agency workers felt that 26 (13%) youth would have been better served by a higher level of care and 17 (8%) youth would have been better served by a lower level of care. This indicates that 79% (163/206) of the youth were assigned to a level of care that was consistent with the agency worker’s view of the best or ideal level of care, $\chi^2 (25, 206) = 479.43, p < .001$.

Table 1. Level of Care at Entry by Assigned Level of Care

Assigned Level of Care

Level at Entry	0	1	2	3	4	5	Total
0	6	22	35	17	14	-	94
1	3	12	5	-	2	-	22
2	-	2	29	2	1	-	34
3	-	2	6	19	3	-	30
4	1	-	4	4	7	2	18
5	-	-	2	1	1	-	4
6	-	-	1	2	1	-	4
Total	10	38	82	45	29	2	206

Note. 0 - No Service; 1 – Mild; 2 – Moderate; 3 – Severe; 4- Extreme; 5 – Residential Treatment; 6 - Hospitalization

Table 2. Level of Care at Entry by Ideal Level of Care

Ideal Level of Care

Level at Entry	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>Total</u>
0	15	16	30	18	14	1	94
1	1	14	3	2	2		22
2		1	29	3	1		34
3			5	23	2		30
4	1		2	4	9	2	18
5			1	2	1		4
6			1	2	1		4
Total	17	31	71	54	30	3	206

Note. 0 - No Service; 1 – Mild; 2 – Moderate; 3 – Severe; 4- Extreme; 5 – Residential Treatment; 6 - Hospitalization

Table 3. Assigned Level of Care by Ideal Level of Care

Assigned Level of Care	Ideal Level of Care						Total
	0	1	2	3	4	5	
0	7	2		1			10
1	6	27	4	1			38
2	2	2	65	10	3		82
3	1		2	40	1	1	45
4	1			2	25	1	29
5					1	1	2
Total	17	31	71	54	30	3	206

Note. 0 - No Service; 1 - Mild; 2 - Moderate; 3 - Severe; 4- Extreme; 5 - Residential Treatment; 6 - Hospitalization

Problem Severity and Impairment within Level of Care. To compare the CAFAS and the Ohio Scales with regard to their ability to identify or predict the assigned level of care several analytic strategies were used. First, three one-way analyses of variance (ANOVA) with assigned level of care as the independent variable and the Ohio Scales Problem Severity, Functioning, and CAFAS scales were conducted. The highest levels of care (4, 5, and 6) were collapsed into one category in order to obtain sufficient Ns in each cell. It should be noted that clinicians used the CAFAS in order to determine the level of care. As a result, CAFAS scores would be expected to be highly correlated with the level of care. Table 4 displays the means and standard deviations for the three variables across the assigned levels of care.

Table 4. Means and Standard Deviations on the CAFAS, OS-Problem Severity, and OS-Functioning for the Assigned Level of Care

Variable	Level 0 <i>n</i> = 10 <i>M</i> (<i>SD</i>)	Level 1 <i>n</i> = 36 <i>M</i> (<i>SD</i>)	Level 2 <i>n</i> = 82 <i>M</i> (<i>SD</i>)	Level 3 <i>n</i> = 45 <i>M</i> (<i>SD</i>)	Level 4 <i>n</i> = 31 <i>M</i> (<i>SD</i>)
CAFAS	38.0 (42.37)	32.6 (10.57)	60.0 (21.08)	89.3 (29.34)	111.2 (32.22)
OS- PS	17.7 (10.39)	18.6 (9.98)	26.9 (13.57)	32.2 (12.6)	33.2 (13.46)
OS- Func	53.9 (13.49)	51.7 (10.26)	43.9 (13.54)	40.4 (10.79)	39.7 (10.61)

Note. CAFAS = Child and Adolescent Functional Assessment Scale; OS-PS = Ohio Scales, Problem Severity; OS-Func = Ohio Scales, Functioning

All three ANOVAS were significant $F(4,205) = 56.28, p <.000, F(4,203) = 9.12, p <.000, F(4,203) = 7.41, p <.000$, for the CAFAS, OS-W Problem Severity, and Functioning scales respectively. This indicates that individuals assigned to different levels of care using the CAFAS had differing levels of functional impairment and problem severity as measured by the three instruments.

Follow-up post hoc Scheffe tests indicated that the CAFAS scores of youth in Levels 3 and 4 were significantly higher than youth in all other levels. In addition, youth in level 2 had higher CAFAS scores than youth in level one. Interestingly, CAFAS scores of youth assigned to no service (level 0) were not significantly different from youth assigned to level 1 or level 2. This suggests that worker ratings of

youth using the CAFAS identify three broad groups of youth (e.g., levels 0, 1 and 2 combined, level 3, and level 4).

Follow-up post hoc Scheffe tests indicated that for the worker-rated Problem Severity scale, scores for youth assigned to Level 0 were significantly lower than levels 3 and 4. Scores of youth assigned to Level 1 were significantly lower than levels 2, 3, and 4. However, youth in levels 2, 3 and 4 were not different from each other. These data suggest that the Ohio Scales Problem Severity scale reliably identifies two broad groups (e.g., levels 0 and 1 versus levels 2, 3 and 4) when compared to assigned level of care as determined by clinicians using the CAFAS.

Follow-up post hoc Scheffe tests indicated that for the worker rated Functioning scale youth assigned to Level 0 were significantly lower than levels 3 and 4. Scores of youth assigned to Level 1 were significantly lower than level 2, 3, and 4. However, youth in levels 2, 3 and 4 were not different from each other. These data suggest that the Ohio Scales functioning scale reliably identifies two broad groups (e.g., levels 0 and 1 versus levels 2, 3 and 4) when compared to assigned level of care as determined by clinicians using the CAFAS.

In summary, the actual level of care selected by the clinician (after examining the CAFAS scores and considering other clinical information) produced groups that were different on the CAFAS, OS-W Problem Severity and Functioning scales. Differences were mostly in the expected direction with more problems or impairment for youth assigned to more intense services. Differences among ratings of youth using the CAFAS produced three significantly different groups while ratings of youth using the worker rated problem severity of functioning scale produced two significantly different groups.

Level of Care and Service Utilization. To further investigate the ability of the OS-W to predict level of care, three ANOVAs were examined using the assigned level of care, the levels of care using the CAFAS score, and the level of care using the OS-W (Problem Severity) score with total cost of services utilized over six months. Tables 5, 6 and 7 provide the means and standard deviations for the data. Note that only 169 of the 206 (82%) youth received billable services in the county in the six months following the initial assessment. Exploratory analyses of these data were conducted including all youth with zero dollars of services entered for youth who had no record of services, but appreciable differences were not noted. As a result, only data for youth with billable services during the six months following the assignment to level of care are reported and analyzed.

Three ANOVAs were conducted to examine differences in billable services across the levels of care for the three level of care methods. All three ANOVAs were significant $F(4,164) = 6.85, p < .001$, $F(4,168) = 3.113, p < .017$, and $F(4,168) = 2.808, p < .027$ for the assigned, CAFAS, and OS-W Problem Severity categorization methods respectively.

Follow-up post hoc analyses for actual level of care (Scheffe tests) indicated that youth in Level 1 used significantly fewer billable services than youth in levels 3 and 4. In addition, youth in level 2 used fewer services than youth in level 3. Youth in levels 0, 3 and 4, were not significantly different in terms of total dollars of billable services expended over the six-month period. For the CAFAS determined level of care, post hoc analyses indicated that youth in level 1 had significantly fewer services than youth in level 3. No other differences among the five levels of care were significant. For the Ohio Scales determined level of care, there were no differences in total dollars of services among the five groups.

The correlation between total dollars expended and CAFAS Total Eight scores within the group of youth receiving billable services was $r(169) = .24, p < .002$. The correlation between total dollars expended and the OS-W Problem Severity scales was $r(169) = .20, p < .01$. These correlations were not

significantly different and both quite modest, accounting for less than five percent of the variance in dollars expended.

Some additional comments are warranted regarding these financial data. First, the range of billable services was very large ranging from no services to \$50,849.76 over the six-month period (average = \$3,981.88; *SD* = \$6,704.44) for the 169 children that had billable services. Seventeen youth had more than \$8,000 of services in the six-month period. These outliers influenced the standard deviations (see Tables 5, 6 and 7) so that in many cases the standard deviations exceeded the means. At the same time, analyses excluding the seventeen outliers did not alter the findings in a dramatic fashion. Interestingly, both youth who had no billable services and youth who had over \$8,000 dollars in services were assigned to most levels of care (see Table 8).

Second, because of the variability of billable services used within each level of care, no clear differences among the levels of care emerged. The average dollars billed at each level appeared to increase as expected in most cases, but the variability rendered differences between groups as non-significant except in a few instances. The smaller number of youth in levels 0 and 4 may also have influenced this finding.

Table 5. Means and Standard Deviations for the Cost of Services Delivered Across the 5 Levels of Care as Assigned by the Clinician When Using CAFAS Scores as One Source of Information

	Level 0 <i>n</i> = 8	Level 1 <i>n</i> = 33	Level 2 <i>n</i> = 70	Level 3 <i>n</i> = 40	Level 4 <i>n</i> = 18
Mean	2871.88	1092.25	2651.64	7432.57	7277.82
<i>SD</i>	5579.10	823.17	2624.01	11124.22	7394.67

Table 6. Means and Standard Deviations for the Cost of services delivered across the 5 Levels of Care as Determined by CAFAS Cutoff Scores

	Level 0 <i>n</i> = 7	Level 1 <i>n</i> = 51	Level 2 <i>n</i> = 80	Level 3 <i>n</i> = 23	Level 4 <i>n</i> = 8
Mean	2670.97	2321.55	3803.2	7542.73	7262.9
<i>SD</i>	5121.81	5646.67	4830.89	11692.59	7704.57

Table 7. Means and Standard Deviations for the Cost of Services Delivered Across the 5 Levels of Care as Determined by Ohio Scales Problem Severity Scores

	Level 0 <i>n</i> = 13	Level 1 <i>n</i> = 39	Level 2 <i>n</i> = 77	Level 3 <i>n</i> = 29	Level 4 <i>n</i> = 11
Mean	2644.69	1966.01	3806.8	6673.8	6838.06
<i>SD</i>	3731.13	2787.84	4983.89	9470.19	14853.33

Table 8. Number of Youth Assigned to Each Level of Care with No Billable Service or More than \$8,000 in Services

Group	Level 0	Level 1	Level 2	Level 3	Level 4
No services	2	5	12	5	13
>\$8,000	1	0	3	7	6

Discussion

Clinicians in this sample made a level of care determination after completing the CAFAS and examining associated protocols. They also completed the agency worker versions of the Ohio Scales Problem Severity and Functioning scales. Client financial data were gathered six months later to examine the relationship between level of care and costs of services. Several findings were noted.

1. All three measures (CAFAS, OS-W Problem Severity, OS-W Functioning) were significantly different across the levels of care. None of the measures, however, was capable of separating each level of care from *every other* level of care. This suggests that treatment intensity decisions may not be possible when considering five or six levels of care. The data here suggest that three groups – a combined no treatment/mild intensity, moderate intensity, and high intensity – may be more appropriate when considering level of care.
2. Clinicians in this sample were generally confident that the assigned level of care was accurate. Only 13 percent of the cases would have been assigned to a different level of care under ideal circumstances in which finances were not an issue. Other data, however, suggest that this confidence may not be warranted given unclear findings regarding functional and service utilization differences across the categories.
3. Service utilization varies widely both within and across levels of care. For example, one youth assigned to level 0 – no treatment – used more than \$8,000 in the six months following the level of care decision. Similarly, some youth assigned to higher levels of care used few or no services. In spite of the huge variability in service utilization, youth assigned to higher levels of care did tend to use greater amounts of service. As with summary item 1 above, however, the levels of care were not sufficiently separate as to indicate multiple levels. Rather, two or three levels of care with respective increases in service utilization seem more realistic.
4. The correlation between the CAFAS and total dollars expended was not significantly different from the correlation between the OS-W Problem Severity score and total dollars expended. Both measures accounted for less than five percent of the variation in total dollars expended. The CAFAS was slightly better than the Ohio Scales at separating levels of care as assigned and in terms of services utilized. This is to be expected given that clinicians used the CAFAS score when making the level of care decision. Had they used the Ohio Scales to make the initial decision, the relationship may have been reversed.

In summary, clients assigned to a level of care using the Ohio Scales rated by the agency worker will likely result in similar decisions to those made when using the CAFAS. However, service utilization varies widely within level of care categories. As a result, other predictors must be investigated in order to obtain better methods of identifying and serving youth who are in need of more intense services.

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TRANSPORTING EVIDENCE-BASED PRACTICES IN THE CONTEXT OF SCHOOL-MENTAL HEALTH PARTNERSHIPS

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Statement of the Problem and Conceptual Framework

Nearly 75 percent of children who are in need of psychological services are not receiving needed care (U.S. Department of Health and Human Services, 2001). This is a devastating statistic given that many mental health problems can be prevented or effectively treated if identified early (The Conduct Problems Prevention Research Group, 2002). To increase children's access to and utilization of psychological services, interdisciplinary school-based mental health programs (SBMH) have proliferated, as school-based delivery of services may reduce several barriers to care (Flaherty, Weist, & Warner, 1996).

It is indisputable that under well-controlled conditions, behavioral interventions provide significant short-term benefits for children with disruptive behavior problems (Pelham, Wheeler, & Chronis, 1998). However, psychologists continue to grapple with how to integrate these behavioral interventions into the school setting. For example, the behavioral treatment package used in the Multimodal Treatment Study of Children with Attention-Deficit/Hyperactivity Disorder (MTA Study; MTA Cooperative Group, 1999) contains several efficacious treatment components that can be incorporated into a comprehensive SBMH program. Yet, treatments in the MTA Study were delivered under tightly controlled conditions to a highly specific population, at a level of intensity that is rarely available in most communities. While the MTA study provides invaluable data, several questions remain. Can a less intensive "dosage" of this treatment package produce positive treatment outcomes in a community sample? How effective are these treatments when delivered to a more heterogeneous group of children? How effective are these treatments when delivered by mental health professionals in community settings? How acceptable are these treatments to consumers and those who implement them?

Documentation of the effectiveness of SBMH services is limited (Hoagwood & Erwin, 1997). Most studies have either examined a single intervention (e.g., social skills group) implemented in a group format outside of the classroom (Bierman, Miller, & Stabb, 1987) or have limited generalizability (DuPaul & Eckert, 1997). Further, much of the evidence for SBMH comes from research-oriented demonstration programs that are driven by university-based grants, rather than from service-oriented programs that exist within the school (Wilson, Lipsey, & Derzon, 2003). Because extant research focuses on either limited interventions using small sample sizes or disintegrated, university-driven programs, we know very little about the effectiveness, feasibility or acceptability of collaborative SBMH programs.

Chorpita (2003) describes a research methods continuum in which efficacy research is on one end and different types of effectiveness (transportability, dissemination) research fall at various points on the other end of the continuum. Transportability research examines the extent to which an efficacious (henceforth evidence-based) treatment is effective for real world cases (Schoenwald & Hoagwood, 2001), whereas dissemination research examines the extent to which the evidence-based treatment can be implemented by community-based professionals with real world cases and without intensive support from a laboratory-based team (Schoenwald & Hoagwood, 2001). The current study takes preliminary steps in advancing transportability and dissemination research.

This study implements a collaborative SBMH program, The Youth Experiencing Success in School (Y.E.S.S.) Program that includes three components of the behavioral treatment used in the MTA study (i.e., parent training, teacher consultation, daily report card). In the High University Involvement Condition (HIGH), Y.E.S.S. Program services are provided by university-trained graduate student clinicians under the supervision of the university faculty. In the Low University Involvement Condition (LOW), Y.E.S.S. Program services are provided by existing community mental health personnel who receive technical assistance from university faculty that begins intensively and fades over the course of the year. In the Waitlist Control Condition (WL), families and schools do not receive Y.E.S.S. Program services until the second year of involvement. Families at these schools may receive “treatment-as-usual” within the community while on the waitlist.

Research Objectives and Hypotheses

Primary objectives are: (a) to document the effectiveness of a school-based mental health program that incorporates evidence-based behavioral treatment components, and (b) to assess the relative strength of intervention success when implemented with varying levels of support from scientifically trained, university-based personnel. Hypotheses include the following:

1. *Effectiveness*: We anticipate a decrease in disruptive behavior problems, an increase in academic and social functioning, an increase in parent-teacher communication, and a decrease in parenting and teacher stress. It is anticipated that observed improvements will be significantly greater in treated children (HIGH & LOW Conditions) as compared to waitlist children, providing support for the incremental benefits of the collaborative SBMH model over standard community care, as well as for the model of technical assistance and dissemination. However, it is possible that treatment effects for the HIGH Condition will be stronger than treatment effects for the LOW Condition.
2. *Feasibility*: We will document the feasibility of integrating evidence-based treatments into the daily school routine. It is anticipated that treatment participation and compliance may be superior in the HIGH Condition as compared to the LOW Condition.
3. *Acceptability*: It is expected that parents and teachers in both treatment conditions will find the service delivery model to be acceptable and will be satisfied with services. It is also anticipated that that teachers and the mental health providers in both the HIGH and LOW conditions will be satisfied with the school-mental health partnership that develops as a function of implementation of the Y.E.S.S. Program.

Methodology

Participants. Participants will be recruited across two years. In Year 1, 22 children (77% boys) were recruited for the HIGH Condition, 11 children (73% boys) were recruited for the LOW Condition, and 14 (79% boys) were recruited for the Waitlist Control Condition. Recruitment for the HIGH and LOW Conditions is continuing during Year 2 (Thus, only Year 1 data are contained in this report). Children were referred to the Y.E.S.S. Program by the school’s intervention assistance team. The team referred children whose primary presenting problems were inattention, hyperactivity/impulsivity, oppositional/defiant behavior, and/or aggression and whose intellectual functioning score was estimated to be 70 or above. The Disruptive Behavior Disorders (DBD) Rating Scale and the Impairment Rating Scale (IRS) were used to determine diagnostic status (see description of rating scales below) according to criteria specified in the Diagnostic and Statistical Manual, Fourth Edition, Text Revision (DSM-IV-TR).

In the HIGH Condition, 20 children (91%) met criteria for Attention-Deficit/Hyperactivity Disorder (ADHD) and of these children, 11 (55%) also met criteria for either Oppositional Defiant Disorder (ODD) or Conduct Disorder (CD). One child met criteria for ODD only and one child presented with subclinical symptoms of ADHD. In the LOW Condition, 10 children (91%) met criteria for ADHD, and of these children, nine (90%) also met criteria for ODD or CD. In the Waitlist Condition, nine children (64%) met criteria for ADHD, and eight (89%) also met criteria for ODD or CD. Three children met criteria for CD only, and two children demonstrated subclinical symptoms of ADHD.

At the time of consent, less than half of the children in the HIGH and Waitlist conditions were receiving outpatient mental health services or pharmacological treatment despite the presence of severe symptomatology and impairment. These data are consistent with national reports highlighting the number of children with untreated mental health problems (U.S. Department of Health and Human Services, 2001), and suggest that the Y.E.S.S. Program enhances access to needed services.

Instruments. Parents complete a demographic questionnaire, the Disruptive Behavior Disorders (DBD) Rating Scale (Pelham et al., 1992), the Impairment Rating Scale (IRS; Fabiano et al., 1999), the Ohio Scales – Short Form (Ogles, Melendez, Davis & Lunnen, 1999), the Disruptive Behavior Stress Inventory (DBSI; Johnson & Reader, 2002), a contact questionnaire that assesses the family’s contact with mental health professionals and the child’s teacher, and a satisfaction survey.

Teachers complete the DBD Rating Scale, the IRS, the Ohio Scales – Short Form, the Index of Teacher Stress (ITS; Greene, Abidin, & Kmetz, 1996), the School Climate Survey (Bruns, Walrath, Glass-Siegel, & Weist, in press), a contact questionnaire, and a satisfaction survey. We also obtain from school records the participant’s grades, proficiency tests (if applicable), rates of absenteeism, number of office referrals, and number of suspensions for each 9-week academic period. Treatment compliance is monitored by tracking the frequency and type of contacts that the clinician has with parents, teachers, and child participants, the percentage of days that the teacher successfully implements the child’s Daily Report Card, parents’ use of home-based rewards.

Procedures. Parent and teacher rating scales are completed at three time points throughout the year (fall, winter, spring) and are used to evaluate treatment outcomes. All assessment, consultation and treatment services are provided by Y.E.S.S. Program clinicians (either university graduate students or community mental health professionals depending on the condition) who are on-site at the elementary school approximately 20 hours per week. Treatment services are provided throughout the entire academic year and include behavioral parenting sessions, daily report card procedures, teacher consultation, as well as individual child therapy as needed (see Owens et al., 2005 for details). Clinicians in the HIGH Condition receive weekly clinical supervision from university faculty. Clinicians in the LOW Condition receive technical assistance from university personnel via weekly phone contact and quarterly on-site visits, and clinical supervision is provided by supervisors from the clinician’s own facility.

Preliminary Results

Independent variables include the treatment condition (Y.E.S.S. Program) versus wait list control (treatment-as-usual) and the level of university-based support (HIGH versus LOW). Dependent variables include child symptomatology and impairment, parent and teacher stress, grades, academic productivity, office referrals, and school climate. The final dataset will be analyzed using Hierarchical Linear Modeling (HLM) procedures. Given the restricted page limit for this report, means and standard deviations for selected outcomes measures are provided in Table 1. Trends from preliminary effectiveness data are provided below. Feasibility and acceptability data will be provided in the final report.

Table 1. Selected Outcomes Measures Across 3 Time Points for Treatment and Waitlist Conditions

	Treatment Condition (HIGH and LOW)			Waitlist Control Condition		
	Time 1 Fall <i>M (SD)</i>	Time 2 Winter <i>M (SD)</i>	Time 3 Spring <i>M (SD)</i>	Time 1 Fall <i>M (SD)</i>	Time 2 Winter <i>M (SD)</i>	Time 3 Spring <i>M (SD)</i>
Parent Ratings						
DBD Inatten	1.55 (0.63)	1.46 (0.71)	1.46 (0.66)	1.78 (0.81)	1.82 (0.68)	1.92 (0.70)
DBD Hyp/Imp	1.68 (0.64)	1.47 (0.60)	1.52 (0.64)	1.82 (0.77)	1.51 (0.85)	1.57 (0.86)
DBD ODD	1.42 (0.77)	1.33 (0.70)	1.35 (0.64)	1.76 (0.87)	1.75 (0.90)	1.70 (0.96)
DBD CD	0.43 (0.34)	0.43 (0.39)	0.45 (0.43)	0.65 (0.48)	0.67 (0.61)	0.68 (0.57)
Ohio Severity	42.66 (13.44)	45.63 (12.41)	43.82 (13.53)	30.63 (20.62)	30.88 (19.16)	26.13 (16.12)
IRS Impair	4.19 (1.85)	3.52 (1.53)	3.82 (1.98)	4.64 (1.69)	4.56 (1.13)	4.56 (0.88)
Contact/Month	2.07 (1.33)	7.36 (5.97)	8.10 (4.79)	8.00 (9.90)	8.50 (9.19)	8.25 (0.50)
Teacher Ratings						
DBD Inatten	2.02 (0.76)	1.84 (0.79)	1.71 (0.85)	1.45 (0.83)	1.68 (0.74)	1.76 (0.86)
DBD Hyp/Imp	1.93 (0.81)	1.49 (0.69)	1.50 (0.82)	1.25 (0.82)	1.36 (0.90)	1.37 (0.91)
DBD ODD	1.49 (0.85)	1.28 (0.89)	1.31 (0.80)	1.31 (0.81)	1.47 (0.76)	1.62 (0.91)
DBD CD	0.77 (0.59)	0.73 (0.69)	0.72 (0.66)	0.73 (0.65)	0.90 (0.73)	0.95 (0.73)
Ohio Severity	25.34 (13.34)	20.06 (12.68)	18.94 (10.58)	26.25 (15.36)	22.00 (11.71)	20.00 (14.30)
IRS Impair	4.97 (1.33)	4.13 (1.68)	4.03 (1.63)	4.43 (1.91)	4.43 (1.50)	4.93 (1.38)
ITS Stress	123.63 (39.07)	108.03 (39.06)	104.52 (39.84)	120.50(49.66)	105.88 (34.61)	115.88 (40.31)

In support of our hypothesis, data from both the HIGH and LOW conditions indicate that the collaborative SBMH model of service delivery produces reductions in disruptive behavior (see teacher-rated Ohio Scales Problem Severity scores and parent and teacher-rated DBD Rating Scale scores in Table 1). The data also suggest that children are demonstrating improvements in daily functioning. For example, scores on the parent and teacher Impairment Rating Scale are decreasing over time (suggesting less impairment over time). Further, the data suggest that the severity of teacher stress is declining over time (see ITS Stress in Table 1). Finally, the data indicate that children and parents had increasingly more contact with the mental health clinician over the course of the year, suggesting that children and parents were successfully accessing and utilizing needed services.

Interestingly, the trends for the HIGH and LOW conditions were similar with two notable exceptions. First, in contrast to the HIGH condition, the LOW condition did not produce parent-rated improvements in functioning as assessed by the Functioning subscale of the Ohio Scales. Second, the LOW condition also did not result in parent-reported improvements in stress associated with having a high-needs child. HLM analyses conducted with the final sample size will determine whether group differences are statistically significant.

Table 1 also presents means and standard deviations for children in the waitlist condition. Teacher data are given more credibility as there are several missing data points for parents in the Waitlist condition. For most teacher-rated variables, the trends suggest that the severity of symptomatology is

increasing over time (see Inattention, Hyperactivity/Impulsivity, ODD and CD subscales of the DBD) and that impairment is worsening over time. The trends in the parent data are less consistent. These data suggest that without intensive and coordinated care, children's symptomatology and impairment may worsen over time.

Discussion

In general, the trends are promising. Our preliminary data suggest that treated children may be improving more so than children on the waitlist. Further, it appears that similar treatment gains are observed even in the context of the Low University Involvement Condition, providing support for the model of dissemination. Future analyses that directly compare the trajectories of the above three groups will provide additional insights.

This study advances the literature by (a) documenting the effectiveness of a school-mental health program that incorporates evidence-based behavioral treatment components, (b) examining a model for disseminating evidence-based practices to communities that have less access to university resources, and (c) assessing the relative strength of intervention success when implemented with varying levels of support from scientifically trained, university-based personnel. Results from this study will facilitate future dissemination of evidence-based practices to troubled youth in other Ohio communities. Lessons learned from this study will provide a guide to others developing school-mental health partnerships, highlighting potential obstacles in program development and strategies for surmounting them.

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Presentations of the Research to Date

- Owens, J.S., Tener, D., Abbott, M., Earley, L., & Andrews, N. (2005, October). *Building university-mental health-education partnerships: A panel discussion*. Poster presented at the 10th Annual Conference on Advancing School-Based Mental Health, Cleveland, OH.

**USING STATE CONSUMER OUTCOMES
AND/OR CLUSTER-BASED INFORMATION ON CASE MIX
TO UNDERSTAND AND IMPROVE CONSUMER OUTCOMES**

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The assessment of client outcomes has been part of the public mental health landscape since the 1970s (Ohio Department of Mental Health [ODMH], 1979), but often its presence has been muted. The last decade has witnessed a resurgence of interest in the outcomes of care (Center for Mental Health Services, 1996). Several states including Ohio (ODMH, 2000; DeLiberty, Newman, & Ward, 2001) have developed outcomes measurement systems, but the reasons for assessing client outcomes are less clear now than in the past and, moreover, not always compatible. Early in community mental health, the intent of outcomes studies was agency self-evaluation to guide and improve clinical practice. Currently, however, the purpose of outcomes studies has shifted away from the improvement of clinical practice to the external imposition of financial incentives or sanctions based on outcomes performance (Hendryx, 1998). This phenomenon is occurring on both a macro and micro level to demonstrate the effectiveness of public mental health programs in order to avert state and federal budget cuts (Dow, Boaz, & Thornton, 2001) and to manage better existing resources by comparing the outcomes performance of agencies to determine differing levels of funding (Dow et al., 2001; Hendryx, 1998; Hendryx, Dyck, & Srebnik, 1999; Hendryx & Teague, 2001). Some states have established outcomes standards and published report cards comparing provider performance (DeLiberty et al., 2001). In 2006, Ohio plans to publish outcomes performance findings on a statewide web site based on a common set of outcomes instruments.

With more at stake, many have argued against the comparison of agencies unless there are provisions to take into account the types of clients that agencies serve (Hendryx, Beigel & Doucette, 2001; Hendryx, 1998; Hendryx & Teague, 2001). This is because some clients have more severe conditions, longer histories of unsuccessful treatment, less family and community support, more negative environmental and social experiences, and/or more challenging life situations. These consumers may function less successfully and respond more slowly to various treatments and services. Thus, their outcomes performance would be poorer, their risks higher, and an agency that serves many of these clients would not fare well in comparison to agencies that serve smaller proportions of these clients. In the past, expected poor outcomes for some of these clients (e.g., increased hospitalization) led some agencies to “skim the cream” and serve only lower-risk consumers (Srebnik et al., 1997).

