

2013

An Examination of Rater Agreement: The Behavioral Functioning of Children Engaged in a Wraparound Model of Care

Ebony Holliday
Lehigh University

Follow this and additional works at: <http://preserve.lehigh.edu/etd>

Recommended Citation

Holliday, Ebony, "An Examination of Rater Agreement: The Behavioral Functioning of Children Engaged in a Wraparound Model of Care" (2013). *Theses and Dissertations*. Paper 1109.

This Dissertation is brought to you for free and open access by Lehigh Preserve. It has been accepted for inclusion in Theses and Dissertations by an authorized administrator of Lehigh Preserve. For more information, please contact preserve@lehigh.edu.

An Examination of Rater Agreement:

The Behavioral Functioning of Children Engaged in a Wraparound Model of Care

by

Ebony L. Holliday

Presented to the Graduate and Research Committee of Lehigh University

in Candidacy for the Degree of

Doctor of Philosophy

in

School Psychology

Lehigh University

December 2012

Copyright by

Ebony L. Holliday

2012

Certificate of Approval

Approved and recommended for acceptance as a dissertation in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

Date

Christine Cole, Ph.D.
Dissertation Director
Professor of School Psychology

Accepted Date

Committee Members:

George DuPaul, Ph.D.
Professor of School Psychology

Patricia Manz, Ph.D.
Assistant Professor of School Psychology

Tina Richardson, Ph.D.
Associate Dean, School of Education
Drexel University

Acknowledgements

There are many individuals who have been invaluable to me throughout this dissertation process as well as my overall doctoral studies. I would like to first thank my wonderful committee members: Drs. Christine Cole, George DuPaul, Patricia Manz, and Tina Richardson for their ongoing support, guidance, and mentorship during my time at Lehigh. I am especially grateful to my advisor/mentor and dissertation chair, Dr. Christine Cole, for her continued encouragement and extreme patience throughout the years. I greatly appreciate the professional and personal support that she has provided. I would also like to thank all the children, families, school staff, and BHRS staff who I have interacted with over the years and have inspired this research. My work with children with severe behavioral difficulties and developmental disabilities has been incredibly rewarding and has shaped not only my research goals, but also my clinical path.

Further, I would also like to express gratitude to many of my family and friends who have shown unconditional support over the years. Although I am not able to name everyone, I would like to especially thank my long-time Lehigh peers (Tulani Tiah and Charles Barrett) who have remained a great source of encouragement. Thank you to all of my extended family who have often asked "...are you done yet?" and then smiled with sympathy as I replied "...well, I'm uh...almost." To my brother, Dr. Kito Holliday, your advice and support over the years have meant so much. Although saying thank you could never be enough, I undoubtedly acknowledge my mother, Jacqueline Holliday who instilled in me the value of education at an early age. I thank her for always having high expectations for her children and for raising us on the foundations of faith and education. "In all your ways acknowledge him and he shall direct your paths."

Table of Contents

Copyright Page	ii
Certificate of Approval	iii
Acknowledgements	iv
Table of Contents	v
List of Tables	ix
Abstract	1
Chapter I: Statement of the Problem	2
Approaches to Intervention for Children with Mental Health Difficulties	3
Fragmented Community-Based Mental Health Services	3
Wraparound Approach	4
Wraparound in Pennsylvania	7
Wraparound Outcomes	8
Methods of Assessment	10
Accountability	10
Assessment and Behavioral Rating Scales	11
Informant Congruence/Discrepancy and Behavior Rating Scales	12

Limitations of Current Research	13
Purpose of the Study	15
Research Question 1	16
Research Question 2	17
Research Question 3	17
Research Question 4	17
Chapter II: Review of Literature	18
Typical Community Approaches to Children’s Mental Health	19
Overview of Wraparound	20
Effectiveness of Wraparound Approach to Care	21
Pennsylvania Wraparound	23
Assessment, Informant Reporting and Issues of Congruence/Discrepancy	25
Meta Analyses	25
Parents and Teachers	27
Parents, Teachers, and Observers/Clinicians	32
International Findings	35
Summary of Literature Review	36

Gaps in Literature	37
Chapter III: Methods	39
Participants and Setting	39
Measures	43
Procedures	44
Statistical Analyses	46
Quantitative Analyses/Descriptive Statistics	47
Chapter IV: Results	48
Research Question 1	48
Research Question 2	49
Research Question 3	49
Research Question 4	50
Chapter V: Discussion	51
Research Question 1	51
Research Question 2	53
Research Question 3	56
Research Question 4	59

Limitations	59
Directions for Future Research	63
Implications for Practice	64
Conclusion	65
References	66
Appendices	88
Appendix A: Demographic Surveys	88
Appendix B: Participation Packets	92

List of Tables

Table 1: Correlations of Treatment Team Members on CBCL/6-18	84
Table 2: CBCL/6-18 Means, Standard Deviations, and Effect Sizes for Treatment Team Members	85
Table 3: Family Demographic Information	86
Table 4: Clinician (BSC/TSS) Demographic Information	87

Abstract

The study examined rater congruence among treatment team members for children receiving behavioral health rehabilitative services (BHRS) from a wraparound model of care. Participants included 84 school-aged children between the ages of 6-15 years who were enrolled in wraparound programming along with their corresponding agency treatment team. Treatment team members consisted of parents/guardians, therapeutic staff supports (TSS), and behavioral specialist consultants (BSC) who completed the Child Behavior Checklist (CBCL/6-18) for participating children. Pearson correlations and MANOVA were used to analyze results. Findings yielded moderate to high correlations in all cross-informant pairings for internalizing and externalizing behaviors. Strongest overall correlations were found between the TSS and BSC, with ratings for both internalizing and externalizing behaviors extending into the large range. Additionally, no significant differences were found in scores between treatment team members on internalizing and externalizing behaviors. Implications of the results related to program effectiveness evaluations as well as specific intervention progress are discussed.

CHAPTER 1

STATEMENT OF THE PROBLEM

Mental health is considered a crucial element in children's ability to effectively learn and grow (Department of Health and Human Services [DHHS], 2000). Research indicates that mental health can impact children's peer and adult relationships, as well as their overall physical health (Simpson, Cohen, Pastor, & Reuben, 2008). It is also clear that children with good behavioral and emotional health have an increased sense of well-being, improved social relationships with others, and increased achievement and academic outcomes (Federal Interagency Forum on Child and Family Statistics [FISCFS], 2007). Unfortunately, current prevalence rates indicate that 10% of the child population in the U.S., or 5.5 million children and adolescents, suffer from emotional/behavioral difficulties significant enough to lead to functional impairment (DHHS, 2004; Pastor, Reuben, & Loeb, 2009). As of 2006, psychological disorders were one of the five most expensive conditions affecting children, ages 0-17, with estimated costs reaching nearly \$9 billion (Soni, 2009). Mental health difficulties experienced by children can be persistent throughout childhood development and can eventually lead to lifelong disability (FISCFS, 2007).

Given the extent to which children and adolescents are impacted by mental health difficulties, it is clearly important they receive access to high quality assessment and intervention services (Simpson et al., 2008). Unfortunately, there is comprehensive evidence suggesting children with mental health difficulties frequently experience inappropriate diagnoses (i.e., under/over-diagnosis) and a general lack of access to high quality, evidence-based interventions (DHHS, 2000). This is discouraging when considering the importance of assessment and subsequent intervention for children with substantial mental health needs. In fact, research indicates that access to appropriate intervention services in particular can reduce the negative

impact of children's mental health difficulties on variables such as their risk for substance abuse, relationships with others, and school achievement (Simpson et al., 2008)

Approaches to Intervention for Children with Mental Health Difficulties

Fragmented Community-Based Mental Health Services

The lack of adequate and appropriate mental health services for children/adolescents with mental health needs has been a longstanding problem. Historically, interventions that have been frequently used with this population include outpatient therapy, partial hospitalization/day treatment, residential treatment centers, and inpatient therapies (DHHS, 1999). The systems that continue to provide these services have consistently been identified as juvenile justice, public schools, mental health programs, and social services agencies (Bruns, 2008; Eber & Keenen, 2004; Lindblad-Goldberg, Dore, & Stern, 2000). In the process of receiving these types of services, most children cycle through multiple systems with relatively bleak outcomes (Eber & Keenen, 2004). Service delivery often becomes fragmented due to these multiple systems being defined by different philosophies, structures, and resources, as well as minimal collaboration across organizations (Eber & Keenen, 2004; Hansen, Litzelman, Marsh, & Milspaw, 2004; Walker & Burns, 2006a). VanDenBerg (2008) described this as the "silo effect," which resulted from the models of care among these agencies being developed separately, often with multiple treatment plans.

Certainly, the need for collaboration among these systems of care is paramount to promote efficient and effective intervention services. Unfortunately, it is common for children and families to move from one system to another, while psychological difficulties not only persist, but typically worsen (Lindblad-Goldberg et al., 2000; VanDenBerg, 2008). In fact, many children with significant emotional and behavioral difficulties cycle through these multiple

systems and are eventually placed outside the home. Beginning in the 1970s and 1980s, the increased emphasis on community-based care and the passage of a series of federal laws such as PL-96-272, PL 94-142, and PL 99-457 helped to formulate a more comprehensive vision for the overall outlook of child mental health service delivery. In general, these mandates led to the family, rather than child, being identified as a major focus for service delivery (Bruns, 2008; Lindblad-Goldberg et al., 2000; Walker, 2008).

Wraparound Approach

Historically, an effort funded by the National Institutes of Mental Health (NIMH) provided financial support and technical assistance to all states to begin improving mental health services for children and youth (Burns, Schoenwald, Burchard, Faw, & Santos, 2000; Eber & Keenen, 2004; Lindblad-Goldberg et al., 2000). This initiative, known as Child and Adolescent Service System Program (CASSP), was developed as a response to the lack of mental health services available at that time in most communities, along with the previously cited failure of the four major systems serving children with emotional and behavioral difficulties (VanDenBerg, 2008). The CASSP initiative served as an impetus to push states toward developing children's mental health services that ranged from least to most restrictive. Most importantly, CASSP provided for the development of home-based services within the child mental health system (Burns et al., 2000; Eber & Keenen, 2004; Lindblad-Goldberg et al., 2000). Overall, this initiative embraced the philosophy of *family as partners* in all aspects of service planning and delivery. Home-based services include interventions that focus on the whole family by engaging all members in defining and developing services to meet the individual needs of each family unit. This emphasis on home-based services and the family came to be known as the wraparound

approach (Bruns, 2008; Eber & Keenen, 2004; Lindblad-Goldberg et al., 2000; Slattery & Knapp, 2003; Walker & Burns, 2006a).

The wraparound approach is a form of service delivery in which the perspectives of family members are critical to all phases and components of programming (Burns et al., 2000; Eber & Keenen, 2004; McGinty, McCammon, & Koeppen, 2001; Slattery & Knapp, 2003; Walker, 2008b; Walker & Bruns, 2008). Due to the historically high number of children and adolescents placed outside of their home environments, as well as fragmented systems of care, the federal government began providing states with CASSP funding to develop appropriate programming for children with special needs (Eber & Keenen, 2004). This model of care follows a non-traditional approach to treatment of children with emotional/behavioral difficulties, as compared with more traditional services that focused on individuals, highlighted individual and family weaknesses, demonstrated marginal commitment to family preservation, and allowed beliefs about the child and family to dictate the form of treatment utilized (Slattery & Knapp, 2003).

The wraparound approach is instead based on the premise that the child is best treated by staying within the family environment whenever possible (Eber & Keenen, 2004; Slattery & Knapp, 2003; VanDenBerg, 2008; Walker & Burns, 2006b). Therefore, an overall goal of wraparound services is to strengthen the family unit and assist all individuals in becoming more effective within their environment. Similarly, no single individual is identified as the problem. Instead, the problem or focus area(s) for intervention is understood to be related to the way in which multiple individuals interact. With an over-arching goal of empowering parents, staff and personnel are encouraged to do whatever it takes to ensure the family achieves success (Eber, Jyde, Rose, Breen, McDonald, & Lewandowski, 2009; Slattery & Knapp, 2003). It is important

to note that wraparound is not a specific program, but rather is a process that is utilized to assist communities in implementing individualized plans of intervention for children with emotional/behavioral difficulties (McGinty et al., 2001). In essence, emphasis is placed on “wrapping” services around the family in their natural environment, rather than providing outpatient or residential treatment outside of the home environment. This is based on the belief that an over-dependence on restrictive types of placements could potentially lead to damage in the overall family system (Bruns, Sather, Pullman, & Stambaugh, 2011; Walker & Burns, 2006a).

The 10 main guiding principles of wraparound services include (a) family voice and choice, (b) team-based, (c) natural supports, (d) collaboration, (e) community-based, (f) culturally competent, (g) individualized, (h) strength-based, (i) persistence, and (j) outcome-based (Bruns, 2008; Lindblad-Goldberg et al., 2000; Slattery & Knapp, 2003; Walker & Burns, 2006c). The wraparound approach is aligned with several child development theories including ecological theory/social ecological theory (Bronfenbrenner, 1979), social learning theory (Bandura, 1977), and Munger’s system’s change theory (Munger, 1998). It has further been described as a process in which the family and child act as members of a team, and as key natural support persons who are considered to be significant treatment team members (Burns et al., 2000; Eber & Keenen, 2004; Lindblad-Goldberg et al., 2000). Additionally, teams focus on developing and implementing community services that are culturally relevant, individualized, and oriented toward positive outcomes (Slattery & Knapp, 2003; Walker, 2008; Walker & Burns, 2006). A pivotal feature of the wraparound process is for family and youth to take ownership of the treatment plan as key stakeholders in the overall success of the intervention (Burns et al., 2000; Hansen et al., 2004; Slattery & Knapp, 2003; Walker & Burns, 2006a). For staff and

personnel, an emphasis on strength-based and proactive programming, rather than traditional deficit-based approaches, is crucial to overall program success (Bruns, 2008; Eber & Keenen, 2004; Walker, 2008a; Walker & Burns, 2006b).

Wraparound in Pennsylvania

Since the late 1980s, the Commonwealth of Pennsylvania has embraced the CASSP initiative as an opportunity to further explore the specific needs of children and adolescents within an ideal mental health framework. As a result, such services were visualized as taking place within family's homes and mental health services were conceptualized to involve parents as partners in care. Various treatment approaches have been advocated including family therapy, the creation of links between relevant family and community resources, and family support for resources such as respite care and emergencies (Lindblad-Goldberg et al., 2000).

Within this Pennsylvania model, an ecosystemic theoretical approach was emphasized for creating mental-health home-based services, in addition to training and research initiatives (Slattery & Knapp, 2003). In this model, children's functioning is believed to be completely associated with their environment. This type of treatment model asserts that mental health services should be individualized, family-centered, culturally-relevant, community-based, and outcome-oriented to best meet family's needs (Eber et al., 2009; Hansen et al., 2004; Slattery & Knapp, 2003). Overall, Pennsylvania identified three major goals related to the delivery of home-based services including (a) decreasing the number of new psychiatric hospitalization cases and/or other mental health placements involving children and youth, (b) increasing family's abilities to effectively deal with children experiencing significant emotional and behavioral difficulties, and (c) increasing the psychosocial functioning of family units (Slattery & Knapp, 2003).

Pennsylvania uses the term wraparound differently than most other states. One unique and noteworthy addition to more typical mental health services is the utilization of Therapeutic Support Services (TSS). These services involve one-to-one interventions that are outlined in a comprehensive and individualized treatment plan, and are delivered in the home, community, and/or school environments (Allegheny HealthChoices, 2006; Slattery & Knapp, 2003; Lindblad-Goldberg et al., 2000). Furthermore, these direct services are typically provided by an individual who has earned a bachelor's degree in a human service or related field. The overall goal of services is to support the child or adolescent who is experiencing behavioral/emotional difficulties in becoming successful in the least restrictive environment (LRE) possible. Direct support services, which can extend up to 40 hours per week, are gradually faded in order to allow the child to gain independent functioning in their environments as quickly as possible (Allegheny HealthChoices, 2006; Slattery & Knapp, 2003).

Wraparound Outcomes

In many ways, the individualized nature of the wraparound approach has hindered its ability over the past several decades to demonstrate clear evidence-based outcomes (Slattery & Knapp, 2003). Although agreement existed among individuals regarding the orientation of wraparound, a generalized manual or model for care has only recently been proposed in practice (Walker & Burns, 2006a). This lack of consistent procedures complicates its evaluation. Despite the widespread appeal and several decades of implementing wraparound programs, quality empirical evaluation of this model of care is necessary (Bruns et al., 2010; Walker & Burns, 2006b).

Several initial studies have been conducted to assess outcomes of large-scale community wraparound programs. For example, in Burns and Goldman's (1998) comprehensive monograph

of promising wraparound practices used for children with emotional and behavioral difficulties, successful outcomes were reported for three model programs in the states of Wisconsin, Illinois, and California. Results indicated these three programs successfully implemented the core features of the wraparound process, leading to desirable outcomes such as (a) reduced problem behaviors in the home, school, and community, and (b) increased participation of children and adolescents within the least restrictive community environment (Goldman & Faw, 1998). Moreover, in a review of the wraparound evidence, Burns and colleagues evaluated 15 prior studies that demonstrated early effectiveness of this approach. This review included 2 case study designs, 10 pre-post test designs, and 2 randomized controlled studies. Overall results of these preliminary studies demonstrated improved emotional/behavioral functioning in children and adolescents, reduced psychiatric placements, and improved family functioning (Burns et al., 1998).

In subsequent years, research has examined issues of behavioral functioning, as well as treatment fidelity and treatment integrity of the wraparound approach. Overall improvements in behavioral functioning for children and families engaged in wraparound intervention have been demonstrated (Bruns, Rast, Peterson, Walker, & Bosworth, 2006; Burns, Osher, Walker & Rast, 2005; Kamradt, 2000; Myaard, Crawford, Jackson, & Alessi, 2000; Vernberg et al., 2006), with low to moderate consistency found for treatment fidelity or the wraparound team's ability to accurately implement principles of this treatment approach (Bruns, Burchard, Suter, Leverentz-Brady, & Force, 2004; Bruns, Suter, Force, & Burchard, 2005; Bruns, Suter, & Leverentz-Brady, 2006; Epstein et al., 2003; Nordness, 2005; Ogles, Carlston, Hatfield, Melendez, Dowell, & Fields, 2006; Walker & Schutte, 2005). Further, in a study of treatment integrity, Toffalo (2000)

found no relationship between adherence to the number of prescribed service hours and behavioral outcomes of children.

The wraparound research base was described a decade ago as increasing, yet still limited (McGinty et al., 2001). Since that time, there has been a substantial increase in the number of peer-reviewed articles appearing in the professional literature and an increase in federal support for comparative effectiveness research (Bruns et al., 2010). However, many of these studies have been plagued by flawed research designs, narrow examination of available behavioral, social, and emotional outcome indicators of children and their families, and the premature analysis of outcomes (Bertram, Suter, Bruns, & O'Rourke, 2011). As a result, there has been an increasing concern among those who support wraparound services for research to demonstrate the effectiveness of the approach (Bruns, Sather, Pullmann, & Stambaugh, 2011; Bruns et al., 2010). This growing concern may be related to the increasing link between funding and accountability (Bruns et al., 2010; Walker & Burns, 2006c).

Methods of Assessment

Accountability

Throughout the years, there has been an increased focus on measuring program outcomes in behavioral healthcare due to the ever-present pressure from managed care, accreditation agents, and federal, state, and local agencies (Bieber, Wroblewski, & Barber, 2002). Especially within the past 20 years, managed care has become a significant entity in the area of private healthcare (DHHS, 1999; Mandell, Machefsky, Rubin, Feudtner, Pita, & Rosenbaum, 2008). As a result of the perceived overuse of expensive inpatient hospitalizations, especially by adolescents, managed care began attempting to control the rising costs of mental health costs. Managed care's control generally occurred through specifically defining the length of hospital

stays and closely monitoring the use of outpatient services (DHHS, 1999). In general, assessing the outcomes of clients has increasingly become an important requirement when providing clinical services within the mental health system (Eber & Keenen, 2004; Lindblad-Goldberg et al., 2000; Oregon Project Implementation Team, 2009). A variety of outcome indicators can be assessed to support the effectiveness of interventions including parent and child satisfaction with services, quality of life, and emotional and behavioral functioning (Eber & Keenen, 2004). Clearly, the accurate assessment of mental health functioning of children receiving wraparound services is crucial to the continued funding and sustainability of this particular treatment approach.

Assessment and Behavioral Rating Scales

Due to the likely variability of children's behavior between environments, as well as the diverse perspectives on behavior that may exist between individuals, multidimensional assessment is generally regarded as best practice for gaining accurate information of children's behavioral/emotional difficulties (Achenbach, 2000; McConaughy & Ritter, 2002). One form of assessment occurs when raters score the degree to which they or others demonstrate a particular target behavior or problem. These behaviors are generally rated on a quantitative, graded scale that reflects frequency, duration, and intensity of the target behavior (Achenbach, 2000; McConaughy & Ritter, 2002). This informant reporting is considered a type of standardized assessment and can be used in conjunction with non-standard assessment practices such as clinical interviews. However, it is noted that standardized instruments have been reported to be preferable to non-standardized procedures (Lindblad-Goldberg et al., 2000; McConaughy & Ritter, 2002).

Outcome measurement using standardized instruments, specifically rating scales, can provide benefits in a variety of areas (McConaughy & Ritter, 2002). First, the utilization of rating scales can allow for an efficient method of gathering reports on child behavior from both parents and teachers due to cost/time effectiveness of completing the forms (Achenbach, 2000; McConaughy & Ritter, 2002; Merrell, 2000). Such scales can be beneficial for use in screening, diagnosis/classification, in treatment selection and intervention planning, as well as for progress monitoring and overall outcome evaluation (Merrell, 2000). Additionally, these scales provide a wide range of information regarding the potential emotional and behavioral difficulties experienced by children and adolescents. Importantly, rating scales provide normative data, which allow for the comparison of an individual child to large samples of non-referred peer groups. Finally, using sets of related standardized rating scales from multiple informants can also permit comparisons on behavioral outcome scores. Using cross-informant ratings, as discussed by Achenbach (2000), assists clinicians, researchers, and other individuals in quickly identifying particular problems on which various informants may or may not agree. Despite the numerous benefits that can be identified from using standardized rating scales, such instruments are not without limitations. One particular drawback exists with these scales only providing a global overview of behavior, without direct observation data to further facilitate the understanding of child behavior (Hintze, Stoner, & Bull, 2000). Additionally, rating scales may be less likely to account for factors such as temporal variability and situation specificity of behavior (McConaughy & Ritter, 2002).

Informant Congruence/Discrepancy and Behavioral Rating Scales

Informant discrepancy, or lack of congruence among raters/informants, has been found to be evident in the vast majority of all clinical assessment methodologies that examine

psychopathology in youth (Achenbach, 2011; De Los Reyes & Kazdin, 2005). Research in informant ratings has generally examined consistency between parents and teachers, but has also examined consistency between relevant clinicians, observers, peers, and youth (for reviews see Achenbach, McConaughy, Howell, 1987; and Duhig, Renk, Epstein, & Phares, 2000). Informant discrepancy has the potential to significantly influence the assessment, classification, and treatment of children and adolescents with psychopathology. For instance, prevalence rates for disorders have been found to vary depending upon which informant is used to rate behavior (De Los Reyes & Kazdin, 2005).

General research outcomes have been consistent in demonstrating that informants who have similar roles with the child such as teacher/teacher and parent/parent have consistently higher agreement than informants who have different roles including parent/teacher and teacher/clinician (e.g., Achenbach et al., 1987; Benjamin, Puleo, & Kendall, 2011; Grietens et al., 2004; Hartley, Zakriski, & Wright, 2011; Humphries & Wakschlag, 2012; Kerr, Lunkenheimer, & Olson, 2007; Konald & Pianta, 2007; Winsler & Wallace, 2002). Additionally, ratings for externalizing behaviors are typically more consistent than those ratings found for internalizing behaviors (e.g., Achenbach et al., 1987; Berg-Nielsen, Solheim, Belsky, & Wichstrom, 2012; Feeney-Kettler, Kratochwill, & Kettler, 2011; Ferdinand et al., 2003; Grietens et al., 2004; Lau, Garland, Yeh, McCabe, Wood, & Hough, 2004).

Limitations of Current Research

There are several identifiable limitations of the research on wraparound services (e.g., Bruns et al., 2006; Burns et al., 2005; Kamradt, 2000; Myaard et al., 2000; Vernberg et al., 2006). First, the wraparound approach is not yet regarded as an evidence-based treatment. While some studies have reported positive outcomes such as improvements in psychological

functioning for youth, increased family functioning and stability, and/or reduced out of home placements following wraparound (e.g., Burns et al., 2006; Kamradt, 2000), there are inconsistencies in the model of care across studies that ultimately limits the ability to effectively evaluate services (Walker & Burns, 2006b). With increased emphasis on outcome assessment (Bruns et al, 2010; Eber & Keenen, 2004; Mandell et al., 2008; Slattery & Knapp, 2003), strategies for appropriately measuring the emotional/behavioral functioning of children who receive these services now have increased importance. Generally, one of the most promising and cost-effective strategies for measuring psychological outcomes is the use of behavioral rating scales. Using behavior rating scales to gather assessment information about children with behavioral/emotional difficulties from key informants could be a cost-effective means of evaluating the impact of, and providing accountability for, wraparound services (Achenbach, 2000; McConaughy & Ritter, 2002; Merrill, 2000).

However, an important question is whether the behavior rating information gathered from key informants in the wraparound system would be consistent across participants. Generally, the literature investigating informant congruence/discrepancy has routinely demonstrated low to moderate correlations between raters such as teachers and parents across different environments (for reviews see Achenbach et al., 1987; and Duhig et al., 2000). In addition, when examining the degree to which age affects informant congruence, findings have been mixed. Some investigations demonstrated higher congruence among raters regarding children in middle childhood (Achenbach et al., 1987), while other studies found higher congruence pertaining to adolescents (Duhig et al., 2000). Overall, there has been a wide range of focus on various age groups. For instance, some studies examined cross-informant congruence solely with preschool populations (e.g., Cai, Kaiser, & Hancock, 2004; Doumen, Koomen, Buyse, Wouters,

&Verschueren, 2012; Grietens et al., 2003; Gross, Fogg, Garvey, & Julion et al., 2004; Humphries & Wakschlag, 2012; Kerr, 2007; Winsler & Wallace, 2002), while others studies have focused on either middle childhood (e.g., Antrop, Roeyers, Oosterlaan, & Oost, 2002; Ferdinand et al., 2003; Voelker, Shore, Lee, & Szuskiewicz, 2000) or adolescence (e.g., Penney & Skilling, 2012; Stanger & Lewis, 1993). Studies have also shown that ratings for externalizing or undercontrolled behaviors are more congruent among raters than are internalizing or overcontrolled behaviors (Achenbach et al., 1987; Duhig et al., 2000).

Overall, research in the area of informant congruence/discrepancy has generally focused on examining the relationships of informants that have the same role (parent) in the same environment (home), and/or different roles (parent/teacher, parent/clinician) in different environments (home/school). Prior studies (see Achenbach et al., 1987 for review) that addressed the relationship between mental health workers and parents were based on informants who rated behavior that occurred in different environments (home and community/clinic). However, in a wraparound model, adults who have different roles (parent/mental health worker) interact with the child in the same environment (home). To date, there are no available empirical studies examining informant congruence among raters who have different roles (parent/mental health worker) within the same environment (home) in a wraparound model of service delivery. This suggests a need to examine the consistency across raters of children's behavioral/emotional difficulties using behavioral rating scales in a wraparound model.

Purpose of the Study

Behavioral rating scales offer a potentially useful method for gathering consistent assessment information regarding the behavioral/emotional issues of children in a wraparound model of service delivery. Currently, there is limited empirical research incorporating the use of

behavioral rating scales within the wraparound service delivery model. Further, the level of agreement in behavioral ratings by key informants in the wraparound model is unknown. As a result, the present study examined the degree of agreement in ratings between parents and mental health treatment team workers who were delivering wraparound services within one environment (i.e., home and/or community environment). This study addressed gaps in the literature by (a) assessing the level of behavioral/emotional functioning for children with emotional and behavioral difficulties being served by wraparound programming, and (b) examining the contributions of multiple informants holding different roles in the lives of children, but working predominately within the same environment. The opportunity for individuals who hold different roles in children's lives, yet function within the same environment (cross-informant rating) added a unique perspective both to the wraparound literature and cross-informant literature. Furthermore, this study examined agreement among raters as it existed in practice, thus offering directly applicable information related to service delivery for children and their families. The research questions and related hypotheses included the following:

Research Question 1

What is the extent of correspondence between parents and behavior specialist consultants (BSC) on ratings of child externalizing and internalizing behaviors? Based upon prior research indicating low to moderate correlations between raters with different relationships to a child, and higher correspondence for externalizing than internalizing behaviors (for review see Achenbach et al., 1987), it was hypothesized that ratings between parents and BSC workers would yield correlations in the moderate range for ratings of externalizing behaviors (H_{1a}) and correlations in the low range for internalizing behaviors (H_{1b}). As identified by Cohen (1988), correlations can

be interpreted as falling within the small ($r=.10$ to $.29$), medium ($r=.30$ to $.49$), or large range ($r=.50$ to 1.0).

Research Question 2

What is the extent of correspondence between parents and therapeutic staff support (TSS) workers on ratings of child externalizing and internalizing behaviors? Similar to research question 1, it was hypothesized that behavioral ratings between parents and TSS workers would reveal moderate correlations for externalizing behavioral ratings (H_{2a}) and low correlations for internalizing behavior ratings (H_{2b}). This hypothesis is also based on work by Achenbach et al. (1987) that noted ratings for externalizing behaviors are generally more consistent than internalizing behavioral ratings. Additionally, this research also demonstrated overall low to moderate correlations among raters that held different relationships to the child.

Research Question 3

What is the extent of correspondence between behaviorally trained BSC and TSS workers on ratings of child externalizing and internalizing behaviors? Also based upon results of Achenbach and colleagues (1987) that found higher correspondence among ratings for externalizing behaviors, it was hypothesized that BSC and TSS ratings would reveal moderate correlations for externalizing behaviors (H_{3a}) and low correlations for internalizing behaviors (H_{3b}).

Research Question 4

Are the scores among all three raters (parents, BSC, TSS), significantly different for both externalizing and internalizing behaviors? Based also upon Achenbach et al. (1987), it was hypothesized that the ratings would be significantly different for externalizing and internalizing behaviors among treatment team members (H_4).

CHAPTER 2

REVIEW OF LITERATURE

Children who are emotionally and behaviorally healthy exhibit an increased sense of wellbeing, increased achievement and educational outcomes, and positive social and family relationships (Davis, 2012; Federal Interagency Forum on Child and Family Statistics [FISCFS], 2007). Unfortunately, statistics from the Department of Health and Human Services (DHHS, 2000) reported that 1 child or adolescent in 10 suffers from mental illness significant enough to result in functional impairment. Even more, U.S. parents cite the emotional and behavioral difficulties of their children to be among their leading health concerns (Simpson et al., 2008). Strikingly, mental disorders are among the top five commonly treated health conditions for children (Roemer, 2011), with related expenditures described as the highest for all conditions at approximately \$12.2 billion per year. Overall, an average of 8.6% of children aged 5-17 years receive some level of treatment for mental health disorders (Davis, 2012).

Children with mental health difficulties also experience difficulty in a variety of areas such as gaining appropriate diagnoses and desirable access to evidenced-based treatments (DHHS, 2000). Even more, missed opportunities for prevention and early intervention often occur due to fragmented treatment services and the overall low priority toward utilizing resources (DHHS, 2000; Walker, 2008a). Accordingly, the Surgeon General's National Action Agenda for Children's Mental Health and The President's New Freedom Commission on Mental Health (2003) outlined goals and target areas for intervention. These goals included: (a) promoting the recognition of mental health as a critical element of children's overall health, (b) integrating family and youth-centered mental health services into all the systems that intervene with children, (c) engaging families and involving their perspectives in the creation of mental

health programming, and (d) developing and/or enhancing a public-private health infrastructure in order to adequately support the previous outlined goals to the greatest extent possible (DHHS, 2000).

Typical Community Approaches to Children's Mental Health

Throughout the past several decades, children have received mental health services from four main organizational structures including family/social services, child welfare system, public schools, and juvenile justice. However, these systems are typically fragmented and have not been able to meet the complex needs of children demonstrating mental health difficulties (Eber & Keenen, 2004; VanDenBerg, 2008). In short, although these systems were designed to provide appropriate services to children, they were in fact failing to meet the needs of youth with mental health difficulties (DHHS, 1999). Specifically, many of these institutions worked in isolation to create desirable change in children, while overlooking the beneficial impact that collaboration among agencies could have created (Eber & Keenen, 2004; Walker, 2008a).

Within these four main institutions, a variety of treatments were commonly utilized including outpatient therapy, partial hospitalization, residential treatment centers, and inpatient therapy. These standard models of service delivery ranged from most to least restrictive. Unfortunately, children receiving these treatment services often have severe and persistent emotional and behavioral difficulties, which lead to eventual placements outside of the home environment (Bruns et al., 2011; Lindblad-Goldberg et al., 2000). Therefore, a need existed for the delivery of specialized services to both children and parents in order to improve upon psychological functioning and family coping skills strategies.

Overview of Wraparound

Wraparound is an approach to service delivery in which families are considered full and active partners in all aspects of the intervention process (Bruns et al, 2008; Eber et al, 2009; Eber & Keenen, 2004; Lindblad-Goldberg et al., 2000; Slattery & Knapp, 2003; Walker & Burns, 2006b). The over-arching vision for the wraparound approach has adapted throughout the past several decades due to the acknowledgement of sub-par services received by children with significant emotional and behavioral problems and their families (Walker & Burns, 2006). As was noted, the major systems that were addressing the mental health needs of children and families generally lacked coordination and were fragmented in service delivery (Eber & Keenen, 2004; Hansen et al., 2004; VanDenBerg, 2008; Walker & Burns, 2006a). Further, quality treatment options based in the community were often unavailable. The vast majority of children's mental health funds were spent on residential and inpatient treatment, which indicated an overreliance on these restrictive types of placements and had the potential to lead to damage within the family system (Walker & Burns, 2006b).