Research conducted in Ohio over the last 15 years supports the importance of understanding case mix differences. This research has demonstrated that the population of adults with severe and persistent mental illnesses (SPMI) is systematically heterogeneous and is represented by eight clusters of adults who share common strengths, problems, treatment histories, social/environmental contexts and/or life situations (Rubin & Panzano 2002; Synthesis, Inc., 2004c; Study Committee on Mental Health Services, 1993). Members of different clusters typically receive different types and/or amounts of treatment

services and billings differ significantly by cluster (Synthesis, Inc., 2002, 2003b, 2004b, & 2005c). Treatment goals and preferred service models identified by expert panels of providers, consumers, and family members are different for each cluster (Rubin et al., 1997; Study Committee on Mental Health Services 1993). Finally, performance on outcomes has been found to vary by cluster (Synthesis, Inc., 2003a, 2004a, 2005a & 2005b).

These findings support the use of risk adjustment in assessing agencies and suggest the use of statistical methods that recognize the importance of interaction effects. That is, agency performance may be different for, and different risk factors may affect outcomes for, members of different clusters of clients. If the intention is to compare agencies fairly, raw scores must be “risk adjusted” based on case mix features. However, the mental health community has just begun to address this complex and laborious task.

Hendryx, Beigel and Doucette (2001) define risk adjustment as “a means of statistically controlling for group differences when comparing nonequivalent groups on outcomes of interest.... They are nonequivalent in the sense that the persons in each group are assumed unequal in their opportunity for a good outcome for reasons beyond the control of the provider. In other words, risk variables are those that influence outcomes but are not a part of the treatment” (p. 226).

Hendryx et al. (2001) set out four major factors to consider when developing methods to adjust agency outcomes performance: (1) the Target Outcome(s) to be assessed; (2) the potential Risk Adjustment Variables (RAVs); (3) the technical and/or statistical methods to be used to create the models; and (4) the purposes for which risk adjustment is being used. While these factors cannot be fully treated here, the bullet points below touch on those of most relevance to the current study (Hendryx et al., 2001; Hendryx et al., 1999).

- Target outcomes must be within the power of providers to impact. Basing decisions about an agency’s performance on outcomes that it cannot significantly affect is clearly unfair as well as likely to result in tension--even conflict--between providers and funding or regulatory bodies.
- Risk adjustment variables (RAVs) are characteristics, features, and contexts that clients bring with them at the time they arrive at an agency. RAVs are intended to relate theoretically and empirically to how well and how soon consumers can be expected to respond to the interventions provided.
- RAVs are not to be associated with agency services received or resources available.
- Both Target Outcome Variables and RAVs should be difficult for agencies to manipulate or “game” by attempting to make their case mix appear more severely disabled.
- RAVs should discriminate among providers. If all providers serve just older clients, age is not likely to be useful as a RAV.
- RAVs must alter the rank order of the original or raw agency outcomes scores. Using RAVs that fail to meaningfully discriminate among agencies will result in no more fairness than making decisions based on the original raw or unadjusted scores.

Study Goals

1. To create and test risk adjustment models to more equitably assess outcomes of adults with severe and persistent mental illnesses, and
2. To identify risk patterns across outcomes that would be particularly useful for improving the quality of services.

Methodology

A key component of the Ohio Mental Health Consumer Outcomes System covers adults with severe mental disabilities and consists of two instruments: Adult Consumer Form A and Adult Provider Form A. Twelve scales or subscales, nine based on consumer self-reports and three based on provider (primarily community psychiatric support worker) functional ratings, are computed. Many items reflect a consumer recovery orientation (ODMH, 2000). While many previous risk adjustment studies have attempted to adjust risk for only a few outcomes, the current research involved adjusting the following 12 scales (or subscales) from the Consumer A and Provider A instruments.

ODMH Consumer Outcomes To Be Risk Adjusted

Global Quality of Life	Self-Esteem & Efficacy
Financial Quality of Life	Power versus Powerlessness
Symptom Distress	Righteous Anger
Overall Empowerment	Activities of Daily Living (ADLs)
Community Activism & Autonomy	Meaningful Activities
Optimism & Control over the Future	Global Community Functioning

The study also used a core set of risk adjustment variables (RAVs). The 14 RAVs shown below were taken or computed from items found on the Adult Consumer Form A. While the Length of Time in Treatment (LOTTX) variable could be thought of as a treatment characteristic, it was included as an RAV because the study included measures from consumers who had been in treatment over such a wide range of time (e.g., from months to many years).

The Core Risk Adjustment Variables

1. Primary Diagnostic Category	8. Years of Schooling
2. Age at (Instrument) Administration	9. High School Graduate
3. Rural Versus Urban Agency Setting	10. Current Living Situation
4. Race/Ethnicity	11. Homelessness
5. Physical Health Condition Interference	12. Current Employment Status
6. Marital Status	13. Treatment Status: Mandated or Not
7. Gender	14. Length of Time in Treatment

The ODMH data collection protocol called for both consumer and provider instruments to be completed within thirty days of intake for newly admitted individuals and as soon as possible within a six-month period for individuals on existing caseloads. For the purposes of this study, both of these ratings were treated as first ratings. Follow-up measures were then to be completed six months after the first rating and again after another six months. Ratings were thereafter to be administered annually.

The current study obtained outcomes data from six agencies that were members of the Ohio Cluster-Based Planning Alliance Coordinating Center of Excellence which is operated by Synthesis, Inc. and the Ohio Council of Behavioral Healthcare Providers. The six agencies were: Central Community Health Board (Cincinnati), Columbus Area, Inc. (Columbus), Maumee Valley Guidance Center (Defiance), Southeast, Inc. (Columbus), Marion Area Counseling Center (Marion), and Clermont Counseling Center (Amelia). As of 2005, these agencies had an estimated caseload of some 6,300 adults with SMD, about 8.5 percent of the estimated 75,000 statewide (ODMH, 2004). Three of the agencies were located in urban settings, and three were in predominantly rural/suburban locations.

The study had three phases. Data collection and analyses began in the spring of 2003 and ran through the fall of 2005. The study commenced when data flow management at most agencies was still in various stages of development in respect to the newly-mandated ODMH Consumer Outcomes System. All study sites had Business Associate Agreements with Synthesis, Inc. and specific Data Use Agreements were signed that described specific procedures for this research.

Phase 1 of the study utilized all first or initial measures administered to “on rolls” consumers and constituted a cross-sectional look at clients who had been on agency caseloads for more than 44 days. In some cases this was as much as twenty years or more. Phase 1 utilized valid data from over 3,000 Consumer A forms and over 3,500 Provider A forms.

Phase 2 followed Phase 1 and, in contrast, involved an analysis of change scores over a six-month period (operationally from four to nine months). Additional time was required for agencies to collect repeated measures so that enough matched pairs were available for analysis. The final sample included almost 2,000 matched Consumer A and over 2,300 matched Provider A measures.

Phase 3 required even more time for initial measures to be collected for new admissions whose outcomes were administered within 44 days of admission. Over 1,100 Consumer A and just under 1,000 Provider A measures were available for analysis. Unlike Phases 1 and 2, which involved risk adjustment of agency performance, Phase 3, which included only new admissions, did not deal with outcomes performance but with initial case mix differences.

Choosing the statistical method. Several technical and statistical methods have been used to conduct behavioral health risk adjustment studies. Our choice of statistical method was driven by the following issues: the type of data we would be analyzing, the phenomena being studied (outcomes for adults with SPMI), and the purposes or uses of the information (i.e., precision risk adjustment and also quality improvement).

While the outcomes information reported from the Consumer A and Provider A instruments would be interval-level data, the RAVs would range from categorical (e.g., gender) to interval/ratio level data (e.g., years of education). Thus our statistical method had to be able to handle mixed data. As described above, research by the current investigators had established that the population of adults with SPMI is systematically heterogeneous and is comprised of eight historically-defined, bio-psychosocial clusters. Therefore, the statistical method needed to take into account potential interaction effects. Finally, our study involved both precision risk adjustment and quality improvement. Thus, the statistical methods had to be able to create sophisticated risk adjustment models while at the same time be sufficiently transparent and provide useful information for quality improvement. We had to be able to describe the risk factors or types of consumers who might score more poorly on the various target outcomes.

The approach chosen was one of the highly interactive methods known as recursive partitioning (Banks, Pandiani, & Bramley, 2001; Hendryx, 1998). There are a number of recursive partitioning

algorithms and each more easily combines multiple Risk Adjustment Variables (RAVs) and explores their interaction effects than do models primarily constructed around main effects (e.g., multiple regression). Recursive partitioning algorithms in general maximize the potential interactive effects of all variables within data sets and create what are termed Classification Trees. CHAID (Chi-squared Automatic Interaction Detector) is one of the best known algorithms. CHAID allows all the RAVs in a database to be examined and finds the ones that provide the best Classification Tree iteratively level by level. Moreover, CHAID was chosen for this study because it works with variables of all levels of measurement (SPSS, Inc., 2001).

CHAID starts by identifying the independent variable (RAV) that yields maximum discrimination in the dependent variable (for example, the RAV Living Situation may create the most discrimination in the outcome of Quality of Life). The data set is partitioned or divided into two or more subsets or Nodes of subjects based on values of the RAV (for example, a more versus moderate or less restrictive Living Situation) and where each node includes a group of clients with similar scores on the outcome. The procedure is then repeated on the smaller data subsets (the first recursive step in the algorithm). In this step, the variable(s) used to split the smaller data subsets need not be the same. If different variables are involved in each split, the result is a two-or-more-way interaction. This procedure (variable identification and data set partitioning) is repeated, allowing a Tree to be constructed level by level and branch by branch until specific criteria have been met. The resulting Terminal Nodes (those that do not themselves divide any further) are homogeneous in the sense that all individuals contained in the node have relatively similar scores on the Target Outcome. In CHAID, all interactions (including higher-order ones) automatically are considered without the need laboriously to specify them.

To accomplish the first study goal, 36 ODMH Precision Risk Adjustment Models were built--one for each of the 12 ODMH outcomes and the three phases. These models were intended to be used by the ODMH to adjust the outcomes of agencies statewide. The second goal of the study was to identify risk patterns that could inform agency performance improvement efforts. To accomplish this, 36 ODMH Explanatory Models were built--again for each of the combinations of the 12 ODMH outcomes and of the three phases. In parallel fashion, Alliance models were built starting with the concept of cluster. Figure 1 highlights the most important models developed for this study.

Figure 1. Four model types.

MODEL TYPE	PRIMARY AUDIENCE FOR THE MODEL	
	ODMH	ALLIANCE
Precision in Risk Adjustment	Everything Excepting Cluster ODMH Models	Alliance Cluster-First Models
Explanation: What Are Major Risk Factors Affecting ODMH Outcomes	ODMH Explanatory Models	Alliance Explanatory Models

Since this study involved multiple outcomes, it was necessary to devise a method to reduce data in order to identify major themes or patterns across outcomes. Accomplishing this task required the following steps:

1. After the first set of Precision Models were computed, a table was produced which identified the RAVs that statistically adjusted each outcome. For example, for Phase 1, 14 potential RAVs were tested to create models for the nine outcomes from the Consumer A form. This resulted in a 126-cell table (9 x 14) that was used to identify which of the 14 RAVs adjusted each of the nine consumer outcomes for Phase 1.
2. Two criteria were then set to determine whether a variable was powerful enough to qualify for the next step, which was explanatory model building: (1) An RAV had to enter at least one model at the first level and/or (2) an RAV had to enter at least five of the nine consumer models.
3. In addition, three other important RAVs were given “waivers” and were automatically included in the Explanatory Model building: Gender, Race/Ethnicity, and Length of Time in Treatment (LOTTX).
4. Using the reduced list of RAVs, another set of models was computed, again using the CHAID algorithm. This time, however, limits were placed on how complex the models could be. This step therefore identified the most powerful of the powerful RAVs. The models computed at this step were called Explanatory Models.
5. The results of the Explanatory Model building efforts were displayed on a second table and the research team determined the number of times a given RAV had entered the Explanatory Models and at what level of the model.
6. The patterns found across Explanatory Models were described so that they could be used in performance improvement efforts.

The Precision and Explanatory Model building process was repeated for each of the three project phases and for both the Consumer A and Provider A Outcomes scales.

Results

The first goal of this study was to build generalizable models that could be used statewide to adjust agency outcomes performance. Therefore, the representativeness of our sample was assessed. The study sample was compared to ODMH data with respect to the pertinent RAVs. Early in the study, 4,649 unduplicated Consumer A measures collected from the research sites were compared with data on 14,114 consumers on the ODMH database. The analysis found that the two samples were largely similar. Any differences noted were minor and were likely to have resulted from different amounts of missing data in the two data sets. Of particular importance, there was no difference in terms of primary diagnoses.

As described above, risk adjustment models must be able to discriminate between provider agencies and also be able to alter rankings of agencies. Therefore, the precision risk adjustment models must account for as much variability as possible in each of the target outcomes. Table 1 below shows that in all three phases risk adjustment models were built that accounted for reasonable variability in each of the twelve ODMH outcomes scales and subscales. These variability percentages are well within the ranges of figures cited in the literature. For example, one recent study reported figures from five percent to nine percent depending on the target outcome (Grabowski, Angelelli & Mor, 2004).

For comparison, Table 1 reports variance accounted for in all three phases and for both ODMH and Alliance or Cluster First Models. The latter models entered cluster first as an RAV. These models are for use by agencies in the Ohio Cluster Based Planning Alliance Coordinating Center of Excellence. As the table shows, ODMH and Cluster First Models generally are symmetrical in the sense that, when one accounts for more or less variability, so does the other. ODMH Models generally, but not always, account for slightly more variability than do the Cluster First Models, but both sets of models could be used to adjust outcomes. In general, Phase 3 Models (which are not really risk-adjustment but case-mix models) account for more variability than do Phase 1 and 2 Models. Thus, consumers appear to be more dissimilar upon admission to public community systems but the impact of these differences seems to erode over time when in treatment. Phase 2 Models account for the least variability simply because there was little change in outcomes performance over the six months between ratings.

Table 2. Phase 1 Unadjusted Versus Adjusted Agency Scores for Quality of Life

Agency	CHAID		Adjusted Mean Score	Adjusted Rank Order	Unadjusted Minus Adjusted
	Unadjusted Mean Score	Unadjusted Rank Order			
Agency A	3.421	1	3.365	1	0.056
Agency B	3.180	4	3.172	4	0.008
Agency C	3.282	3	3.240	3	0.042
Agency D	3.065	5	3.083	5	-0.018
Agency E	3.396	2	3.365	1	0.031

Greatest Mean Difference

Between Agency Score	0.356	0.277
Cohen's <i>d</i> test value (*)	0.475	0.369
Level of Impact	Moderate	Moderate to Low

Note. Asterisk (*) indicates that value is based on the sample Unadjusted Standard Deviation = .74970.

Table 2 reports Phase 1 unadjusted versus adjusted scores for five of the study agencies, corresponding changes in the rank orders, and the Cohen's *d* statistic. (One agency entered the study after Phase 1). This table deals with the single Quality of Life (QOL) outcome, but the findings shown are similar to those of other outcomes and phases. They confirm that the recursive partitioning model did adjust outcomes scores. This can be seen by comparing the unadjusted and adjusted mean score columns. In addition, Cohen's *d* test statistic, which is based on the difference between the agencies with the highest and lowest mean scores, shows that the study models have brought agency scores closer together based on differing caseload risk levels. However, Table 2 also indicates that, despite success in building models, there was very little success in altering the rank order of agency outcomes scores. And, even when rank order changed, this was generally based on small differences between unadjusted and adjusted scores (see the rightmost column). In summary, while the models did work technically in accounting for

some variability and in adjusting outcomes scores, this required a tremendous amount of work relative to the limited utility in distinguishing among agencies.

However, the computation of precision risk adjustment models was only one goal of the study. The CHAID algorithm, combined with the multi-step data reduction procedures described above, were next used to develop ODMH Explanatory Models and identify risk factors across outcomes that could inform agency quality improvement efforts. A table of Outcomes by RAVs was used to reduce data for all ODMH Explanatory models. For Phase 1, 10 of the original 14 RAVs met the criteria described in the Methodology section above: Primary Diagnosis, Years in School, Age (at Instrument Administration), Length of Time in Treatment, Physical Health Condition Interference, Ethnicity, Employment Status, Gender, Living Situation and High School Graduate (Yes/No?).

The above set of RAVs was then used to build new ODMH Explanatory Models for each outcome. By “summing” across the Explanatory Models, we were then able to identify the most powerful of the powerful RAVs. Finally, in order to determine exactly how the most powerful RAVs were related to the target outcomes, each of the individual Classification Trees was examined to discern the exact patterns. For example, were longer lengths of time in treatment generally related to higher outcomes scores for individuals with little interference from physical health problems? Below are the results of these final data reduction efforts (information drawn from the three Provider Outcomes scales are also included here).

Phase 1: Major Themes across Outcomes

- Consumers who reported more Interference from Physical Health Conditions were also likely to feel less Empowered and report more Symptom Distress. Providers also assessed them as functioning less well. This RAV was a risk factor for six Consumer A outcomes and was the most powerful predictor for four of these outcomes.
- Psychiatric Diagnosis was often a significant risk factor (i.e., it was a risk factor for seven outcomes and was the most powerful predictor for two of the outcomes). However, the relationship between Diagnosis and outcomes is complex. For example, consumers with a diagnosis of schizophrenia felt better about their Global Quality of Life (QOL) but worse about their Financial QOL. But these same consumers were seen by providers as doing less well in respect to performing Activities of Daily Living and engaging in Meaningful Activities.
- Full or Part Time Employment had a positive impact on outcomes, even though only about nine or ten percent of consumers were employed. Employment Status was the second or third most powerful risk adjustor for seven outcomes.
- Longer lengths of time in treatment (LOTTX) were always associated with higher outcomes scores. LOTTX was the second or third most powerful adjustor for six outcomes.
- When Race/Ethnicity was a risk factor, African-Americans generally saw their lives in a more positive light (e.g., less Symptom Distress and more Self-Esteem).
- Having more years of education and/or being a high school graduate were associated with better outcomes, especially in the area of Empowerment. One or the other of these RAVs was a significant risk adjustor for five outcomes. In three cases, one was the most powerful adjustor.
- Consumers who resided in more independent settings generally had more positive outcomes (QOL and ADLs) than those who lived in more restrictive ones. Living Situation, while never the most powerful adjustor, was the second or third most powerful adjustor for five outcomes.

Discussion

The current study undertook several major tasks. The first was to develop mathematical risk adjustment models using demographic and clinical data to adjust agency performance on 12 different outcomes measures. The study also intended to discover meaningful information about the characteristics of consumers who might represent higher risk levels and thus would be expected to be performing less well on their mental health outcomes. This would provide important information for agency quality improvement efforts.

Study results revealed the limited power of the precision risk adjustment models to adjust Outcomes scores and in particular, to alter the rank order of agencies in terms of their Outcomes performance. Based on the results, little more success can be expected if the models were to be applied statewide. Only small differences were found between unadjusted and adjusted scores. Few changes in agency rankings were produced and even here these represented just small differences in mean scores on target outcomes. Thus, using risk adjusted scores would add little in the way of fairness when comparing agencies, a major concern in the risk adjustment literature.

The findings also suggest that public community mental health agencies throughout the state do not vary much in the relative risks posed by their respective caseloads. Ohio's public community mental health agencies have evolved over roughly the same 35+ "trans-institutional" years (Talbot, 1979) in which individuals were released from state hospitals. Agencies and agency caseloads have been largely shaped by similar federal, state, and local statutes, Medicaid eligibility rules, accountability provisions, court decisions, and policy and funding mandates. Thus, agencies may not differ very much with respect to the distribution of risk levels posed by their clients.

Major adjustments in scores and rank orders therefore would occur only if an agency with low unadjusted scores had aggressive recovery-oriented programming while another agency with high unadjusted scores had indifferent programming, say, in terms of insuring that consumers' medication issues were being addressed. This means that the success of risk adjustment efforts will be constrained by the ability of the public mental health system to provide services specifically targeted for the needs of distinct subgroups of adults with severe mental disabilities. This will be difficult with current programming geared to maintenance and survival goals and agencies having neither the financial resources nor the trained workforce to promote recovery. Thus, in terms of current circumstances, risk adjustment can be seen as having high costs and limited utility.

On a more positive note, this study has demonstrated how the same risk adjustment methods can be used to develop important information for quality improvement by providing detail on the client characteristics (risk factors) that influence performance across agencies and across outcomes. For example, understanding the importance of physical health in determining how mental health consumers feel about their quality of life in general or the extent to which they experience distress from mental health symptoms should lead us to take heed of their health needs. The payoff here may be much more substantial and worth the initial effort to work through the statistical modeling process. Thus, identifying the risk factors associated with the multiple scales and subscales in the ODMH Consumer Outcomes System within a quality improvement framework is seen as having high utility.

In summary, while risk adjustment itself may have limited utility, methods to compute risk adjustment models can be extremely useful in developing clinical information for quality improvement efforts.

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Other Publications of the Research to Date

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Presentations of the Research to Date

Rubin, W.V., Schwartz, J.L., & Banks, S. (2005, November). *Using state consumer outcomes and/or cluster-based information on case mix to understand and improve consumer outcomes: Findings and lessons learned*. Paper presented at the Final Meeting of Risk Adjustment Sites, Columbus, OH.

Rubin, W.V., & Fox, A. (2006, October). *Using state consumer outcomes and/or cluster-based information on case mix to understand and improve consumer outcomes*. Poster presented at Research Results Briefing 2006: Knowledge to Transform Mental Health Services in Ohio, Columbus.

COMPARISON OF HEALTH CARE CONTEXT, COERCION AND COMPLIANCE IN PERSONS WITH SEVERE AND PERSISTENT MENTAL ILLNESS

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Statement of the Problem

Throughout the country, there are individuals experiencing severe and persistent mental illness (SPMI) who do not willingly participate in treatment. They are often hospitalized and use disproportionate amounts of high intensity services. Despite the intense services, positive treatment outcomes are not often realized (Ridgely, Borum, & Petrilla, 2001). These individuals frequently come into contact with the criminal justice system and have co-occurring substance abuse disorders. They may become a danger to self or others, or be unable to meet their daily living needs.

Clinical management of this client population may be enhanced by the use of coercive forms of treatment that include aggressive outreach and engagement methods (Assertive Community Treatment, ACT) and outpatient commitment (OPC) (Gerbas, Bonnie, & Binder, 2000). However, coercive treatment of SPMI individuals is controversial. Some stakeholders categorically reject any type of coerced treatment, including outpatient commitment, while others see it as a viable alternative to failed interventions of the past.

The overall goal of past research in this area has been to ascertain if the use of coercion is worth the inherent risk to autonomy, especially in terms of system resource utilization. Recent studies on the use of coercive treatments, particularly OPC and ACT, came to differing conclusions about the influence of coercion on treatment outcomes. Those studies implicate procedural justice (giving voice to clients during legal and treatment proceedings) as potentially affecting the relationship between ACT/OPC and perception of coercion (Hoge, Lidz, Eisenberg, Gardner, Monahan, Mulvey, Roth & Bennet, 1997). Further, researchers have found that OPC and the client's perception of coercion were related to a variety of outcomes indicators of treatment efficacy, including treatment compliance, homelessness, arrest and victimization rates, and rehospitalization, but there is limited information on outcomes from the client's perspective (Compton, Swanson, Wagner, Swartz, Burns & Elbogen, 2003). The purpose of this research was to comparatively examine compliance with treatment and therapeutic outcomes for SPMI persons involved in treatment conditions that vary in their degree of coerciveness. The research compared OPC and ACT as forms of coercive interventions to elucidate the effect of each treatment modality individually as well as to identify the combined effects on treatment and client outcomes for the SPMI population. Treatment compliance was operationalized as compliance with scheduled medication-monitoring visits. Outcomes examined from the client's perspective include violence and victimization, symptom distress, empowerment, and quality of life.

This study was done in Summit County, Ohio because OPC and ACT are established practices in this area. Outpatient commitment (OPC) was selected for examination because it is considered one of the more coercive types of treatment. The use of OPC as a strategy to assist clients to adhere to outpatient treatment and maintain stability has been used in Summit County for the past 12 years. Select individuals who have demonstrated that “except for treatment” they quickly decompensate to become a danger to self and others are considered the most appropriate candidates. In addition, OPC has been at the center of the debate on coercive treatment in the United States with several states (New York, California, and Florida) having recently amended their mental health laws to include it. ACT was examined because it is a highly regarded clinical practice for the SPMI population, even though it has coercive components. Summit County also had three ACT teams in place at the beginning of the study.

Conceptual Framework

The conceptual framework for this research is based on Wertheimer’s Theory of Coercion (Wertheimer, 1993). This theory purports that the experience of coercion is influenced by the context in which it occurs. An overview of the application of this theory in the proposed research is shown in Figure 1. According to this framework, the structural context of health care influences procedural justice and coercion, compliance with the care regime, and ultimately other client outcomes. Two concepts comprise the structural health care context, type of mental health treatment and legal status.

Type of mental health treatment is operationalized as Assertive Community Treatment (ACT) or usual care (case management and medication monitoring), and *legal status* is operationalized as Outpatient Civil Commitment (OPC) or not. Within a given context of mental health care, clients make judgments about the extent of procedural justice and coercion inherent in the situation. *Perception of procedural justice*, as measured in this research, is the extent to which clients perceive they have been given voice. Clients also perceive varying degrees of coercion within the mental health context. In this research, *perceived coercion* is operationalized as the extent to which clients feel compelled to follow treatment recommendations. Coercion can exist formally as in commitment but can also be informal through negative pressures, such as threats and force in the service of treatment adherence when applied by clinicians and the client’s significant others. Both variables, perceived procedural justice and perceived coercion, were measured from the client’s perspective using two subscales on the MacArthur Admission Experience Survey (AES) (The MacArthur Research Network on Mental Health and the Law, 2001). Within a given mental health context, clients’ perceptions of procedural justice and perceptions of coercion influence their compliance with treatment and other outcomes. For this research, *compliance with mental health treatment* was operationalized as compliance with scheduled medication monitoring visits. Outcomes refer to the client’s experience with violence and victimization, and his or her report of empowerment, quality of life, and symptom distress. The outcomes were measured using the Community Violence and Victimization Questionnaire (MacArthur Research Network, 2001) and the Ohio Mental Health Consumer Outcomes System Adult Form A (Ohio Department of Mental Health, 2003).

Methodology

This quasi-experiment used a 2X2 factorial design. The two variables that were manipulated simultaneously were the type of treatment (ACT versus Usual Care) and outpatient civil commitment status (Outpatient Commitment versus No Outpatient Commitment). The resultant four groups are depicted in Table 1.

Figure 1. Conceptual framework of the study.

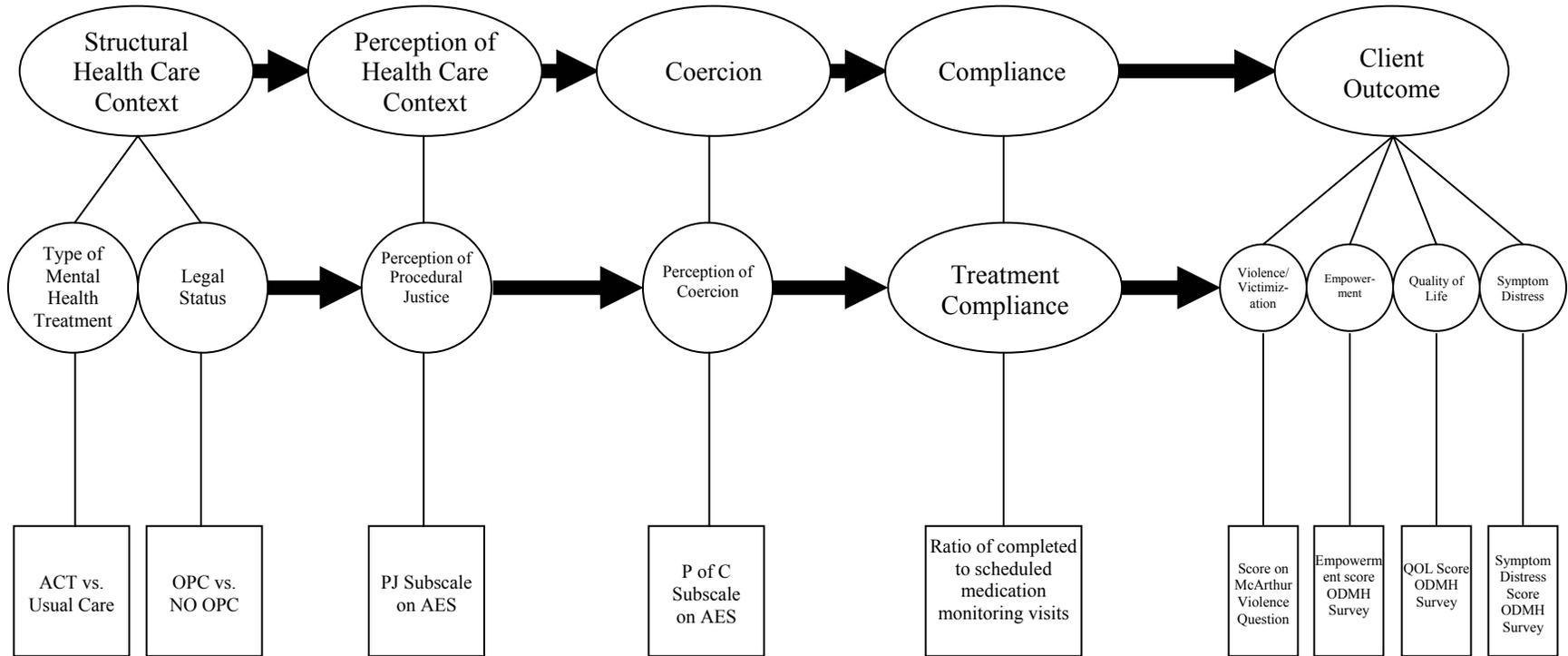


Table 1. Study Groups by Legal Status and Treatment

Legal status	Treatment usual care	Treatment ACT
OPC	Group I (OPC/Usual Care)	Group II (OPC/ACT)
No OPC	Group IV (Usual Care)	Group III (ACT alone)

To be included in the study clients had to be at least 18 years of age and English speaking. A random sample from each identified group of clients was drawn from the caseloads of two agencies serving the SPMI population in Summit County to serve as the sampling frame. Of the 263 identified clients, 64 prospective subjects were deemed ineligible for the study. Reasons included moving out of the county, nursing home placement, incarceration, or disease-related cognitive impairment.

Seventy-one percent of the original sampling frame was considered eligible for the study. Of the 199 eligible clients there were 45 refusals to participate. (See Table 2.) Because of the anticipated lower numbers of subjects in Group II (those committed and receiving ACT) all persons were approached to participate. In order to maximize the available pool of individuals for inclusion in Group II any person receiving ACT who had been committed during the last 12 months was considered eligible. This rationale recognized that a diminished perception of coercion does not clearly coincide with the decision to end commitment. A client may feel coerced even when the official commitment has expired, though there was an assumption that the perception would recede with time.

Recruitment of identified subjects was done through the client’s case manager. If the potential participant expressed interest, a meeting was arranged with an interviewer at the agency or in the client’s home. Most interviews took about 30 to 40 minutes. In all cases clients were interviewed to facilitate obtaining a complete data set. Clients were given \$25 as an expression of appreciation when they completed all surveys. Data collection took six months. For those who agreed to participate, even reluctantly, once they were engaged in the process they attempted to answer the questions thoughtfully and thoroughly. Some clients expressed an appreciation for the opportunity to discuss their experiences in treatment.

Table 2. Participation by Study Group

Variable	Group I		Group II		Group III		Group IV		Total	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>N</i>	%
Refusals	24	53.3	4	8	6	13.3	11	25.4	45	22.6
Participants	34	22.1	30	20.1	46	29.2	44	28.6	154	77.4
Total	58	29.1	34	22.1	52	26.1	55	22.7	199	100

A *t* test revealed that the difference in age between refusals and participants was not statistically significant ($t = -.768$; $df = 197$; $p = .444$). There were no significant differences between those who refused and participants based on gender or race.

Results

One hundred fifty-four persons completed the surveys with the following breakdown by group:

Group I - OPC with usual care	$n = 34$ (22.1%)
Group II - OPC plus ACT	$n = 31$ (20.1%)
Group III - ACT alone	$n = 45$ (29.2%)
Group IV - Usual care alone	$n = 44$ (28.6%)

Significant differences in demographic characteristics of participants were found among the four study groups in living situation, race and diagnosis. Alpha coefficients for the procedural justice and coercion subscales of the Admission Experience Survey (AES) were .84 and .83 respectively. Individual scores for compliance with treatment were calculated by summing the total number of completed medication monitoring visits and dividing by the number scheduled for a percentage. The Ohio Outcomes Survey alpha coefficients were: Symptom Distress .90, Quality of Life .85, and Empowerment .82. Violence and victimization were measured by summing the positive responses for each situation based on self-report.

Table 3 shows the means, ranges and standard deviations for all main study variables in relation to study groups. There were significant differences in the perception of procedural justice by group ($F [3, 150] = 4.45$, $p < .005$) with Usual Care (Group IV $M = 4.84$) significantly higher than the OPC group (Group I $M = 3.4$). There were also significant differences between groups on the perception of coercion ($F [3, 150] = 6.53$, $p < .000$) with OPC alone (Group I) being significantly higher (Group I $M = 1.76$) than ACT (Group III $M = .87$) and Usual Care (Group IV $M = .48$). There were also significant differences between scores on empowerment ($F [1, 150] = 4.39$, $p < .005$) with the OPC group scoring significantly higher on the empowerment scale (Group I $M = 2.9$) than the ACT group (Group III $M = 2.65$) and the Usual Care Group (Group IV $M = 2.76$).

Tables 4 and 5 display a summary of the results of ANOVA procedures examining differences among the main study variables and outcomes variables based on demographic characteristics.

Table 3. Means, Ranges, and Standard Deviations for Main Study Variables by Study Group (Total Sample $N = 154$)

Study Group	Total	OPC Group I & II	ACT Group II & III	Group I OPC alone	Group II OPC & ACT	Group III ACT alone	Group IV Usual Care	<i>F</i> value	<i>p</i> value
Variable	$N = 154$	$n = 64$	$n = 76$	$n = 34$	$n = 30$	$n = 46$	$n = 44$		
Perception of procedural justice/choice									
Mean	4.01	4.43	3.81	3.38	3.46	4.04	4.84	4.45	.005*
Range	0-6	0-6	0-6	0-6	0-6	0-6	0-6		
Standard deviation	2.05	1.87	.99	2.23	2.09	1.90	1.77		
Perception of coercion/negative pressure									
Mean	1.12	1.73	1.19	1.76	1.70	.87	.48	6.53	.000*
Range	0-5	0-5	0-5	0-5	0-5	0-5	0-5		
Standard deviation	1.60	1.88	1.60	1.90	1.90	1.32	.99		
Empowerment									
Mean	2.77	2.86	2.71	2.9	2.81	2.65	2.76	4.39	.005*
Range	1.75-3.64	2-3.64	2-3.64	2.33-3.64	2.3.3	1.75-3.18	2.07-3.25		
Standard deviation	.32	.32	.35	.30	.33	.35	.25		
Symptom distress									
Mean	28.2	26.77	28.2	26.05	27.62	28.56	29.95	.79	.499
Range	0-15	15-54	15-57	15-52	15-54	15-57	15-70		
Standard deviation	4.5	10.59	.35	10.9	10.31	11.22	12.40		
Quality of life									
Mean	3.36	3.21	3.37	3.18	3.24	3.45	3.48	1.48	.224
Range	1-5	1-4.92	1-5	1-4.83	1-4.9	1.67-5	1.75-4.75		
Standard deviation	.77	.79	.78	.79	.80	.76	.73		
Victimization									
Mean	.70	.51	.61	1.24	.67	.57	.45	2.25	.085
Range	0-7	0-7	1-6	0-7	0-6	0-5	0-4		
Standard deviation	1.41	1.78	1.26	2.00	1.47	1.13	.99		
Ratio of 'completed' to 'scheduled' visits									
Mean	.75	.76	.75	.75	.77	.81	.68	2.40	.070
Range	0-1	0-1	0-1	.33-1.0	.4-1.0	.25-1.0	0-1		
Standard deviation	.24	.22	.24	.24	.20	.22	.27		

Note. *F* and *p* values are for the statistical tests used to examine differences among Group I, II, III, IV on each study variable

Table 4. Summary of ANOVA Results: Demographic Characteristics and Main Study Variables

Demographic Variable	Perception of coercion/negative pressure			Perception of procedural justice			Ratio of completed visits		
	<i>F</i>	<i>df</i>	<i>p</i>	<i>F</i>	<i>df</i>	<i>p</i>	<i>F</i>	<i>df</i>	<i>p</i>
Gender	2.97	1,152	.12	3.64	1,152	.06	.20	1,150	.66
Race	2.45	1,151	.12	.55	1,15	.46	.78	1,150	.38
Marital Status	2.03	3,148	.08	2.19	3,148	.06	1.11	3,148	.35
Employment	.94	1,148	.33	.08	1,152	.78	.17	1,150	.69
Education	3.23	3,150	.02*	2.82	3,150	.04*	1.34	3,148	.26
Living Situation	.44	1,150	.51	.80	1,152	.37	.61	1,150	.44
Diagnosis	2.01	3,150	.12	1.96	3,150	.12	.30	3,148	.82
Time in treatment	1.08	1,152	.30	.93	1,152	.34	1.12	1,150	.29

Note: $p = \leq .05$

Table 5. Summary of ANOVA Results: Demographic Characteristics and Outcome Variables

Demographic Variable	Symptom Distress			Quality of Life			Empowerment			Violence			Victimization		
	<i>F</i>	<i>df</i>	<i>p</i>	<i>F</i>	<i>df</i>	<i>p</i>	<i>F</i>	<i>df</i>	<i>p</i>	<i>F</i>	<i>df</i>	<i>p</i>	<i>F</i>	<i>df</i>	<i>p</i>
Gender	.02	1,152	.88	.03	1,152	.86	.08	1,152	.78	.57	1,152	.45	5.40	1,152	.02*
Race	26	1,151	.61	2.02	1,152	.16	.00	1,152	.98	.00	1,152	.99	2.02	1,152	.15
Marital Status	.94	5,148	.42	.04	3,149	.99	.65	5,148	.58	.79	5,148	.56	.96	3,150	.41
Employment	.10	1,152	.75	.14	1,152	.71	.12	1,152	.73	.51	1,152	.47	.02	1,152	.89
Education	.48	3,150	.70	1.35	3,149	.26	1.49	3,150	.22	.55	3,150	.61	.37	3,15	.78
Living Situation	.15	1,151	.70	1.06	3,15	.31	.83	1,151	.36	2.49	1,152	.12	.27	1,152	.63
Diagnosis	.66	3,149	.93	.61	3,14	.61	1.181	3,149	.32	.22	3,150	.89	.14	3,150	.33
Time in treatment	.04	1,151	.84	4.43	1,15	.04*	.22	1,151	.64	.24	1,110	.62	.02	1,152	.87

Note: $p = \leq .05$

Table 6 lists the Pearson Product Moment Correlations for the main study variables as well as for age. The scale used to interpret the strength of the relationship was: $< .30$ = weak, $.30$ to $.50$ = moderate, and $> .50$ = strong. The level of significance was set at $p < .05$. Significant correlations are noted with an asterisk.

Table 6. Pearson Product Moment Correlations Matrix Between Main Study Variables and Age ($N = 154$)

		Perception of coercion/negative pressure	Perception of procedural justice/choice	Ratio of completed to scheduled visits	Empowerment	Symptom Distress	Quality of Life	Victimization	Age in years
Perception of coercion/negative pressure	<i>r</i>	1	-.51*	.15	-.01	.05	-.14		-.51
	<i>p</i>		.00	.08	.35	.35	.08	.28**	.48
Perception of procedural justice/choice	<i>r</i>		1	-.16	-.00	.06	.29**	-.13	-.00
	<i>p</i>			.50*	.98	.88	.00	.10	.97
Ratio of completed to scheduled visits	<i>r</i>			1	-.04	-.20	.08	-.13	.10
	<i>p</i>				.63	.02*	.34	.11	.21
Empowerment	<i>r</i>				1	-.35*	.29**	-.11	-.19*
	<i>p</i>					.00	.01	.17	.02
Symptom Distress	<i>r</i>					1	-.47**	.11	-.05
	<i>p</i>						.00	.20	.55
Quality of Life	<i>r</i>						1	.17*	.02
	<i>p</i>							.04	.77
Victimization	<i>r</i>							1	-.08
	<i>p</i>								.31
Age in years	<i>r</i>								1

Note. *r* = Pearson Product Moment Correlation; * $p \leq .05$; ** $p \leq .01$.

Significant results from these ANOVA procedures follow. The perception of procedural justice differed based on educational level, $F(3, 150) = 2.82, p = .041$. The perception of coercion also differed based on level of education, $F(3, 150) = 3.23, p = .024$. College graduates ($M = 2.57, SD = 1.98, p = .004$) on average had a statistically significant higher perception of coercion than the non-high-school graduates ($M = .70, SD = 1.20$). College graduates ($M = 2.29, SD = 2.36, p = .012$) had lower mean scores on perception of procedural justice than non-high-school graduates ($M = 4.37, SD = 1.91$) and high school graduates ($M = 4.16, SD = 2.01, p = 0.20$).

Scores on the Quality of Life subscale of the Ohio Outcomes Survey differed significantly based on time in treatment. Those in treatment more than three years reported having a lower quality of life than those in treatment under three years, $F(1, 151) = 4.43, p = .04$. Incidence of victimization differed based on gender, $F(1, 152) = 5.40, p = .02$. Females had a higher mean incidence of victimization episodes ($M = 1.0, SD = 1.72$) than males ($M = .47, SD = 1.08$). A total of four of the 59 significance tests (6.8%) in Tables 7 and 8 were statistically significant at the .05 level and none were statistically significant at the .01 level. Therefore the “significant” findings of these two tables must be interpreted with caution.

Hypothesis Testing

Hypothesis 1: Outpatient commitment subjects will experience more coercion than no outpatient commitment subjects. ANOVA was used to examine the differences in the perception of coercion between those clients subject to OPC and those not subject to OPC. A strong significant main effect for OPC was found, $F(1, 152) = 18.121, p = .000$. Those in the OPC group were nearly

three times more likely to perceive coercion than those in the groups not subject to OPC ($M = 1.73$ and $.67$, respectively).

Hypothesis 2: ACT subjects will experience more coercion than usual care subjects. A t -test was performed comparing the mean perception of coercion/negative pressure between the ACT group and the Usual Care group. There was no significant ACT main effect, $t(88) = 1.58, p = .12$.

Hypothesis 3: There is an interaction effect between ACT and OPC on the subject's perception of coercion. A univariate ANOVA was used to calculate the interaction effect of ACT and OPC on the perception of coercion. There was no ACT by OPC interaction effect, $F(1) = .843, p = .360$.

Hypothesis 4: There is an inverse (negative) correlation between the perception of procedural justice and the perception of coercion. A Pearson Product Moment Correlation was used to examine the relationship between perception of procedural justice and the perception of coercion. A significant negative correlation exists, $r = -.51, p < .000$. Individuals who reported higher levels of procedural justice tend to perceive lower levels of coercion.

Hypothesis 5: The higher the perception of coercion, the higher the treatment compliance. The bivariate correlation between perception of coercion and the ratio of completed to scheduled visits was not significant, $r = .15, p = .075$.

Hypothesis 6: Higher perceptions of procedural justice and lower perceptions of coercion are related to better client outcomes in the areas of violence and victimization, symptom distress, empowerment, and quality of life. Pearson r was used to examine the relationships between procedural justice, coercion, and client-centered outcomes variables. Procedural justice was not correlated with empowerment, violence, or symptom distress. It was negatively correlated with coercion as described above in the discussion of Hypothesis 4, $r = -.51, p < .000$. Procedural justice was also significantly correlated with quality of life, $r = .29, p = .000$. Procedural justice was weakly negatively related to the ratio of completed to scheduled visits, $r = -.16, p = .048$. Perception of coercion was not related to empowerment, symptom distress, or quality of life. Perception of coercion was also moderately correlated with victimization, $r = .28, p < .000$.

Supplemental Analysis. In order to more fully examine the relationships of the variables in relation to the model presented in Figure 1, the portion of the model linking health care context, perceived procedural justice and perceived coercion was examined. ACT status was eliminated from this model testing because it did not contribute significantly to the client's perception of procedural justice or coercion/negative pressure. Because of the statistical significance of the education variable and the marginal significance of the racial variable on the perception of coercion these variables were co-varied in a hierarchical multiple regression for the whole sample.

Results in Table 7 show that about 33 percent of the variance in the client's perception of coercion is accounted for by these four independent variables. In order of entry, procedural justice accounted for 25.8 percent ($p < .000$) in the variance; OPC status added 4.4 percent ($p < .000$), education .8 percent ($p = .200$), and race 1.5 percent ($p = .069$). Neither education, with an additional .8 percent of the variance ($p = .200$) or race, with an additional 1.5 percent ($p = .69$), significantly increased the explained variance.

Table 7. Results of the Hierarchical Multiple Regression of Procedural Justice, OPC Status, Education, and Race on Perception of Coercion

Model	<i>R</i>	<i>R</i> square	<i>R</i> square change	<i>F</i> change	<i>df</i> 1	<i>df</i> 2	Sig <i>F</i> change
1. Procedural justice	.51	.26	.26	52.89	1	152	.000
2. OPC	.55	.30	.04	9.44	1	151	.000
3. Education	.56	.31	.01	1.66	1	150	.200
4. Race	.57	.33	.01	3.36	1	149	.069

Note. *F* value for entire multiple regression equation: $F(4, 149) = 17.90, p < .000$.

Because of the marginal significance of race ($p = .069$) in the regression equation for all subjects the model was re-examined for whites and non-whites separately. Prior to this analysis, however, two ANOVA procedures were calculated to examine differences in the perception of coercion among racial groups (white versus non-white) and to examine differences in perception of coercion according to OPC status (OPC or not) and racial group.

Table 8 presents the results for the first ANOVA. Race did not have a significant effect on the client's perception of coercion, $F(1, 153) = 2.45, p = .120$. Results for the second ANOVA are presented in Table 9. In this ANOVA, race was used as a covariate in the prediction of coercion from OPC status as health care context. When controlling for OPC effect, the race effect becomes significant ($F[3, 151] = 4.934, p = .028$), providing evidence that the race effect was suppressed by the OPC effect. As a covariate, the race effect accounted for 2.8 percent of the variance in the client's perception of coercion ($11.078/391.896 = .028$). The OPC effect survived the inclusion of the race covariate. In addition, the OPC was stronger when race was controlled than when race was not included in the analysis, $F(1, 153) = 20.762, p < .000$. When controlling for race, the OPC effect accounted for a larger percentage of the variance ($46.620/391.896 = .123$ or 12.3%).

Table 8. ANOVA Examining the Difference between Racial Groups on the Perception of Coercion

	Sum of squares	<i>df</i>	Mean Square	<i>F</i>	Sig.
Between groups	11.078	1	6.214	2.45	.120
Within groups	385.682	153	2.58		
Total	391.896	154			

Because of this suppression effect, the model was tested separately for whites ($n = 93$) and non-whites ($n = 61$). In each hierarchical regression analysis, procedural justice and OPC status were regressed on perception of coercion. Results of the analysis for whites alone indicate that procedural justice and OPC status accounted for 46.7 percent of the variance in perception of coercion, $F(1, 90) = 39.46, p < .000$. The R^2 change for each of the independent variables is listed in Table 12. In order of entry, procedural justice contributed 38.4 percent ($p < .000$) to the change in R^2 and OPC status 8.3 percent ($p = .000$).

Table 9. ANOVA Examining Differences in the Perception of Coercion by OPC Status and Racial Groups

Model	Type III sum of squares	Source	Mean Square	<i>F</i>	Sig.
Race	11.078	1	11.99	4.934	.028
OPC	46.620	1	51.37	20.762	.000
Error	339.062	151	2.25		
Total	391.896	154			

Note. *R* Squared = 13.5%; Adjusted *R* Squared = 12.3%.

Table 10. Hierarchical Multiple Regression Predicting Perception of Coercion/Negative Pressure From Procedural Justice and OPC Status for White Subjects (*n* = 93)

Model	<i>R</i>	<i>R</i> ²	<i>R</i> ² Change	<i>F</i> Change	<i>df</i> 1	<i>df</i> 2	Sig. <i>F</i> change
Procedural justice	.62	.38	.38	56.68	1	91	.000
OPC	.68	.47	.08	14.09	1	90	.000

Table 11 presents results for the hierarchical multiple regression analysis for non-white subjects. Procedural justice and OPC status accounted for 10.9 percent of the variance in non-white subjects' perception of coercion, $F(1, 59) = 3.56, p = .035$. In order of entry, procedural justice contributed 8.9 percent ($p = .019$) to the change in *R*² and OPC status 2.0 percent ($p = .257$).

Table 11. Hierarchical Multiple Regression Predicting Perception of Coercion/Negative Pressure From Procedural Justice and OPC Status for Non-white Subjects (*n* = 61)

Model	<i>R</i>	<i>R</i> ²	<i>R</i> ² Change	<i>F</i> Change	<i>df</i> 1	<i>df</i> 2	Sig. <i>F</i> change
Procedural justice	.30	.09	.09	5.77	1	59	.019
OPC	.33	.11	.02	1.31	1	58	.257

In summary, OPC as a contextual variable and procedural justice each accounted for a significant amount of the variance in the perception of coercion experienced by all subjects. When examined separately for whites and non-whites differences based on race emerged. For whites a much greater portion of the variance in coercion was attributable to the level of procedural justice accorded to the individual. In addition, OPC status alone had a significant direct effect on the perception of coercion for whites only. For non-white subjects legal status had an impact only through its relationship with procedural justice.

Summary of Main Study Findings

Persons subject to OPC perceived significantly more coercion than persons who did not experience OPC. ACT clients did not feel more coerced than clients receiving usual care. There was no interaction effect between ACT and OPC. There was a strong inverse relationship reported between the perception of procedural justice and the perception of coercion, but no demonstrable relationship between perceived coercion and treatment compliance.

The perception of procedural justice was unrelated to empowerment, symptom distress and victimization in this sample. There was a positive correlation between the perception of procedural justice and the quality of life, however, procedural justice was negatively related to treatment compliance which was measured by the ratio of completed to scheduled visits. This may be a chance finding. The perception of coercion was unrelated to treatment compliance, symptom distress, empowerment and quality of life. There was a positive relationship between the perception of coercion and victimization indicating that the perception of coercion was heightened in persons who had been victimized.

There were significant differences in outcomes variables based on two demographic characteristics. On average, college graduates tended to have a greater perception of coercion and a lower perception of procedural justice than their less educated peers. However, regression analysis revealed that educational status did not explain a significant portion of the variance in the perception of coercion. A significant difference was not detected in the perception of coercion by race initially but differences emerged when the effect of OPC as legal status was controlled. For whites a much greater portion of the variance in the perception of coercion could be attributed to procedural justice. In addition legal status (OPC status) alone had a significant direct effect on the perception of coercion for white subjects, while for non-whites legal status alone did not directly influence the perception of coercion. For whites a much greater portion in the variance in coercion was attributable to the level of procedural justice accorded to the individual. In addition, OPC status alone had a significant direct effect on the perception of coercion for whites only. For non-white subjects legal status had an impact only through its relationship with procedural justice.

Implications

The study is relevant to all mental health professionals practicing with persons who are being treated involuntarily for mental illness. It is critical for all mental health professionals to identify the interpersonal communication techniques that increase procedural justice and decrease coercion in the very difficult situations in which they find themselves in the dual role of enforcer and healer. McKenna et al. (1999) suggested that professionals make efforts to identify the exact words, actions, and contexts that specifically contribute to procedural justice with particular attention to the culture, gender, and treatment experiences of clients. McKenna et al. (2001) also suggested that both involuntary and voluntary clients perceive a dearth of information about treatment processes, rights, and expected outcomes. Information sharing, on the part of all professionals, might lessen the fear and suspicion felt by clients in the throes of the process of an episode of involuntary treatment.

The findings concerning racial differences in the pathways to the perception of coercion merits further investigation. Qualitative studies to determine how culture and context interact to influence the perception of coercion would make a valuable contribution to the literature.

Virtually all commitments within Summit County and throughout the country originate within the process of a hospitalization. The hospital staff is in a key position to promote procedural justice through voice and validation. They must also convey benevolent motivation for coerced treatments. Because the

perception of coercion may be a cumulative process, all admissions should be treated as opportunities to afford adequate procedural justice. Development of checklists, procedures, and written materials about involuntary treatment are appropriate to promote consistency in the processes, but they must be utilized in an individual manner to avoid the appearance of a perfunctory exercise.

It is the responsibility of practitioners to thoroughly understand the emergency evaluation, advanced directives for mental health care, and commitment laws for the state in which they practice. They must understand them as a clinician, advocate, and client educator. As noted previously, information is a critical need of persons admitted to psychiatric hospitals as well as outpatient services. While information regarding involuntary treatment is appropriately included in the curriculum of professional programs, it remains an individual responsibility to stay current with changes in law, rules, and research in the area.

Mental health professionals working in community settings must assist clients to understand their responsibilities as well as rights within an outpatient commitment situation. Conveying to clients the desire to “work together to eliminate the need for coercive treatment” in their situation is an appropriate and empowering approach.

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Presentations of Research to Date

Galon, P. (2006, April). *Comparison of health care context, coercion and compliance in persons with severe and persistent mental illness*. Poster presented at the Midwest Nursing Research Society Annual Conference, Milwaukee, WI.

Galon, P. (2006, June). *Comparison of health care context, coercion and compliance in persons with severe and persistent mental illness*. Paper presented at the Northeastern Ohio Universities College of Medicine Annual Research and Scholarly Activities Day, Akron, OH.

Galon, P. (2006, June). *Comparison of health care context, coercion and compliance in persons with severe and persistent mental illness*. Paper presented at Research Results Briefing 2006: Knowledge to Transform Mental Health Services in Ohio, Columbus.

EXECUTIVE FUNCTIONING DEFICITS IN YOUTH DIAGNOSED WITH COMORBID BIPOLAR DISORDER AND ADHD

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Bipolar disorder (BPD) is a serious disorder of emotional regulation characterized by the occurrence of a manic mood state; it occurs in youth at a rate similar to that in adults (Lewinsohn, Klein, & Seeley, 1995). An important feature of BPD in pre-pubertal and early adolescent youth (PEA-BPD) is its overlapping symptomatology and high rates of comorbidity with attention deficit hyperactivity disorder (ADHD). The current study was conducted to examine the extent of executive dysfunction demonstrated by youth diagnosed with both BPD and ADHD, as compared to youth diagnosed with ADHD alone.

Given that BPD manifests somewhat differently in childhood, adolescence and adulthood, the diagnostic specificity of PEA-BPD is presently being debated (Findling et al., 2001; Fristad, Weller, & Weller, 1992; Kessler, Avenevoli, & Ries Merikangas, 2001; Spencer et al., 2001). In spite of the differing clinical manifestations of BPD in youth and adults, Geller et al. (2000) demonstrated six-month stability of mania diagnosis in pre-pubertal children. Moreover, the first prospective study of early onset BPD found that 53 percent of adolescents meeting criteria for the disorder carried the diagnosis into adulthood, thus further demonstrating its chronic nature in a majority of cases (Lewinsohn et al., 2000).

Although hallmark symptoms of mania, such as euphoria, hypersexuality and grandiosity, are uncommon in ADHD (Geller et al., 1998), the otherwise overlapping clinical pictures and high comorbidity of BPD and ADHD in youth have added to the confusion and controversy regarding PEA-BPD. Similar to PEA-BPD, ADHD is associated with executive dysfunction, which may contribute to their clinical similarities. Executive functions (EF) are conceptualized as crucial higher-order processes that direct and manage specific, separable cognitive domains such as motor functions, language, and memory. EF deficits interfere with the ability to plan and implement goals and organizational strategies (Rains, 2002) and are associated with significant impairment in daily life functions (Lezak, 1995).

There are very few studies of neuropsychological functioning in PEA-BPD, in any cognitive domain. Those that do exist suggest impairments similar to those in adult BPD. Specifically, youth with BPD were found to have deficits in the areas of problem solving, short-term memory (Castillo, Kwock, Courvoisie, & Hooper, 2000), executive functioning and academic achievement (McDonough-Ryan et al., 2001), and to be at risk of developing learning disabilities (Wozniak et al., 1995).

The neuropsychological sequelae of childhood ADHD, on the other hand, have been widely studied. Research shows clear deficits on tests of attention and inhibition/impulsivity such as the Stroop, Continuous Performance Test, digit span, anti-saccade, go-no-go and stop signal tasks (Barkley, Grodzinsky, & DuPaul, 1992; Carter, Krener, Charderrjian, Northcutt, & Wolfe, 1995; Castellanos & Tannock, 2002; Conners, 1995; Seidman, Biederman, Faraone, Weber, & Ouellette, 1997; Wechsler, 1991). Researchers using the WCST to measure problem solving, planning and set shifting abilities in ADHD populations have reported mixed results, some finding youths with ADHD to be impaired relative to healthy controls and others finding no difference (see Bradley & Golden, 2001 for a review).