The wraparound model places emphasis on the empowerment of families and requires that they have a voice and choice at all times (Bruns, 2008; Eber et al., 2009). The 10 main principles that are unique to wraparound services include: (a) voice and choice, (b) team-based, (c) natural supports, (d) collaboration, (e) community-based, (f) culturally competent, (g) individualized, (h) strength-based, (i) persistence, and (j) outcome-based (Bruns & Walker, 2010; Penn & Osher, 2008; Slattery & Knapp, 2003; Walker & Burns, 2006b). Furthermore, the wraparound process was also defined by four main phases including engagement and team preparation, initial plan development, plan implementation, and the transition from wraparound programming (Bruns et al., 2010; Osher & Penn, 2010; Walker & Bruns, 2008).

Effectiveness of Wraparound Approach to Care

A commonly cited initial review of implementation efforts was the 1988 State Wraparound Survey, which indicated that 88% of states had adopted the wraparound system of care in order to meet the needs of their children with severe emotional and behavioral difficulties (Burns & Goldman, 1999). Nearly 10 years later, the same percentage of states also reported the existence of wraparound programming with services extending to nearly 100,000 children and families (Bruns, Sather, & Stambaugh, 2008; Bruns et al., 2011). It is noted that the number of children and families served was approximately 50% less than individuals served during the previous decade. Investigators and experts in the field (Bruns et al., 2008; Bruns et al., 2011) explained that the recent push toward definable characteristics of the wraparound model led to less state programs meeting the criteria for inclusion as specific wraparound programs. Additional results from this 2008 survey indicated that 56% of states had written standards and 75% of states conducted formal evaluations of their wraparound programming.

With such widespread implementation of wraparound programming, it is imperative to identify research that has demonstrated the effectiveness of this approach. Interestingly, despite the popularity of wraparound on the federal, state, and local levels, the dissemination of rigorous research within this area did not share the same rate of gain. It is noted, however, that several quality early demonstration programs found favorable results utilizing wraparound (Burchard, Burchard, Sewell, & VanDenBerg, 1993; Clarke, Schaefer, Burchard, & Welkowitz, 1993; Lubrecht, 1992). In 1999, a national report was put forth by the National Technical Assistance Center for Children's Mental Health (Burns & Goldman, 1999) reviewing the wraparound literature to date. Within the Burns and Goldman review, it was reported that evaluations of the wraparound approach occurred in nine states, with a total of 16 published studies. The majority

of these 16 studies were descriptive in nature, with two studies identified as random controlled trials. In general, findings from these studies demonstrated reduced cost of care, reduced restrictiveness of living situations, and increased functioning in social, school, and community environments (Burns & Goldman, 1999).

More recent research on wraparound effectiveness has demonstrated improvements in behavioral functioning for children and adolescents (Bruns et al., 2005; Kamradt, 2000; Mears, Yaffe, & Harris, 2009; Myaard et al., 2000) and reductions in out of home and restrictive placements (Bruns, Rast, Walker, Boswoth, & Peterson, 2006; Pullman et al., 2006; Rauso, Ly, Lee, & Jarosz, 2009). Through the use of randomized controlled trial designs, several studies have evaluated the effectiveness of wraparound in comparison to Multisystemic Therapy (MST) with findings generally in favor of MST for increased psychological functioning of participants (Burns et al., 2000; Stambaugh et al., 2007). Similarly, in a study comparing wraparound to a standard community treatment group, no significant differences were found between treatment groups on measures of positive functioning, symptomatology, or life satisfaction (Bickman et al., 2003).

An increased number of studies in the wraparound literature base have focused on issues of fidelity (Vernberg et al., 2006; Bruns, Burchard, Suter, Leverentz-Brady, & Force, 2004; Bruns, Suter, & Leverentz-Brady, 2006; Epstein et al., 2003; Nordness, 2005; Ogles et al, 2006; Walker & Schutte, 2005) with overall low to moderate consistency found regarding the degree to which teams were able to accurately adhere to the principles of wraparound. Furthermore, in an examination of treatment integrity, there was no relationship found between adherence to the number of prescribed hours of services and behavioral outcomes (Toffalo, 2000).

Suter and Bruns (2009) conducted the first meta-analysis that provided a comprehensive and quantitative review of controlled wraparound studies. Specifically, studies were included in this review that directly compared children/adolescents to those within a community control group. A total of seven studies published between the years 1986 - 2008 met the criteria for inclusion. The participants were all identified with severe emotional/behavioral disorders and were assessed on one or more of the following outcome variables including mental health, functioning, living situation, and assets and resiliency. Results yielded positive outcomes such that youth participating in wraparound programming had better outcomes than 63% of those receiving standard community programming (i.e., mean effect size = 0.33). This meta-analysis provided promising evidence for both the efficacy and effectiveness of wraparound; however, researchers cautioned that results could not yet be considered indicative of an evidence-based practice (Suter & Bruns, 2009).

Pennsylvania Wraparound

The specific ways in which wraparound services are implemented can vary between states. In the state of Pennsylvania, wraparound services are also known as Behavioral Health Rehabilitative Services (BHRS). BHRS is a Medicaid-funded program which provides professional support to children birth to age 21 years in order to decrease and/or alter maladaptive behavior with more appropriate and positive approaches to treatment (Allegheny HealthChoices, 2006; Community Care: Behavioral Health Organization, 2012; Lindblad-Goldberg et al., 2000). Services center on both the child and family and can occur in home, school, and community settings. Furthermore, a treatment plan is developed which outlines goals and objectives for interventions, with target behaviors commonly identified as improving upon social, communication, functional, and safety behaviors. Importantly, goals are

individualized for each family/child in order to meet each child and family's specific needs (Slattery & Knapp, 2003).

Unlike other states, a unique feature of Pennsylvania's wraparound program is that services are provided to clients by a Therapeutic Staff Support (TSS), Mobile Therapist (MT), and Behavioral Specialist Consultant (BSC) (Lindblad-Goldberg et al., 2000; Slattery & Knapp, 2003). The specific level of care, or weekly hours, assigned by the various BHRS workers varies according to the needs of each client/family. The main role of the bachelor's level TSS is to provide direct-care services for the child. The MT, a master's level therapist or clinician, will engage in psychotherapy with client and/or family if such services are deemed necessary by the BHRS psychologist. The BSC, also a master's level clinician, has documented prior behavioral training in assessment and intervention. This individual provides indirect consultation services such as developing and modifying the behavioral plan, coordinating services for children and families across settings, providing supervision to other team members regarding delivery of services, and monitoring and assessing the overall behavioral health program (Allegheny HealthChoices, 2006; Community Care: Behavioral Health Organization; Lindblad-Goldberg et al., 2000; Slattery & Knapp, 2003).

Of interest, only two published studies have examined the specific wraparound model in Pennsylvania which utilizes the role of the TSS and BSC. These two studies have addressed issues of treatment integrity (Toffalo, 2000) as well as the role of the TSS in school systems (Bugaj & Manning, 2002). Thoder and colleagues (2010) published the first BHRS outcome study that assessed the effectiveness of agency services for children identified with emotional/behavioral difficulties. A total of 16 cases were included into the study and participants had at least two administrations of the Child Behavior Checklist (CBCL; Achenbach

& Rescorla, 2001) completed for inclusion in the study. The earliest and most recent scores from the CBCL were compared in order to determine reliable change scores as an indicator of progress. Specifically, based upon their change scores, participants were divided into one of three groups including (a) fully recovered, or scores that fell within the normal range, (b) partially recovered, or scores falling within the borderline range, or (c) unchanged, if the previous criteria were not met. Results from this study revealed that 62% of participants were able to make clinically significant progress within 1 year. Additionally, on both composite and subscale scores of the CBCL, more participants demonstrated progress than regression (Thoder, Hesky, & Cautilli, 2010).

Assessment, Informant Reporting, and Issues of Congruence/Discrepancy

In a period of accountability when numerous mental health service providers are being required to demonstrate evidence of treatment effectiveness, the need for accurate assessment of treatment outcomes is crucial. Utilizing behavioral rating scales to assess intervention outcomes as well as general levels of functioning can be both cost and time efficient and yield beneficial information related to screening, diagnosis/classification, treatment selection, and progress monitoring (McConaughy & Ritter, 2002).

Meta-analyses

Informant discrepancy/congruence is the degree to which raters either agree or disagree when reporting on the behavior of another individual (De Los Reyes & Kazdin, 2005). In a classic meta-analysis of 119 studies, Achenbach and colleagues examined the agreement between informants on ratings of children's emotional and behavioral problems (Achenbach et al., 1987). Informants included two or more of the following groups of individuals: (a) parents, (b) teachers, (c) mental health workers, (d) observers, (e) peers, and (f) self-report. The Pearson

r was used as an index of effect size. Overall findings demonstrated that pairs of informants who had a similar relationship (parent/parent) to the child were more congruent in their behavioral ratings than were pairs of informants with different relationships (parent/teacher). Additionally, there was higher congruence in ratings of undercontrolled (externalizing) behaviors than for overcontrolled (internalizing) behaviors. Finally, this study also found higher levels of congruence for ratings of children aged 6-11 years as compared to those in early childhood or adolescence (Achenbach et al., 1987).

In a later meta-analysis, Duhig and colleagues (2000) examined 44 studies conducted between the years of 1990-1997 in order to assess both the inter-parent agreement for externalizing, internalizing, and total behavioral problems of children and adolescents (Duhig et al., 2000). Results from these studies were also calculated through an effect size. Overall findings indicated that ratings from mothers and fathers on externalizing and total problems were more congruent than ratings for internalizing behaviors. Further, mother/father ratings of both externalizing and internalizing behavior yielded higher parent congruence for adolescents than for younger children in early or middle childhood. Interestingly, no differences in age were found for total behavior problems. Duhig and colleagues' results regarding age were inconsistent with the previous findings from Achenbach et al. (1987) who reported the highest correlations between raters was for middle childhood as opposed to adolescence. However, the Duhig findings of higher congruence between mothers and fathers on externalizing/internalizing behavior was consistent with findings reported from Achenbach et al., who identified 31 studies that specifically involved parental agreement. Of these 31 studies described in Achenbach's work, 21 were found to have mean correlations at .50 with a range of .18 to .73.

More recently, Schroeder and colleagues (2010) discussed the significance of examining both consistency and discrepancy in response patterns among rater dyads of mothers and fathers. Specifically, age and gender were identified as moderating variables between mothers and fathers ratings of their children. These researchers reviewed archival records of 302 males and females who were identified with either primary internalizing or externalizing diagnoses. It was found that overall parent ratings were consistent at a moderate to high degree. Consistent with previous findings (Achenbach et al., 1987; Duhig et al., 2000; Grietens et al., 2004), parental consistency was higher on the externalizing scale as compared to the internalizing scale. Discrepancy analyses revealed that mothers generally rated their children with a higher severity of symptoms than did fathers (Schroeder, Hood, & Hughes, 2010).

Parents and Teachers

Several other studies also emphasized the importance of including both mothers and fathers as informants paired with teachers (Grietens et al., 2004; Konald & Pianta, 2007), and teachers with lab examiners (Kerr, Lunkenheimer, & Olson, 2007). Results from these findings were all consistent in reporting that informants from the same setting (i.e., mothers/fathers) agreed on behavioral ratings more than those pairs of raters from different settings (parent/s-teachers; parents-clinicians).

In an examination of agreement on child behavioral problems, Grietens and colleagues (2004) had mothers, fathers, and teachers complete ratings for internalizing and externalizing behaviors, as well as social skills. Participants included 424, five and six-year old children who were from a non-clinical population. These investigators were interested in assessing the degree to which ratings among informants corresponded, and the degree to which scores from one informant would predict scores for another. Overall findings of this study revealed low to

moderate congruence between mothers, fathers, and teachers (Grietens et al., 2004). Additionally, consistent with prior studies (e.g., Duhig et al., 2011; Ferdinand et al., 2003), agreement between informants was found to be higher for externalizing rather than internalizing behaviors. Results were also consistent with prior research that indicated informant agreement was higher among parents (mothers/fathers) than among parents and teachers (Achenbach et al., 1987; Winsler & Wallace, 2002). Based upon informant ratings, investigators also examined the degree to which children were classified into externalizing, internalizing, or total problems groups. Their findings revealed that the highest percentage of agreement occurred between fathers and teachers for the total problems and internalizing groups. For the externalizing group, percentage agreement was highest between mothers and fathers (Grietens et al., 2004).

A study by Konald and Pianta (2007) also examined rater congruence among parent pairs and teachers for a sample of 562 first graders. In this particular study, a correlated trait – correlated method (CT-CM) design was utilized in which five traits (withdrawn, somatic complaints, anxious/depressed, delinquent behavior, and aggression) were crossed with three informants (mothers, fathers, teachers). This type of design investigated the extent to which behavior ratings of each trait were affected by sources of variance that were potentially related to the informant. Results of this study indicated that methods of assessment from informants were strongly influenced by the type of informant as well as his/her particular role in the child's life and/or treatment. More specifically, the commonly cited finding (e.g., Achenbach et al., 1987; De Los Reyes & Kazdin, 2005) that informants in the same setting have more congruence on behavioral ratings than those in different settings was also reported. Additionally, it is interesting to note the findings from a series of nested model comparisons conducted through factor analysis. These results revealed that the model fit declined when each informant was

removed. This particular finding suggested that all informants (mothers, fathers, and teachers) each contributed a significant and unique degree of variance to the behavioral ratings of the child.

Overall, the previously described research (Grietens et al., 2003; Kerr et al., 2007; Konald & Pianta, 2007) examined the unique and important role that both mothers and fathers have in rating child behavior. Studies involving both mothers and fathers as raters have been the primary way research has identified same-environment informants as providing more congruent behavioral ratings than informants in different environments. These studies have also emphasized that informants are most consistent in rating externalizing, as compared to internalizing, behaviors of children.

Similarly, Winser and Wallace (2002) also examined behavioral ratings between parents and teachers over the course of two years. Furthermore, they also extended their study by also incorporating classroom behavioral observations into the overall assessment. Participants included 47 preschoolers who were assessed on: (a) social skills, (b) internalizing behaviors, (c) externalizing behaviors, (d) on-task classroom behavior, (e) sustained activity behavior, (f) social interaction, (g) behavior, and (h) affect. Consistent with research (Achenbach et al., 1987; Grietens et al., 2004; Konald & Pianta, 2007; Winser & Wallace, 2002), these investigators also found overall agreement between parents and teachers to be in the low to moderate range. Again, similar to previous findings, agreement was higher for ratings of externalizing behavior as compared to internalizing behavior or social skills (e.g., Achenbach et al., 1987; Duhig et al., 2000). Regarding age of children, informant agreement for 3-year olds was found to be higher than for 4-year olds. The reverse finding was evident for externalizing behaviors, in which informants were more consistent in their ratings at age four years than three years.

In addition, these researchers (Winsler & Wallace, 2002) also found differences in informant ratings for children's overall externalizing behaviors. Parents rated their children as demonstrating higher externalizing behaviors than did teachers. Moreover, both parents and teachers rated boys as exhibiting a higher externalizing behaviors compared to girls. Finally, the behavioral and social skills ratings from teachers were more often and more strongly correlated with children's independently observed classroom behaviors.

In another study (Gross, Fogg, Garvey, & Julion, 2004), the relationship between parent and teacher reports of behavior was examined for 241 preschool aged children. Along with child behavior problems, this study included additional dependent measures including qualities of the informant and the situation/environment. Mothers and/or fathers self-reported on parent stress, parent depressive symptoms, and parent self-efficacy. Additionally, parents assessed situational variables including parent warmth and parent discipline. Teachers self-reported on classroom variables including the number of children in classroom, number of hours per week spent in daycare, and the quality of daycare.

These researchers (Gross et al., 2004) constructed four main groups in order to analyze parent and teacher ratings of behavior. The first group (G1) was composed of children whose behaviors were rated both by parents and teachers as being within the normal range. Group 2 (G2) included children who were rated by both parents and teachers as having behaviors either at or above an identified clinical range. The third group (G3) included those children who had teacher ratings at or above a clinical range and parents ratings within the normal range. Finally, the fourth group (G4) was composed of those children with teacher ratings in the normal range and parent ratings either at or above an identified clinical range. Results indicated that there was an overall low consistency between parent and teacher ratings of child behavior. Moreover,

there was a high level of agreement (74.3%) for children identified in the first group (normal range), and comparatively lower agreement for the remaining groups (e.g., G2=2.5%, G3=17.7%, G4=5.9%). Interestingly, these authors noted that discrepancies between parents and teachers occurred primarily when children were rated with elevated problem behavior scores solely by parents (G4). Additionally, there were also contextual variables that were found to influence group identification. For example, children identified in G2 (both parent/teacher at or above) and G3 (teacher at or above; parent normal) were more likely to have parents that reported lower warmth and were less likely to follow through and less likely to be consistent with discipline.

More recently, researchers examined the potential moderating variables related to parent/teacher discrepancy in a sample of 732 preschool-aged children with identified emotional and behavioral difficulties (Berg-Nielson, Solheim, Belsky, & Wichstrom, 2012). This Norwegian sample also assessed specific teacher characteristics (i.e., quality of relationship, education, prior experience with children, time with child) along with relevant child (i.e., type of severity of problem, age, gender) and parent factors (i.e., mental health status, personality, stress). Findings indicated overall low consistency ($r=0.26$) between parents and teachers. Additionally, the discrepancy between parents and teachers was found to be larger for internalizing behaviors rather than externalizing behavior which is consistent with previous research (e.g., Achenbach et al., 1987; Feeney-Kettler, Kratochwill, & Kettler, 2011; Ferdinand et al., 2003; Grietens et al., 2004; Lau et al. 2004). Additionally, factors such as child problem severity and parental stress were associated with increased discrepancy between parent and teacher ratings. Regarding gender, it was found that parents and teachers disagreed more on the

externalizing problems of girls. Specifically, it was found that teachers rated girls notably lower on externalizing behaviors than did parents.