Although research shows PEA-BPD and ADHD to be highly comorbid (Carlson, Loney, Salisbury, & Volpe, 1998; Faraone et al., 1997), the effect of comorbidity on EF is poorly understood. What data exist suggest that the simultaneous presence of PEA-BPD and ADHD is associated with *particularly* severe executive dysfunction. For example, a pilot study showed BPD+ADHD youth to perform significantly worse on tests requiring sequencing, working memory and inhibition of over-learned responses than youth with BPD alone (Shear, DelBello, Rosenberg, Jak, & Strakowski, 2004). Furthermore, in a study of daily functioning on tasks thought to be dependent on EF skills, Shear, DelBello, Rosenberg, and Strakowski (2002) used the Behavior Rating Inventory of Executive Functions (BRIEF; Gioia, Iskith, Guy, & Kenworthy, 2000) to compare groups of adolescents with BPD, comorbid BPD+ADHD and healthy volunteers. The BRIEF is composed of two summary indices, Behavioral Regulation (BRI) and Metacognition (MCI), and is distinct from traditional neuropsychological tests in that it is intended to measure the effects of EF deficits on daily life functioning. Shear et al. (2002; 2004) found that both clinical groups were impaired relative to healthy controls, while the comorbid group was significantly more impaired than the group with BPD alone. This result suggests that the addition of ADHD to BPD compounded the EF deficits, as revealed by both BRIEF indices, and provides support for the notion that the EF deficits associated with each disorder are particularly severe in the comorbid condition. It is noteworthy that, while the comorbid group was the most impaired of the three groups, the severity of impairment in the singly diagnosed BPD youth was clinically significant in every individual participant. This finding pertains to both diagnostic validity and treatment planning, as it implies that PEA-BPD is accompanied by significant deficits in daily functioning that are associated with poorer long-term outcomes (Bull & Sceriff, 2001; Martinez-Aran et al., 2002; Zarate, Land, Tohen, & Cavanaugh, 2000).

As described, the existing studies of cognition in patients with both BPD and ADHD (Shear et al, 2002; 2004) suggest the hypothesis that the EF deficits independently associated with each disorder are compounded when both disorders co-occur. To further test this hypothesis using a novel methodology, we incorporated an ADHD group, for comparison with BPD+ADHD and healthy volunteer groups on putative EF tasks. More specifically, this study asked: are the EF deficits associated with both BPD and ADHD compounded, therefore reaching particularly severe levels, when the two disorders are comorbid? Demonstrating greater impairment in comorbid BPD+ADHD participants relative to those diagnosed with ADHD alone would provide further support for the compounding explanation. This, coupled with the Shear et al. (2002) data, would suggest that youth meeting criteria for *both* BPD and ADHD are at risk for particularly severe executive dysfunction, simply because of the comorbid presence of the two diagnoses.

Method

Participants. Eighteen BPD+ADHD, 16 ADHD and 17 healthy volunteer participants were recruited from child psychiatry clinics and through word of mouth; they ranged from 12 to 16 years of age. All participants provided written assent after receiving full explanation of study methods. Legal guardians provided written informed consent.

Diagnostic assessment. Participants were diagnosed with ADHD or BPD+ADHD according to semi-structured interviews conducted with the youth and their primary caretakers by carefully trained interviewers, using the Washington University Kiddie Schedule for Affective Disorders and Schizophrenia (WASH-U-KSADS; Geller et al., 2001). The WASH-U-KSADS has been shown to demonstrate cross-modality, cross-informant and cross-site validation (Geller, Warner, Williams, & Zimmerman, 1998) and high inter-rater reliability (Geller et al., 2001).

Assessment of symptom severity. Because the symptoms of BPD that overlap with ADHD are most common to the manic mood state, the BPD+ADHD participants were tested during manic ($n = 4$) or

mixed (i.e., clinically significant manic symptoms are present within one week of testing; depressive symptoms may or may not be present) ($n = 14$) mood states. To confirm manic or mixed mood state during testing, participants were administered the Young Mania Rating Scale (YMRS; Fristad et al., 1992) and the Child Depression Rating Scale (CDRS; Poznanski et al., 1984).

Assessment of socio-economic status. Data reflecting parents' levels of education and current occupations were collected for computation of a composite for each participant, using the Index of Social Position by Hollingshead (1971).

Neuropsychological testing. The Wechsler Abbreviated Scale of Intelligence (WASI; Wechsler, 1999) provided an estimate of intellectual functioning. This test afforded a comparison of overall intellectual functioning between groups and provided a means to exclude prospective participants with IQs < 70.

Executive Function measures. The Conners' Continuous Performance Test (CPT; Conners, 1995) is a computer-based task that was developed to measure ability to sustain attention over a 14-minute period. The CPT provided an index of impulsivity/disinhibition, as measured by number of commission errors, and inattention, as measured by number of omission errors.

A computerized version of the Wisconsin Card Sorting Test (WCST; Heaton et al., 1993) provided an index of cognitive flexibility, or ability to shift set (i.e., percentage of perseverative errors). Inclusion of this test is beneficial because of its known sensitivity to executive dysfunction in patients with serious mental illness (Royall et al., 2002).

The Letter Number Sequencing (LNS) subtest of the Wechsler Adult Intelligence Scale – Third Edition (WAIS-III) requires participants to mentally manipulate numbers and letters while holding them in their short-term memory. The longest letter/number string span correctly sequenced by each participant served as an index of working memory capacity. While this test is not normed for the younger participants in our study (this study was initiated prior to the release of the WISC-IV's Letter-Number Sequencing test), the equivalent mean ages across groups in the final sample was assumed to balance out effects of differential cognitive development.

The Behavior Rating Inventory of Executive Functions - Parent Form (BRIEF; Gioia et al., 2000) assessed caregiver ratings of participants' daily functioning on tasks thought to be mediated by executive ability. The BRIEF includes 86 items describing behaviors along seven dimensions: Inhibition, Shift, Emotional Control, Initiation, Working Memory, Planning/Organization, Organization of Materials and Monitoring, to be rated as occurring "never," "sometimes," or "often." The Inhibition, Shift and Emotional Control subscales comprise the Behavioral Regulation Index (BRI), while the Initiation, Working Memory, Planning/Organization, Organization of Materials and Monitoring subscales comprise the Metacognition Index (MCI). In order to control for Type I error, analyses will be focused on the two summary indices, BRI and MCI. The BRIEF is distinct from traditional neuropsychological tests in that it is intended to measure the effects of EF deficits on daily life functioning, and therefore adds important ecological validity to the current study design. The reader is referred to the BRIEF test manual for a detailed account of its thorough empirical validation and strong basis in theory (Gioia et al., 2000).

Results

Demographics. Demographic and clinical data for each group are shown in Table 1. Chi-square analyses showed that participant groups did not differ significantly in age, race or sex distribution. Correlations computed to test potential effects of age on test performance showed that there was a

significant relationship between age and performance on CPT commission errors, $r = -.3$, $p < .04$, and LNS span, $r = .3$, $p < .04$, and score, $r = .4$, $p < .008$. Analyses controlling for the effect of age were conducted for these variables and are reported below. The relationships between age and the remaining test variables failed to reach significance; age was not included as a covariate in analyses of these variables.

Table 1. Demographic Data: Sex, Race and Medication Status by Diagnosis

Demographic	Diagnosis		
	BPD+ADHD	ADHD	Healthy Controls
Age <i>M</i> (<i>SD</i>)	14.2 (1.3)	14.1 (1.3)	14.4 (1.4)
IQ <i>M</i> (<i>SD</i>)	97.4 (13.2)	108.5 (12.3)	108.5 (10.2)
Female % (<i>n</i>)	22.2% (4)	25.0% (4)	47.1% (8)
Race % (<i>n</i>)			
African American	16.7% (3)	6.2% (1)	17.6% (3)
Caucasian	77.8% (14)	93.8% (15)	82.4% (14)
Other	5.5% (1)	0% (0)	0% (0)
Index of Social Position	3.53	3.08	2.41
Medication Status % (<i>n</i>)			
Atyp. Anti-psychotic	72.2% (13)	0% (0)	0% (0)
Mood Stabilizers	33.3% (6)	0% (0)	0% (0)
Stimulants	22.2% (4)	62.5% (10)	0% (0)
Unmedicated	11.1% (2)	37.5% (6)	100% (17)
ADHD Subtypes % (<i>n</i>)			
Inattentive	31.25% (5)	75% (12)	0% (0)
Hyper-Impulse	0% (0)	6.25%(1)	0% (0)
Combined	68.75% (11)	18.75% (3)	0% (0)

Note. Higher Index of Social Position values indicate lower SES. Medication status groupings are not mutually exclusive. Subtype data were unavailable for two BPD+ADHD participants.

T-tests showed the group diagnosed with BPD+ADHD to have significantly lower mean SES than the healthy volunteers, $p < .05$. The ADHD group's mean SES fell between that of the other groups and did not differ significantly from either. Although the comparison of most relevance to the current research question is that between the two patient groups who were shown to have similar levels of SES, additional analyses controlling for the effects of SES were conducted and are detailed below.

A univariate ANOVA examining Full Scale IQ (FSIQ) revealed a significant main effect of group, $F(2, 48) = 4.9, p < .011$. Tukey HSD tests showed that the BPD+ADHD participants' scores were significantly lower than those of either the HV or ADHD groups, $p < .02$ and $.03$, respectively. Nonetheless, all group mean IQs fell within the average range (i.e., 90-110) and differed by less than a standard deviation. This suggests that, while the group means IQs are statistically significant, the difference is of minimal clinical importance. The mean FSIQs of the HV and ADHD groups were nearly identical, differing by less than one point (see Table 1 for group means).

Executive Functioning tasks. A MANOVA was conducted to examine differences among the three groups across the primary EF variables of interest: CPT d' *T*-score (an index of inattention), WCST percent perseverative errors Standard Score, LNS score and BRIEF BRI and MCI *T*-scores (see Table 2). Of note, qualitative inspection of the results suggests that, although not every between-group difference was significant, the pattern of the group means followed the hypothesized direction on *every* test variable (i.e., the BPD+ADHD group always demonstrated weaker performance than the ADHD group, who always demonstrated weaker performance than the HV group).

The MANOVA revealed a significant overall effect of diagnostic group, $F(25.81) p < .001$. Post-hoc analyses showed the diagnostic groups to significantly differ on CPT d' *T*-score, $F(2.93), p < .044$, LNS score, $F(5.18), p < .004$, and BRIEF BRI, $F(66.48), p < .001$, and MCI, $F(55.56), p < .001$. Group differences in performance on WCST percent perseverative errors standard score approached significance, $F(2.46), p < .075$.

More specifically, the group diagnosed with BPD+ADHD was found to show weaker performance on CPT d' than either the group diagnosed with ADHD, $p < .021$, or the HV group, $p < .025$, who did not differ from one another. With regard to WCST percent perseverative errors, an index of cognitive flexibility, analyses showed the group diagnosed with BPD+ADHD to differ from the HV group, $p < .02$, while the ADHD group mean fell between those of the other two groups but did not significantly differ from either. On LNS score, the group diagnosed with BPD+ADHD was shown to have worse performance than either the group diagnosed with ADHD, $p < .025$, or the healthy volunteer group, $p < .016$, who again did not differ.

Turning to the BRIEF, participants diagnosed with BPD+ADHD were rated by their caregivers as having significantly greater behavioral dysregulation on the BRI than the participants with ADHD, who were rated as demonstrating greater behavioral dysregulation than the healthy volunteers; all three between group differences were significant at $p < .001$. Finally, parent ratings of metacognition on the MCI revealed that both patient groups demonstrated significantly weaker metacognitive abilities than the healthy volunteers, both at $p < .001$, though they did not differ from one another.

Post-Hoc Analyses: Additional variables of interest. Because analysis of participants' performance on CPT number of commission errors showed it to be significantly related to participant age, an ANCOVA controlling for developmental effects was performed. Results showed a significant main effect of diagnosis, $F(2, 46) = 4.6, p < .007$, with the BPD+ADHD group making significantly more commission errors than either the HV, $p < .01$, or ADHD groups, $p < .01$, who did not differ from one another. Turning to CPT number of omission errors, the omnibus ANOVA revealed a significant main

effect for diagnosis, $F(2, 46) = 8.9, p < .001$. Follow-up tests showed that the BPD+ADHD group made significantly more omission errors during the CPT than either the ADHD, $p < .02$, or HV groups, $p < .001$, who did not differ significantly from each other. Exploratory analysis of CPT β , or Risk Taking, Index was also significant, $F(2,46) = 5.2, p < .009$, with the BPD+ADHD group showing weaker performance than the HV group, $p < .006$. Though the ADHD group's performance fell between that of the other two groups, neither between groups difference was significant.

Table 2. Neuropsychological Test Variables: Group Means (Standard Deviations)

Test Variable	N	M (SD)		
		BPD+ADHD	ADHD	HV
CPT:				
#Omission errors	49	23.2 (7.6)	17.9 (7.8)	16.5 (6.5)
#Commission errors	50	17.2 (10.8)	8.3 (9.7)	4.7 (5.2)
d' T-score	50	62.9 (10.2)	55.09 (10.4)	54.3 (7.2)
β	49	34 (.25)	.21 (.24)	.11 (.12)
WCST				
% Persev. errors, SS	50	98.4 (10.9)	105.9 (12.4)	113.9 (18.5)
Categories complete	50	4.3 (1.8)	5.5 (1.1)	5.6 (.9)
LNS:				
Span	51	4.6 (.9)	5.2 (.91)	5.4 (1.1)
Score	51	8.5 (2.3)	10.1 (1.7)	10.4 (1.8)
BRIEF:				
BRI	51	79.6 (9.2)	61.2 (9.0)	41.1 (2.8)
MCI	51	72.7 (7.3)	70.8 (8.5)	44.1 (5.7)

Note. CPT = Continuous Performance Test; WCST = Wisconsin Card Sorting Test; LNS = Letter Number Sequencing; BRIEF = Behavior Rating Inventory of Executive Function; BRI = Behavioral Regulation Index; MCI = Metacognition Index

Returning to the WCST, analysis of the number of categories completed, a measure of general problem-solving ability, showed between-group differences to be significant, $F(2, 47) = 4.9, p < .01$. Tukey HSD tests revealed the BPD+ADHD group to have completed fewer categories than either the ADHD, $p < .04$, or HV groups, $p < .02$. The difference between the ADHD group and HV group was not significant.

Because age was significantly related to test performance on the LNS subtests, an ANCOVA was conducted to examine LNS span, or the longest number/letter string retained by each participant, while controlling for possible age effects. The main effect was shown to be significant, $F(2, 47) = 3.7, p < .02$, with BPD+ADHD participants performing worse than the HV participants, $p < .02$. The difference in performance between the BPD+ADHD and ADHD groups approached significance, $p < .07$, while the ADHD and HV groups were found to have performed similarly.

Further analyses using repeated measures ANOVA to examine diagnostic group by BRIEF index interactions showed a significant main effect for diagnosis, $p < .001$, as well as a significant interaction between diagnosis and BRIEF index, $p < .001$. The effect of BRIEF index was not significant in and of itself. Follow up *t*-tests comparing mean BRI and MCI *T*-scores within patient groups showed that BPD+ADHD participants were rated as having significantly worse behavioral regulation than metacognition, $p < .001$. Conversely, the BRI *T*-scores, which did not reach clinically significant levels overall, were significantly lower in the ADHD group than were their MCI *T*-scores, $p < .001$.

Discussion

Few researchers have assessed cognitive functioning in youth with BPD, in spite of evidence that adult BPD is associated with EF deficits and preliminary data to suggest the presence of a dysexecutive syndrome in adolescents with the disorder (McDonough-Ryan et al., 2001; McGrath, Scheldt, Welham, & Clair, 1997; Morice, 1990; Sax et al., 1999; Shear et al., 2002). Because EF deficits are related to impaired daily functioning and poor long-term outcomes (Lezak, 1995), an understanding of the presence and extent of these cognitive deficits in youth diagnosed with BPD is of great importance to focus treatment efforts and optimal individual outcomes. The current study aimed to shed light on the complicated relationship between BPD and ADHD and the extent to which EF deficits impact those diagnosed with either or both disorders. To do so, the study goal was to examine the executive dysfunction shown to accompany both BPD and ADHD, its effect on tasks of daily living and how this dysfunction differs when the disorders are comorbid.

The current sample of BPD+ADHD participants demonstrated significant impairment relative to healthy controls across all variables. After controlling for possible effects of SES, the differences remained significant across six of ten variables, with two additional variables approaching significance. Although executive dysfunction has been well documented in adults with BPD (Denicoff et al., 1999; McGrath et al., 1997; Morice, 1990; Sax et al., 1999; Wilder-Willis et al., 2001), there are very few studies that have examined this cognitive domain in youth diagnosed with the disorder. Therefore, the present finding of significant and pervasive EF deficits in participants diagnosed with BPD+ADHD makes an important contribution to the literature, not only by helping clinicians and researchers to better understand these patients, but more generally, by demonstrating that cognitive dysfunction is critical to study and assess in younger patients.

Specifically, this study identified deficits in attention, inhibition, self-monitoring and cognitive flexibility (i.e., increased perseverative errors), general problem solving, working memory, behavioral regulation and metacognition. These deficits have important functional implications because executive dysfunction has been linked to disrupted academic, social, psychological, occupational and autonomous functioning (Bull & Scerif, 2001; Martinez-Aran et al., 2002; Zarate et al., 2000; Zubieta, Huguelet, Lajiness, O'Neil, & Giordani, 2001).

Although the BPD+ADHD participants showed consistent executive deficits, the ADHD participants differed from the HV group only on the BRIEF behavioral regulation and metacognition indices. Moreover, only their metacognitive impairment reached clinically significant levels as a group,

while their mean behavioral regulation scores fell within the borderline normal range. Overall, these results indicate a relatively high functioning, and therefore somewhat atypical, ADHD sample, despite their having an SES that is comparable to that of the other groups.

Executive Dysfunction in BPD+ADHD versus ADHD. The question of greatest interest lies in the relationship between the EF performances of the two patient groups. Analyses, after controlling for SES, showed the BPD+ADHD and ADHD groups to differ significantly on the BRIEF Behavioral Regulation Index, CPT d' (Attentiveness) Index T -score, β (Risk Taking) Index T -score, and numbers of omission (inattention) and commission (impulsivity) errors, WCST categories completed and LNS score. Furthermore, differences between the patient groups tended toward significance on LNS span both before ($p < .07$) and after ($p < .09$) controlling for SES. In each case, the patients with comorbid diagnoses demonstrated significantly weaker performance than those diagnosed with ADHD alone. Altogether then, the majority of results (seven of 10 test variables, with an eighth variable approaching significance, across four of four EF measures), even after controlling for possible effects of SES, supported the hypothesis that EF deficits in the BPD+ADHD group would be significantly more severe than in the group diagnosed with ADHD alone. Therefore, the current findings provide considerable support for the idea that co-existence of the two disorders is associated with more severe EF deficits than that observed in either disorder alone.

Conclusions and Implications. Altogether, finding significant differences between BPD+ADHD and HV groups on every variable, whether classic neuropsychological tests or functional assessment, lends support for the notion that youth meeting diagnostic criteria for both BPD and ADHD are at high risk for an impairing dysexecutive syndrome. These results, coupled with Shear et al.'s (2002) findings, have important clinical implications for both short- and long-term outcomes, and subsequently for focus of treatment efforts. Not only do the results underscore the importance of acknowledging that BPD+ADHD is distinct from both BPD and ADHD alone, they necessitate that clinicians recognize and fully address both disorders in order to achieve optimal treatment outcome. This knowledge, particularly in light of the research demonstrating the far-reaching consequences of impaired EF, would further suggest focusing treatment efforts on minimizing the effects of executive dysfunction on daily life functioning in affected youth. This effort would presumably serve to prevent both the short- and long-term effects of disrupted academic and social development and therefore optimize treatment outcome.

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MENTAL HEALTH SERVICE PROVIDER KNOWLEDGE, ATTITUDES, AND COMPETENCIES REGARDING RECOVERY FROM SERIOUS MENTAL ILLNESS

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Prior to the mid 1980s, and before the deinstitutionalization movement (Nolen-Hoeksema, 2004), common parlance suggested that the future of a person with a serious mental illness was bleak and fraught with continued deterioration (Surgeon General, 1999). The possibility of rehabilitation or recovery from life-long mental illness was dismissed; traditionally, the goal of treatment was to prevent decompensation, treat symptoms, maintain stability, and handle crises (Anthony, 2000; Turner-Crowson & Wallcraft, 2002).

Attitudes toward individuals with mental illnesses have become more favorable during the past 25 years. Due to the writings of consumers of mental health services about their experiences in the mental health system and the resulting “consumer movement,” the 1980s and 1990s were marked by a shift in focus that occurred within the mental health professions. A new vision of mental health treatment emerged and it became known as the “recovery model” (Anthony, 1993; Surgeon General, 1999). Anthony (1993) defines recovery as, “a deeply personal, unique process of changing one’s attitudes, values, feelings, goals, skills, and/or roles,” and “the development of new meaning in one’s life as one grows beyond the catastrophic effects of mental illness” (p. 15). According to the recovery model, the process of coping with a mental illness is likened to the process of a person coping with a physical disability; the illness exists but the affected person can still work toward achieving personal goals while coping with illness-related symptoms and difficulties (Anthony, 1993; Deegan, 1988).

Many consumers have shared personal accounts of their experiences with mental illness as well as their views on recovery as a concept. Some common themes about the recovery process have emerged from these accounts. These themes include: taking responsibility for one’s own psychological and physical wellness; returning to basic functioning (Young & Ensing, 1999); accepting one’s illness; having desire and motivation to change; and finding hope in oneself, other people, and/or in spirituality (Deegan, 1988). Consumers have also emphasized the importance to the recovery process of education about mental illness, advocacy, peer support, gaining insight about the self and about mental illness, and striving to find new purpose in life (Mead & Copeland, 2000; Young & Ensing, 1999).

Mental health researchers and providers often have a somewhat different view: they tend to approach mental illness from a psychiatric *rehabilitation* perspective. The goal of rehabilitation is to help consumers live well within the context of their illnesses (Andresen, Oades, & Caputi, 2003). There is increased attention to consumers’ functioning, with a focus on improving consumers’ status in various domains including employment, relationships, and housing. Providers tend to focus on providing services to consumers to assist the rehabilitation and recovery processes (Anthony, 1993; Jacobson & Curtis, 2000). The emphasis for many providers is on the services offered rather than on the process of empowerment that is important to consumers.

Although some differences exist in how providers versus consumers conceptualize the recovery process, there are common themes in both conceptualizations. Both consumers and providers view recovery as a process that is unique to each individual, is active, and requires that individuals take

personal responsibility for the process. Recovery emphasizes choice, hope, and purpose in one's life (Andresen et al., 2003; Anthony, 1993; Deegan, 1988; Jacobson & Curtis, 2000; Mead & Copeland, 2000). In addition, consumers and researchers agree that self-esteem, self-efficacy, and empowerment are better indicators of recovery than is a quantification of symptomology, implying that recovery has more to do with sense of self than mental illness (Bullock, Ensing, Alloy, & Weddle, 2000; Deegan, 1996).

Another essential component of the recovery process is support. In order to facilitate recovery, the mental health system and mental health providers must be recovery-oriented. In his seminal work, Anthony (1993) described some basic assumptions of a recovery-oriented mental health system which relate directly to the role of providers: (1) recovery can occur without providers, and (2) recovery includes the presence of people who support and believe in the recovery process for the person who is recovering. These assumptions highlight the importance of a provider's attitude toward the consumer and toward recovery.

A consumer's decision to include a provider in his/her recovery process may depend upon past relationships with providers. Interactions with mental health providers have been devastating for some consumers, especially when providers have informed them that the chance for their recovery is minimal (Coleman, 1999). According to Jacobson (2001), in some cases, in order for recovery to be successful, it is essential for a person to disengage with people (e.g., mental health providers, family) who inhibit the recovery process. These examples highlight the problems that sometimes exist within a consumer-provider relationship.

Conversely, according to the recovery model, an effective provider can facilitate the recovery process when he/she adopts the basic assumptions of a recovery-oriented mental health system (Jacobson, 2001). Providers who hold positive attitudes toward recovery are thought to promote empowerment and encourage an optimistic approach to the treatment of mental illness (Corrigan, 2002). Research focusing on provider service characteristics and consumers' needs and outcomes found that consumers who felt empowered within the consumer-provider relationship were more likely to perceive that their needs were met, which in turn predicted lower levels of symptomatology and higher quality of life (Roth, & Crane-Ross, 2002). This research demonstrates the positive impact of providers on the recovery process. Frese & Davis (1997), both of whom are providers and consumers of mental health services, lend support to the importance of provider involvement in the recovery process. They note that, "a key element in recovery is the presence of people who offer hope, understanding, and support; who encourage self-determination; and who promote self-actualization" (p. 244).

By the aforementioned accounts, mental health providers have the potential to encourage and influence or, conversely, discourage the recovery process. Accordingly, researchers have developed numerous guidelines designed to increase recovery-oriented services and promote positive consumer-provider relationships. Some of the guidelines set forth for providers include: (1) treating the person as an equal; (2) focusing on the person and his/her needs; (3) recognizing the individual nature of recovery; (4) focusing on the individual's goals and decisions; (5) encouraging hope and accountability; (6) providing self-help skills; (7) ensuring collaborative treatment; (8) encouraging peer support; (9) making referrals to consumer-run groups and (10) believing in the possibility that each consumer can recover (Anthony, 1993; Chamberlin, Rogers, & Sneed, 1989; Deegan, 1988; Jacobson & Greenley, 2001; Mead & Copeland, 2000; Smith, 2000). As evidenced above, many guidelines for recovery-oriented services exist. Additionally, many states and counties have adopted the recovery concept to guide their service delivery (Anthony, 2000).

Despite the proliferation of guidelines for recovery-oriented systems and the number of systems claiming to embrace the concept, it would be erroneous to assume that all mental health systems and the

providers who work for these systems have knowledge of, are accepting of, and have implemented recovery principles in day-to-day work (Smith, 2000). Surely, in some mental health systems, little is known about the recovery concept. In other settings, the recovery concept may be invoked in name only (Jacobson & Curtis, 2000). Some providers may not accept the recovery concept because they have not been convinced of its effectiveness or question the principle of consumer empowerment, which may threaten the traditional mental health power structure that typically imbues power to the providers (Smith, 2000).

As is evidenced above, some providers seem to have rejected the recovery concept. By other accounts, providers have had positive effects on the recovery process (Corrigan, 2002; Jacobson, 2001), and therefore, are presumably subscribing to the recovery concept. Research clarifying how providers view the recovery concept is necessary. It would be illuminating to investigate the degree to which providers are aware of recovery concepts, what attitudes they hold about these concepts, and if recovery concepts are being embraced in local mental health systems. Are mental health systems (even those that self-identify as providing recovery-oriented services), merely espousing politically correct dogma or are the providers at these agencies embracing these principles? These questions warrant further investigation and are the subject of this project.

A question of competency should also be addressed. Even if providers are embracing the ideals of the recovery concept, it is important to question if they are competent or skilled in implementing recovery principles in their daily work with consumers. In order for recovery-oriented mental health services to be effective, providers must be capable of providing these services and further investigation is needed to measure providers' competencies in service provision.

Summary of the Research Problem and Research Objectives

With the shift toward adoption of the recovery concept within the mental health field, an emphasis on the consumer-provider relationship with respect to the recovery process has emerged. However, little is known about provider knowledge of the recovery concept or their attitudes about the recovery concept. In addition, little research has been dedicated to assessing the skills of providers in implementing recovery-oriented services. It is possible that knowledge, attitudes, and skills with respect to recovery may differ based upon provider variables such as education level, years of experience, job duties, and previous recovery training. Such information may assist the mental health system in guiding future training programs that aim to improve recovery-oriented services.

This research examined a sample of providers with regard to how knowledgeable they were about recovery concepts, what attitudes they held about recovery concepts, and their skill level in delivering recovery-oriented services. In addition, this research explored what variables affected the participants' attitudes, knowledge, and competencies. It was hypothesized that provider knowledge and attitudes with respect to recovery may differ based upon variables such as education level, years of experience, recovery training, and job duties. One *a priori* hypothesis was formulated: providers who had more positive attitudes toward recovery would be more skilled in implementing recovery principles.

Method

Participants. Two hundred and sixty-five providers of community mental health services in Hamilton County were contacted to participate in this study. A total of 139 providers (52%) participated in the survey. A total of 119 participants (86%) of those who completed the survey provided usable data. A portion of the participants ($n = 6$) were excluded due to incomplete data (i.e., missing multiple items that precluded various subscales from being scored). Other participants ($n = 14$) identified themselves as

“supervisors” and reported having no direct service with consumers (multiple survey questions inquired about direct service to consumers), which resulted in the exclusion of the group.

Ages of participants ranged from 22 to 59 ($M = 33.10$, $SD = 10.60$) and tenure in the mental health field ranged from six months to 32 years ($M = 6.42$, $SD = 6.58$). Additionally, 4.2 percent of the sample acknowledged being both a consumer and provider of mental health services. Participants included case managers, therapists, psychiatrists, psychologists, nurses, mental health workers, and administrators.

Procedure. Participants were recruited with the help of research liaisons at two participating community mental health agencies. Surveys from Agency 1 were returned at a 40 percent response rate. The rate of response from providers at Agency 2 was approximately 54 percent. An introductory letter was attached to the protocols explaining the general purpose of the study and clarified that consent was implied upon completion of the research materials. All survey participants took part in an optional incentive program, in which they were awarded \$10 gift certificates to local restaurants and bookstores for their participation.

Instruments. There were three parts of the research protocol. The first part of the protocol, which was created by the PI for this project, consisted of a series of four questions addressing knowledge of recovery. The first question asked providers to rank, from a pool of eight possible choices, the three most accurate definitions of recovery. The second question asked providers to rank, from a pool of fifteen possible components, what they felt were the five most important components of recovery for consumers. The definitions and components in questions 1 and 2 were formulated based on the writings of consumers and researchers about recovery. The questions included options that are not recovery-oriented in order to provide alternate answers for those who are not aware of recovery principles. Questions 3 and 4, which were in multiple-choice format, assessed the participants’ training in recovery principles.

The second component of the protocol was the Recovery Attitudes Questionnaire (RAQ-16) for providers (Borkin et al., 2000). The RAQ-16 was administered to measure participants’ attitudes about the concept of recovery from mental illness. The measure listed 16 statements about recovery which the participants rated on a 5-point Likert-type scale ranging from “strongly agree” to “strongly disagree”. An example item is, “Hope is an important part of the recovery process.” Internal reliability, as measured by Cronbach’s alpha, ranged from .64 to .70 and the test-retest reliability was .67 (Borkin et al., 2000).

The third part of the protocol included the Competency Assessment Instrument (CAI), which measured competencies that are viewed as central to providing recovery-oriented services (Chinman et al., 2003). Portions of the CAI were extracted for purposes of this study and the following nine competencies were included: goal functioning; stress; client preferences; skills advocacy; stigma; community resources; family involvement; evidence-based practices; and optimism. The included items on the CAI elicited responses on a 5-point Likert-type scale. An example of an item is: “It is best to wait until clients are mostly symptom free before discussing their goals,” with responses ranging from “strongly agree” to “strongly disagree.” Internal consistency, as measured by Cronbach’s alpha ranged from .57 to .93 on the individual competency sub-scales. Test-retest reliability for the individual scales were adequate, ranging from $r = .59$ to $r = .73$ (Chinman et al., 2003).

The survey also included demographic questions that assessed providers’ level of education, job duties, and number of years in the mental health system as well as sex, age, and race, among other information. The demographic portion also assessed if providers were also consumers of mental health services.

Results

This study was designed to assess the impact of four predictor variables on two dependent variables. The independent variables or predictors in this study were: (1) provider experience in the field, as operationalized by the number of years in the mental health field, (2) level of education, (3) job duties, and (4) recovery training. The dependent variables were (1) provider attitudes about recovery and (2) provider competence in implementing recovery principles in practice. These variables were measured by the total and subscale scores in the Recovery Attitudes Questionnaire and subscale scores in the Competency Assessment Instrument.

Descriptive statistics were computed for the predictor variables. Participants were asked to endorse all duties that applied to their work and because there was a plethora of response choices, “job duties” was separated into three categories: (1) case management/active (e.g., meet the consumer in the community), (2) traditional treatment duties (e.g., prescribing medications) and (3) education/other duties (e.g., teach clients daily living skills). Within the sample, 77.3 percent endorsed case management/active duties as their primary duties, a smaller percentage (11.8%) endorsed traditional treatment duties, and the remainder (10.9%) endorsed education/other duties as their primary duties. Regarding education, 58.8 percent reported achieving a bachelor’s degree. Additionally, 68.1 percent reported that they had not been trained in recovery principles. Provider experience ranged from half a year to 32 years of experience ($M = 6.42$, $SD = 6.58$).

Recovery knowledge. In order to assess provider knowledge of recovery, the responses to the recovery knowledge questions were analyzed using descriptive statistics. Specifically, percentages were computed to describe how often each definition of recovery was endorsed as being accurate. The following definition was chosen most often (34.5%) as being the *most* accurate definition of recovery: “recovery is an ongoing process of growth, discovery and change that emphasizes choice, hope and purpose in one’s life.” For the second (20.7%) and third (19.8%) most accurate definitions, the following was endorsed most often: “recovery is a way of living a satisfying, hopeful, and contributing life even with limitations caused by illness.”

Percentages were computed to describe which components were felt to be most important to recovery. The following aspect was chosen most often as being the most important component of the recovery process for consumers: “having desire and motivation to change” (30.8%). For the second (17.9%) and third (14.5) most important components, the following was endorsed most often: “accepting the illness and taking responsibility for wellness.” For the fourth (15.5%) and fifth (12.9%) most important components, the following was endorsed most often: “gaining insight about the self and the illness” and “having a positive relationship between consumers and mental health providers,” respectively.

Recovery attitudes and competency. To investigate how competent providers were in implementing recovery principles and to assess provider attitudes toward the recovery concept, descriptive statistics for the dependent variables (recovery attitudes and competency in implementing recovery principles) were computed. For the purposes of analysis, the three subscales with the best reliability measures were included (i.e., goal functioning, stress, and family involvement). Internal consistency, as measured by Cronbach’s alpha was .90, .93, and .85, respectively. Test-retest reliability for the individual scales was $r = .59$, $r = .64$, and $r = .68$ (Chinman et al., 2003). Table 1 highlights the degree to which participants were competent in these areas, and how favorable the participants’ attitudes were toward the recovery concept.

Table 1. Means and Standard Deviations for the Dependent Variables

Dependent variable	<i>M (SD)</i>
RAQ total score	4.08 (.31) ^a
RAQ factor 1 (recovery is possible and requires faith)	3.88 (.46) ^a
RAQ factor 2 (recovery is difficult and differs among people)	4.16 (.34) ^a
Stress (helping consumers understand and cope with stress)	.46 (.25) ^b
Family involvement (involving family and assisting the coping process)	.67 (.17) ^b
Goal functioning (assisting consumers in attaining skills necessary for goals)	.39 (.26) ^b

Note. *N* = 119.

^aMeans range from 1 to 5 with higher numbers indicating more favorable attitudes toward recovery.

^bMeans range from 0 to 1. A score of 1 indicates total competency in a specific skill area.

The relationship between recovery attitudes and competency in implementing recovery principles was examined by computing correlation coefficients between the recovery scores (RAQ total, RAQ factor 1 “recovery is possible and requires faith,” and RAQ factor 2 “recovery is difficult and differs among people”) and the competency scales (CAI scales: goal functioning, stress, and family involvement). Using the Bonferroni approach to control for Type I error across the nine correlations, a *p*-value of less than .005 was required for significance. No correlations were significant between the competency and recovery subscales.

Provider variables and recovery constructs. To explore the relationship between provider variables and recovery constructs, multiple regression was employed. Specifically, multiple regression was utilized to determine the variance accounted for in provider competence and recovery attitudes by the predictors (job duties, recovery training, years in the field, and education). Because the job duties predictor was categorical and consisted of three categories (active/case management duties, traditional treatment duties, and education/other duties), the variable was split into two dummy-coded contrast variables (“case management” and “traditional vs. education”) in order to be entered in the analysis in an independent manner. Two separate multivariate regression analyses were computed; one focused on competency and the other on recovery.

The first multivariate regression analysis was conducted to determine if there was a significant relationship between the three competency dependent variables (i.e., family involvement, stress, and goal functioning) and the set of provider predictors (i.e., job duties contrast variables, recovery training, years in the field, and education). The results of this analysis indicate that there was a significant relationship between the dependent and predictor variables. With an alpha level of .05 and using Wilk’s Λ multivariate test statistic, the relationship between the dependent competency variables and the predictor variables was statistically significant, $F(15, 306) = 3.48, p < .001$.

Because the multivariate test statistic was significant, independent regression analyses were computed to determine separately the significance of each the three dependent variables. A significant amount of the variance in competency in goal functioning was accounted for by the provider variables (job duties, recovery training, years in the field, and education), $R^2 = .167, F(5, 113) = 5.09, p = .001$. Of the provider variables, the case management duties contrast variable was most strongly related to goal functioning, $r = .269, B = .292, t(117) = 3.13, p = .002$. Additionally, a significant amount of the variance in competencies with respect to family involvement was accounted for by the provider variables $R^2 = .183, F(5, 113) = 5.09, p < .001$. Of the provider variables, a regression analysis found that the case

management duties contrast variable was most strongly related to the family involvement competency variable, $r = .398$, $B = .432$, $t(117) = 4.68$, $p < .001$. The degree variable was also strongly related to the goal functioning competency variable, $r = -.239$, $B = -.308$, $t(116) = -2.813$, $p = .006$. The independent regression on stress was not significant, $R^2 = .08$, $F(5, 113) = 1.89$, $p = .100$. Thus, the overall multivariate significance is primarily attributable to the relationship between the goal functioning competency variable, the family involvement competency variable, and the provider variables.

The second multivariate regression analysis was conducted to determine if there was a significant relationship between the three recovery dependent variables (RAQ total score, RAQ factor 1 score, and RAQ factor 2 score) and the set of provider predictors (i.e., job duties contrast variables, recovery training, years in the field, and education). With an alpha level of .05 and using Wilk's Λ multivariate test statistic, the relationship between the dependent recovery variables and the predictor variables was not statistically significant, $F(15, 306) = .99$, $p = .461$.

Discussion

The aim of this research was to investigate providers' knowledge, attitudes and competencies regarding recovery. In addition, this research aimed to explore what variables affected provider attitudes and knowledge. It was hypothesized that provider competencies and attitudes with respect to recovery may differ based upon variables such as education level and years of experience. One *a priori* hypothesis was formulated: providers with more positive attitudes toward recovery would be more skilled in implementing recovery principles.

Recovery knowledge. With respect to provider knowledge about the recovery concept, it appears that the providers in this sample had a good general knowledge of the recovery concept, as is evident in the responses to the knowledge portion of the survey. Responses did not appear to be random, as certain definitions and components were chosen consistently as representing the most accurate definitions and most important components of recovery. The definitions and components that were chosen by respondents are the same definitions and components of recovery that were generally endorsed by both providers and consumers in previous studies. For example, the definition chosen most frequently as being the most accurate definition of recovery, "Recovery is an ongoing process of growth, discovery and change that emphasizes choice, hope and purpose in one's life," was penned by Anthony (1993) in his seminal work regarding the recovery concept.

Among the components chosen as important to recovery for consumers, "having desire and motivation to change" was chosen most frequently as the most important component of recovery and is a tenet of the recovery concept that is often described by consumers of mental health services (Deegan, 1988; Mead & Copeland, 2000). Additionally, the component "having a positive relationship between consumers and mental health providers" was often chosen as being important to recovery for consumers. This endorsement coincides with previous reports that both consumers and providers regard an effective consumer-provider relationship as important to the recovery process (Jacobson, 2001; Frese & Davis, 1997; Ralph, 2000, Young et al., 2000). Generally, it appears that providers in this sample are reasonably well informed about recovery from mental illness and based upon the results of this study, the picture appears optimistic for state and local agencies invested in the recovery concept.

Recovery attitudes and competency in implementing recovery principles. Considering the importance of provider attitudes for successful consumer recovery (Corrigan, 2002), it is promising that participants indicated favorable attitudes toward recovery. Specifically, attitudes were favorable toward recovery in general; attitudes were also favorable toward the notion that recovery is possible and requires faith and toward the notion that recovery is difficult and differs among people.

With respect to competency, it is difficult to make strong assertions, as only three competency subscales were used in the analysis. However, based on the subscales that were used, it appears that providers in this sample reported being moderately competent in the areas of helping consumers understand and cope with stress, involving family and assisting in the coping process, and assisting consumers in attaining skills necessary to reach their goals. These conclusions are tempered by the self-report nature of the information. Further exploration into various competencies in implementing recovery principles is needed using both subjective and objective methods.

The relationship between attitudes and competencies. It was hypothesized that providers who had more positive attitudes toward recovery would be more skilled in implementing recovery principles. The results revealed a non-significant negative relationship between provider attitudes toward recovery and provider skill in implementing recovery principles. It appears that competencies in helping consumers cope with stress, involve family and assist in the coping process, and assist in attaining necessary skills for goals are not related to attitudes toward recovery in this sample.

This non-significant relationship may indicate that attitudes toward recovery do not affect competencies in implementing recovery principles. However, it is important to note that not all competencies that are a part of the CAI were included in the data collection and/or analysis of this project. The remaining competencies may have a different relationship to recovery constructs than the goal functioning, stress, and family involvement competencies. Additionally, it is possible that the CAI does not include all competencies or skills that are important to recovery, and providers in this sample may be reportedly competent in areas that are not assessed by the CAI. Future investigation into the relationship between recovery attitudes and competencies, including more reliable measurement of the competencies, is worthwhile

Provider variables and recovery constructs. There was an interesting significant relationship between competency variables (i.e., stress, goal functioning, and family involvement subscales) and the predictor variables (provider education level, job duties, years in the field, and recovery training). A significant amount of the variance in competency in goal functioning (i.e., assisting consumers in attaining the skills necessary to reach their goals) was accounted for by the provider variables, specifically job duties. Providers with case management/active duties (e.g., assisting clients in finding housing) reported being significantly more competent in assisting consumers to obtain their goals than providers whose primary duties included more traditional treatment (e.g., psychotherapy) or educational duties (e.g., teaching medication skills).

Additionally, a significant amount of the variance in competencies with respect to family involvement was accounted for by the job duties and the education variables, the later of which was negatively related to family involvement competency. With respect to job duties, in this sample, it appears that providers with case management/active duties reported being significantly more competent in assisting families in the coping process than providers whose primary duties included more traditional treatment or educational duties. Also, as providers' education levels increased, they reported being less competent in involving and assisting families in the recovery process. The later finding adds to the existing, inconsistent body of research exploring this connection (Chinman et al., 2003; Kingdom, Sharma, & Hart, 2004; Salzer, Rappaport & Segre, 2001) and the current research strengthens the argument that more research is needed to explore this association.

Also noteworthy is the minimal impact of provider variables on recovery attitudes. The provider characteristics explored in this study (job duties, years in the field, education, and recovery training) failed to modulate recovery attitudes (as measured by the RAQ) in the statistical analysis. It appears that recovery attitudes are minimally affected by provider job duties, years in the field, and education level.

Interestingly, it also appears that recovery training has little effect on provider attitudes about recovery. It is possible that recovery training is not essential in the development of recovery attitudes. Further research exploring what factors affect recovery attitudes is necessary as is a more in-depth analysis of the effects of recovery training on recovery attitudes and other recovery constructs.

Although some noteworthy trends emerged in this study, there are some important limitations that should be acknowledged. The instruments had some limitations. For example, the RAQ and the subscales of the CAI inquire about their respective concepts using quantitative questions. The information collected using quantitative methods may not be as revealing as qualitative data collection methods. Furthermore, the data collected from the CAI are subjective reports of competency and are biased by self-report; participant scores may have differed if their skills were measured in an objective manner. Additionally, the questions that assessed knowledge are qualitative by nature and therefore, could not be incorporated into the quantitative analysis. However, it appears that providers responded to the knowledge questions in a thoughtful, non-random manner; this speaks to the strength of the questions and is an endorsement for creating a quantitative, standardized measure of recovery knowledge based upon these questions. Regardless of instrument limitations, results of this research may serve as a stepping stone for future research, which should include both qualitative and quantitative components as well as objective and subjective assessments of competency.

Data exclusion can also be viewed as a limitation of the study. As was noted in the Method section, some survey data were not included in the analyzed sample as a result of the participants identifying themselves as supervisors who had little direct client contact; as a result, all supervisors were excluded from the analysis. Differences between supervisors and non-supervisors would have been illuminating.

Conclusion

It is the opinion of this researcher that none of the above limitations limit the usefulness of the results, nor do they compromise the research as a whole. Despite the limitations, multiple implications flow from the findings in this study. Most importantly, it appears that providers of community mental health services who participated in this survey are generally aware of recovery principles and hold favorable attitudes toward the recovery concept. Participants also reported moderate competence in implementing recovery principles in the areas of stress, goal functioning, and family involvement. This information is of interest to state and local agencies who are invested in the recovery concept and who may be interested in: (1) finding out how providers in Hamilton County fare with respect to recovery constructs (knowledge, attitudes, and skill) and (2) developing recovery-oriented training programs for providers, both in and out of Hamilton County.

Generally, the results suggested that participation in recovery training programs did not affect recovery attitudes scores. This finding may lead to the conclusion that recovery training programs are unnecessary; however, because little information was gathered about the specifics of the training programs, it would be premature to make general assertions about their effectiveness. Instead, it appears that training programs may still be a useful tool if they are focused on the area of competencies or skill in implementing recovery principles. Such training programs may promote efficacious, recovery-oriented treatment and would likely enhance the consumer-provider relationship in a manner that might enrich the recovery process.

In addition, other mental health systems and researchers might use the information gleaned from this study to guide future evaluations of providers with respect to recovery. It would be illuminating to investigate these constructs in other treatment populations (e.g., inpatient treatment) and compare the

results to this study's findings. Future research is also needed to refine the survey employed in this study in order to better understand the relationship between recovery constructs and mental health providers.

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Other Publications of the Research to Date

- Harvey, M. (2005). *Mental health service provider knowledge, attitudes, and competencies regarding recovery from serious mental illness*. Unpublished doctoral dissertation, University of Cincinnati, Cincinnati, OH.

Presentations of the Research to Date

- Harvey, M., & Stutz, R. (2006, October). *Mental health providers and recovery from serious mental illness: Is recovery training necessary?* Invited presentation for Research Results Briefing 2006: Knowledge to Transform Mental Health Services in Ohio, Columbus.

EFFECTIVENESS OF THE ILLNESS MANAGEMENT AND RECOVERY PROGRAM IN PROMOTING RECOVERY: PRELIMINARY RESULTS

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Despite its emergence as a guiding principle and the “single most important goal” for mental health service delivery (New Freedom Commission on Mental Health, 2003, p. 3), mental health “recovery” remains an evolving paradigm in the conceptualization and treatment of persons with psychiatric disabilities. Recovery is currently understood as a multi-dimensional construct that encompasses such diverse, but related, concepts as self-esteem, self-efficacy, adjustment to disability, empowerment, and self-determination (Anthony, 1993). Other aspects of recovery that researchers have emphasized include hope, insight, social support, and spirituality. Deegan’s influential work (1988 & 1997) emphasizes reconstruction of a new and valued sense of self and purpose, and also emphasizes the need to view recovery as an ongoing process. The recent National Consensus Statement on Mental Health Recovery (2006) also notes that the recovery process is non-linear, self-directed, and builds on the strengths of each individual (see also, Ralph & Corrigan, 2005.)

Concurrent with the emergence of the concept of recovery in mental health care has been the promotion of evidence-based practices (EBPs)--the recognition that our methods and models of clinical service delivery should be guided by empirically-based research. The Illness Management and Recovery (IMR) program is a new approach to treatment of serious mental illness currently being investigated as one of the six EBPs disseminated by the New Hampshire-Dartmouth National EBP Project supported by SAMHSA. The IMR program is a structured clinical service delivery model that organizes and combines four previously existing mental health treatment strategies: 1) *Psychoeducation*--providing information to consumers and family/community support persons about mental illness, including the effects of stress, symptoms, diagnosis, and treatments; 2) *Cognitive-Behavioral Methods for using Medication Effectively*, including motivational interviewing and behavioral tailoring; 3) *Relapse Prevention*, which teaches consumers to recognize environmental triggers of relapses and early warning signs that symptoms may be worsening, and 4) *Coping Skills Training*, which includes teaching cognitive-behavioral techniques to manage stress and reduce the severity and distress of persistent symptoms (see Mueser et al., 2002). The nine topic areas/modules covered by the IMR curriculum are: 1) Recovery strategies, 2) Practical facts about Schizophrenia, Bipolar Disorder, and Depression, 3) The stress-vulnerability model and strategies for treatment, 4) Building social support, 5) Using medication effectively, 6) Reducing relapses, 7) Coping with stress, 8) Coping with problems and symptoms, and 9) Getting your needs met in the mental health system. Recently, a tenth topic area/module covering drug and alcohol use was added to the curriculum. (For additional background and discussion regarding implementation of the Illness Management and Recovery program through the Ohio Coordinating Center of Excellence for IMR, see Bullock, O'Rourke, & Smith, 2005.)

The purpose of the present study was to evaluate the effectiveness of the IMR program in promoting mental health recovery in a heterogeneous group of mental health consumers who were engaged in ongoing psychiatric treatment in a community setting. It was hypothesized that participants completing the IMR program would show significant increases in recovery across a variety of measures of the mental health recovery process.

Methods

Participants. To date, 35 individuals have completed the IMR curriculum and have completed pre- and post-IMR outcomes measures. These 35 individuals were receiving ongoing case management and psychiatric services at two community mental health sites, The Nord Center in Lorain, Ohio and the Department of Psychiatry at the Medical University of Ohio (MUO) in Toledo, Ohio.

The sample of individuals who have completed the IMR protocol across both sites included 21 women (60%) and 14 men (40%). Additional demographics available for the MUO sample indicate that initial referrals to the IMR program were comprised of 84 percent European-Americans, 10 percent African-Americans, three percent Latino or Hispanic-Americans, and three percent other ethnicity, with an average age of 42.2 ($SD = 12.4$; range 23 to 68). To receive the IMR protocol, participants' psychiatric diagnoses had to include either Bipolar Disorder (47.5%), Major Depression (40.0%), or Schizophrenia spectrum disorder (12.5%). The median number of years since diagnosis was five (range 1 to 40), and the median number of psychiatric hospitalizations was two (range 0 to 20). For the initial referral sample, 13 percent were employed full time, 10 percent employed part time, 31 percent unemployed, 39 percent on disability, and seven percent were retired.

Measures. The primary outcomes measures for the current analyses were *The Mental Health Recovery Measure* (MHRM; Young & Bullock, 2003), the *Ohio Outcomes System Adult Consumer Form A* (Ohio Department of Mental Health, 2000), and the *Illness Management and Recovery Scales* (IMR Scales; Mueser, Gingerich, Salers, McGuire, Reyes, & Cunningham, 2004). The MHRM is a behaviorally-anchored self-report measure specifically designed to assess mental health recovery for individuals with severe and persistent mental illness. The items and domains of the MHRM were developed from a qualitatively derived grounded-theory model of recovery which was based upon the phenomenology of recovery from the perspective of persons with psychiatric disabilities (Young & Ensing, 1999). Items on the MHRM are categorized into one of six domains, which correspond to six higher order categories of the recovery model. These domains are: 1) "Overcoming Stuckness," 2) "Self-Empowerment," 3) "Learning and Self-Redefinition," 4) "Basic Functioning," 5) "Overall Well-Being," and 6) "Reaching New Potentials." Additional domains include "Spirituality" and "Advocacy/Enrichment." For persons with serious mental illness, the mean Total Score on the MHRM = 80 ($SD = 20$). (See Bullock, 2005 for additional information regarding reliability and validity of the MHRM.)

The *Ohio Outcomes System Adult Consumer Form A* was developed by the Ohio Department of Mental Health (ODMH) as a self-report measure for use with persons with severe and persistent mental illness. The history, development, and psychometric properties (including reliability and validity data) of this measure is described extensively in the *Ohio Mental Health Consumer Outcomes System Procedural Manual* (currently in its 7th edition, and available through the ODMH Outcomes web site). The most recent statewide report on the Consumer Outcomes System (February, 2006) also provides demographic and normative data on the clinical and recovery dimensions assessed by the Adult Consumer Form A. Four scales assessed by the Adult Consumer Form A were used in the current analyses: (1) *Quality of Life: Overall*, which includes satisfaction with a person's life and whether their needs are being met; (2) *Quality of Life: Financial*, a subscale of overall Quality of Life; (3) *Symptom Distress*; and (4) the

“Making Decisions” *Empowerment* scale (Rogers, Chamberlin, Ellison, & Crean, 1997), which is imbedded as part of the Adult Consumer Form A.

The *Illness Management and Recovery (IMR) Scales* are comprised of 13 self-report items that were “developed as a measure of illness management, based on the stress-vulnerability model of severe mental illness” (Mueser & Salyers, 2005). The items were generated by IMR practitioners and consumers in order to tap the specific content areas targeted by the IMR program (e.g., progress towards personal goals, relapse prevention planning, knowledge about illness, and effective use of medication). All 13 items are rated on a 5-point Likert scale, with response anchors varying dependent upon the item. For the current study, the IMR Scales were summed to form an IMR Self-rating Total score. (See Mueser & Salyers, 2005, for additional information regarding reliability and validity of the IMR Scales.)

Procedure. At present, the study is an open clinical trial, with referrals to the IMR program made by physicians, psychologists, counselors, social workers, or case managers at each community treatment site. Individuals referred to the IMR program first participated in a pre-treatment interview in which the nature and goals of the program were explained and the outcomes measures were administered. The IMR program was provided weekly in hour-long sessions in a small group format with no more than eight individuals per group, with mixed genders and diagnoses in each group. IMR group facilitators were social workers or clinical psychology graduate students who had received training and supervision in the provision of IMR. Fidelity to the IMR protocol was good across the two sites. There was some variability in the number of sessions needed to complete the IMR curriculum, depending on the size and functioning level of the group. For the MUO sample, the average number of sessions to complete the IMR curriculum was 23 sessions (range 19 to 34) across five to six months.

The MHRM, Adult Consumer Form A, and IMR Scales were administered at pre-treatment and at post-treatment for the MUO sample. For the Nord sample, only the MHRM was administered at pre-and post-treatment. In order to track session-to-session weekly changes in mental health recovery for each individual, the MHRM was also administered at the end of each session for the sample of individuals receiving IMR at the MUO site. Following completion of the IMR curriculum, individuals at the MUO site also participated in a semi-structured interview designed to assess participants’ views of the IMR program with regard to the negative/hindering and positive/helpful aspects of the program.

Results

Program Attrition. The IMR study at MUO was initially designed as a wait-list control study; however, high rates of participant attrition following initial referral and after program initiation precluded the use of a wait-list, and necessitated the inclusion of IMR participants from the Nord Center site for these preliminary results. At the MUO site, the rate of attrition from the time of initial referral, but prior to starting the IMR program, was 30 percent. In addition, 40 percent of the individuals who began the IMR program did not complete seven or more sessions of the IMR program. Analysis of demographic and recovery data from those persons who did not complete the IMR curriculum found that the participants who dropped out were slightly younger, more likely to be employed, and slightly higher in Mental Health Recovery Measures at the time of pre-treatment, but none of these differences were statistically significant.

Group change data: MHRM. For the combined sample ($N = 35$), paired (dependent) t -tests were used to assess overall group changes following completion of the IMR program on Total Mental Health Recovery Scores and the eight domains assessed by the MHRM. Results indicated that there was a significant increase in Total MHRM from pre-treatment ($M = 77.8$) to post-treatment ($M = 84.2$), $t(34) = 2.91$, $p < .05$. As a group, persons completing the IMR program reported significantly greater levels of

mental health recovery at the end of treatment. Similarly, five of the eight domains of the MHRM also showed significant improvement following completion of the IMR program--Empowerment, Learning and Self-Redefinition, Basic Functioning, Overall Well Being, and Advocacy/Enrichment. The effect sizes for these statistically significant increases on the Total Score and five domain areas of the MHRM were between the small to medium range of effect size (Cohen's $d = .31 - .36$) (see Table 1).

Table 1. Illness Management and Recovery (IMR) Outcomes: Mean Pre and Post Scores for IMR Participants ($N = 35$)^a on the Mental Health Recovery Measure (MHRM)

MHRM Scale	Pre-IMR Mean (<i>SD</i>)	Post-IMR Mean (<i>SD</i>)	<i>t</i> (34)	<i>p</i>	Effect Size
MHRM Total	77.2 (21.7)	84.2 (19.8)	2.91	.006**	.35
Overcoming Stuckness	10.6 (2.7)	11.5 (3.1)	1.78	.085	.29
Empowerment	9.5 (4.2)	10.9 (3.5)	2.80	.008**	.36
Learning & Self-Redefinition	11.5 (2.6)	12.5 (2.6)	2.66	.012*	.36
Basic Functioning	10.1 (3.5)	11.1 (2.9)	2.37	.024*	.32
Overall Well Being	9.8 (4.2)	10.8 (3.3)	2.25	.031*	.31
New Potentials	10.3 (3.0)	11.2 (2.8)	1.76	.086	.31
Spirituality	5.7 (1.8)	5.9 (1.8)	0.74	.461	.10
Advocacy / Enrichment	9.4 (3.2)	10.4 (2.6)	2.69	.011*	.32

* $p < .05$; ** $p < .01$

^a Nord Center and Medical University of Ohio Participants combined

Idiographic change data: MHRM. Table 2 presents the individual pre-post treatment change data for the MHRM Total Scores across the combined sites ($N = 35$). These idiographic data illustrate the wide inter-individual differences in the amount, and direction, of change from pre- to post-treatment. Although 23 persons (66%) had some increase in their mental health recovery score, 10 persons (28%) actually had a decrease in their self-reported recovery over time (range -21 to 45). The average amount of change across all participants on the MHRM Total was 7.0 ($SD = 14.4$). An assessment of reliable individual change was calculated using a Reliable Change Index (RCI; Jacobson & Truax, 1991) based on the known standard error of measurement for the MHRM ($S_{EM} = 5.66$). The RCI for the MHRM Total score (at $p < .20$) is +/- 10 points. Using this RCI, 35 percent of the sample showed reliable improvement, 57 percent showed no reliable change from pretreatment, and eight percent showed reliable deterioration.