Parents, Teachers, and Observers/Clinicians

As an added dimension to the common parent/teacher informant research base, Kerr and colleagues (2003) examined the congruence between not only parent pairs (mother/father) and teachers, but also included the perspective of lab examiners who interacted with participants for a time-limited period. Participants included 240 children who were involved in a longitudinal study and were assessed at two different phases. During the first assessment phase, children were 2- to 3-years of age and 4- to 5-years of age during the second assessment phase. The major purpose of the study was to further examine that stability of behavioral ratings for children who were involved in different settings and relationships with informants. This particular study was innovative in that it presented new information related to fathers as behavioral informants, as well as information regarding the quality of ratings from lab examiners. Several findings from this study were noteworthy. First, behavioral ratings (externalizing) from all informants at Phase 1 yielded modest predictive validity of ratings at Phase 2. Furthermore, interesting outcomes were revealed from examination of fathers' ratings. For instance, fathers' ratings of externalizing behaviors were more strongly associated with informant problem factors than were ratings for teachers or examiners. Similarly, at both assessment phases, fathers' ratings for internalizing behaviors were more strongly associated with the underlying problem constructs than were ratings by teachers or examiners. Finally, outcomes also noted that fathers were the only informants who had Phase 1 ratings for internalizing associated with the parallel ratings for Phase 2. In general, these results emphasize the importance of including fathers in research on behavioral reporting due to these unique contributions. Also consistent with prior research

(Achenbach et al., 1987; Duhig et al., 2000), Kerr and colleagues found ratings between mothers/fathers to be moderate in strength. These moderate correlations served as the strongest relationship, with other informant combinations found to be in the small or small to negligible range.

Phillips and Lonigan (2010) also examined the role of an observer in the rater agreement of parents and teachers. Their sample included preschool children from low and middle-income backgrounds that were assessed for disruptive and inattentive behaviors. The overall correlation between parents, teachers, and observers was found to be within the low range. It is noted that correlations were slightly higher for preschoolers who were identified as middle income compared to those from low-income backgrounds. When examining specific groupings of raters, parents and teachers were found to have the highest agreement, followed by observer/teachers, and finally observer/parents. The highest discrepancy among income group was found within the observer/parent ratings with correlations at .08 for low-income children and .22 for middle income.

To further examine the issues of congruence and discrepancy in ratings of children's emotional and social behaviors, investigators (Humphries & Wakschlag, 2012) compared teacher and observer ratings of young children in the classroom setting. The potential moderating variables of age, gender, and cognitive abilities related to the social and emotional competence of children were also assessed within this study. Participants included 89 African-American preschoolers between the ages of 3 to 5 years who participated in both a laboratory and school assessment. Results revealed variable findings. The congruence between teacher and observer ratings of competence was significant and within the small to moderate range. However, discrepancies were found between teachers and observers on ratings of social engagement.

Additionally, Ferdinand and colleagues (2003) conducted one of the few studies that specifically examined the role of mental health clinicians as informants for child behavioral ratings and compared those ratings to that of parents and teachers. Clearly, clinicians have the ability to offer beneficial information related to the behavioral functioning of children. However, there is limited information as to how specific behavioral ratings from clinicians would correlate with similar information from both parents and teachers. Over the course of three years, a total of 132 children at Time 1 and 96 children at Time 2 participated in the study. The overall purpose of this investigation was to determine the differential predictive value of parent, teacher, and clinician ratings of child psychopathology. Participants were aged 6 to 12 years at Time 1, when they were assessed on the following dependent measures: (a) school problems, (b) outpatient treatment, (c) inpatient treatment, (d) police/judicial contacts, (e) parents' wish for help, and (f) child behavioral psychopathology. These children and/or adolescents were considered a clinical sample, as 95% had concurrently received treatment at the time of the study.

Results indicated that information from all informants predicated negative outcomes after three years. In short, findings emphasized that judgments from all the informants were necessary. The study also found that ratings from clinical interviews between clinicians and participants were able to predict all five outcome measures, as previously described. When examining results specifically related to externalizing and internalizing behaviors, Ferdinand et al. (2003) indicated higher agreement was found for clinician/teacher pairs than for clinician/parent pairs. Study authors further commented that clinicians and teachers may develop and utilize their own internal norms when judging and rating behavior. Finally, the internalizing scales did not predict any of the five outcome measures. This finding potentially suggested that internalizing problems

could be less persistent over a period of time for a clinical population. Additionally, this lack of prediction may also indicate that internalizing problems have less influence on children's overall functioning than do externalizing problems.

International Findings

In recent years, researchers also have been interested in assessing informant congruence and discrepancy in different countries and cultures (e.g., Berg-Nielsen et al., 2012; Petot, Rescorla, & Petot, 2011; VanRoy, Grohold, Heyerdahl, & Clench-Aas, 2010). One of these investigations (Liu, Cheng, & Leung, 2011) examined country and gender differences, as well as inter-informant agreement in a sample of Chinese children. More specifically, parents and teachers provided ratings of the emotional and behavioral functioning of a sample of 876 preschoolers children. Overall correlations were found to be both significant and positive. However, the average cross-informant correlation ($r=0.18$) was below that of the average United States sample ($r=.40$). The highest correlation between parents and teachers was found for externalizing behaviors, which is consistent with findings from existing literature base (e.g., Achenbach et al., 1987; Berg-Nielsen et al., 2012; Feeney-Kettler, Kratochwill, & Kettler, 2011; Ferdinand et al., 2003; Grietens et al., 2004; Lau et al. 2004). Furthermore, teacher ratings were notably discrepant from parent ratings in both level and severity of behavior, with parents providing higher overall ratings of their children's behaviors. Particularly in Chinese culture where the number of children per family is limited, it was suggested that teachers likely have more experience with a range of children and may be better able to distinguish types of behavioral problems.

Summary of Literature Review

From the previous review of current literature in cross-informant reporting, several major findings are evident. First, numerous studies (e.g., Achenbach et al., 1987; Grietens et al., 2004; Konald & Pianta, 2007; Phillips & Lonigan, 2010; Vander Ende, Verhulst, & Tiemeier, 2012; Winser & Wallace, 2002) reported low to moderate correlations between raters reporting on the behavioral functioning of children. In all, these results revealed that raters within the same environment or having the same relationship (parent/parent or teacher/teacher) to the child had higher congruence than those with different relationships (parent/teacher). Another major finding of the research indicated that rater congruence was higher for externalizing behaviors as compared to internalizing behaviors (Achenbach et al., 1987; Berg-Nielsen et al., 2012; Duhig et al., 2000; Feeney-Kettler et al., 2011; Ferdinand et al., 2003; Grietens et al., 2004; Lau et al., 2004; Winser & Wallace, 2002).

Furthermore, a base of research exists that has specifically examined interparental agreement (for a review, see Duhig et al., 2000), with particular research (Grietens et al., 2004; Kerr et al., 2003) specifically targeting the increasingly important role of fathers in the area of child behavioral reporting. These latter findings have outlined the unique and contributing role that fathers can have as informants of their children's behaviors. Further, in studies that have examined more than two raters such as mother/father/teacher (Konald & Pianta, 2007) and parent/teacher/clinician (Doumen et al., 2012; Ferdinand et al., 2003; Humphries & Wakschlag, 2012) it was found that ratings from each informant were necessary and contributed a unique and significant degree of variance to behavioral ratings.

Gaps in Literature

There are several important gaps in the wraparound and related literature. Although the rigor of studies within the wraparound research base has grown, the need for additional controlled studies is of significance. Within this literature base, the primary focus has typically been on the issue of treatment fidelity in wraparound services (Bruns et al., 2004; Bruns et al., 2006; Epstein et al., 2003; Nordness, 2005; Ogles et al, 2006; Walker & Schutte, 2005). Limited quality research exists regarding the specific emotional/behavioral functioning of children served in the wraparound model of care.

Moreover, in cross-informant research, the majority of studies have examined behavioral ratings between parents and teachers within either the home and/or school environment. While it is important to consider parent/teacher raters in the home and school settings, it is also important to evaluate other settings and/or raters that may provide relevant information toward understanding children's functioning level. For instance, children experiencing emotional/behavioral difficulties may spend increasing amounts of time in clinical settings and/or with therapists/clinicians who deliver interventions. Within a specific wraparound model of care, these professionals integrate themselves within the home environment to provide intensive behavioral health services. To date, the current cross-informant research base has been limited in assessing raters that were either (a) same role, same environment (parent/parent within home environment; teacher/teacher within school environment), or (b) different role, different environment (parent/teacher in home/school environments; parent/clinician in home/community environments; teacher/clinician in school/community environments).

Therefore, the present study examined the degree of agreement in ratings between parents and behavioral health treatment team workers who were delivering wraparound services within

the home and/or community environment. This study addressed gaps in the literature by (a) assessing the level of behavioral/emotional functioning for children that were being serviced by wraparound programming, and (b) examining the consistency of ratings from multiple informants serving different roles in the lives of children, but working predominately within the same environment. The present investigation provides a unique and innovative contribution to the literature by examining the consistency in ratings of individuals in different roles (parent/clinician/clinician) within the same environment (home or community). The study extends the current literature bases in both wraparound and cross-informant research through examining the congruence of behavioral ratings within a wraparound treatment team, incorporating parent, TSS, and BSC ratings. Finally, in community mental health agencies where empirical research may infrequent or even non-existent, the emphasis on the reciprocal value of research can be of importance (Kidd & Kral, 2005). In this aspect, the present research sought to utilize elements of a participatory action research (PAR) framework regarding strategies for participant recruitment and data collection. In describing elements of PAR, Kidd and Kral (2005) noted that the researcher's ideas concerning means, methods, and actions should be amendable to change through the process of bringing knowledge and receiving feedback on ideas/strategies from others involved in the research. At the core of *participation* in PAR is a sharing of power between the researcher and individuals taking part in the study.

CHAPTER 3

METHOD

Participants and Setting

Inclusion criteria. A power analysis was conducted using a medium effect size and .05 alpha level which indicated a required sample size of 76 triads (Cohen, 1988). Participants included 84 triads consisting of (a) parents, (b) behavioral specialist consultants/BSC, and (c) therapeutic staff supports/TSS of children who were receiving services in wraparound, also referred to as Behavioral Health Rehabilitative Services (BHRS) or Provider 50, within the eastern and western regions of Pennsylvania. Children and families ranged in socioeconomic status (SES) and race/ethnicity (family demographic information is presented in Table 3). All participating children were 6 to 15 years old, with an average age of 8.3 years. More boys than girls were enrolled in BHRS agencies and receiving services. All child ratings, including both internalizing and externalizing scores, yielded scores within the clinical range (i.e., mean t-score > 63; Achenbach & Rescorla, 2001), and mean externalizing scores were higher than mean internalizing scores. Not surprisingly, mothers were the most likely family member to participate in the study and complete the behavioral rating scales as compared to fathers and/or other family members. Additionally, slightly more than half of the parent raters were employed either part-time or full-time throughout the week.

When examining the clinician population of BSC and TSS workers, the majority of credentials were aligned with BHRS standards of bachelor's level TSS and master's level BSC. In a few instances, clinicians possessed an additional advanced degree and/or supplementary training credentials. On the demographic survey, clinicians were asked to indicate the total time they worked with children with behavior difficulties, the total time in their current agency, as

well as the total time they worked with the family/child who was participating in the study. All results pertaining to these items are reported in Table 4. Overall, the BSC spent more total time in all areas. As could be expected, on average, the BSC had twice as much experience (or total months) working with children with behavioral difficulties than the TSS.

Furthermore, the demographic survey also asked clinicians to describe the ease of working with both the child and the family. On a scale of 1 (very easy) to 5 (not easy at all), the majority of workers indicated that it was “easy” to “occasionally difficult” working with the identified child ($M=3.48$, $SD=0.69$) and generally “easy” working with the family ($M=2.94$, $SD=0.72$). In exploratory post-hoc analyses, independent sample t-tests were conducted to examine mean scores regarding ease of working with children and families by rater type. Results indicated a significant difference between BSC ($M=3.31$, $SD=0.679$) and TSS workers ($M=3.65$, $SD=0.674$) for the ease in working with the identified child [$t(170)=3.73$, $p<.001$]. No significant difference was found between BSC ($M=2.90$, $SD=0.70$) and TSS ($M=2.98$, $SD=0.75$) regarding the ease of working with the identified family [$t(170)=0.85$, $p=.398$].

All children participating in services were identified with an Axis I diagnosis, based upon the DSM-IV-TR (American Psychiatric Association, 2000). A licensed psychologist, either employed or contracted by the specific community mental health agency, made initial diagnosis at intake, or confirmed diagnoses made prior by other medical or psychological professionals (e.g., pediatrician, psychologist, psychiatrist).

Prior to the study, the agency psychologist prescribed each client and family with a specific number of therapeutic staff support (TSS) hours, behavioral specialist consultant (BSC) hours, and when necessary mobile therapy (MT) hours each week. However, mobile therapy hours are generally not prescribed for every family. Due to this potential inconsistency across

treatment teams, the mobile therapist (MT) was not recruited for participation in the present study. The treatment team in the study consisted of the primary parent or guardian, the BSC, and the TSS worker with no informant participating in more than one team.

Parent/guardian. The parent or guardian was the individual responsible for the overall care and welfare of the child. Specifically, the individual identified as the parent/guardian on agency paperwork was initially pursued for study participation. Family members such as mothers, fathers, foster parents, aunts, uncles, grandparents, and cousins all served in this parental role for the study.

BSC. The BSC was a master's level clinician who had documented prior training in assessment and intervention. The BSC served as an indirect service provider, and was responsible for developing and modifying individualized treatment, coordinating services in multiple environments, and monitoring the comprehensive treatment program.

TSS. The TSS worker was a bachelor's level therapist who provided one-to-one behavioral interventions for children within the home, school, and/or community environment. These direct services for children could potentially extend up to 40 hours per week, but generally ranged between 4-15 hours. Although TSS workers generally complete their educational degree in a human services or related field, they are also required to attend ongoing trainings relevant to service delivery with children/families and receive ongoing supervision by master's level behavioral specialists (Linblad-Goldberg, 2000; Slattery & Knapp, 2003; Thoder et al., 2010). TSS workers were eligible to participate in the study if they were assigned hours with the child/family in either (a) home-only environment, or (b) school and home environments. Due to the nature of services for some families, treatment hours can be delivered across multiple settings (e.g., both home and school) with different workers assigned to each setting. As a result, some

TSS workers are knowledgeable of clients' behaviors only within a school or community setting. It was essential for the participating TSS workers to also provide services within the home environment in order to effectively allow for a *same environment/different role* framework of comparison with other treatment team members. Therefore, TSS workers with school-only hours were excluded as informants in the study due to their lack of familiarity or knowledge of the child's behavior in the home environment. BSC workers were eligible to participate based upon the nature of their role in coordinating and implementing services across multiple environments, including the home setting.

Exclusion criteria. There were no specific exclusion criteria for children/adolescents and/or parental figures and family members. However, only those BSC and TSS workers who provided services to the children/families for a minimum of 2 months were eligible to participate in this study, in order to establish a clinical threshold for familiarity with a child's behavior.

Measures

Child Behavior Checklist. The *Child Behavior Checklist (CBCL;* Achenbach, 1991; Achenbach & Rescorla, 2001) has been widely used in research studies, and in clinical and educational environments, as a comprehensive tool to assess behavior problems and social competencies of children. The *CBCL/6-18* (Achenbach & Rescorla, 2001) is normed for children ages 6 to 18 years old, consists of approximately 100 questions, and can be completed in about 15 minutes. The *CBCL/6-18* assesses children on questions of competence and behavior problems on a 3-point scale ranging from "not true" to "often true." Factor analyses for the *CBCL/6-18* identified three problems scales (Externalizing, Internalizing, Total Problems) and eight syndrome scales (Anxious/Depressed, Withdrawn/Depressed, Somatic Complaints, Social

Problems, Thought Problems, Attention Problems, Rule-Breaking Behavior, and Aggressive Behavior)(Achenbach & Rescorla, 2001).

Adequate psychometric properties of the *CBCL* have been reported (Achenbach, 1991). Test-retest reliabilities (across seven days) were found to range from .87 to .89. Cronbach's alpha was found to range from .46 to .93, including both syndromes and subscales. Construct validity varied from .59 to .88 (Achenbach, 1991). The 2001 version of the *CBCL* correlated with the 1991 version syndrome scales from .87 to .99 (Achenbach & Rescorla, 2001).

To examine the psychological functioning of children, each member of the triad (parent, BSC, TSS) completed the *CBCL/6-18* (Achenbach & Rescorla, 2001). Due to TSS workers predominately working with children in their home environment, the *CBCL/6-18* was considered the most appropriate instrument for both the TSS and BSC clinicians to utilize for rating children's behavior. For the current study, coefficient alpha was calculated for the *CBCL/6-18* forms completed by the TSS/BSC and yielded adequate internal consistency of .702. On *CBCL* forms, two t-scores from the Externalizing and Internalizing problem scales were used for analysis.

Demographic survey (parent version). The demographic survey (see Appendix A) was an investigator-constructed questionnaire designed to gather relevant information from parents who completed the *CBCL/6-18*. Questions pertained to basic demographic characteristics (e.g., ethnicity, education, and employment), as well as to participation in BHRS services of the parents/family. All data from the demographic survey were used for descriptive purposes.

Demographic survey (BSC/TSS version). The demographic survey (see Appendix B) was an investigator-constructed questionnaire designed to gather relevant information from BSC and TSS workers who completed the *CBCL/6-18*. Questions related to basic demographic

characteristics (e.g., age, ethnicity, education) and BHRS employment were included within this demographic survey. Data from this survey were also used for descriptive analyses.

Procedures

The present investigation employed the concepts of participatory action research by initially presenting two different methods for participant recruitment to agency directors/administrators and, through discussion, determining the best course of action for recruiting potential participants. To begin this process, the investigator first sought to establish and build relationships with community agencies in southeastern Pennsylvania to facilitate recruitment of participants and subsequent data collection. The investigator then initiated meetings, phone conversations, and/or email contact with program directors or administrators of community mental health agencies to explain the proposed research and gain permission for recruitment of agency children/families. Subsequent to these initial steps, two methods were utilized to recruit participants. In several agencies after permission was granted by the program director to conduct the study, the investigator partnered with secretaries or related staff. The agency secretary or staff member assisted the investigator in identifying families in order to mail packets of information for study recruitment (see Appendices A and B). These packets of information included informed consents, study explanation/letters, ratings scales, demographic surveys, and raffle forms. Three separate raffles for each rater group (parent, BSC, TSS) were conducted in order to increase likelihood of study participation. Parents/guardians, TSS workers, and BSC workers had the opportunity to enter their specific raffle for a \$100 gift certificate to the store of their choice.

In the majority of agencies, the principal investigator collaborated with case managers for recruitment of participants. Every 4 months, all children who are receiving wraparound/BHRS

services are re-evaluated for the continuation of services (Lindblad-Goldberg et al., 2000). This re-evaluation process also included a subsequent interagency meeting with several treatment team members (parents, child, case manager, BSC) to discuss current level of functioning as well as the progress achieved on treatment plan goals. This interagency meeting was utilized to recruit potential families for this study. The case manager briefly explained the proposed research study at the beginning or end of the meeting. The previously described packets of information were provided to parents/guardians and the case manager was instructed to read and/or paraphrase the “invitation to participate” document (see Appendix A) while parents/guardians were able to read along. If families did not consent to the study, they returned the packet of information to the case manager or designated agency representative at the meeting. For those families who consented to participate, the BSC (present at meeting) was provided his or her packet of information. All participants had the option of completing forms at the agency or being provided with a self-addressed stamped envelope to return all forms. TSS workers were generally not present at interagency meetings and therefore were subsequently mailed their corresponding packet of information by agency case managers. Participants were asked to complete all forms within 2 weeks of receiving forms to ensure consistency of data collection from all raters. In all, approximately 42% treatment packets including the ratings scales were completed by all team members within the 2 week period.

The first phase of recruitment occurred solely in the eastern regions of Pennsylvania with 87 total treatment teams with six different BHRS agencies approached for the study. A total of 58 treatment teams agreed to participate. Unfortunately this response rate of 66% was identified to be below that of the required sample size and additional recruitment strategies were then employed. During the second phase of recruitment, the principal investigator identified agencies

within the western region of Pennsylvania (based upon previous contacts) where an additional 66 treatment teams (across four different agencies) were recruited. Of the 66 teams identified, 41 families agreed to participate which resulted in a 41% response rate within the western region. Strategies employed for study participation were consistent between both phases of recruitment. Overall, a total response rate of 64% was achieved among all treatment teams.

Statistical Analyses

In the initial phase of data analysis, missing data from one or more treatment team members occurred for 15 of the triads. As a result, listwise deletion (Holmbeck, Li, Schurman, Friedman, & Millstein, 2002) was utilized on missing cases and therefore those particular treatment teams were eliminated from further analysis. To assess the internal consistency of the *CBCL/6-18* (completed by TSS/BSC), coefficient alphas were calculated for these measures prior to further analyses. All analyses were conducted utilizing a .05 alpha level. For the proposed study, scoring of the *CBCL-6-18* produced the Internalizing Problems and Externalizing Problems composites, reflected by T-score values.

Pearson product moment correlations were used to determine the strength or magnitude of the relationship/agreement between raters for the internalizing/externalizing T-score values. The first research question yielded two hypotheses stating that moderate correlations would exist between parent/BSC for externalizing behaviors (H_{1a}) and low correlations for internalizing behaviors (H_{1b}). Hypotheses for the second research question asserted that correlations between parents/TSS would be within the moderate range for externalizing behaviors (H_{2a}) and within the low range for internalizing behaviors (H_{2b}). The third research question stated that among TSS/BSC raters, moderate correlations will be evident for externalizing behaviors (H_{3a}) and low correlations for internalizing behaviors (H_{3b}). Due to the likelihood of type 1 error from multiple

comparisons, the Bonferroni adjustment ($p < .01$) was used to modify the level of significance required for statistically significant findings.

For the fourth research question, it was hypothesized that there was a significant difference between all three raters (parent/BSC/TSS) for both internalizing and externalizing behaviors (H_4). Utilizing T-score values from both the internalizing and externalizing scales of the *CBCL/6-18*, a MANOVA (multivariate analysis of variance) was performed. This analysis examined the interactions among independent and dependent variables. To test the overall model for significance, an F-test was first performed to determine if each dependent variable (i.e., internalizing and externalizing) was significant. Finally, Wilks' lambda was used to test whether each effect was significant.

Qualitative Analysis/Descriptive Statistics

Information gathered through the parent and BSC/TSS demographic survey was analyzed descriptively in an effort to support the overall interpretation of results. Information pertaining to (a) length of time receiving BHRS services, (b) length of time providing clinical services to the family, (c) education/training of BSC/TSS, and (d) various demographic variables (e.g., ethnicity, sex, employment status) of all participants was gathered.

CHAPTER IV

RESULTS

The primary purpose of the study was to examine the congruence between behavior ratings of children with emotional/behavioral difficulties by different treatment team members in a wraparound model of service delivery. The final sample consisted of 84 child-based treatment teams, each including a parent, therapeutic staff support (TSS), and behavior specialist consultant (BSC). Pearson product-moment correlations were used to determine the extent of agreement between treatment team members including (a) parents and BSC, (b) parents and TSS, and (c) BSC and TSS. Preliminary analyses were conducted and revealed no violations of linearity, normality, or homoscedasticity.

Research Question 1

What is the extent of correspondence between parents and behavior specialists (BSC) on ratings of child externalizing and internalizing behaviors? It was hypothesized that the extent of agreement between parents and BSC behavior ratings would result in moderate correlations (.30 to .49, as detailed in Cohen, 1988) for externalizing behaviors (H_{1a}) and low correlations for internalizing behaviors (H_{1b}) (.10 to .29). As indicated in Table 1, results for externalizing behaviors revealed a high correlation between parent and BSC raters ($r=.58, p<.01$), while results for internalizing behaviors indicated a medium size correlation ($r=.43, p<.01$). Both findings were significant with an alpha level of .01. It is noted that the difference between the internalizing and externalizing correlations was not statistically significant ($Z=1.29, p=0.19$).

Research Question 2

What is the extent of correspondence between parents and therapeutic staff supports (TSS) on ratings of child externalizing and internalizing behaviors? In order to assess the

agreement between parents and TSS workers, Pearson correlations were also conducted. It was hypothesized that the extent of agreement would again result in moderate correlations for externalizing behaviors (H_{2a}) and low correlations for internalizing behaviors (H_{2b}). Findings displayed in Table 1 indicated the ratings for externalizing behaviors between parents and TSS workers were moderate in strength ($r=.49, p<.01$), while the ratings for internalizing behaviors were moderately high ($r=.64, p<.01$). All correlations were significant at the .01 alpha level. The difference between externalizing and internalizing correlations was not found to be statistically significant ($Z=1.43, p=0.15$).

Research Question 3

What is the extent of correspondence between behaviorally trained TSS and BSC workers on ratings of child externalizing and internalizing behaviors? The third set of Pearson correlations were used to examine the extent of agreement between TSS and BSC workers. Moderate correlations were hypothesized for externalizing behaviors (H_{3a}) and low correlations were expected for internalizing behaviors (H_{3b}). However, as shown in Table 1, results of these analyses yielded moderately high correlations for both externalizing behaviors ($r=.63, p<.01$) and internalizing behaviors ($r=.58, p<.01$). These correlations were also found to be significant at the .01 alpha level. Finally, the difference between externalizing and internalizing correlations was not found to be statistically significant ($Z=0.43, p=0.66$).

Given the unexpected high level of correspondence between informants, an added exploratory analysis was conducted to examine potential group differences related to the length of time (total months) each group of clinicians were working with the family. Results of an independent samples t-test concluded there was no significant difference between BSC ($M=15.29, SD =9.92$) and TSS workers ($M=13.94, SD=9.29$).

Research Question 4

Are the scores among all three raters (parents, BSC, TSS) significantly different for both externalizing and internalizing behaviors? A one-way between groups multivariate analysis of variance (MANOVA) was conducted to examine the differences among treatment team members on ratings of internalizing and externalizing behaviors. The independent variable was treatment team member (parent, BSC, TSS) and the dependent variables were internalizing and externalizing scores from each informant. It was hypothesized that significant differences would be found among treatment team members. Results of the MANOVA identified no significant differences between treatment team members' ratings [$F(2, 257) = 1.92, p = .10$; Wilks' $\Lambda = .98$], and therefore did not support the hypothesis. The means scores and standard deviations for raters are provided in Table 2. Regarding externalizing behaviors, parent ratings were highest ($M = 69.10$; $SD = 69.10$) among all other team members (i.e., TSS: $M = 68.71$, $SD = 7.98$; BSC: $M = 66.34$, $SD = 6.83$). A similar trend was found for internalizing behaviors with parent ratings ($M = 65.95$, $SD = 7.84$) also higher than BSC ($M = 64.77$, $SD = 6.25$) or TSS ($M = 65.70$) workers. All effect sizes between pairings were within the small range).

CHAPTER V

DISCUSSION

This investigation extended the literature in several areas including the general emotional/behavioral functioning of children involved in a wraparound model of care, as well as examining cross-informant ratings of child behavior within the same home environment. Specifically, the primary purpose of the study was to examine the extent of informant congruence among treatment team members in behavior ratings of children in a state-funded behavioral health (wraparound) program. The targeted research areas included informant congruence between parents and BSC, parents and TSS workers, as well as between team clinicians (BSC, TSS). The fourth area of focus examined differences in scores between all treatment team members on ratings of internalizing and externalizing behaviors.

The overall findings indicated partial support for the proposed hypotheses with moderate to slightly large correlations among all informants (range: $r=.433$ to $.646$). These findings were in contrast to the stated hypotheses which noted either low or moderate correlations for all informant comparisons. Additionally, the scores among treatment team members were not found to be significantly different. This finding also did not support the stated hypothesis.

Research Question 1

What is the extent of correspondence between parents and behavior specialists (BSC) on ratings of child externalizing and internalizing behaviors? It was hypothesized that the correlations among BSC workers and parents would be moderate in strength for externalizing behaviors and low for internalizing behaviors. However, results demonstrated higher informant congruence in both areas. Cross-informant ratings for externalizing behaviors extended into the moderate-large range for correlations and the moderate range for internalizing ratings. Previous

research (Duhig et al., 2000, Grietens, et al., 2004; Kerr et a., 2007, Konald & Pinata, 2007, Winsler & Wallace, 2002) including the seminal work by Achenbach and colleagues (1987) explained informant congruence and discrepancy by identifying the role of the rater (e.g., parent, teacher, etc.) as well as the environment of focus (e.g., home, school). Based on this research, one of the proposed explanations for informant discrepancy among raters of different roles is that children's behaviors can vary according to the setting. Further, the resulting discrepancy between raters reflects actual inconsistency in the child's behavior across environments. Similarly, in previous studies agreement has been highest among those raters having similar roles toward the child (Kerr et al., 2007, Konald et al., 2004, Konald & Pianta, 2007; Van der Ende et al., 2012). Those individuals holding similar roles have often been assessed within the same environment (e.g., parent/parent in home; teacher/teacher in school). Although the same-role informant was not specifically evaluated in the current study, it is possible that the environmental context is more salient and the most notable factor in issues of informant congruence and discrepancy. It was one of the goals of the present study to extend the current literature by examining informants who held different roles toward the child, but were assessing behavior within the same environment. In all, it was likely that the shared home environment impacted the higher than expected levels of informant congruence.

Additionally, parents and BSC workers evidenced numerically higher correlation coefficients on externalizing behaviors compared to internalizing behaviors. In the present study, this difference was not found to be statistically significant. However, the general trend of higher correlations for externalizing behaviors has been discussed by previous research (Achenbach, 2011; DeLos Reyes & Kazdin, 2005). Generally, there has been widespread support for the finding that internalizing behaviors are correlated to a lesser extent than

externalizing behaviors among informant pairings (for reviews see Achenbach et al, 1987, DeLos Reyes & Kazdin, 2005, Duhig et al., 2000). The prevailing explanation is that internalizing behaviors are more difficult to observe and therefore more prone to discrepancies among informants (Achenbach, 2011).

Research Question 2

What is the extent of correspondence between parents and therapeutic staff supports (TSS) on ratings of child externalizing and internalizing behaviors? The cross-informant ratings for parents and TSS were hypothesized to result in moderate correlations for externalizing behaviors and low correlations for internalizing behaviors. The expected finding of moderate correlations for externalizing behaviors was confirmed, and again was consistent with research that indicated higher correlations on ratings of externalizing behaviors (Berg-Nielsen et al., 2012; Feeney-Kettler et al., 2011; Ferdinand et al., 2003). However, results showed a greater than expected congruence between the TSS and parent ratings for internalizing behaviors which were within the large range. This finding is noteworthy and stands in contrast to most previous findings in several ways. In the meta-analysis conducted by Achenbach and colleagues (1987), the overall mean correlation for informant pairs involving parents and mental health workers was .28. Although the isolated home environment in the current study could suggest higher overall correlations perhaps extending to the moderate range, a large correlation requires further discussion and speculation. In fact, the correlation found between parents and TSS workers for internalizing behaviors was the largest of all informant pairs and behavior types (i.e., internalizing, externalizing) in the study.

Possible explanations for this unexpected finding may be related to the characteristics of the assessed population, as well as the nature of services being provided by the treatment team.

First, congruence in behavior ratings may have been higher for TSS and parents simply because of the length of time spent together in the same environment. TSS workers reported spending an average of 11 hours per week providing home-based services to the family and child.

Additionally, these TSS clinicians had worked with the current family and child for an average of one year. This degree of familiarity of the TSS with both the family and the child could lend itself to higher overall correlations. In some ways, this TSS/Parent dyad may resemble the parent/parent dyads described in the extant literature (e.g., Grietens et al., 2004; Konald & Pianta, 2007; Schroeder et al., 2010) merely due to the time spent together in the same environment.

As was noted prior, internalizing behaviors may be more difficult for informants to observe and therefore these types of ratings are more likely to be discrepant among informants. Although time has been suggested as a potential explanatory variable for higher overall correlations among the current informant pairs, there could also be other moderating variables of interest. For example, strong correlations between the TSS and parent may be influenced by the nature of agency-based BHRS services which includes specialized interactions and activities between the TSS, parent, and child (Allegheny HealthChoices, 2006).

It is interesting to consider the unique role and service provided by the TSS to families and the possible impact upon levels of congruence among informants. For example, the TSS works to provide direct therapeutic services to the child in the home environment. Through these interactions, the TSS may be more aware of the same patterns of internalizing behaviors that parents are observing.

Additionally, the degree to which the presence of a fourth treatment team member may have influenced informant congruence is unknown. Mobile therapists, who were not identified

as team informants, occasionally work with families based upon the need for additional therapeutic support. It is possible that some of the psychotherapy services of a given family would target more internalizing behaviors of the child and/or child/family dynamic. As a result, there could be increased consultation and collaboration among the team in targeting internalizing behaviors (Thoder et al., 2010). For the TSS and parent, these interactions and potential areas of treatment targets may have taken place several times throughout a given week. This possible explanation relates to previous work by Renk (2005) who proposed that informant congruence may be due to individuals communicating or sharing their perspectives on the person being rated. The basis of agency-based BHRS would render this explanation not only likely but a fundamental aspect of the treatment model (Penn & Osher, 2008; Osher & Penn, 2010). Perhaps in particular treatment teams, especially those that also had a mobile therapist among the treatment team, discussion of internalizing behavior was more prominent and consequently, this discussion or emphasis on internalizing behaviors of the child may have resulted in higher than expected agreement among the parent and TSS.