Table 2. Post-IMR Reliable Improvement (I), No Change (NC), and Reliable Deterioration (D): Case Frequencies ($N = 35$)^a for Mental Health Recovery Measure (MHRM) Change Comparing MHRM Total Score Post- and Pre-IMR

MHRM Total Post-Pre Difference	Case Frequency (%)	Reliable Change (+ / - 10)
45	1	I
42	1	I
31	1	I
28	1	I
24	1	I
19	1	I
17	1	I
14	1	I
13	1	I
11	2	I
10	1	I

	$n = 12$ (35%)	
9	1	NC
7	3	NC
6	2	NC
5	1	NC
4	1	NC
3	1	NC
2	2	NC
0	2	NC
-1	1	NC
-2	1	NC
-3	1	NC
-4	2	NC
-8	1	NC
-9	1	NC

	$n = 20$ (57%)	
-10	1	D
-14	1	D
-21	1	D

	$n = 3$ (8%)	

^aNord Center and Medical University of Ohio Participants combined

Group change data: IMR Scale and Ohio Adult Consumer Form A. For the MUO sample ($n = 14$), paired (dependent) t -tests were used to assess overall group changes following completion of the IMR program on the IMR Client Self-rating scale and the four domains assessed by Adult Consumer Form A. Results indicated that there was a significant increase in the Total score on the *IMR Client Self-rating* scale from pre-treatment ($M = 38.1$) to post-treatment ($M = 45.8$), $t(13) = 2.91$, $p < .01$. Although the current sample size was small for this analysis, the group of individuals completing the IMR program clearly showed significant improvement on the specific domains and skill-building areas targeted by the

IMR curriculum. The effect size for this statistically significant improvement is also large (Cohen's $d = .90$).

As a group, persons at the MUO site who completed the IMR program also obtained significantly higher scores on the *Quality of Life: Overall* scale from pre-treatment ($M = 3.08$) to post-treatment ($M = 3.39$), $t(13) = 2.56$, $p < .05$; however, no change was found for the *Financial Status* subscale. A trend toward improvement was seen for pre- and post-treatment scores on the *Empowerment* scale and the *Symptom Distress* scale from the Adult Consumer Form A; however, these changes were not statistically significant (see Table 3).

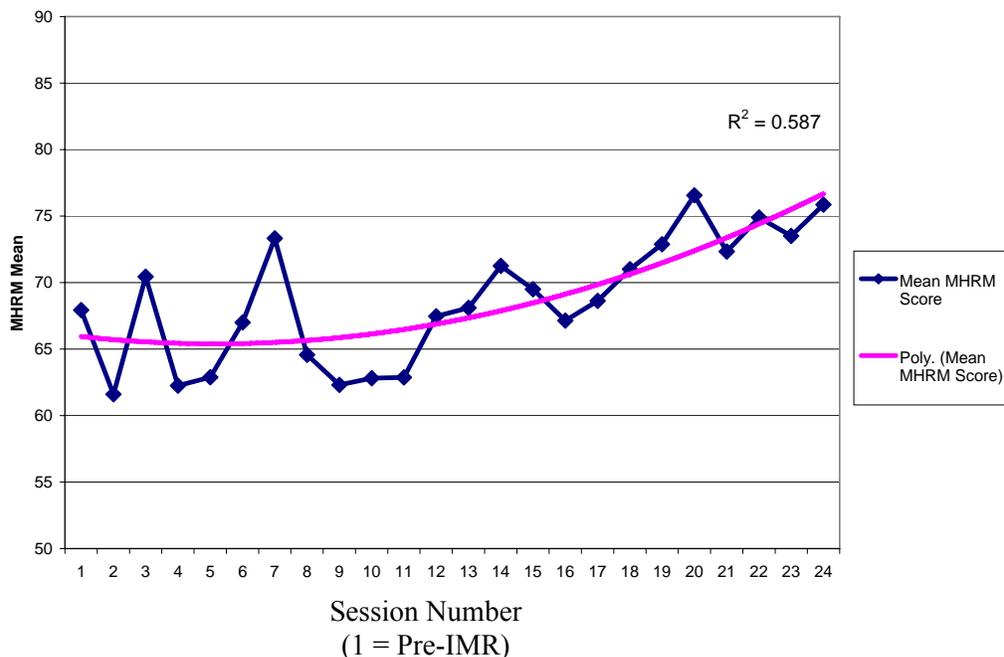
Table 3. Illness Management and Recovery (IMR) Outcomes: Mean Pre and Post Scores for Medical University of Ohio Participants ($n = 14$) on the IMR Client Self-Rating Scale and the Ohio Adult Consumer Outcomes Scale Form A

Scale	Pre-IMR Mean (SD)	Post-IMR Mean (SD)	$t(13)$	p	Effect Size
<u>IMR Scales</u>					
Client Self-Rating	38.10 (6.6)	45.80 (9.4)	3.85	.004**	.90
<u>Ohio Consumer Outcomes Scales</u>					
Quality of Life	3.08 (.67)	3.39 (.59)	2.56	.031*	.49
Financial Status	2.44 (1.1)	2.50 (.89)	0.22	.834	.06
Symptom Distress	37.2 (12.5)	31.9 (12.8)	1.50	.169	.42
Empowerment	2.65 (.40)	2.76 (.40)	1.91	.080	.27

* $p < .05$; ** $p < .01$

Weekly session-to-session change data: MHRM. As noted earlier, the sample of participants at the MUO site ($n = 14$), completed the MHRM at the end of each weekly IMR session. Figure 1 illustrates the average weekly session-to-session changes for this group across time and also presents a best-fit curve for these averages based on second-order polynomial regression ($R^2 = .587$, $p < .01$). Results indicated that the IMR participants at this site began treatment at a lower level of self-reported recovery on the MHRM than other similar consumer samples, but that significant improvement was seen by the end of the program for these individuals as a group. Figure 1 also clearly illustrates that the overall improvement in mental health recovery was not a simple linear progression. Across the treatment time period, the Total MHRM score fluctuated from week to week, rising overall, but sometimes higher and sometimes lower, than the previous weekly measure.

Figure 1. Mental Health Recovery Measure (MHRM) Total Score average by session for Medical University of Ohio participants ($n = 14$).



Qualitative data: Post-IMR Interview. Following the completion of the IMR program, participants completed an individually-administered, semi-structured interview designed to provide a forum for positive and negative feedback about the consumer’s experience with the IMR program. Participant responses were recorded verbatim, and a preliminary summary of the most common positive and negative themes was created (see Table 4). Recurrent positive themes involved liking the structure and content of the IMR curriculum, and the benefits of having a group format, especially when there were co-therapists facilitating the group. Participants also frequently noted that the primary emphasis of the therapists was on the participants, not just the curriculum (“people came first and not the material”). These themes likely reflect two demonstrably effective elements of successful therapy (Norcross & Hill, 2004)--(1) the importance of having a strong, high quality *therapeutic alliance*, and (2) the importance of having high *cohesion* in group therapy. Recurrent negative themes described by participants involved low relevancy of some of the IMR material and a desire for more specific information or additional skill-building techniques. A final common negative theme was “not wanting the program to end” or a desire for “future booster sessions.”

Discussion

The IMR program is designed to provide consumers with knowledge and skills to help them develop personal strategies for coping with mental illness, develop and pursue goals, and gain more control over their lives. A central tenet of the IMR model is that the individuals with serious mental illness collaborate with professionals to better manage their mental illness, reduce their susceptibility to illness, and cope more effectively with their symptoms. The current results suggest that general and specific domains of mental health recovery can be assessed via self-report measures, that participation in the IMR program is associated with significant self-reported improvements in functioning in the particular topic/skill-building areas addressed by the IMR curriculum, and that participation in IMR is associated with significant self-reported increases across an array of measures designed to assess the recovery process. These results also suggest that the mental health recovery process may be more

sensitively detected by self-reported changes in quality of life and increased empowerment than by changes in symptom distress. The qualitative results also suggest that participants found the group format and IMR program structure to be helpful, but also highlighted the importance of having a high quality therapeutic relationship that transcends the curriculum.

Table 4. Illness Management and Recovery (IMR) Outcomes: Post-IMR Interview Qualitative Data

Positive Themes

- Better ability to problem-solve than in the past.
- Goal setting component to IMR extremely helpful (both long-term as well as short-term week-to-week goals that are checked up on every session).
- Structure of session with chapter format was helpful.
- Beneficial to have group format; especially appreciated being able to learn from other members and having a sense of a shared experience. “I don’t feel as alone.”
- Having co-therapists. “Having two therapists was great. If one didn’t understand, the other would.” “The different personalities of the two therapists complimented the process.”
- Emphasis of the therapists on the participants, not just the curriculum. “People came first and not the material.”

Negative Themes

- Difficulty with applying the material to their own unique experiences with that topic.
- Many expressed having a chapter or two that they didn’t feel applied to them. “Not all chapters applied to my situation.”
- Techniques and ways of putting material into action sometimes needed more explanation and relevancy. “Some of the social support techniques were comical.”
- Many expressed desire to know more about specific resources available to them in the community as part of the “Getting Needs Met” chapter (specific numbers, addresses, functions, etc.).
- A few brought up continued concerns regarding speaking with their physicians (wanted additional social skills/assertiveness training component).
- Ending of program felt abrupt. Many liked the possibility of a future booster sessions.

Assessment of weekly session-to-session change scores on the MHRM clearly illustrates that mental health recovery is not a simple linear process, and that sustained increases in recovery may emerge only after considerable time that includes both improvement and deterioration as part of the process. These results further suggest that recovery is a unique process that may not be uniformly promoted by participation in IMR. At an idiographic level, 35 percent of the participants showed reliable improvement following completion of the IMR program; however, eight percent showed reliable deterioration. Closer attention to those participants who showed deterioration is warranted to help determine what demographic or diagnostic variables were related to their deterioration and why they were not helped more by the IMR program. Given the length of the IMR program, the relatively high levels of program attrition over time, and that a small proportion of participants were reliably worse on the recovery measure at the end of treatment, IMR in its current form may *not* be a desired program for every person with SMI--despite a stated goal of 100 percent penetration of IMR desired by SAMHSA. The qualitative results support the idea that perceived relevancy of the program curriculum and having the program fit with the expectations and self-perceived needs of the individual are important determinants of program success.

The current study presents preliminary results for an ongoing research project. The study represents an open clinical trial designed to evaluate whether the evidence-based practice of IMR leads to significant improvements in recovery as assessed by a multidimensional self-report recovery measure (the MHRM), and other measures of recovery, empowerment, quality of life, and symptom distress. The focus of these preliminary results was on the self-report of mental health recovery changes in a heterogeneous sample of individuals who have completed the IMR program to date. Because of limitations in the sample size, and higher than expected levels of attrition, the project has recently been expanded to include participants from an additional community mental health center site. Planned analyses for the future will include a larger sample of individuals who have completed the IMR program, will address issues of program attrition, and will evaluate the important question of whether gains seen immediately after the completion of the IMR program are still present at the six- and twelve-month follow-ups.

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Publications of the Research to Date

- Bullock, W.A., O'Rourke, M., & Smith, M.K. (2005). Implementing illness management & recovery in mental health practices and agencies. *Family Therapy Magazine*, 4(3), 32-36.

Presentations of the Research to Date

- Bullock, W.A., Smith, M.K., & O'Rourke, M. (2006, February). *Recovery Outcomes of the Illness Management and Recovery Program*. Presented at the 16th Annual Conference on State Mental Health Agency Services Research, Program Evaluation, and Policy. Baltimore, MD.
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Chapter Two
Other Funding Sources



EVALUATION OF THE EARLY CHILDHOOD MENTAL HEALTH INITIATIVE

Children's Hospital Medical Center of Akron

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In September 2000, the Ohio Department of Mental Health began funding grants to community mental health boards for the Early Childhood Mental Health Initiative to promote young children's readiness for school and enhance the quality of Ohio's early childhood programs. The Initiative's goals included to insure optimal social and emotional development of young children in childcare and to identify and meet the needs of toddlers and pre-schoolers with emotional and behavioral problems. This paper describes an evaluation of that project performed in 2002-2004. The Early Childhood Mental Health Initiative (ECMHI) provided support for early childhood mental health consultants (ECMHC) to be involved in a variety of childcare settings including Head Start programs, private and public preschools, Help-Me-Grow programs, day care centers and home-based childcare programs. The ECMHI funded 23 programs in 35 Ohio counties during this time. Individual programs structured their use of ECMHI funding in a variety of ways. ECMHCs provided consultation on both a program level and on the level of the individual child. Programs varied among the counties on the balance of these two aspects of consultation as well as the types of childcare programs served and the involvement of families. In all cases, the ECMHI focused on consultation for children less than six years of age.

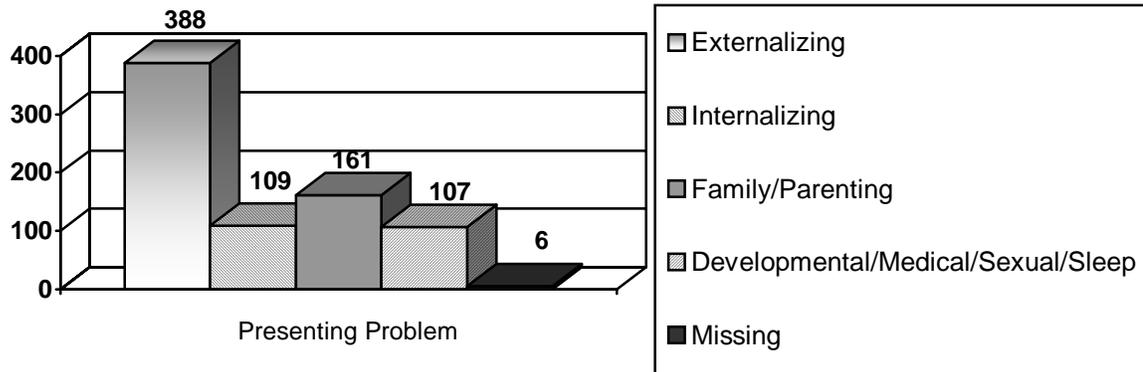
Because of the many differences among the programs in different counties, different parts of the evaluation were performed in different counties. The major goals of the evaluation were to (1) describe the children referred for consultation, in terms of age, gender, and presenting problem, (2) describe the ECMHCs in terms of background/training and services provided, (3) survey childcare program directors about the impact of ECMHC on their programs, and (4) perform a longitudinal assessment of children who were referred for services to ECMHCs.

Description of Individual Children Evaluated by ECMHCs

From July, 2002 through March, 2003, the evaluation team asked ECMHCs to complete a Child Tracking Form for each child identified for individual mental health consultation. The Child Tracking Form requested demographic information, the presenting concern and disposition. Information about 771 children was reported on the Child Tracking Form but two counties did not participate in this portion of the evaluation. Of these children, 135 or 17.5 percent were less than 36 months of age and 65.4 percent were male. Figure 1 shows the presenting concerns as reported by the ECMHCs.

Of 771 children tracked, over half (50.3%) of the children had externalizing problems (i.e., aggression, anger, attention issues) as the presenting problem. Family/parent issues (i.e., domestic violence, custody & visitation issues, sibling rivalry, and legal issues) comprised of 20.8 percent of all presenting concerns. Internalizing problems (i.e. withdrawn, anxious, depressed, emotionally reactive, and socialization issues) accounted for 14.3 percent of concerns. The fourth category included Developmental/Medical/Sexual and Sleep issues with 14.1 percent of all presenting concerns. The ECMHCs reported providing direct consultation to 71 percent of these children. Direct consultation was defined as services delivered by the ECMHC to the teacher, parent/guardian, and/or professionals surrounding a particular child's identified behavior. Of the 222 children who did not receive direct consultation, 84 (38%) were referred out for other services and 24 children (11%) received direct treatment from the ECMHC.

Figure 1. Number of children by presenting problem.



These findings indicate that the ECMHCs provided consultation to approximately 38 to 45 children with identified behavior problems per year. More than half of the identified children had externalizing behaviors (aggression, anger, attention problems). Children with externalizing problems may be more disruptive to the childcare center or home, and thus may be more likely to be referred to the ECMHC than children with other types of behavior problems. Most of the identified children were three years of age or older.

Description of Mental Health Consultants’ Training and Role

In the summer of 2002, the evaluation team asked the early childhood mental health consultants (ECMHC) in each funded program to complete a brief survey to describe the consultant’s role, activities and the individuals and programs that they serve. We received completed surveys from 37 ECMHCs.

Most ECMHCs (51%) reported that there was only one ECMHC funded by the Early Childhood Mental Health Initiative in their program. However, nine consultants reported that there were two ECMHCs and seven reported that there were three or more ECMHCs in their program.

The highest level of education of the ECMHCs varied considerably. Table 1 illustrates the distribution of level of education of the ECMHCs.

Table 1. Educational Level of Mental Health Consultants

Highest degree	Number of ECMHCs	Percent
Associate Degree	1	3
Bachelor Degree	8	21
Masters Degree	23	62
Doctoral Degree	4	11
Other	1	3

In terms of experience, 54 percent of ECMHCs reported that they had been working with children and families for more than 10 years. Twenty-two percent had six to 10 years experience and 24 percent had five years experience or less. Most ECMHCs reported working more than half-time; 46 percent

reported working 21 to 40 hours per week and 30 percent reported working more than 40 hours per week. However, most ECMHCs reported working less than half-time on activities funded by ECMHI, with 40 percent working zero to eight hours per week on ECMHI activities and 30 percent working nine to 20 hours per week on ECMHI activities. Only 19 percent of ECMHCs reported working 40 or more hours per week on ECMHI activities. Similarly, for half of the ECMHCs, the ECMHI provided 50 percent or less of their salary.

As part of their activities under the ECMHI, 95 percent of ECMHCs reported that they provided program consultation. Eighty-four percent of ECMHCs reported that they provided child/family consultation. Sixty-five percent of ECMHCs reported that they provided on-site staff education. Seventy-six percent of ECMHCs stated that they provided community training/in-service. Only 24 percent reported that they provided clinical supervision and 32 percent reported that they provided psychotherapy or individual treatment under the ECMHI.

In terms of location where services are rendered, 41 percent of consultants reported that they spent no time in home-based activities. However, 24 percent of consultants reported that they spent greater than or equal to 50 percent of their time in home-based activities. Ninety-five percent of ECMHCs reported spending part of their time on ECMHI activities in the office. Ninety-seven percent of ECMHCs reported performing some of their ECMHI activities in childcare programs/centers. Of those who did this, 51 percent reported performing more than 50 percent of their ECMHI activities in childcare programs/centers.

Over half (52%) of ECMHCs reported working with three or fewer childcare programs/centers at any one time. Thirty-five percent of ECMHCs reported consulting with one to three classrooms in any given program. Thirteen and one-half percent reported consulting with four to five programs in a given center and 38 percent reported consulting with more than five classrooms in any given center. Nearly 50 percent of ECMHCs reported working with six or fewer teachers/staff in a given program. Nearly 10 percent of ECMHCs reported working with more than 15 teachers/staff in a given program.

Eighty-seven percent of ECMHCs reported that they referred children for other services. These services most frequently involved medical (87%), psychological (62%), psychiatric (49%), and developmental therapies (60%). Sixty-five percent of ECMHCs referred families for mental health services, medical services, or social services.

We asked ECMHCs to rate the level of availability of and access to services for children in their community. Only five percent of ECMHCs responded that availability to and access to such services was excellent and 16 percent responded that it was below average or poor. Thirty-five percent of ECMHCs described community awareness of children's mental health issues as below average or poor.

Survey of Childcare Program Directors

We performed a telephone survey of 39 Childcare Program Directors, with at least one program contacted in each of the 23 districts served by the ECMHI. Each program was selected because they had recent or current involvement with one of the ECMHCs. The purpose of the survey was to determine the center's previous experience with ECMHC and the impact of the ECMHC on the program and staff. Of the thirty-nine programs surveyed, 21 programs had never had access to an ECMHC before the ECMHI grant. For the 18 programs who had utilized an ECMHC in the past, the professional was typically a mental health professional, i.e., social worker, counselor, or child psychologist. The majority of Program Directors (67%) indicated that the nature of services provided by ECMHCs would be considered both prevention and intervention/referral. Only eight percent of directors considered ECMHCs services to be

preventive only. The Directors had many positive comments regarding the value added by ECMHCs for their programs. Comments included "...we can now focus on why behavior is occurring....We are now able to more effectively implement our behavior plans." Another director stated, "...there has been a shift in thinking of staff...before (e.g., the ECMHC provided consultation and training) the staff did not consider the social/emotional development of infants and toddlers....We do a lot of things differently now."

The Program Directors reported that the ECMHC was generally accessible to staff and had increased parent involvement at the center. Directors supported their views with the following statements. "It is good to know that we have access to high quality professionals".... "Staff can call the ECMHC directly." ... "The ECMHC's accessibility has given teachers a sense of empowerment, support, and control over the classroom."... "(ECMHC) is aware of resources in the community. She is a good linkage for family needs."... "Two children would have been disenrolled if (the ECMHC's) services had not been available. His work is keeping them in the program!" ... "We now have office hours in the preschool program for parents and a weekly parent discussion group."

In concluding the telephone survey with Program Directors, we asked if ECMHI funding from ODMH were discontinued, would your center consider funding a Mental Health Consultant out of your current budget. Sixty-seven percent of the Directors stated "No," they would be unable to fund an ECMHC. Twenty-three percent of the Directors stated "Yes," they would fund the position and 10 percent stated that they would consider it. Directors that oversaw Head Start Programs were most likely to state that they would fund an ECMHC even if ODMH funds were cut. Several stated that federal guidelines mandated that consulting services be utilized in Head Start programs. Yet, they qualified their statements saying that consulting services would be limited to meeting federal guidelines and thus would not be as accessible. Of the 26 Programs stating that they did not have funding available to support an ECMHC on site, the majority of the programs expressed a need but stated that no funding was available. Comments included "If we could afford it! It has been wonderful to work with the ECMHC."... "Probably not... Would probably just refer child to their pediatrician."... "May just have to make referrals and the burden would be on the family."

Assessment of Parent Child Dyads

Method. The evaluation team began home visits of children and families who received child-specific mental health services from a MHC in September, 2002. The purpose of this portion of the evaluation was to study the effects on the behavior of individual children and their parents of receiving child-specific mental health services from an ECMHC. A total of 34 families completed the first visit and 31 families completed the second visit four to six months later. Of these, 29 families completed the third visit about eight months after the second visit. The home visit included use of the following instruments:

- Center for Epidemiologic Studies Depression Scale or CES-D (Radloff, 1977)
- Child Behavior Checklist for ages 1½ - 5 or CBCL (Achenbach & Rescorla, 2000)
- Caregiver-Teacher Report Form for ages 1½ - 5 or C-TRF (Achenbach & Rescorla, 2000)
- Parenting Stress Index Short Form or PSI (Abidin, 1995)
- Infant/Toddler HOME Inventory (Caldwell & Bradley, 2001)
- Ages & Stages Questionnaires (Squires, Potter & Bricker, 1999)
- Biringen Emotional Availability Scales (Biringen, 2000)

In addition, we conducted a brief interview with the parent(s) and videotaped the mother (or primary female caregiver) and child for 20-30 minutes in a structured and unstructured play session. Three graduate students later scored the videotaped session using the Biringen Emotional Availability Scales.

The graduate students were blinded to whether the session was a first, second, or third visit when they scored the videotapes.

Demographics. Table 2 presents the demographic characteristics of the families.

Table 2. Demographic Characteristics of Intervention Group Children & Families ($n = 34$)

Child's Age at Visit #1	Median = 47.5 months (Range 16–64 months)
Child's Race	76% Caucasian, 15% African American 9% Other
Child's Ethnicity	97% non-Hispanic 3% Hispanic
Maternal Age	Median = 27 years (Range 21 - 62)
Paternal Age	Median = 32 years (Range 23 – 56)
Maternal Education	19% Did not finish High School, 37.5% High School graduate or GED 37.5% Some College 6% Bachelor's degree or more
Paternal Education	37% Did not finish High School, 33% High School graduate or GED 22% Some College 8% Bachelor's degree or more
Household Income	55% <\$20,000 21% \$20,000 to \$39,999 15% \$40,000 to \$79,999 6% ≥\$80,000

Note. The intervention group children had a mean age of 47.2 months at Visit #1 (range 16-64), 50.6 months at Visit #2 (range 20-68), and 59.1 months at Visit #3 (range 26-76).

Results. The results are presented as a longitudinal analysis of the intervention group from Visit #1 to Visit #3. We used one-way within-subjects repeated measures ANOVA to analyze the Intervention group data from Visits #1, #2, and #3. Paired *t*-tests were then used to analyze comparisons between Visits #1 and #2 or Visits #2 and #3 where indicated.

Maternal depressive symptoms. The evaluation team used the Center for Epidemiologic Studies Depression Scale or CES-D (Radloff, 1977) to measure depressive symptoms in the mother or primary female caregiver. A score of 16 or above on the CES-D has been used to indicate the presence of

substantial depressive symptoms in many other studies of community samples. Thus, we designated a score of ≥ 16 as “high” and considered it to be consistent with depressive symptoms.

Mothers in the intervention group had high CES-D scores with a mean CES-D score of 17.5 at Visit #1, 17.0 at Visit #2, and 21.6 at Visit #3. At Visit #1, 38 percent of mothers (13/34) had a high score (≥ 16) on the CES-D. At Visit #2, 39 percent (12/31) of mothers had a high score and at Visit #3, 55 percent (16/29) of mothers had a high score. This assessment showed that many mothers of young children experience significant depressive symptoms that did not change significantly over time while their child was receiving child-specific mental health services from an ECMHC.

Parenting Stress. We measured parenting stress using the Parenting Stress Index – Short Form or PSI (Abidin, 1995). The PSI is based upon a model using three subscales (Parental Distress, Parent-Child Dysfunctional Interaction, and Difficult Child) and a Total Stress Score. The Total Stress score provides a measure of the overall level of parenting stress experienced by an individual. It does not address stress associated with other roles or life events. A parent’s Total Stress score reflects the stresses reported in the other three areas, specifically stresses of personal parental distress, stresses derived from the parent’s interaction with the child, and stresses that result from the child’s behavioral characteristics. A higher score indicates greater stress on all three subscales and the Total Stress score.

The Parental Distress subscale measures the distress a parent is experiencing in his/her role as a parent as a function of personal factors that are directly related to parenting. The Parent-Child Dysfunctional Interaction subscale focuses on the parent’s perception that his/her child does not meet the parent’s expectations, and the interactions with the child are not reinforcing to him/her as a parent. The Difficult Child subscale focuses on the behavioral characteristics of the child that make the child difficult to manage.

Table 3. PSI Scores for Intervention Group ($n = 29$) using a One-way Repeated Measures ANOVA

	<i>Home Visit #1</i>	<i>Home Visit #2</i>	<i>Home Visit #3</i>	<i>p-value</i>
Parental Distress	31.9 (8.5)	31.5 (10.6)	29.8 (10.0)	<i>NS</i>
Parent-Child Dysfunctional	25.6 (8.4)	26.9 (9.4)	23.9 (7.5)	<i>NS</i>
Difficult Child	36.5 (9.2)	35.9 (11.3)	34.3 (11.5)	<i>NS</i>
Total Stress	93.9 (22.5)	95.3 (31.1)	88.0 (25.3)	<i>NS</i>

Note. Means are shown with standard deviation in ().

NS = not significant

The means for the PSI scores are shown in Table 3. There was no significant change in scores over Visits #1, #2, and #3 on any of the subscales. There was a borderline change over time for the Parent-Child Dysfunction and Total Stress scores. The major change over time in these two subscales was due to higher scores at Visit #2 followed by lower scores at Visit #3.

In our open-ended interview at Visit #2, we asked about the parent’s perception of stress in the home. One mother of three young children reported that she felt more stress in parenting her children (ages 4, 5, and 6 years) after working with the mental health consultant (ECMHC) because she now had to be more conscious about the decisions she made in her interactions with her children. Her comments

(shown below) describe the heightened stress she felt in the parent-child interaction as she worked to implement the changes in her approach to her children's behaviors that had been suggested by the ECMHC.

"I think it is more stressful now because I am trying to cope with the kids, because I am used to telling the kids between 5 and 10 times to do something. Now (the ECMHC) is trying to tell me to just tell them one time and it is harder for me, so it is more stressful for me.