Another possible explanation for higher correlations among internalizing behaviors may relate to situational specificity or the likelihood that behaviors are inconsistent across settings (Berg-Nielson et al., 2012; De Los Reyes, 2011; Dumenci, Achenbach, & Windle, 2011; Renk, 2005). Taken a step further, it could be possible that externalizing behaviors are more likely to be inconsistent among particular individuals within the same setting compared to internalizing behaviors. In other words, children's behavior may not only be different across settings, but also across individuals. Essential to service delivery in BHRS is a focus on family-centered treatment that is strength-based and individualized to the needs of the child (Burns et al., 2000; Bruns & Walker, 2010; Eber & Keenen, 2004; Slattery & Knapp, 2003; Walker, 2008c). It is probable

that the TSS is the treatment team member most positioned to become woven in the family structure due to the extended time typically spent with the child and family members each week. In order to achieve treatment plan goals, the TSS may engage in a variety of individualized therapeutic strategies such as games/activities, role-playing, and one-to-one teaching situations (Slattery & Knapp, 2003; Thoder et al., 2010). As such, the TSS worker could often become viewed as a friend or preferred person to the child in treatment. This therapeutic relationship may serve to decrease the likelihood of externalizing behaviors, such as aggression, occurring in the presence of the TSS worker. Following this modified situation specificity theory (e.g., Doumen et al., 2012; Hartley et al., 2011) in which behavior may change depending upon the person in an individual's environment, it is possible that overall engagement in externalizing behaviors was less likely in the presence of TSS workers and internalizing behaviors were more likely to be observed. Overall, the actual occurrence of the behavior in the home environment may have varied based upon person-specific characteristics. Additional studies investigating these proposed explanations and theories are clearly warranted.

Research Question 3

What is the extent of correspondence between behaviorally trained TSS and BSC workers on ratings of child externalizing and internalizing behaviors? It was hypothesized that ratings of BSC and TSS would be moderately correlated for externalizing behaviors, with low correlations for internalizing behaviors. However, larger than expected correlations were found for both types of behaviors that ranged from .587 for internalizing to .630 for externalizing behaviors. Prior meta-analyses have identified slightly lower mean correlations ($r=.54$) for pairs of mental health workers (Achenbach, McConaughy, & Howell, 1987). These larger correlations in the present study can possibly be attributed to same role/same environment dynamic that exists

among this treatment team dyad. It is likely that the environment and role similarities among raters contributed to higher overall correlations. Even more, ratings from the BSC and TSS clinicians resulted in the largest overall mean correlation when compared to other treatment team dyads (i.e., Parent/BSC, Parent/TSS). These results are consistent with previous investigations that have outlined higher correlations among informants having similar roles to the participant (Humphries & Wakschlag, 2012, Konald & Pianta, 2007). In the present investigation, not only do TSS and BSC informants hold similar roles toward the child and within the same environment, but the specific job responsibilities allow for unique interactions. For example, the TSS worker functions under the clinical supervision of the BSC. As a result, it is recommended that ongoing communication, consultation, and collaboration occur throughout the week as it relates to implementing behavioral treatment goals for the child and family (Thoder et al., 2010). TSS workers are also responsible for writing behavior-focused progress notes each session that the BSC reviews. Ongoing review of paperwork and psychological charts also occur among treatment team members. In essence, the BSC and TSS are knowledgeable of the presence of behaviors and effective strategies to implement with the family (Community Choices, 2010).

Furthermore, the TSS and BSC may also rely on a knowledge base regarding children with emotional/behavior difficulties. Information from the demographic survey indicated that TSS workers had an average of 2 years of work experience related to children with behavior difficulties. BSC workers averaged almost 5 years of experience with this population. It is possible that these clinicians may reference a shared knowledge base when rating children with behavior difficulties (Berg-Nielson et al., 2012; Hartley et al., 2011). This proposed explanation is supported by the work of Ferdinand et al. (2003), who noted that higher agreement between

teachers/clinicians as opposed to clinician/parent may be due to internal norms that are developed for rating behavior.

Finally, similar to the behavior trend found among BSC and parent dyads, the correlational coefficient for externalizing behaviors was above that of internalizing behaviors. This finding, although not statistically significant, relates to previous research (Achenbach et al., 1987, Berg-Nielsen et al., 2012; DeLos Reyes & Kazdin, 2005, Duhig et al., 2000; Feeney-Kettler et al., 2011; Ferdinand et al., 2003; Grietens et al., 2004; Lau et al. 2004) noting stronger agreement among externalizing behaviors compared to internalizing behaviors.

Having discussed all rater pairs (i.e., BSC/Parent, TSS/Parent, and TSS/BSC), it is noteworthy to also examine why moderately high correlations for internalizing behaviors were identified for all informant pairs with the exception of parent/BSC. It has been posited that the time spent together by specific informants and/or the quality of interactions may impact upon increased congruence between specific dyads. For example, parents and TSS spend multiple hours/days together throughout the week and the BSC/TSS engage in regular consultative and supervisory interactions. The BSC role, in contrast, can be multidimensional in nature with indirect services provided to the child. In some treatment teams, the BSC may utilize their weekly hours to consult with the mobile therapist, prepare intervention materials, review data, update treatment plans, consult with teachers, and/or observe the child in the school setting (Community Choices, 2010). As a result of the BSC engaging in additional coordination of services, perhaps less time is available to regularly interact with parents and therefore less opportunity to gather information related to internalizing behaviors. In addition, the indirect service delivery model of the BSC may provide less opportunity to actually observe or identify these behaviors in the child. These potential explanatory variables may have impacted the

strength of correlations among parents/BSC for internalizing behaviors. Nonetheless, the reader is reminded that all correlations were found to be significant among treatment team members and within either the moderate or large range.

Research Question 4

Are the scores among all three raters (parents, BSC, TSS), significantly different for both externalizing and internalizing behaviors? It was hypothesized that a significant difference would exist between treatment team members on ratings of internalizing and externalizing behaviors. Findings revealed no significant differences. Considering the current results indicating higher informant congruence among many rater pairings, the present finding is perhaps not surprising. Overall, it is possible that treatment team members were more alike than originally theorized. Inherent in BHRS programming, the family is viewed as partners in a home-based, strength-oriented system (Bruns, 2008; Penn & Osher, 2008; Slattery & Knapp, 2003). This partnership may lend itself to the development of common norms, interactions and/or beliefs about behavior. In the present investigation, these latter variables may have influenced the limited discrepancy between score ratings.

Limitations

The present study is limited by several factors that impact upon the ability to generalize these results to other similar populations. First, it is unknown whether the raters in the current study represent the common groupings (e.g., mothers, fathers, teachers, clinicians) that have been the focus of previous cross-informant research. Individuals in the typical teacher/parent, parent/parent, and teacher/teacher pairings likely engage in periodic communication or sharing of experiences regarding a child's behavior. However, the foundation of the relationship between those raters generally does not only relate to the behavioral functioning of the child. This factor

seems to stand in contrast to the type of relationships among BHRS treatment team members that exist exclusively to improve the behavioral functioning of the child (Allegheny HealthChoices, 2006). Perhaps characteristics of the BHRS model limit direct generalizability to the informants typically included in the research in this area.

Further, the use of listwise deletion to address missing data could have impacted results. This particular technique is based upon the premise that data are missing completely at random (MCAR) and therefore the total deletion of cases is employed. Due to this direct effect on sample size, corresponding reductions in power can also occur (Jelicic, Phelps, & Lerner, 2009; McPherson, Barbosa-Leiker, Burns, Howell, & Roll, 2012). It is noted that the decision to utilize listwise deletion in the current study was believed to be adequate given that the final sample size was still within the parameters of the initial power analysis conducted (i.e., greater or equal to 76 triads). In addition, it was the intention to maintain the salient characteristics of the entire data set which examined the relationship among all informants in treatment teams. Moreover, in the 15 treatment teams in which data was missing and subsequently eliminated, the TSS was slightly more likely to have lower response rate (i.e., 90%) compared to BSC (97%) and parents (95%).

Third, numerous potential confounds or extraneous variables may have impacted the present results. An important area of focus within cross-informant research has been the degree to which specific variables impact the level of congruence or discrepancy between raters. Previous investigations have identified some of these factors to include age (e.g., Duhig et al., 2000; Kerr et al., 2007; Schroeder et al., 2010; Van der Ende et al., 2012; Winser & Wallace, 2002), child gender (e.g., Berg-Nielson et al., 2010, Schroeder et al., 2010; Solheim et al., 2012; Duhig et al., 2000; Stanger & Lewis, 1993; Winser & Wallace, 2002), socioeconomic level (e.g.,

Duhig, et al., 2000; Phillips & Lonigan, 2010), family characteristics (e.g., Berg-Nielson et al., 2012; Gross et al., 2004), and disability type/diagnosis of child (e.g., Antrop et al., 2002; Hughes et al., 2002; Voelker et al., 2000). Unfortunately, results have been rather inconsistent across studies. It was beyond the scope of the present study to evaluate each of these variables. Nonetheless, the current work is limited by these potential moderators that may have affected the extent to which the identified informants agreed on child behavior ratings. This should be addressed in future research investigations.

Moreover, the specific procedures for the identification of children qualifying for BHRS services (and therefore the current study) may have varied. Although guidelines (HealthChoices, 2006) suggest that best practice evaluations are provided by licensed professionals and medically necessary criteria are met for diagnosis of children (Community Behavioral Health, 2006; CommunityCare, 2012), the extent to which a common set of procedures were followed is unknown. With potentially non-standard procedures utilized for the diagnoses of children and the related identification for clinical services, it is possible that variation exists in the current sample.

A fifth confound in the study is regarding the participation of TSS workers who provided BHRS services to children in either the 1) home, or 2) home and school environments. The inclusion of treatment team members, who may have observed child behavior in an environment other than the home could have posed a threat to the internal validity of the study. For example, it is possible that observations and interactions with the child in the school environment may have influenced the overall perceptions and ratings of child behaviors. This issue may be especially noteworthy given the different role/same environment context that the current study attempted to emphasize.

Another possible weakness in the current study involved the period of time during which rating scales were completed by treatment team members. Study procedures identified a 2-week period for completion of participant packets to be returned. However, due to difficulties in having team members return packets in a timely manner, behavior rating scales were completed/returned by informant teams ranging from 1 to 8 weeks. As a result, time of rating was not held constant and some informants within treatment teams may have assessed child behavior during different periods of time, posing a threat to internal validity.

Related to this, the majority of treatment team participants mailed the required documents to their agency. Using this type of response procedure, it is unknown if any participants completed the actual surveys together despite the instruction to complete the ratings independently. The likely discussion of child behavior among treatment team members has been thoroughly considered. However, talking about the actual questionnaire would be a noteworthy concern. This potential limitation in studies is referred to as cross-source contamination (Holmbeck et al., 2002) and involves the extent to which family members or other raters may discuss their responses on questionnaire items and/or actually complete another's questionnaire. It is noted that the *invitation to participate* letter (see Appendix A), included several statements that emphasized the need to complete all forms independently. Unfortunately, this type of limitation would be challenging to adequately control for in any mail-in study procedure.

Despite these factors, it is believed that the current study contributed to the general understanding of informant correspondence and discrepancy. Most notably a new and unique population of focus, namely BHRS treatment teams, was examined in the informant agreement literature base. Results presented interesting findings, yet raised additional questions and pointed to areas for continued examination.

Directions for Future Research

An obvious starting point for research is to build upon the previously cited limitations. For instance, it would be prudent to improve the methodological rigor of the study by assessing one of more potentially moderating variables such as age (i.e., early, middle, late childhood), gender, family variables (e.g., cohesiveness, parental stress, mother depression, socioeconomic level), and/ or type of child disability in relation to rater congruence and discrepancy. The latter variable may be of particular importance given the increasing rates of children with an autism spectrum disorder extending the need for related treatment services (Centers for Disease Control [CDC], 2012; Community Care: Behavioral Health Organization, 2012). Some research has suggested that informant congruence for children with developmental disabilities may be slightly higher than in other populations (Voelker et al., 2000). Furthermore, BHRS agencies service a wide range of children with emotional and behavioral difficulties including a growing number of those with developmental disabilities including autism (Pennsylvania Department of Public Welfare [PDPW], 2007). With this unique treatment team population, it would be noteworthy to further evaluate the child's disability type or diagnosis related to informant congruence on behavioral rating scales.

Additionally, it would also be important to investigate the degree of clinician familiarity with children/families. The length of time that clinicians have worked with children and families may impact upon the extent of congruence or discrepancy with similar parental reports. Further evaluation in this area may be of significance when examining the relationships between families and treatment teams.

Implications for Practice

The current research provides several implications for clinicians who are providing direct or consultative services to children with emotional/behavioral difficulties and their families.

First, the structured and consistent use of behavioral rating scales by treatment team members in a wraparound model of care could serve to improve overall program effectiveness for the child.

During a period of time when funding is often limited for many community-based organizations, the need to demonstrate program effectiveness is essential (Bieber, 2002; Bruns et al., 2010;

Mandell et al, 2008). Best practices for children with emotional and behavioral disorders calls for multidimensional assessment that includes the use of standardized instruments (McConaughy & Ritter, 2002). These rating scales could provide an efficient means of assessment that is

linked with intervention and overall programming. More specifically, the use of rating scales such as the CBCL could be utilized to assess treatment team ratings of the child over time.

Behavioral rating scales initially completed by parents could also be utilized in conjunction with standard diagnostic interviews to further provide support for the intensity or number of BHRS

hours prescribed for each child/family. Currently, there is not a standard approach to evaluating the effectiveness of BHRS programming. Many agencies may not yet utilize forms of

multidimensional assessment and instead rely solely on parent interview for the re-authorization of clinical services (PDPW, 2007).

Furthermore, some authors (e.g., Collishaw, Goodman, Ford, Rabe-Hesketh, & Pickles, 2009; De Los Reyes & Kazdin, 2005) have called for additional research to assess potential moderating variables related to the assessment of child psychopathology. This type of research could directly inform practice through identifying areas for additional treatment focus. For instances, if high levels of maternal depression or low levels of family cohesiveness were found

to moderate or influence parental ratings, the treatment team could directly address those variables in the course of regular treatment.

Conclusion

The current investigation evaluated cross-informant congruence between community-based clinicians and families regarding child internalizing and externalizing behaviors. Results indicated moderate to high correlations among all treatment team members, which were findings not entirely expected. The higher levels of congruence were explained in the context of the BHRS model that promotes a strong cohesion of the treatment team in providing home-based services to children and families. Overall, this study contributed to the existing literature base by implementing new informant perspective of different role informants who were rating behavior within the same setting.

References

- Achenbach, T. M. (1991). *Manual for the Child Behavioral Checklist and 1991 Child Behavior Profile*. Burlington: University of Vermont, Department of Psychiatry.
- Achenbach, T. M. (2000). Assessment of psychopathology. In A. Sameroff, M. Lewis, & S. Miller (Eds.), *Handbook of Developmental Psychopathology (2nd ed.)*. New York: Plenum.
- Achenbach, T. M. (2011). Commentary: Definitely more than measurement error: But how should we understand and deal with informant discrepancies? *Journal of Clinical Child & Adolescent Psychology*, 40, 80-86.
- Achenbach, T. M., McConaughy, & Howell, C. T. (1987). Child/adolescent behavioral and emotional problems: Implications of cross-informant correlations for situational specificity. *Psychological Bulletin*, 101, 213-232.
- Achenbach, T. M., & Rescorla, L. A. (2001). *Manual for the ASEBA School-Age Forms & Profiles*. Burlington, VT: University of Vermont, Research Center for Children, Youth, and Families.
- Allegheny HealthChoices. (2006). *Behavioral health rehabilitation services: Brief treatment model*. Pittsburgh, PA. Retrieved from <http://www.ahci.org/Reports/QualityFocusReports/BHRS%20Brief%20Treatment%20Report.pdf>
- American Psychiatric Association (2000). *Diagnostic and Statistical Manual - IV, Text Revision*. Washington, D.C.: American Psychiatric Association.
- Antrop, I., Roeyers, H., Oosterlaan, J., & Van Oost, P. (2002). Agreement between parent and

- teacher ratings of disruptive behavior disorders in children with clinically diagnosed ADHD. *Journal of Psychopathology and Behavioral Assessment*, 24, 67-73.
- Bandura, A. (1977). *Social Learning Theory*. New York: General Learning Press.
- Benjamin, C. L., Puleo, C. M., & Kendall, P. C. (2011). Informant agreement in treatment gains for child anxiety. *Child & Family Behavior Therapy*, 33, 199-216.
- Berg-Nielsen, T. S., Solheim, E., Belsky, J., & Wichstrom, L. (2012). Preschoolers psychosocial problems: In the eyes of the beholder? Adding teacher characteristics as determinants of discrepant parent-teacher reports. *Child Psychiatry and Human Development*, 43, 393-413.
- [Bertram, R. M.](#); [Suter, J. C.](#); [Bruns, E. J.](#); & [O'Rourke, K.](#) (2011). Implementation research and Wraparound literature: Building a research agenda. *Journal of Child and Family Studies*, 20, 713-725.
- Bickman, L., Smith, C. M., Lambert, E. W., & Andrade, A. R. (2003). Evaluation of a congressionally mandated wraparound demonstration. *Journal of Child and Family Studies*, 12, 135-156.
- Bieber, J., Wroblewski, J. M., & Barber, C. A. (1999). *Design and implementation of an outcomes management system within inpatient and outpatient behavioral health settings*. (pp. 171-210). Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers.
- Brannan, A. M. (2003). Ensuring effective mental health treatment in real-world settings and the critical role of families. *Journal of Child and Family Studies*, 12, 1-10.
- Breton, J. Bergeron, L, Valla, J., Berthiaume, C., Gaudet, N., Lambert, J. et al. (1999). Quebec child mental health survey: Prevalence of DSM-III-R mental health disorders. *Journal of Child Psychology and Psychiatry*, 40, 375-384.