"It is a different way of doing things... It is easier for me to tell them to do it 5, 6, or 7 times, instead of having to put them in the corner (in time out)....

"Before we met with (the ECMHC) all I cared about was basically taking care of the kids – making sure they are safe. But now, we play with them a lot more. We do a lot more stuff with the kids than we used to. We try to understand them more. We used to be harsher on punishments – like more spankings. Now, it's more like (the ECMHC) tells us to tell them, and then put them in the corner (if they don't listen). It's just everything is different now..."

CBCL. The Child-Behavior Checklist for ages 1½-5 (CBCL) is a 100-item parent-report questionnaire (Achenbach & Rescorla, 2000). Scores may be expressed as a T-score or classified into a normal, borderline or clinical range based upon the child's age and gender. The CBCL provides three summary scales – Internalizing Problems, Externalizing Problems and Total Problems. Internalizing problems comprises problems that are mainly within the self (e.g., withdrawn, anxious). Externalizing problems involves problems that mainly involve conflicts with other people and with their expectations for the child (e.g., aggression). Higher scores on the CBCL indicate more problem behaviors.

The mean scores for the CBCL are shown in Table 4. The results indicated no significant change in scores over time for Internalizing Problems. The Externalizing Problems and Total Problems scores showed a significant decline, primarily from Visit #1 to Visit #2.

Table 4. CBCL Scores for Intervention Group ($n = 29$) using a One-way Repeated Measures ANOVA)

	<i>Home Visit #1</i>	<i>Home Visit #2</i>	<i>Home Visit #3</i>	<i>p-value</i>
Internalizing Problems	59.0 (11.5)	56.8 (12.4)	56.7 (12.4)	NS
Externalizing Problems	63.6 (12.1)	59.8 (12.8)	59.5 (15.3)	.03
Total Problems	63.1 (11.0)	59.0 (13.4)	58.3 (14.5)	.008

Note. Means are shown with standard deviation in ()
NS = not significant

These results suggest that children receiving specific intervention from an ECMHC experienced a decrease in total behavior problems and externalizing behaviors in the home environment over the time period that they were working directly with the MHC. These improvements in behavior were maintained when the children were not receiving specific intervention from the MHC (i.e., from Visit #2 to Visit #3). The results also suggest that children receiving specific intervention from a MHC did not experience any significant changes in Internalizing Behavior problems while working with the MHC or afterward. Externalizing Behavior problems are much more likely to cause disruption in a group childcare/preschool

setting and thus are more likely to receive attention. ECMHC interventions appear to address these Externalizing Behaviors more than Internalizing Behaviors that are not as likely to disrupt a group childcare/preschool setting.

Caregiver-Teacher Report Form. For the children who were in a group childcare program, we also asked the parent if we could have the child's teacher complete the Caregiver-Teacher Report Form or C-TRF (Achenbach & Rescorla, 2000). If the parent gave permission for this, we obtained the teacher's name and address and sent the C-TRF directly to the teacher. We asked the teacher to return the C-TRF directly to us by mail. Because some parents chose not to involve their child's teacher in this evaluation and because some teachers did not return the C-TRF, we had a smaller number of completed forms for the C-TRF than for other portions of the evaluation. We received completed C-TRF forms for 26 children from Visit #1, for 21 children from Visit #2, and for 17 children from Visit #3. The C-TRF has a similar structure to that of the CBCL with three summary scores: Externalizing Problems, Internalizing Problems, and Total Problems. Higher scores on the C-TRF indicate more problem behaviors. Scores can be classified as normal, borderline, or clinical.

A one-way within-subjects ANOVA was conducted with the factor being visit number and the dependent variable being the C-TRF scores. The means for the C-TRF scores are presented in Table 5. Analysis of the scores using ANOVA indicated no significant change over time in the C-TRF Internalizing Problems or Total Problems scores. However, the Externalizing Problems scores showed a significant decrease over time with scores decreasing primarily from Visit #1 to Visit #2. Most children were receiving direct intervention services from the ECMHC at time of Visits #1 and #2 but were no longer receiving these direct intervention services at Visit #3. Nevertheless, the reductions in externalizing behavior problems were maintained from Visit #2 to Visit #3 when many of the children were not receiving direct intervention services from the MHC.

Table 5. C-TRF Scores for Intervention Group ($n = 17$) using a One-way Repeated Measures ANOVA)

	<i>Home Visit #1</i>	<i>Home Visit #2</i>	<i>Home Visit #3</i>	<i>p-value</i>
Internalizing Problems	59.5 (10.3)	56.4 (12.3)	55.2 (13.2)	NS
Externalizing Problems	63.1 (11.8)	58.4 (10.8)	56.2 (12.5)	<.05
Total Problems	61.6 (11.0)	58.4 (10.2)	55.6 (11.5)	NS

Note. Means are shown with standard deviation in ()

NS = not significant

The CBCL and C-TRF data indicate a significant reduction in externalizing behaviors in both the home and the group childcare/preschool environment from Visit #1 to Visit #2 when children were receiving direct intervention services from the MHC. The improvements in behavior were maintained from Visit #2 to Visit #3 when many children were not receiving direct intervention services from the MHC. In the home environment, the CBCL scores also indicate a significant reduction in total behavior problems. The reduction in total behavior problems in the home was maintained from Visit #2 to Visit #3.

Emotional Availability. Each maternal-child dyad (i.e., mother or primary female caregiver and child) was videotaped for 20 to 30 minutes at each visit. The videotaped session consisted of a structured play session followed by an unstructured play session. Three graduate students at Ohio State University

under the direction of Ellen Hock, Ph.D., later scored the videotapes using Biringen’s Emotional Availability Scales (Biringen, 2000).

Zeynap Biringen, PhD, developed the Emotional Availability (EA) Scales to assess the interaction between a mother and her child. She based her work on earlier work on attachment (Ainsworth, Blehar, Waters, & Wall, 1978) and on emotional availability (Emde, 1980; Mahler, Pine, & Bergman, 1975). The Emotional Availability Scales include four scales examining the qualities of the mother’s interactions with her child and two scales that quantify the child’s response to the mother. The scales concerning the mother are: maternal sensitivity (a 9-point scale), maternal structuring (a 5-point scale), maternal non-intrusiveness (a 5-point scale), and maternal non-hostility (a 7-point scale). The child scales are: child responsivity (a 7-point scale) and child involvement (a 7-point scale). In all scales, a higher score indicates a more positive maternal-child interaction.

We successfully completed the videotaped play sessions with 28 maternal-child dyads at all three visits. A one-way within-subjects ANOVA was performed with the factor being visit number and the dependent variable being the EA scores. The means for the EA scores are shown in Table 5. The change in scores over time for the Child Responsivity and Child Involvement scales is shown in Figure 3.

Table 6. Emotional Availability Scales Scores for Intervention Group ($n = 29$) using a One-way Repeated Measures ANOVA)

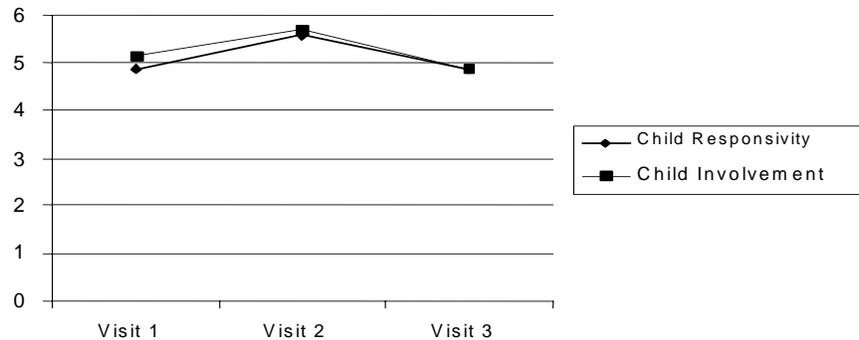
	<i>Home Visit #1</i>	<i>Home Visit #2</i>	<i>Home Visit #3</i>	<i>p-value</i>
Maternal Sensitivity	6.18 (1.95)	6.79 (2.17)	5.79 (2.23)	NS
Maternal Structuring	3.82 (0.72)	3.71 (0.98)	3.25 (0.98)	.007
Maternal Non-Intrusiveness	3.71 (0.98)	4.14 (0.89)	3.82 (0.98)	NS
Maternal Non-Hostility	4.25 (0.75)	4.46 (0.84)	4.50 (0.84)	NS
Child Responsivity	4.86 (1.58)	5.57 (1.64)	4.86 (1.65)	.04
Child Involvement	5.14 (1.53)	5.68 (1.47)	4.86 (1.86)	.08

Note. Means shown with standard deviation in ()

NS = not significant

Over time, the Maternal Structuring scores showed a slight decline. The most significant improvements in scores were seen in Child Responsivity and Child Involvement between Visit #1 and Visit #2, which corresponds to the time that the child was receiving direct intervention from the ECMHC. However, the Child Responsivity and Child Involvement scores declined from Visit #2 to Visit #3, when the child was no longer receiving direct services from the ECMHC. This suggests that either a longer period of direct intervention was needed or else a different type of support was needed following the intervention to help sustain the gains that had been made.

Figure 2. Emotional Availability scores for Intervention Group.



Descriptive Analyses. With this evaluation, we wished to identify what types of children and families were most likely to benefit from direct child-specific intervention from the ECMHC and what types of children and families were least likely to benefit significantly from these services. To address these questions, we classified characteristics of the families and children who appeared to have “good” outcomes and those who had “poor” outcomes at Visit #3.

We defined a “poor” outcome as having a high score on the PSI Total Stress, a score in the clinical range on the CBCL Total Problems scale, and a score in the clinical range on the C-TRF Total Problems scale (or no C-TRF available) at Visit #3. We defined a “good” outcome as having a PSI Total Stress score in the normal range, a CBCL Total Problems score in the normal range, and a C-TRF score in the normal range at Visit #3. Eight children met the criteria for a “good” outcome and seven children met the criteria for a “poor” outcome. We examined a number of variables to identify predictors of these outcomes. We examined such factors as age of child, maternal age, maternal educational level, mother’s marital status, race, household income, child’s gender, and type of intervention. Because the numbers of children in these two outcome groups are so small, most of these comparisons did not reach a level of statistical significance. Consequently, these comparisons that are described here need to be considered tentative. However, as shown in Table 7, there were differences in the maternal depression scores and the HOME scale scores at Visit #1 in the two outcome groups.

Table 7. Characteristics of Maternal-Child Dyads with ‘Good’ and ‘Poor’ Outcomes Who Received Child-Specific Services from Mental Health Consultant

	‘Good’ Outcomes (<i>n</i> = 8)	‘Poor’ Outcomes (<i>n</i> = 7)
% scoring in upper fourth on HOME scale	62.5%	14.3%
Mean maternal depression score at Visit #1	13.3	25.6

These findings suggest that children who were more likely to benefit from direct child-specific services from the ECMHC were more likely to come from homes with more age-appropriate resources (as

measured on the HOME inventory) and were less likely to have mothers who were experiencing a significant level of depressive symptoms. As indicated above, maternal depressive symptoms did not change much over the course of our evaluation. Perhaps mothers with depressive symptoms would have responded more positively to the interventions offered by the ECMHC if they also had received treatment for their own depressive symptoms.

Discussion

This evaluation described the types of children and programs served by the ECMHI and documented a number of benefits of the ECMHI. The evaluation clarified that a substantial number of children in childcare experience externalizing problems (e.g., aggressive behavior) that is disruptive to the group setting and may later interfere with the child's ability to succeed at school entry. The work of ECMHCs in childcare settings documented significant reductions in externalizing behaviors for such children both in the childcare and home settings.

The evaluation also documented that interactions between young children and their mothers showed improvement during the time that they were receiving direct services from the ECMHC. However, the improvements seen in maternal-child interaction did not persist after the services of the ECMHC were no longer available.

The evaluation also documented that many of the ECMHCs have multiple responsibilities and multiple funding sources. The ECMHI did not account for the majority of the work time for many of the ECMHCs. This splintering of their focus and time may have eroded the effectiveness of an ECMHC in some settings. Having a presence in the childcare setting is often the first step in gaining the confidence of staff and parents. Those ECMHCs for whom the ECMHI represented only a small portion of their work week may have been less likely to be as available to staff and parents in the childcare setting.

The evaluation also focused a great deal on the needs of individual children with challenging behavior. Much of the work of early childhood mental health consultants focuses on program consultation, rather than direct service for an individual child. The evaluation only assessed program consultation briefly through interviews with the directors of childcare programs. The directors affirmed the benefits of the ECMHI for the childcare programs on a program level and emphasized that the breadth of services would not be available in their programs without the ECMHI, even for programs (e.g., Head Start) that are mandated to have early childhood mental health consultation. Future work should more extensively evaluate the ECMHI in terms the role of consultation at the program level.

Some children and their families have challenges that exceeded the resources of the ECMHI. We were discouraged to find that maternal depressive symptoms were so prevalent in this setting and that the level of maternal depressive symptoms did not decline during the time of the intervention. Similarly, it was discouraging to find that the levels of parental stress did not decline either. Furthermore, it is unfortunate that so few services are available in many communities to appropriately address the socioemotional needs of young children and their families.

The ECMHI has brought focus to the socioemotional needs of young children in childcare and the importance of addressing problems as they arise in this age group. The ECMHI has also given new skills to many teachers and staff in early childhood education so that they feel more empowered in providing an environment that will foster the socioemotional development of young children in Ohio. Efforts are needed to expand this program to all counties in Ohio and to evaluate the long-term outcomes of this program.

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EVALUATION OF THE FAMILY AND SYSTEMS TEAM PROJECT: QUANTITATIVE AND QUALITATIVE INITIAL FINDINGS

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The Family and Systems Team 2005 (hereafter referred to as FAST\$05) was funded by support from the Ohio Departments of Mental Health, Job and Family Services, Youth Services, and Alcohol and Drug Addiction Services. This support was meant to be distributed to local service providers in order to facilitate three main program activities: systems collaboration, service enhancement and family empowerment. Longer term outcomes associated with this project were thought to include increased family satisfaction with services, increased likelihood of family preservation, and the increased well-being of youth (i.e., increased mental health, increased sobriety, increased school success, and reduced involvement in illegal behaviors). The Center for Family Research (CFR) at The Ohio State University was contracted to conduct an evaluation of FAST\$05 in order to generate important information about the effective use of state support in meeting the needs of Ohio families containing children and adolescents with significant behavioral health needs.

The three primary activities of FAST\$05 – systems collaboration, service enhancement and family empowerment – and the three major groupings of longer term outcomes indicators – increased family satisfaction with services, increased likelihood of family preservation, and the increased well-being of youth – were systematically tracked through use of both quantitative and qualitative methods.

Research Objectives of the Study

- Objective 1: To identify family caregiver wants and needs that were being met prior to enrollment in the project, and to examine how family empowerment was achieved as the result of program participation.
- Objective 2: To identify treatment as usual (TAU) services, and to subsequently examine how additional services were received as the result of program participation.
- Objective 3: To identify current collaboration efforts, and to subsequently examine how greater integration among providers would be achieved as the result of program implementation.
- Objective 4: To examine the program's impact on family satisfaction with services.
- Objective 5: To examine the program's impact on family preservation.
- Objective 6: To examine the program's impact on the well-being of youth.

Overview of the Methodology

Enrollment and termination information. The evaluation team received bi-weekly downloads of information from the Ohio Department of Mental Health Multi-Agency Community Services Information System (MACSIS) that contained basic demographic information about youth enrolled in and terminated from FAST\$05. Concurrently, the OSU evaluation team collected additional quantitative information directly from program contacts in each of Ohio's 88 counties regarding enrollments and terminations.

Family caregiver wants/needs. A set of items were adapted from Goldberg-Arnold, Fristad and Gavazzi (1999) in order to measure this baseline variable. The items assessed the caregiver's access to services and professionals that were supportive, non-blaming, and otherwise contributed to the belief that family members were given a "voice" in the planning and treatment process.

Treatment as usual and enhanced services. Once a month, the evaluation team received claims data downloads from the MACSIS system as well regarding Medicaid-reimbursable services. In addition, a checklist regarding non-Medicaid-reimbursable service delivery was filled out by program contacts in each of the counties.

Collaboration efforts. An electronic survey method targeting both Family and Children First Council Members and individuals serving on county planning and clinical teams was employed using a modified version of the Strategic Alliance Formative Assessment Rubric (SAFAR) categories developed by Gadja (2004).

Family satisfaction with services. This variable was assessed through use of the Satisfaction and Hopefulness domains of the Ohio Scales (Ogles, Melendez, Davis & Lunnen, 2000).

Family preservation. This variable was assessed through the county contact's designation of the youth's risk of out-of-home placement at time of enrollment and termination. In addition, this information was augmented through the collection of information about threats to family stability using "transitional risks" items developed by Patterson, Bank and Stoolmiller (1990).

Well-being of youth. This variable was assessed through use of the Problem Severity and Functioning domains of the Ohio Scales.

Focus groups. In addition, focus groups were conducted in each of the five Ohio Family and Children First regions in order to enhance this information with more qualitative data according to the following outcome variables: family empowerment, service enhancement, systems integration (collaboration), and FAST\$05 success. Three categories of focus groups were identified: service providers/program administrators, parent advocates, and family care givers. Open coding was used to analyze the data. Open coding is the process of "breaking down, examining, comparing, conceptualizing, and categorizing data" (Strauss & Corbin, 1990, p. 61). Data was analyzed line-by-line to form "chunks"-words, sentences, or phrases (Miles & Huberman, 1994). Themes or categories were developed from the data "chunks."

Results

Enrollment and termination information: A total of 2,160 youth were enrolled under FAST\$05. At the time of this report's compilation, a total of 517 youth were terminated from this program as indicated by MACSIS data.

Family caregiver wants/needs. Using data from a sample of 210 family caregivers who completed Time 1 and Time 2 Family Caregiver Wants and Needs Scales, a paired samples *t*-test indicated a significant increase ($t = 3.83, p < .001$) in family empowerment from time of enrollment ($M = 43.8$) to time of termination ($M = 47.9$), generating evidence that FAST\$05 funding was in fact able to facilitate family empowerment. A sub-sample ($n = 102$) of these caregivers also filled out the Family Satisfaction subscale of the Ohio Scales (OH-FS) at the time of termination from FAST\$05. Correlational analyses revealed a significant association ($r = .33, p < .01$) between FCWNS and OH-FS scores, further underscoring the relationship between family empowerment efforts and consumer satisfaction with service provision.

In addition, focus group data indicated that service providers and program administrators frequently cited FAST\$05 as supporting a family-centered approach for Ohio's behavioral health services environment to empower and engage families. Mechanisms stated for empowering families were parent advocacy, flexible use of FAST\$05 funding, providing options for families, and inter-agency networking. Evidence indicating family empowerment was expressed by an increase in family participation in the decision-making process and families sharing ideas for dealing with their particular situations. Also, data from the parent advocate focus group revealed that they empowered families by helping them be a part of the decision-making process, providing them support and resources they could trust, and letting them know that what they thought and felt was important.

Treatment as usual and enhanced services. Analyses regarding quantitative information on both Medicaid-reimbursable services and non-Medicaid-reimbursable services were ongoing at the time of this report's construction. However, data from service provider/program administrator and parent advocate focus groups revealed that FAST\$05 enhanced services to benefit families by increasing family-supportive services (home-based support, non-therapeutic elements of MST, and social services counseling), reducing family stress (respite care, transportation, and hygiene/laundry assistance), and utilizing programs for children (summer camps, after-school, and mentors). Other service enhancements for families included parent education, tutoring, social-recreational services, virtual residential programs (i.e., residential staff and services performed in the family home), and family stabilizing services. FAST\$05 also enhanced services through fund flexibility and provided services for families that otherwise may not have been possible with existing funding streams.

Collaboration efforts. Overall, 86 out of the 88 counties had at least one individual participate in the survey effort on systems collaboration, generating a county representation rate of 98 percent. The mean level of collaboration reported by the entire sample was 2.26, denoting an average collaboration most closely resembling the category of "cooperating" agencies. Cooperating agencies are defined as those organizations that have clearly identified mutual interests, give advice and guidance to one another, have meetings that make use of facilitative leaders, and have communication that is frequent but informal.

At the request of ODMH, a second wave of data using the electronic survey was not collected. However, focus group data from service providers and program administrators indicated that the structure of FAST\$05 influenced agencies and organizations to collaborate and work with each other. They frequently mentioned that the structure of FAST\$05 encourages collaboration and that in order to have success individuals, teams, and agencies must work together and partner to effectively serve the community. Some respondents explained that collaborative efforts were already in place because of existing county services, such as "cluster" and "wrap around." Comments of how collaboration happens because of FAST\$05 ranged from "the program forces us to collaborate" to the program "naturally" brings about interagency communication. Parent advocates from the participating regions agreed that FAST\$05 is helping different organizations and groups work together to benefit families. Highlights of these benefits from systems collaboration include the promotion of accountability for supporting families

and multi-agency representation. “Cluster” and “wrap around” were also indicated by parent advocates as key components for fostering systems collaboration through FAST\$05.

Family satisfaction with services. A sample of 113 family caregivers completed Time 1 and Time 2 Family Satisfaction Scales, and a significant increase ($t = 2.77, p < .01$) was reported from enrollment to termination. In addition, a sample of 126 family caregivers completed Time 1 and Time 2 Hopefulness Scales, and a significant increase ($t = 4.43, p < .001$) was reported from time of enrollment to time of termination.

Family preservation: Information on the threat of out-of-home placement at time of enrollment (Time 1) and termination (Time 2) was available on 405 youth. While 302 youth were at risk of out-of-home placement at the time of enrollment in FAST\$05, 221 of these youth were no longer at risk of placement outside of the home at the time of termination from FAST\$05, a 73 percent reduction in risk status that was statistically significant (Mcnemar's $\chi^2 = 147.85, p < .001$).

Well-being of youth. For youth reports on the Ohio Scales, there was a significant decrease in Problem Severity levels ($t = 3.02, p < .01$) from time of enrollment to time of termination. Parent reports indicated a significant increase in functioning levels ($t = 3.24, p < .001$), as well as a significant decrease in Problem Severity levels ($t = 3.62, p < .001$) from time of enrollment to time of termination. For worker reports, there was a significant increase in functioning levels ($t = 4.08, p < .001$) and a significant decrease in Problem Severity levels ($t = 5.01, p < .001$) from time of enrollment to time of termination.

Discussion

Taken together, the quantitative results indicated that participation in FAST\$05 coincided with solid gains in the youth and family well-being indicators. Of course, these findings will be augmented by further analysis of data regarding service delivery (both treatment-as-usual and non-Medicaid-reimbursable services), as well as termination-related information coming from those families still enrolled in FAST\$05 at the time of this report's compilation.

The qualitative results from the focus groups were about honoring the stories of its participants through a systematic process. The significance and implications of these results were evident when examining the findings across both categories of focus groups (service providers/program administrators and parent advocates) in which certain similarities were found. In particular, the role of parent advocacy for family empowerment, expansion of family services both in quality and quantity for service enhancement, and family stability are examples for FAST\$05 success outcomes. Similarities in focus group categories were also discovered for improving FAST\$05 in areas of communications (between and within state and local personnel) and funding (increase county allotment and long-term commitment). In addition, flexibility of FAST\$05 funds was frequently cited as important for both family empowerment and service enhancement.

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**BORDERLINE PERSONALITY DISORDER PATIENTS:
DECREASING THE LENGTH OF STAY FOR INPATIENT TREATMENT
WHILE INCREASING PATIENTS' QUALITY OF CARE,
EFFICIENCY OF TREATMENT, RESPONSE TO CARE AND CLINICAL STABILITY**

Twin Valley Behavioral Healthcare

Patty Mitchell, MS

In the United States, Personality Disorders affect ten to fifteen percent of the U.S. adult population. Of this, two to four percent carry the diagnosis of Borderline Personality Disorder (Bienenfeld, 2004). Eight to 11 percent receive outpatient services and 14 to 20 percent are inpatients (Behavioral Tech LLC, n.d.). In recent years Borderline Personality Disorder has become the most diagnosed and researched personality disorder. Patients with Borderline Personality Disorder have become the most difficult and challenging in the treatment environment.

Ongoing treatment for Borderline Personality Disorder has been most successful in the outpatient setting. On average, it often takes five or more years of intensive psychotherapy to resolve Borderline Personality Disorder problems, during which time the therapist will deal with crises that may result in brief inpatient hospitalizations. Between six and 18 percent of all persons admitted to inpatient psychiatric treatment have a diagnosis of Borderline Personality Disorder, accounting for 20 percent to 42 percent of all inpatient admissions.

It has been said that long-term care of a person with Borderline Personality Disorder within a hospital setting is never appropriate. Results of treatment are mixed and there is usually not enough time to make significant changes within the individual's disordered personality makeup (Grohol, 1998).

Individuals who do receive treatment in a hospital setting take the form of traditional treatment, primarily medications. With traditional treatment, over time improvements are noted but the time spent in the hospital exceeds the average patient length of stay (LOS) and increases the need and thus the amount of services offered.

Individuals with Borderline Personality Disorder are normally the highest utilizers of inpatient psychiatric services in the United States (Hospital and Community Psychiatry, 1991). This study looked at one question: Can an intensive short-term inpatient program decrease the length of stay and improve the quality of care of those diagnosed with Borderline Personality Disorder?

Purpose of the Study

The purpose of this study was to determine whether a specific, intensive, short-term inpatient treatment program for Borderline Personality Disorder patients would decrease the length of stay and reduce readmissions over time. This specialized short-term inpatient program is also designed to assure the maintenance of quality of care, efficiency of treatment, patient response to clinical care and the clinical stability of the Borderline Personality Disorder patient.

This study was preceded by a review of literature as it relates to treatment models for individuals with Borderline Personality Disorder and how they impact the length of stay in an inpatient setting. The literature contained analyses of the negative effects of inpatient treatment and how an intensive short-term

inpatient treatment can decrease the length of stay and increase the positive long-term outcomes of treatment. Because the treatment options are limited for both inpatient and outpatient treatment for individuals with Borderline Personality Disorder, new alternative interventions are a welcome resource to therapists and investigative professionals.

Although therapists and counselors are trained to deal with individuals with Borderline Personality Disorder, it is still a challenge to be creative in developing new skills that cannot be found in a treatment book or at a professional lecture. Individuals with Borderline Personality Disorder are those patients who can show the therapist where the therapist has an opportunity to grow in technical skills (Rathburn, n.d.).

This study examines one specific program currently used at an inpatient psychiatric setting, Twin Valley Behavioral Healthcare. The study addresses three foci:

Focus 1 addresses the program and how it has impacted the length of stay (LOS) for individuals with Borderline Personality Disorder in an inpatient setting.

Focus 2 addresses how this program influenced the appropriate therapeutic collaboration between the inpatient and outpatient teams.

Focus 3 addresses how this program has encouraged independence and a healthier adult lifestyle in the Borderline Personality Disorder individuals.

Methodology

The approach was to study a sample of ten patients with the diagnosis of Borderline Personality Disorder. The sample was comprised of eight women and two men who had at least two or more admissions to Twin Valley Behavioral Healthcare, an inpatient state psychiatric hospital.

Literature reviews reported that Borderline Personality Disorder is three times more common in women than in men. It has been documented that this is due to: 1) a result of endocrinological and/or chemical predisposition and 2) a result of socio-cultural expectations (notably, perceived roles, attitudes or behaviors) (NARSAD Research, 2001).

Nine of the patients selected for the study were single, and the average age was mid to late 20s. At the time of admission each patient was assessed as meeting at least five of the Diagnostic and Statistical Manual for Mental Disorders–IV (DSM-IV) criteria for the diagnosis of Borderline Personality Disorder. They were then identified to be placed on the Borderline Personality Disorder Protocol (Appendix A).

Each patient was admitted to a general, mixed-gender traditional acute care unit. Each patient was pre-assigned a treatment team which was familiar with the Borderline Personality Treatment Protocol. This team included one each of the following: psychiatrist, psychologist, registered nurse, social worker, adjunctive therapist, primary care giver, primary therapist and the patient's community case manager.

Since the pre-assignment process utilized the basic Borderline Personality Treatment Protocol, it promoted a maximum of continuity of care across admissions and thus, limited the need for the treatment team members and community care providers to “reinvent the wheel” for each patient in need of the Borderline Personality Treatment Protocol.

All designated treatment team members met with each patient within one working day (24 hours) after admission to expedite the identification and initiation of their specific and individualized needs as related to the completion of the Borderline Personality Treatment Protocol. The community case manager was in attendance at this meeting. The case manager's responsibility at this meeting was to inform the treatment team of the patient's immediate crises that led to the readmission, as well as the status of the patient's participation in the community's treatment program for Borderline Personality Disorder individuals.

An individualized treatment plan was developed within one working day. This plan included:

1. Individualized psychotherapy by the primary therapist, which was initiated immediately, and provided on a minimum of three times per week schedule. This solution-based therapy utilized a behavioral contract and was coordinated with all Dialectical Behavior Therapy (DBT) group therapy providers.
2. Direct care nursing staff intervention centered around relaxation exercise and stress reduction (passive and active),
3. Adjunctive therapies centered around coping skill training, relaxation exercise and non-verbal therapies.
4. Psychopharmacological adjustments as needed and appropriate to all BPD disabling/distressful symptoms.

The patient also received an active treatment schedule which was structured for a minimum of four hours a day for scheduled activities.

Included as part of the patients' activities was the participation in a condensed version of Marsha Linehan's Dialectical Behavior Therapy Program (Linehan, 1993). This condensed version is a three to seven day acute care program taken from Dr. Kenneth Silk at the University of Michigan (Silk et al., 1994) who participated in Marsha Linehan's Dialectical Behavioral Therapy program and then later developed a shortened version.

Realistic discharge criteria for all BPD patients were designed at admission time, focusing the criteria on the patient's placement needs for returning to community-based programming. Discharge was planned within a three to seven day period after the acute care BPD Profile began. In addition, the community case manager and the unit social worker facilitated any needed contracts between the community-based primary therapist and the primary therapist on the inpatient unit to promote continuity of care between inpatient and outpatient treatments.

Data Analysis

This study was designed to determine whether a specific intensive, short-term inpatient treatment program for individuals with Borderline Personality Disorder would decrease the length of stay and reduce readmission over time. Also, the study determined if this intensive, short-term program assured maintenance of quality of care, efficiency of treatment, patient response to clinical care and the clinical stability of the Borderline Personality Disorder patient.

The sample consisted of ten patients, eight females and two males. All patients had a diagnosis of Borderline Personality Disorder and had been admitted between 1991 and 2004.

Data were compared and analyzed for two separate admissions. One admission was prior to the development of the Borderline Personality Disorder Protocol and the other admission was after the

implementation of the protocol. A Comparison and Analysis sheet was used to collect and analyze the data for Traditional Treatment and the Borderline Personality Disorder Protocol.

Throughout the comparison and analyses, a common theme developed. The presenting problems for both admissions were very similar. What differed was the treatment approach. In the first admission, the Traditional Treatment approach for several of the patients was “sit and wait”. Very little was done in regard to interventions outside of medications, and the course of treatment and criteria for discharge was when the patient expressed readiness. There seemed to be no real active treatment occurring.

In the second admission, when the patient was placed on the Borderline Personality Disorder Protocol, there was visible evidence that the team and patient worked together on a recovery plan that assisted the patient in his/her own recovery. The treatment plan and the course of treatment were driven by the patient and involved all members of the treatment team. The plan was structured and did not allow the patient to “test the limits” of the staff. The discharge planning was solid and involved the community case manager who was an important member of the treatment team.

When the patient was placed on the Borderline Personality Disorder Protocol, there was a noticeable decrease in the Length of Stay as compared to the admissions with Traditional Treatment. With Traditional Treatment, the average length of stay was 27.8 days. The length of stay once the patients were placed on the Borderline Personality Disorder Protocol was 3.4 days.

What seemed to be alarming was the increase or same number of readmissions after being placed on the Borderline Personality Disorder Protocol as there were when the patient was receiving Traditional Treatment. Even though there were readmissions after the patient was placed on the Borderline Personality Disorder Protocol, the length of stay continued to remain short, unlike the readmissions following Traditional Treatment where it appeared that with each readmission, the length of stay increased.

Discussion

This study was done to see if an intensive short-term inpatient treatment for Borderline Personality Disorder patients would decrease the length of stay and reduce readmission over time. Treatment for Borderline Personality Disorder in an inpatient setting has been an up-hill battle among healthcare providers. The literature revealed most treatment for individuals with Borderline Personality Disorder has been in outpatient settings. Treatment for these individuals has been in the form of three main types of treatment; psychotherapy, supportive therapy and medications. Many professionals and paraprofessionals become discouraged when they are faced with having to treat an individual with Borderline Personality Disorder.

It was for these reasons that this study was conducted. Knowing that individuals with Borderline Personality Disorder are difficult to treat and go into crises that require a brief inpatient hospitalization, treatment needed to be intense and limited in the length of stay. There was a need to develop a specialized intensive inpatient program that would meet the needs of the individual yet not increase their dependency, length of stay, nor encourage negative behaviors.

The objective of this study was to see if an intensive, short-term inpatient program for Borderline Personality Disorder individuals could make a difference not just in the length of stay but also in the quality of care, efficiency of treatment, response to care and clinical stability. The comparison and analyses revealed that the individuals once placed on the Borderline Personality Disorder Protocol had an

average length of stay (LOS) of 3.4 days. This was quite a drop from the LOS for the same individuals whose LOS was 27.8 days when they were receiving Traditional Treatment.

The study further revealed that when treatment began the day the individual was admitted and the community was involved in the development of the treatment and recovery plan, the individual with Borderline Personality Disorder was less likely to display negative behaviors and became actively involved in the development of his/her own treatment plan. The patient became empowered in the development of his/her own treatment.

The treatment of individuals diagnosed with Borderline Personality Disorder continues to draw concerns within the healthcare community. Research on treatment programs has focused mainly on the outpatient side. Yet the healthcare community knows that Borderline Personality Disorder individuals will need to be admitted to a hospital at least once during the course of their treatment. With the cost of healthcare rising there is a need to develop more intense inpatient programs that provide quality treatment in the least amount of time. The age of the “long term” psychiatric hospitals is a thing of the past. Patients no longer are “housed” for months waiting to get better.

Individuals with Borderline Personality Disorder, difficult as they maybe to treat, keep professionals and paraprofessional thinking of new and creative interventions. These creative interventions are what provide the individual with Borderline Personality Disorder the treatment they need to live a healthier life style. It is these creative interventions and programs that make treating individuals with Borderline Personality Disorder less challenging and more rewarding to the healthcare community.

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Appendix

Protocol for Individuals Diagnosed with Borderline Personality Disorder

Program Description

- GOALS:**
- 1) Decrease overall use of hospital bed days over time
 - 2) Limit individual hospitalization to an average of 3-7 days

Administrative Components

Population Identification: All individuals admitted to the TVBH Columbus Campus with a Borderline Personality Disorder over the past four years were screened by the Borderline Personality Disorder task force. Based upon the challenges presented during past admissions, a small subgroup of repeat hospital users was identified for this treatment approach. Additional cases will be added over time at the recommendation of individual treatment teams, as approved by the Program Administrator. This list of patient names will be reviewed by all parties involved in the admission process. The list of targeted names will be reviewed annually by the Program Administrator for potential deletion from the list.

Treatment Team Assignment: Upon adoption of this treatment approach, each identified case will be pre-assigned to a treatment team, primary therapist and primary care provider. This pre-assignment process is aimed at promoting maximum continuity over admissions, and delimiting the need for a new treatment team provider to “reinvent the wheel”. Critical tasks for the primary therapist would be reducing the incidence of “splitting” and providing brief, individualized and solution focused psychotherapy. At the time of admission, each identified case would be immediately reassigned to the designated treatment team, and removed from normal methods of rotating admissions assignments.

Community Programming: Information concerning the treatment status of each identified case will be maintained by the social worker on the designated treatment team. Information will include the names of the community treatment team, the individual case manager, the primary community therapist, and status within community treatment program specifically aimed at treating borderline symptomatology. The TVBH Social Work and Managed Care Departments will actively promote the inclusion of all targeted cases in ongoing community-based treatment programs for Borderline Personality Disorder. Efforts will be made, in particular, to promote reassignment of target cases whose community treatment team does not have available to it appropriate community-based treatment specifically aimed at Borderline Personality Disorder.

Rapid Treatment Team Planning: Upon readmission of an identified case, the designated treatment team will meet within one working day (24 hours) to expedite review of treatment needs. The community case manager must attend this meeting, and case manager or agency designee attendance will be a condition for admission. At the team meeting, the case manager will inform the treatment team of the individual’s status in the community treatment for Borderline Personality Disorder, and the immediate crisis leading to the readmission. The automated treatment plan from the most recent previous admission will be reviewed at this meeting, and adjusted as needed. Realistic discharge criteria will be set focusing upon return to ongoing community-based programming within the three to seven day window of acute care. The community case manager and TVBH social worker should immediately facilitate any needed contacts between the community-based primary therapist and the TVBH primary therapist to promote continuity of care.

Immediate Group Therapy Referral: The Program Administrator will refer the identified case immediately upon admission to ongoing group therapy. Treatment will begin immediately at the next group sessions unless contraindicated by initial assessment. At least one slot in the group will be available at all times for acute treatment of designated case.

Treatment Components

Each identified case will have an automated individualized treatment plan reviewed and adjusted within one working day by the designated treatment team. This treatment plan must include:

1. Individualized psychotherapy by the primary therapist (initiated immediately, and provided a minimum of three times per week). This solution-based therapy may utilize a behavioral contract and should be coordinated with Dialectical Behavior Therapy group therapy providers.
2. Group psychotherapy using cognitive behavioral approach(Linehan's Dialectical Behavioral Therapy).
3. Direct care nursing interventions centered around relaxation exercises, stress reduction (passive and active), and patient debriefing (chain analysis of incidents).
4. Adjunctive Therapist centering around coping skill training, relaxation exercise, and non-verbal group activities.
5. Psychopharmacological adjustments as needed and appropriate to disabling/distressful symptoms.

The active treatment schedule should be structured for a minimum of four hours a day of scheduled activities.

Staffing

Specific competencies for direct care nursing staff will be developed through training and pre-test/post-test assessments. In addition to scripted strategies for nursing staff, training should also focus upon an improved understanding of the relationship between cognitive behavioral approaches from the professional staff and direct care nursing interventions. Immediate training should be given to designated direct care providers for identified cases. Staff may be trained in the use of a "patient debriefing tool".

Diagnosis

A rapid screening approach aimed at identifying future cases with Borderline Personality Disorder will use designated sections of the Multidisciplinary Assessment form. Screening would include in the Nursing section: a) Lethality assessment (history of self harm, number of suicide attempt); b) Violence assessment; c) Substance abuse assessment and in the Social Work section: Abuse History.

RED FLAGS DEPRESSION AWARENESS PROGRAM

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This report presents the findings of a research grant that was funded for three years, for the purpose of evaluating the Red Flags Depression Awareness program. Red Flags is an educational program designed to help middle school students, teachers, and school staff recognize signs of depression (and other mental health issues), symptoms related to suicide, and resources that can help children in Grades 6 through 8 seek assistance for themselves, peers, or siblings who may be suffering from and/or exhibiting signs of depression.

Red Flags, developed by the Mental Health Association of Summit County (MHASC) Ohio, was created in response to the wave of school violence and shootings that had taken place across the country. The Ohio Department of Mental Health asked that a program be developed that focused on adolescent depression, an often unrecognized crisis facing many young people. Suicide, resulting from untreated depression, is the leading cause of death among young people ages 15 to 24. An education subcommittee of the Mental Health Association of Summit County went to work to develop a school-based program to address this critical issue.

A central component of the Red Flags program is the video called “Claire’s Story.” In an attempt to help her adolescent daughter tell the story of her struggle with depression and thoughts of suicide, Claire’s mother, Penny Frese, co-wrote with Claire, and produced the video to educate others about this mental health threat. That video, along with other program materials for students, teachers and parents, was developed to provide Red Flags participants with an understanding of the symptoms, the illness, and the available resources for recognizing and treating depression in adolescents.

To help combat depression and reduce the risk of suicide among middle school students, the MHASC in conjunction with Ohio Department of Mental Health distributes the Red Flags program material, free of charge, to middle schools across the state that are looking for a prevention program to educate their school community. To date, over 300,000 students in the State of Ohio have participated in Red Flags training. The program has also been used in a number of other states and it is being piloted in others. Our task, as evaluators, was to assess the effectiveness of the Red Flags program in meeting its program goals.

Methodology

A mixed methods research design, consisting of qualitative and quantitative methods (Green & Caracelli, 1997; Lincoln & Guba, 1985; Morse, 1991; Newman, Ridenour, Newman, & DeMarco, 2006; Ridenour & Newman, 2005; Tashakkori & Teddlie, 2003) was utilized for the Red Flags evaluation project. This approach to evaluation research was used to maximize the effectiveness of each methodology by allowing each method to inform the other, and to give the researchers a more holistic

picture of what was represented by the data. Two separate qualitative investigations were conducted (I and II), and one major quantitative investigation took place. *Qualitative I – Initial Focus Groups*, the initial qualitative investigation, consisted of several focus group interviews involving participants and administrators of the Red Flags program. *Qualitative II – Follow-Up Phone Interviews*, the second qualitative phase, consisted of phone interviews involving program administrators only. The major quantitative investigation consisted of distributing packets of research instruments for students and school staff, consisting of the School Climate Survey (NASSP, 1987), the BarOn Emotional Quotient Inventory: Youth Version (EQ-i; Bar-On, 1997; Bar-On & Parker, 2000), and the Red Flags Program Survey (MHASC, 1997). These surveys were sent to middle schools throughout the state of Ohio that agreed to participate in the Red Flags evaluation. Most of the schools that received the evaluation materials are using the Red Flags program in their curriculum but some were non-participating schools that agreed to serve as our comparison group.

Results

Qualitative I – Initial Focus Groups. The initial qualitative investigation was conducted to identify a best practice model, an overarching theoretical framework that would help to guide our procedures, and to identify measurement concepts that would facilitate our ability to answer the quantitative research questions. This was a crucial step in helping us to focus the evaluation by correctly identifying quantitative constructs, helping in our selection of measurement instruments and identifying related concepts. The components of a best practice model were identified, as were several qualitative themes. Five middle schools participated in the Qualitative I investigation. Each of these schools participated in at least one and up to three focus groups for a total of 12 focus groups and one principal interview. These interviews are presented in the Appendix of the final report.

Five major themes emerged from the focus group investigation. The five themes were (a) Implementation, (b) Constituents, (c) Support, (d) Infusion, and (e) Limitations and Risks. In addition, several subthemes were noted under each of these major themes. Based upon the initial qualitative survey, the major research instruments selected for the evaluation were School Climate and School Satisfaction Scales, EQ-i, and a Red Flags Knowledge Survey that was constructed to assess knowledge of symptoms of depression, resources available for support, and the likelihood of referring self or others for help. Each of these instruments reflects the important concepts identified by the analysis of the qualitative investigation. School climate was used as a surrogate variable for estimating academic achievement (Bulach, Malone, & Castleman, 1995; McEvoy, & Welker, 2000; Phillips, 1997), while EQ-I is predictive of achievement as well as personal, social, and emotional development (Bar-On, 1997, 2003; Parker, Creque, Barnhart, Harris, Majeski, Wood, Bond, & Hogan, 2004; Swart, 1996).

Quantitative Analyses. The results of the quantitative analysis were predominantly positive. Analysis of the data indicated that participants in the Red Flags program were significantly more aware of signs of depression ($p < .001$) than were the non-participants. Responses indicated there was no significant difference in the willingness of middle school students to make referrals, but data also indicated that students who participated in the Red Flags program had significantly more positive gains in their academic orientation, as measured by the School Climate Academic Orientation scale. Both the School Climate and EQ-i scales, as well as the qualitative analysis, also indicated a greater reduction in the students' disruptive behavior following participation in the program. When looking at 18 of the School Climate and School Satisfaction Scales, students who participated in Red Flags had higher gain scores on each of the scales than those who did not participate. The probability that this would be a chance outcome is less than $p < .001$ (less than 1 time in 1000), as measured by a Sign test.

We were not able to get good estimates of each school's fidelity in presenting all of the key components of the Red Flags program due to the idiosyncratic implementation of the program by participants. Each of the schools we interviewed selected the aspects of the Red Flag program that it felt best met its needs and fit within the time constraints and resources. Schools also varied widely in the amount of class time they allowed for teaching Red Flags, and in who taught the program. All data indicate the program is low cost to implement, however many schools did not have additional funds that could be used to purchase consumable materials (i.e., parent information booklets) when needed. This would have amounted to 20 cents per student.

Quantitative analyses also identified overall significant student gains on the School Climate and EQ-i scores, and on the Knowledge test, which assessed their awareness of the symptoms of depression and other mental health issues. Even though there was no statistically significant difference on several other variables, the qualitative analysis gave some indication of positive evidence regarding the Red Flags program on these measures.

Qualitative II – Follow-Up Phone Interviews. In this phase, telephone interviews were conducted with eight of the individuals who were responsible for coordinating the Red Flags program administration in their respective schools. These interviews are presented in the Appendix of the final report. Findings were consistent with the five themes that emerged in the Qualitative I phase, and provided further evidence of the long-term impact that the Red Flags program is having on participants.

The findings indicate that all eight respondents believe that students and teachers increased their awareness and sensitivity to the content of the Red Flags program. The interview data support the notion that even though fidelity to all components of the model could not be estimated because the flexibility of the Red Flags program allows schools to choose how they will implement it, there was more consistency among schools in their presentation of the student component. It also became apparent that while the program did not result in immediate noticeable changes in student behavior, the qualitative data suggest that the program did have long-term effects on students. Teachers were able to relate a number of incidences in which students referenced Red Flags when discussing mental health issues and depression, a year or more after exposure. (See the Appendix in the final report for examples.)

The results of the Qualitative II – Follow-Up Phone Interview investigation indicated a great deal of consistency among all interviewees. These results are also consistent with the data collected from the Qualitative I – Initial Focus Group phase and are supportive of the positive results obtained when comparing the Red Flags participant group to the non-participant group on School Climate, EQ-i and the Red Flags knowledge test.

Even though there was a very limited intervention time period (the time between the pretest, Red Flags instruction, and the posttest), the data indicate overall support for the Red Flags program. Both the quantitative and qualitative data suggest the program has many positive aspects, as indicated by strong positive qualitative comments, the gain scores on the Knowledge, School Climate, and EQ-i surveys, and the anecdotal reports of long-term effects. Red Flags is a program that can be implemented in a short amount of time and it appears to be meeting its program goals.

Research Design Challenges

There were a variety of factors that limited our ability to carry out the program evaluation that we originally planned. Due to their concern for the protection of human subjects, several obstacles to the evaluation were imposed by The University of Akron Institutional Review Board. For example, the evaluation team identified key research instruments for the quantitative data collection, but we were

subsequently restricted from using the Beck Depression Inventory for Youth (BDI-Y) and student grade point averages unless we obtained a release form from each parent and student. This was identified as a major obstacle since it would require individual students to sign an assent form and their parents to sign and return a consent form to the school. These signature forms would then have to be matched to individual research packets and teachers would have to ensure that only packets from students with assent and consent forms were submitted for analysis. While this would have met the IRB requirements, it would have put a much greater burden on the schools and they were unwilling to take on this additional responsibility. We felt that these added tasks would have negatively impacted on the schools' willingness to participate in the Red Flags program evaluation. Additionally, the research team, the participant schools and the Red Flags staff felt that it would be virtually impossible to obtain these forms from a large number of the parents and students, so we modified our data collection procedures by eliminating these variables.

Another major challenge was that schools in Ohio are under tremendous pressure to ensure that all instructional time is spent in tasks that will allow their students to demonstrate proficiency on the Ohio Achievement Tests. Any request for including an activity that does not focus on this goal is viewed as an unwelcome diversion and imposition, and it is often denied. Many schools we approached indicated that while they value the Red Flags program and are willing to give time to providing their students with the important information contained in the program, they were not able (or willing) to give up the two additional classroom periods we needed to administer pre and post assessments. This appeared to be even more of a concern for the administrators and teachers in our comparison schools because their students were not deriving any benefit from the Red Flags program.

Another issue that was somewhat problematic for the evaluation was that the Red Flags program does not require a uniform method of implementation. As previously mentioned, each school is able to determine how to best implement the program, based on its unique needs. This lack of consistency made it virtually impossible to develop an overall assessment of the schools' fidelity to the Red Flag model.

The number of components each school chose to utilize, the level of infusion into the school curriculum, and the variations in program management across so many schools, indicated that program participants differed widely in what they considered to be essential program elements. The one largely consistent piece was that all schools utilized the student component, even though they varied as to who delivered the information (usually a guidance counselor or a health teacher) and in the amount of time they allocated for instruction. Some distributed these sessions over time while others presented the material in a very few days. Most indicated that teacher in-service is important but they also reported that their professional development was already designated to academic curricular issues related to content being tested by the state. Therefore, only a few of the schools we interviewed reported that they provided training sessions for teachers, and some said they made the program video available to teachers. The parent component of the Red Flags program received the least attention among participants. Although several schools reported trying to implement this component, they had little success in regard to parent participation, and therefore did not continue with it in subsequent years. Another somewhat surprising response was that several of the schools indicated they distributed the Red Flags information booklets that they received free, but they did not have the money to replace them, even though the cost per child seems to be quite low.

Given these variations from building to building, the estimate of fidelity to the program was very weak. Variation was a product of the unique needs and resources of individual schools and their manner of implementation. The developers of the program were aware that schools have various needs and resources regarding the level of component implementation, and subsequently designed Red Flags to allow for the flexibility required based upon the individual school needs and resources. This is both a

strength and weakness of the program. It is a strength in that it gives schools a lot of flexibility to implement needed components and therefore increases the likelihood that they will participate. However, it is a weakness in that it does not require all components to be implemented, thus limiting the sharing of program information with parents, and cutting down on the time allocated to training and sharing information with teachers.

Only two of the major components of the program (the student component and to a lesser extent the teacher component) appeared to be relatively consistent in that some form of these were present in all settings, even though there was variation in how they were presented. It also appears that much of the program effect that was detected was due to the student component, and secondarily to the teacher component.

Summary of Findings

The primary goal of this evaluation was to determine if there is a difference among students and teachers who received Red Flags training and those who did not on variables such as awareness and knowledge of depression and mental health issues, willingness to self-refer or refer others for help, and knowledge of resources available to get help when needed. Another goal was to determine the long-term effects of Red Flags, if any, on students and teachers.

The data support that there are overall differences between the Red Flags and comparison schools when looking at the directionality of gain scores across the identified variables, $p < .0001$ based upon a Sign test (see Table 1). However, as is expected in situations of low incidence (Newman, Ridenour, Newman, Smith, & Brown, 2007), we did not find statistically significant differences between Red Flags and non-Red Flags schools on most of the specific subscales. Statistically this makes sense because even though the percentage of incidents of depression and mental health concerns in schools has grown substantially, it is still relatively small in absolute number. So if we had two schools of 500 students each, and if two students attempted suicide in one school, and no one did in the other, there would be no detectable significant difference between the schools. This is not meant to infer that the two suicide attempts in the one school are not alarming. They should be a “red flag” to the school’s administrators, counselors, teachers and parents that intervention is needed, but the data from the two schools would not produce results that are statistically different. However, differences would more likely be identified through qualitative analyses (case study) such as interviews, focus groups, surveys, etc. Those personal contacts would provide a better opportunity to identify variables that may be of concern.

In our analyses of the Qualitative II – Follow-Up Phone Interview data, all of the teachers interviewed indicated that the Red Flags training had a positive and long-lasting effect. They were able to anecdotally identify specific instances in which students referenced the Red Flag training, materials or experiences that lead them to seek the help of a teacher or counselor, for themselves or a friend. Sometimes it was a year or more after their training that students were able to use the information that had been provided to them. To determine the likelihood that all teachers would be able to cite such examples, we conducted a Sign Test that produced a $p > .01$, which is statistically significant. Therefore, we believe these data provide support of positive long-term effects of the Red Flags training for students and for their teachers who were able to recall incidents that they regarded as positive results of the Red Flags program. Given the wide variation in implementation and program management, we believe it is very positive that the program was able to demonstrate an effect, as indicated by both the qualitative and quantitative analyses.

Table 1. Analyses of Gain Scores When Comparing Red Flags Students to Comparison Groups on the Knowledge, EQ-I, School Climate and Student Satisfaction Constructs

Knowledge	Scale	Interaction		Main	
		sig. <.001	direction +	sig.	direction
EQI	Total Knowledge				
	Intrapersonal	0.052	+		
	Interpersonal	ns	+	<.001	+
	Stress Management	0.062	+		
	Total EQI	ns	+	ns	+
	G	ns	+	0.023	-
	Adaptability	ns	+	ns	-
SCS	SCS: Teacher Student Positive Relationships Scale	ns	+	<.001	+
	SCS: Security Maintenance Scale	ns	+	<.001	+
	SCS: Administration Scale	0.038	+		
	SCS: Academic Orientation Scale	0.055	+		
	SCS: Student Behavioral Values Scale	0.085	+		
	SCS: Guidance Scale	ns	+	<.001	+
	SCS: Student Peer Relationships Scale	ns	+	<.001	+
	SCS: Parent and Community Relationships Scale	ns	=	<.001	+
	SCS: Instructional Management Scale	ns	+	<.001	+
	SCS: Student Activities Scale	0.0755	+		
SSS	SSS: Teachers	0.085	+		
	SSS: Fellow Students Scale	ns	+	<.001	+
	SSS: Schoolwork Scale	0.099	+		
	SSS: Student Activities Scale	ns	+	<.001	+
	SSS: Student Discipline Scale	ns	+	<.001	+
	SSS: School Buildings Scale	0.0655	+		
	SSS: Communications Scale	ns	+	<.001	+
SSS: Decision Making Opportunities	0.065	+			

Note. Alpha was set at .10 for the study.

Conclusions

The data presented in this evaluation were analyzed from a number of research perspectives (qualitative, quantitative, and mixed-methods). Overall, the qualitative and quantitative data support the effectiveness of the Red Flags program. Qualitative I revealed the components of a “best practice” model of Red Flags utilization. Each of the identified schools demonstrated aspects of what constitutes a model of best practice of the Red Flags program. A Best Practice model resulted in a summary of five major themes. The five themes were as follows: (a) Implementation, (b) Constituents, (c) Support, (d) Infusion, and (e) Limitations and Risks. In addition, several sub-themes were noted under each of these major themes.

There were noted limitations and risks associated with the utilization of the Red Flags program (see pages 32 and 33 of the final report). Schools that choose to implement the Red Flags program must understand that limitations (personnel, financial and physical resources, and time) do indeed exist, and that several noted risks (potential for increased suicide ideation and behavior, stigma to students, servicing identified students, parent concerns) are apparent. Therefore, it is important for schools utilizing

the Red Flags program to consider both limitations and risks. Program administrators must be aware of such matters, and be prepared to address them. Data provided from the participants seem to indicate that the limitations and risks do not outweigh the potential benefit of the Red Flags program.

Data from both qualitative analyses (I and II) in this study reveal consistency in themes that emerged and participant perceptions of the program. In essence, in both analyses the Red Flags program was perceived as being a positive, flexible, low-cost educational program.

Quantitative data reveal support for the Red Flags program when looking at the directionality of gains over all variables, when students who participated in the Red Flags program were compared to those who did not ($p < .0001$). This overall effect is highly statistically significant.

One of the biases of the evaluators is that replicability of the effects of programs such as Red Flags is more important than statistical significance. Significance does not mean that the program effect is replicable, even though it is a related concept. For example, if a study is significant at a .05 alpha level, depending upon the N size, the effect may only replicate 50 percent of the time. If it is significant at the $p = .01$ level, the effect may replicate 72 percent of the time, and at $p = .001$, it may replicate approximately 90 percent of the time. In this evaluation, the overall significance, using the Sign Test, was $p < .0001$, which gives an estimate that the effect of the Red Flags program on the variables measured by the School Climate and School Satisfaction Surveys, EQ-i, and the Knowledge scale is likely to be replicated. It is always desirable to get additional estimates of replicability by duplicating or cross validating. We suggest consideration of this notion as well as the suggestions for implementation that were derived from the qualitative analyses.

Even though there was a very limited intervention time period, the qualitative and quantitative data both indicate support for the Red Flags program. Red Flags appears to be working effectively across a number of dimensions, as indicated above.

Recommendations to Strengthen the Red Flags Program

As a result of the qualitative and quantitative evaluations, we have generated several recommendations that we believe would strengthen the Red Flags Depression Awareness program. While we make these suggestions, we are also mindful that, if implemented, they might limit some of the program flexibility that has been so attractive to participating schools, and that this might result in a disincentive for their continued participation. Therefore, we also suggest that each recommendation be carefully considered in terms of how it may impact on the schools' willingness to offer Red Flags to their students.

Recommendations for improvement to the Red Flags program were provided by the focus group participants. Participants consisted of students, teachers, school counselors, a principal, and other school personnel. In addition, the focus group research team provided recommendations based upon their analysis of the focus group data. The researchers proposed the following five major considerations to enhance the Red Flags program: (a) Develop a theoretical framework, (b) Develop a comprehensive model, (c) Develop an implementation plan, (d) Develop an evaluation procedure, and (e) Develop a resource center.

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Newman, I., Smith, S., Newman, C., & Brown, R. (2006, October). *An evaluation of Red Flags: An adolescent depression awareness program*. Poster presented at Research Results Briefing 2006: Knowledge to Transform Mental Health Services in Ohio, Columbus.

Newman, I., Smith, S., Newman, C., & Brown, R. (2006, August). *An evaluation of Red Flags Program*. Executive Briefing at the Ohio Department of Mental Health, Columbus.

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