- Bronfenbrenner, U. (1979). *The Ecology of Human Development: Experiments by Nature and Design*. Cambridge, MA: Harvard University Press.
- Bugaj, S. J., & Manning, R. L. (2002). Suggestions for improving the delivery of therapeutic staff support in the public schools. *Journal of Mental Health Counseling, 24*, 88-93.
- Burchard, J. D., Burchard, S.N., Sewell, R., & VanDenBerg, J. (1993). *One kid at a time: evaluative case studies and description of the Alaska Youth Initiative Demonstration Project*. Juneau, AK: State of Alaska Division of Mental Health and Mental Retardation.
- Bruns, E. (2008). The evidence base and wraparound. In E. J. Bruns & J. S. Walker (Eds.), *The resource guide to wraparound*. Portland, OR: National Wraparound Initiative, Research and Training Center for Family Support and Children's Mental Health.
- Burns, B. J., & Goldman, S. K. (Eds.) (1999). Promising practices in wraparound for children with serious emotional disturbance and their families. *Systems of Care: Promising Practices in Children's Mental Health, 1998 Series, Vol. IV*. Washington, D.C.: Center for Effective Collaboration and Practice, American Institutes for Research.
- Bruns, E. J., Rast, J., Peterson, C., Walker, J. S., & Bosworth, J. (2006). Spreadsheets, service providers, and the statehouse: Using data and the wraparound process to reform systems for children and families. *American Journal of Community Psychology, 38*, 201-212.
- Burns, B. J., Schoenwald, S. K., Burchard, J. D., Faw, L., & Santos, A. B. (2000). Comprehensive community-based interventions for youth with severe emotional disorders: Multisystemic therapy and the wraparound process. *Journal of Child and Family Studies, 9*, 283-314.
- Bruns, E. J., Burchard, J. D., Suter, J. C., Leverentz-Brady, K., & Force, M. M. (2004).

- Assessing fidelity to a community-based treatment for youth: The wraparound fidelity index. *Journal of Emotional and Behavioral Disorders*, 12, 79-89.
- Bruns, E. J., Osher, T., Walker, J. S., & Rast, J. (2005). The National wraparound initiative: toward consistent implementation of high quality wraparound. In C. C. Neuman, C. J. Liberton, K. Kutash, & R. M. Friedman (Eds.), *17th Annual Conference Proceedings - A System of Care for Children's Mental Health: Expanding the Research Base*. Tampa, FL: University of Southern Florida, The Research and Training Center on Children's Mental Health.
- Bruns, E. J., Sather, A., Pullmann, M. D., & Stambaugh, L. F. (2011). National trends in implementing wraparound: Results from the state wraparound survey. *Journal of Child and Family Study*, 20, 726-735.
- Bruns, E. J., Sather, A., & Stambaugh, L. (2008). National trends in implementing wraparound: Results from the statewide wraparound survey, 2007. In E. J. Bruns & J. S. Walker (Eds.), *The resource guide to wraparound*. Portland, OR: National Wraparound Initiative, Research and Training Center for Family Support and Children's Mental Health.
- Burns, B. J., Schoenwald, S. K. Burchard, J. D., Faw, L., & Santos, A. B. (2000). Comprehensive community-based interventions for youth with severe emotional disorders: Multisystemic therapy and the wraparound process. *Journal of Child and Family Studies*, 9, 283-314.
- Bruns, E. J., & Suter, J. C. (2010). Summary of the wraparound evidence base. In E. J. Bruns & J. S. Walker (Eds.), *The resource guide to wraparound*. Portland, OR: National Wraparound Initiative.
- Bruns, E. J., Suter, J. C., Force, M. M. & Burchard, J. D. (2005). Adherence to wraparound

- principles and association with outcomes. *Journal of Child and Family Studies*, 14, 521-534.
- Bruns, E. J., Suter, J. C., & Leverentz-Brady, K. M. (2006). Relations between program and system variables and fidelity to the wraparound process for children and families. *Psychiatric Services*, 57, 1586-1593.
- Bruns, E. J. & Walker, J. S. (2010). The wraparound process: An overview of implementation essentials. In E. J. Bruns & J. S. Walker (Eds.), *The resource guide to wraparound*. Portland, OR: National Wraparound Initiative, Research and Training Center for Family Support and Children's Mental Health.
- Bruns, E. J., Walker, J. S., Zabel, M., Matarese, M., Estep, K., Harburger, D., Mosby, M., & Pires, S. A. (2010). Intervening in the lives of youth with complex behavioral health challenges and their families: The role of the wraparound process. *American Journal of Community Psychology*, 46, 314-331.
- Bruns, E. J., Walrath, C. M., & Sheehan, A. K. (2007). Who administers wraparound? An Examination of the training, beliefs, and implementation supports for wraparound providers. *Journal of Emotional and Behavioral Disorders*, 15, 156-168.
- Cai, X., Kaiser, A. P., & Hancock, T. B. (2004). Parent and teacher agreement on child behavior checklist items in a sample of preschoolers from low-income and predominately African American families. *Journal of Clinical Child and Adolescent Psychology*, 33, 303-312.
- Center for Mental Health Services (1999). *Annual report to congress on the evaluation of comprehensive community mental health services for children and their families program*. Atlanta, GA: ORC Macro.

- Centers for Disease Control and Prevention. (2012). Prevalence of Autism Spectrum Disorders – Autism and developmental disabilities monitoring network, 14 sites, United States, 2008. *Morbidity and Mortality Weekly Report*, 61, 1-19.
- Clark, H. B., Prange, M. E., Lee, B., Stewart, E. S., McDonald, B. B., & Boyd, L. A. (1998). An individualized wraparound process for children in foster care with emotional/behavioral disturbances: Follow-up findings and implications from a controlled study. In *Outcomes for Children and Youth with Emotional and Behavioral Disorders and their Families: Programs and Evaluation Best Practices* (pp. 513-542). Austin, TX: Pro-Ed.
- Clark, R.T., Schaefer, M., Burchard, J.D., & Welkowitz, J.W. (1992). Wrapping community-based mental health services around children with a severe behavioral disorder: an evaluation of Project Wraparound. *Journal of Child and Family Studies*, 1, 241-61.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, N.J.: L. Erlbaum Associates.
- Collishaw, S., Goodman, R., Ford, T., Rabe-Hesketh, S., & Pickles, A. (2009). How far are associations between child, family and community factors and child psychopathology informant-specific and informant-general? *Journal of Child Psychology and Psychiatry*, 50, 571-580.
- Community Care: Behavioral Health Organization. 2012. *Performance Standards: BHRS for Autism Spectrum Disorders*. Retrieved from <http://www.ccbh.com/pdfs/Providers/performanceStandards/BHRSforAutismSpectrumDisorders.pdf>
- Davis, K. (2012). Expenditures for treatment of mental health disorders among children, ages 5–

- 17, 2007–2009: Estimates for the U.S. civilian noninstitutionalized population. *Statistical Brief #357*. Agency for Healthcare Research and Quality, Rockville, MD. Retrieved from http://www.meps.ahrq.gov/mepsweb/data_files/publications/st357/stat357.pdf
- De Los Reyes, A., & Kazdin, A. (2005). Informant discrepancies in the assessment of childhood psychopathology: A critical review, theoretical framework, and recommendations for further study. *Psychological Bulletin*, 131, 483-509.
- Doumen, S., Koomen, H. M., Buyse, E., Wouters, S., & Verschueren, K. (2012). Teacher and observer views on student-teacher relationships: Convergence across kindergarten and relations with student engagement. *Journal of School Psychology*, 50, 61-76.
- Duhig, A. M., Renk, K., Epstein, M. K., & Phares, V. (2000). Interparental agreement on internalizing, externalizing, and total behavior problems: A meta analysis. *Clinical Psychology: A publication of the Division of Clinical Psychology of the American Psychological Association*, 7, 435-453.
- Dumenci, L., Achenbach, T. M., & Windle, M. (2011). Measuring context-specific and cross-contextual components of hierarchical constructs. *Journal of Psychopathology and Behavioral Assessment*, 33, 3-10.
- Eber, L., Jyde, K., Rose, J., Breen, J., McDonald, D., & Lewandowski, H. (2009). Completing the continuum of schoolwide positive behavior support: Wraparound as a tertiary-level intervention. In *Handbook of Positive Behavior Support*. (Ed. L. Eber), 671-703. Springer: New York.
- Eber, L., & Keenan, S. (2004). Collaboration with other agencies: Wraparound and systems of care for children and youths with emotional and behavioral disorders. In *Handbook of*

- Research in Emotional and Behavioral Disorders* (pp. 502-516). New York: Guilford Press.
- Epstein, M. H., Nordness, P. D., Kutash, K., Duchnowski, A., Schrepf, S., Benner, G. J., et al. (2003). Assessing the wraparound process during family planning meetings. *The Journal of Behavioral Health Services and Research*, 30, 352-362.
- Federal Interagency Forum on Child and Family Statistics. (2007). *America's children: Key national indicators of well-being, 2007*. Federal Interagency Forum on Child and Family Statistics, Washington, DC: U. S. Government Printing Office.
- Feeney-Kettler, K. A., Kratochwill, T. R., & Kettler, R. J. (2011). Identification of preschool children at risk for emotional and behavioral disorders: Development and validation of a universal screening system. *Journal of School Psychology*, 49, 197-216.
- Ferdinand, R. F., Hoogerheide, K. N., Ende, J., Visser, J. H., Koot, H. M., Kasius, M. C., et al. (2003). The role of the clinician: Three-year predictive value of parents', teachers', and clinicians' judgment of childhood psychopathology. *Journal of Child Psychology and Psychiatry*, 44, 867-876.
- Goldman, S., & Faw, L. (1998). Three wraparound models as promising approaches. Promising practices in wraparound for children with serious emotional disturbance and their families. *Systems of care: Promising Practices in Children's Mental Health*, 35-78. Washington, DC: Center for Effective Collaboration and Practice, American Institutes for Research.
- Graves, K. N. (2005). The links among perceived adherence to the system of care philosophy, consumer satisfaction, and improvements in child functioning. *Journal of Child and Family Studies*, 14, 403-415.

- Grietens, H., Onghena, P., Prinzie, P., Gadeyne, E., Van Assche, V., Ghesquiere, P., et al. (2004). Comparison of mothers', fathers', and teachers' reports of problem behavior in 5- to 6- years old children. *Journal of Psychopathology and Behavioral Assessment*, 26, 137-146.
- Gross, D., Fogg, L., Garvey, C., & Julion, W. (2004). Behavior problems in young children: An analysis of cross-informant agreements and disagreements. *Research in Nursing & Health*, 27, 413-425.
- Hansen, M. Litzelman, A., Marsh, D. T., & Milspaw, A. (2004). Approaches to serious emotional disturbance: Involving multiple systems. *Professional Psychology: Research and Practice*, 35, 457-465.
- Hintze, J. M., Stoner, G., & Bull, M. H. (2000). Analogue assessment: Research and practice in evaluating emotional and behavioral problems. In E. S. Shapiro & T. R. Kratochwill, *Behavioral Assessment in Schools* (2nd Ed.) (pp. 104-138). New York: Guilford.
- Holmbeck, G. N., Li, S. T., Schurman, J. V., Friedman, D., & Coakley, R. M. (2002). Collecting and managing multisource and multimethod data in studies of pediatric populations. *Journal of Pediatric Psychology*, 27, 5-18.
- Hotelling, H. (1935). The most predictable criterion. *Journal of Educational Psychology*, 26, 139-142.
- Hotelling, H. (1936). Relations between two sets of variates. *Biometrika*, 28, 321-377.
- Hughes, C., Soares-Boucaud, I., Hochmann, J., & Frith, U. (1997). Social behaviour in pervasive developmental disorders: Effects of informant, group and "theory-of-mind." *European Child & Adolescent Psychiatry*, 6, 191-198.
- Kamradt, B. (2000). Wraparound Milwaukee: Aiding youth with mental health needs. *Juvenile*

Justice, VII, 14-23.

- Kenziora, K., Bruns, E., Osher, D., Pacchiano, D., & Mejia, B. (2001). Wraparound: Stores from the field. In *Systems of Care: Promising Practices in Children's Mental Health, 2001 Series, Vol. I*. Washington, D.C.: Center for Effective Collaboration and Practice, American Institutes for Research.
- Kerr, D. C., Lunkenheimer, E. S., & Olson, S. L. (2007). Assessment of child problem behaviors by multiple informants: A longitudinal study from preschool to school entry. *Journal of Child Psychology and Psychiatry, 48*, 967-975.
- Kidd, S. A., & Kral, M. J. (2005). Practicing participatory action research. *Journal of Counseling Psychology, 52*, 187-195.
- Konold, T. R., Walthall, J. C., & Pianta, R. C. (2004). The behavior of child behavior ratings: Measurement structure of the child behavior checklist across time, informants, and child gender. *Behavioral Disorders, 29*, 372-383.
- Konold, T. R., & Pianta, R. C. (2007). The influence of informants on ratings of children's behavioral functioning: A latent variable approach. *Journal of Psychoeducational Assessment, 25*, 222-236.
- Jelicic, H., Phelps, E., & Lerner, R. M. (2009). Using missing data methods in longitudinal studies: The persistence of bad practices in developmental psychology. *Developmental Psychology, 45*, 1195-1199.
- Lau, A. S., Garland, A. F., Yeh, M., McCabe, K. M., Wood, P. A., & Hough, R. L. (2004). Race/ethnicity and inter-informant agreement in assessing adolescent psychopathology. *Journal of Emotional and Behavioral Disorders, 12*, 145-156.

- Lindblad-Goldberg, M., Dore, M. M., & Stern, L. (1998). *Creating competence from chaos: A comprehensive guide to home-based services*. New York, NY: W W Norton & Co.
- Liu, J., Cheng, H., & Leung, P. W. (2011). The application of the preschool child behavior checklist and the caregiver-teacher report form to mainland Chinese children: Syndrome structure, gender differences, country effects, and inter-informant agreement. *Journal of Abnormal Child Psychology*, 39, 251-264.
- Mandell, D. S., Machefsky, A., Rubin, D., Feudtner, C., Pita, S., & Rosenbaum, S. (2008). Medicaid's role in financing health care for children with behavioral health care needs in the special education system: Implications of the deficit reduction act. *Journal of School Health*, 78, 532-538.
- McConaughy, S. H., & Ritter, D. R. (2002). Multidimensional assessment of emotional and behavioral disorders. In A. Thomas & J. Grimes (Eds). *Best practices in school psychology IV*. Washington, D.C.: National Association of School Psychologists.
- McGinty, K., McCammon, S. L., & Koeppen, V. P. (2001). The complexities of implementing a wraparound approach to service provision: A view from the field. In *Child Mental Health: Exploring Systems of Care in the New Millennium* (pp. 95-110). New York: Social Work Practice Press.
- McPherson, S., Barbosa-Leiker, C., Burns, L., Howell, D., & Roll, J. (2012). Missing data in substance abuse treatment research: Current methods and modern approaches. *Experimental and Clinical Psychopharmacology*, 20, 243-250.
- Mears, S. L., Yaffe, J., & Harris, N. J. (2009). Evaluation of wraparound services for severely emotionally disturbed youths. *Research on Social Work Practice*, 19, 678-685.
- Merrell, K. W. (2000). Informant reports: Theory and research in using child behavior rating

- scales in school settings. In E. S. Shapiro & T. R., Kratochwill (Eds.), *Behavioral Assessment in the Schools: Theory, Research, and Clinical Foundations* (2nd Ed.). New York: Guilford Press.
- Munger, R. L. (1998). *The ecology of troubled children*. Cambridge, MA: Brookline Books.
- Myaard, M. J., Crawford, C., Jackson, M., & Alessi, G. (2000). Applying Behavioral Analysis within the wraparound process: A multiple baseline study. *Journal of Emotional and Behavioral Disorders*, 8, 216-229.
- New Freedom Commission on Mental Health, *Achieving the Promise: Transforming Mental Health Care in America. Executive Summary*. DHHSPub. No. SMA-03-3831. Rockville, MD: 2003. Retrieved from: <http://store.samhsa.gov/shin/content//SMA03-3831/SMA03-3831.pdf>
- Nordness, P.D. (2005). A comparison of school-based and community-based adherence to wraparound during family planning meetings. *Education and Treatment of Children*, 28, 308-320.
- Ogles, B. M., Carlston, D., Hatfield, D., Melendez, G., Dowell, K., & Fields, S. A. (2006). The role of fidelity and feedback in the wraparound approach. *Journal of Child and Family Studies*, 15, 115-129.
- Oregon Project Implementation Team (2009). Statewide children's wraparound initiative: Final report implementation phase. Retrieved from <http://www.oregon.gov/oha/amh/wraparound/docs/implementation-final.pdf>
- Osher, T. W., & Penn, M. (2010). How family partners contribute to the phases and activities of the wraparound process. In E. J. Bruns & J. S. Walker (Eds.), *The resource guide to wraparound*. Portland, OR: National Wraparound Initiative.

- Pastor, P. N., Reuben, C. A., Loeb, M. (2009). Functional difficulties among school-aged children: United States, 2001-2007. *National Health Statistics Reports*, no 19. Hyattsville, MD: National Center for Health Statistics.
- Penn, M., & Osher, T. (2008). The application of the ten principles of the wraparound process to the role of family partners on wraparound teams. In E. J. Bruns & J. S. Walker (Eds.), *The resource guide to wraparound*. Portland, OR: National Wraparound Initiative, Research and Training Center for Family Support and Children's Mental Health.
- Penney, S. R., & Skilling, T. A. (2012). Moderators of informant agreement in the assessment of adolescent psychopathology: Extension to a forensic sample. *Psychological Assessment*, 24, 386-401.
- Pennsylvania Department of Public Welfare. (2007). Guidelines for best practice in child and adolescent mental health services. Harrisburg, PA: Pennsylvania Department of Public Welfare, Office of Mental Health and Substance Abuse Services, Bureau of Children's Behavioral Health Services. Retrieved from <http://www.dpw.state.pa.us/forchildren/autism/autismresources/behavioralhealthrehabilitation/servicesbhhs/index.htm>
- Petot, D., Rescorla, L & Petot, J. (2011). Agreement between parent- and self-reports of Algerian adolescents' behavioral and emotional problems. *Journal of Adolescence*, 34, 977-986.
- Phillips, B. M., & Lonigan, C. J. (2010). Child and informant influences on behavioral ratings of preschool children. *Psychology in the Schools*, 47, 374-390.
- Pullman, M. A., Kerbs, J., Koroloff, N., Veach-White, E., Gaylor, R., & Sieler, D. D. (2006).

- Juvenile offenders with mental health needs: Reducing recidivism using wraparound. *Crime & Delinquency*, 52, 375-397.
- Quinn, K. P., & Lee, V. (2007). The wraparound approach for students with emotional and behavioral disorders: Opportunities for school psychologists. *Psychology in the Schools*, 44, 101-111.
- Rauso, M., Ly, T. M., Lee, M. H., & Jarosz, C. J. (2009). Improving outcomes for foster care youth with complex emotional and behavioral needs: A comparison of outcomes for wraparound vs. residential care in Los Angeles County. *Emotional & Behavioral Disorders in Youth*, 9, 63-68.
- Renk, K. (2005). Cross-informant ratings of the behavior of children and adolescents: The “gold standard”. *Journal of Child and Family Studies*, 14, 457-468.
- Roemer, M. (2011). Health care expenditures for the five most common children's conditions, 2008: Estimates for U.S. civilian non-institutionalized children, ages 0–17. *Statistical Brief #349*. Agency for Healthcare Research and Quality, Rockville, MD. Retrieved from http://www.meps.ahrq.gov/mepsweb/data_files/publications/st349/stat349.pdf
- Schroeder, J. F., Hood, M. M., & Hughes, H. M. (2010). Inter-parental agreement on the syndrome scales of the child behavior checklist (CBCL): Correspondence and discrepancies. *Journal of Child Family Study*, 19, 646-653.
- Sherry, A., & Henson, R. K. (2005). Conducting and interpreting canonical correlation analysis in personality research: A user-friendly approach. *Journal of Personality Assessment*, 84, 37-48.
- Simpson, G. A., Cohen, R. A., Pastor, P. N., Reuben, C.A. (2008). Use of mental health

- services in the past 12 months by children aged 4-17 years: United States, 2005-2006. *NCHS data brief, no 8*. Hyattsville, MD: National Center for Health Statistics.
- Slattery, J. M., & Knapp, S. (2003). In-home family therapy and wraparound services for working with seriously at-risk children and adolescents. In *Focus on Children and Adolescents, Innovations in Clinical Practice (Series)* (pp. 135-149). Sarasota, FL: Professional Resource Press.
- Soni, A. (2009). The Five Most Costly Children's Conditions, 2006: Estimates for the U.S. Civilian Noninstitutionalized Children, Ages 0-17. *Statistical Brief #242*. Agency for Healthcare Research and Quality, Rockville, MD. Retrieved from: http://www.meps.ahrq.gov/mepsweb/data_files/publications/st242/stat242.pdf
- Stambaugh, L. F., Mustillo, S. A., Burns, B. J., Stephens, R. L., Baxter, B., Edwards, D., et al. (2007). Outcomes from wraparound and multisystemic therapy in a center for mental health services system-of-care demonstration site. *Journal of Emotional and Behavioral Disorders, 15*, 143-155.
- Stanger, C., & Lewis, M. (1993). Agreement among parents, teachers, and children on internalizing and externalizing behavior problems. *Journal of Clinical Child Psychology, 22*, 107-115.
- Suter, J., & Bruns, E. (2008). A narrative review of wraparound outcome studies. In E. J. Bruns & J. S. Walker (Eds.), *The resource guide to wraparound*. Portland, OR: National Wraparound Initiative, Research and Training Center for Family Support and Children's Mental Health.
- Suter, J. C., & Bruns, E. J. (2009). Effectiveness of the wraparound process for children with

- emotional and behavioral disorders: A meta analysis. *Clinical Child and Family Psychology Review*, 12, 336-351.
- Thoder, V. J., Hesky, J. G., & Cautilli, J. D. (2010). Using reliable change to calculate clinically significant progress in children with EBD: A BHRS program evaluation. *International Journal of Behavioral Consultation and Therapy*, 6, 45-66.
- Toffalo, D. A. (2000). An investigation of treatment integrity and outcomes in wraparound services. *Journal of Child and Family Studies*, 9, 351-361.
- U. S. Department of Health and Human Services. (1999). *Mental Health: A report of the surgeon general – executive summary*. Rockville, MD: U.S. Department of Health and Human Services, Substance abuse and Mental Health Services Administration, Center for Mental Health Services, National Institutes of Health, National Institute of Mental Health. Retrieved from <http://profiles.nlm.nih.gov/ps/retrieve/ResourceMetadata/NNBBHS>
- U. S. Department of Health and Human Services. (2000). *Report of the surgeon general's conference on children's mental health: A national agenda*. Washington, DC: Department of Health and Human Services. Retrieved from <http://www.ncbi.nlm.nih.gov/books/NBK44233/>
- U. S. Department of Health and Human Services. (2006). *Mental health, United States, 2004*. DHHS Pub No. (SMA)-06-4195. Rockville, MD: Substance Abuse and Mental Health Services Administration. Retrieved from <http://store.samhsa.gov/product/Mental-Health-United-States-2004/SMA06-4195>
- VanDenBerg, J. (2008). Reflecting on wraparound: Inspirations, innovations, and future

- directions. In E. J. Bruns & J. S. Walker (Eds.), *The resource guide to wraparound*. Portland, OR: National Wraparound Initiative, Research and Training Center for Family Support and Children's Mental Health.
- Van der Ende, J., Verhulst, F. C., & Tiemeier, H. (2012). Agreement of informants on emotional and behavioral problems from childhood to adulthood. *Psychological Assessment, 24*, 293-300.
- Van Roy, B, Grohold, B., Heyerdahl, S., & Clench-Aas, J. (2010). Understanding discrepancies in parent-child reporting of emotional and behavioural problems: Effects of relational and socio-demographic factors. *BMC Psychiatry, 1-12*.
- Vernberg, E. M., Roberts, M. C., Randall, C. J., Biggs, B., K., Nyre, J. E., & Jacobs, A. K. (2006). Intensive mental health services for children with serious emotional disturbances through a school-based, community oriented program. *Clinical Child Psychology and Psychiatry, 11*, 417-430.
- Voelker, S. L., Shore, D. L., Lee, C. H., & Szuskiewicz, T. A. (2000). Congruence in parent and teacher ratings of adaptive behavior of low-functioning children. *Journal of Developmental and Physical Disabilities, 12*, 367-376.
- Walker, J. S. (2008a). How, and why, does wraparound work? A theory of change. In E. J. Bruns & J. S. Walker (Eds.), *The resource guide to wraparound*. Portland, OR: National Wraparound Initiative, Research and Training Center for Family Support and Children's Mental Health.
- Walker, J. S. (2008b). The national wraparound initiative (NWI): Why? What? How? In E.

- J. Bruns & J. S. Walker (Eds.), *The resource guide to wraparound*. Portland, OR: National Wraparound Initiative, Research and Training Center for Family Support and Children's Mental Health.
- Walker, J. S. (2008c). Supporting wraparound implementation: Overview. In E. J. Bruns & J. S. Walker (Eds.), *The resource guide to wraparound*. Portland, OR: National Wraparound Initiative, Research and Training Center for Family Support and Children's Mental Health.
- Walker, J. S., & Bruns, E. J. (2006a). Building on practice-based evidence: Using expert perspectives to define the wraparound process. *Psychiatric Services, 57*, 1579-1585.
- Walker, J. S., & Bruns, E. J. (2006b). The wraparound process: Individualized, community-based care for children and adolescents with intensive needs. In *Community Mental Health: Challenges for the 21st Century* (pp. 47-57). New York: Routledge.
- Walker, J. S., & Bruns, E. J., & The National Wraparound Initiative Advisory Group. (2008). Phases and activities of the wraparound process. In E. J. Bruns & J. S. Walker (Eds.), *The resource guide to wraparound*. Portland, OR: National Wraparound Initiative, Research and Training Center for Family Support and Children's Mental Health.
- Walker, J. S., & Schutte, K. M. (2004). Practice and process in wraparound teamwork. *Journal of Emotional and Behavioral Disorders, 12*, 182-192.
- Walker, J. S., & Schutte, S. (2005). Quality and individualization in wraparound team planning. *Journal of Child and Family Studies, 14*, 251-267.
- Winsler, A., & Wallace, G. L. (2002). Behavior problems and social skills in preschool children: Parent-teacher agreement and relations with classroom observations. *Early Education & Development, 13*, 41-58.

Table 1

Correlations of Treatment Team Members on CBCL/6-18

<i>Group</i>	Parent Ext	Parent Int	TSS Ext	TSS Int
BSC Ext	.583*	-----	.630*	-----
BSC Int	-----	.433*	-----	.587*
TSS Ext	.496*	-----	1	-----
TSS Int	-----	.646*	-----	1

Note. CBCL=Child Behavior Checklist; Ext=externalizing behavior; Int=internalizing behavior; BSC=behavior specialist consultant; TSS=therapeutic staff support.

*p<01

Table 2

CBCL/6/18 Means, Standard Deviations, and Effect Sizes for Treatment Team Members

	<i>Comparison Group</i>		<i>Comparison Group</i>		<i>Comparison Group</i>	
	BSC	TSS	BSC	Parent	TSS	Parent
Externalizing						
M	66.34	68.71	66.34	69.10	68.71	69.10
(SD)	(6.83)	(7.98)	(6.83)	(8.12)	(7.98)	(8.12)
ES		0.32		0.37		0.05
Internalizing						
M	64.77	65.70	64.77	65.95	65.70	65.95
(SD)	(6.25)	(5.95)	(6.25)	(7.84)	(5.95)	(7.84)
ES		0.15		0.17		0.04

Note. BSC=behavior specialist consultant; TSS=therapeutic staff support

Table 3

Family Demographic Information

<i>Characteristic</i>	<i>%</i>
Child Sex	
Male	62.6%
Female	37.4%
Family Rater	
Mother	69.2%
Father	19.6%
Grandparent	7.5%
Other- family/guardian	3.7%
Child Ethnicity	
White/Non-Hispanic	64.5%
Black/African-American	14.0%
Hispanic/Latino	12.1%
Asian	2.8%
Other	6.5%
Family Rater Ethnicity	
White/Non-Hispanic	69.2%
Black/African-American	17.4%
Hispanic/Latino	7.8%
Asian	2.5%
Other	3.1%
Parent Education	
Some high school	5.6%
High school graduate	52.3%
Associates/technical/post-secondary	15.0%
Bachelor's degree	19.6%
Advanced/professional degree	7.5%
Parent Employment	
Full-time	29.0%
Part-time	24.3%
Homemaker	23.4%
Student	4.7%
Retired	4.7%
Unemployed	11.2%
Unable to Work	2.8%
Marital Status	
Married	36.4%
Divorced	6.5%
Widowed	0.9%
Separated	20.6%
Never Married	16.8%
Unmarried Couple	18.7%

Table 4

Clinician (BSC/TSS) Demographic Information

Item	BSC	TSS
Months E/BD ^a	56.58	25.50
Months at Agency	18.46	17.11
Months with Current Family	15.29	13.94
Hours/Week Family ^b	2.56	11.60
Education		
Associates	0%	1.9%
Bachelors	0%	92.5%
Masters	94.5%	5.6%
Doctoral	5.6%	0%
Additional Training		
No	86.9%	95.3%
Yes	13.1%	4.7%

Note: BSC=behavior specialist consultant; TSS=therapeutic staff support

^aTotal time (in months) spent working with children with emotional/behavioral disorders.

^bPrescribed level of BHRS hours per week with current family.

Appendix A

**Demographic Survey
(Parent Version)**

1. *Child's date of birth:* ___/___/___
2. *Child's sex (mark an "X"):* ___ Male ___ Female
3. *Child's ethnicity:*
 - ___ White/Non-Hispanic
 - ___ Black or African American
 - ___ Hispanic or Latino
 - ___ Asian
 - ___ Native American/Alaskan Native
 - ___ Native Hawaiian or other Pacific Islander
 - ___ Other
4. *Person completing behavior rating form (mark an X):*
 - ___ Mother ___ Father ___ Grandparent ___ Other (Please specify): _____
5. *What is your ethnicity?*
 - ___ White/Non-Hispanic
 - ___ Black or African American
 - ___ Hispanic or Latino
 - ___ Asian
 - ___ Native American/Alaskan Native
 - ___ Native Hawaiian or other Pacific Islander
 - ___ Other
6. *What is the highest grade or year of school you completed?*
 - ___ Elementary/Middle (grades 1 through 8)
 - ___ Some high school (grades 9 through 11)
 - ___ High school graduate (grade 12 or GED)
 - ___ Associates degree or technical school (1 year to 3 years of post-secondary school)
 - ___ Bachelors degree
 - ___ Advanced graduate or professional degree
7. *What is your current employment status?*
 - ___ Employed full-time
 - ___ Employed part-time
 - ___ Homemaker
 - ___ Student
 - ___ Retired
 - ___ Unemployed
 - ___ Unable to work

****PLEASE TURN OVER****

8. *How do you describe your marital status?*

- Married
- Divorced
- Widowed
- Separated
- Never married
- Member of an unmarried couple

9. *How many children less than 18 years of age live in your household?*

Number of children _____

10. *How long have you received Behavioral Health Rehabilitative Services (BHRS)? (Include **all** agencies your have received TSS/BSC services)*

_____ years _____ months

11. *How long have you received BHRS services with your **current** agency?*

_____ years _____ months

12. *How long have you worked with your current BSC?*

_____ years _____ months

13. *How long have you worked with your current TSS?*

_____ years _____ months

14. *How many hours of TSS/BSC services are you prescribed per week?*

_____ hours TSS _____ hours BSC

**Demographic Survey
(BSC/TSS Version)**

1. *Person completing behavior rating form (mark an X):*

BSC TSS

2. *Gender:* Male Female

3. *What is your age range?*

21 years or younger

22 – 31 years

32 – 41 years

42 – 51 years

52 – 61 years

62 years or older

15. *What is your ethnicity?*

White/Non-Hispanic

Black or African American

Hispanic or Latino

Asian

Native American/Alaskan Native

Native Hawaiian or other Pacific Islander

Other

4. *What is your level of education?*

Associate's degree (e.g., AA)

Bachelor's degree (e.g., BA, B.S.)

Master's degree (e.g., M.S., M.A., M.Ed.)

Doctoral degree (e.g., Ph.D, Psy.D.)

5. Do you have any additional training credentials? (certifications, licensures, etc.)

No Yes (please list): _____

****PLEASE TURN OVER****

6. How long have you worked with (provided consultation, assessment and/or intervention services) to children with emotional/behavioral difficulties? Include any previous positions.

_____ years _____ months

7. How long have you provided BHRS services in this **current** agency?

_____ years _____ months

8. How long have you worked with the current family who is participating in the study?

_____ years _____ months

9. Rate the ease of working with this child.

1	2	3	4	5
Very Easy		Easy		Not at all Easy

10. Rate the ease of working with this family.

1	2	3	4	5
Very Easy		Easy		Not at all Easy

11. How many hours of service do you provide to this family **each week**?

_____hours (TSS) or _____hours (BSC)

Appendix B

INVITATION TO PARTICIPATE

Dear BHRS Treatment Team Member,

You are invited to participate in a study that is examining the behaviors of child/adolescents who are receiving Behavioral Health Rehabilitative Services (BHRS) from a local community agency. Treatment team members, whose participation in the study is requested, will include the parent or guardian, behavioral specialist (BSC), and therapeutic staff support (TSS). Participation in the study would involve completing a behavioral rating scale related to the child/adolescent receiving BHRS services. Completion of the rating scale will take approximately 10-15 minutes of your time.

Your participation in the study is both valued and appreciated. As a thank you for completing rating scale items, individuals will be entered in a parent, TSS, or BSC drawing to win a \$100 gift certificate to a store of your choice! If you are interested in participating in the study, please read the packet of information and complete the following steps:

- The participating parent/guardian, TSS, or BSC should read and sign the ***Informed Consent Form***. This form explains your participation in the study.
- Complete the items on the ***Child Behavior Checklist (CBCL)*** report form. This rating form asks a range of questions related to the behavioral and social competencies of children. Please do not collaborate with other treatment team members (parents, BSC, TSS) when completing this form, as this study is seeking your independent perception of the child's behavior.
- Complete the **Demographic Form**.
- Participants should include the CBCL rating form and the Demographic Form in the pre-addressed stamped envelope and mail to their local agency within **2 weeks**.
- If you are interested in participating in the raffle, please complete and return the enclosed form.

Thank you,

Ebony Holliday, M.Ed.
 Doctoral Candidate, School Psychology Dept.
 Lehigh University
elh2@lehigh.edu