PEDIATRIC BIPOLAR DISORDER:
ASSESSMENT AND INTERVENTION PRACTICES OF
SCHOOL PSYCHOLOGISTS AND THE
IMPLICATIONS FOR TRAINING IN THE UNITED STATES

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The United States government and professional psychology have made the research on and the treatment of pediatric psychopathology a priority. As part of this mandate, school systems are strongly encouraged to participate in the prevention, identification, and treatment of childhood mental health disorders. Effective and meaningful accomplishment of these goals requires the training of school in the skills necessary to identify symptoms, be knowledgeable in assessment best practices, and to provide the necessary supports on behalf of children experiencing a mood disorder. Pediatric Bipolar Disorder (PBD) has shifted from relative obscurity to a meaningful, well-researched diagnosis. Although there remains considerable debate regarding the disorder’s differential diagnosis, it is recognized as a disorder with devastating effects. A national survey investigated school psychologists’ level of knowledge and breadth of experience and training pertaining to PBD. Of added interest were the current assessment practices and variety of direct services provided to students with PBD and/or Emotional Disturbances (ED) as defined by current special education federal guidelines. Results indicated levels of training and NCSP designation made no noticeable difference in what was
known or in what was practiced by school psychologists. Of the 251 participants, the majority was unable to identify selected diagnostic features of PBD but may be able to differentiate PBD from Attention Deficit-Hyperactivity Disorder. Nearly all of the respondents regularly served as participants on the multidisciplinary teams responsible for determining special education eligibility of students with ED as well as utilized both direct and indirect assessment methods; however, not quite a third of participants reported always utilizing a Functional Behavior Assessment as a part of the assessment process. When describing the services provided to students with ED or PBD, most respondents indicated that monitoring the effects of prescribed medications, providing individual and/or group counseling, and consulting with the student’s doctor occurred inconsistently if at all. Concerning their training, most school psychologists reported having received either formal or informal training addressing ED while almost half of respondents had no training at all concerning PBD. This lack of training in the area of PBD may be a reason why most participants reported an overall lack of confidence in identifying or differentiating PBD. These data and previous research suggest school psychologists need more
Chapter I

Introduction

Both the US government and professional psychology have made investigating psychopathology in school-aged children a research priority (Atkins, Hoagwood, Kutash, & Seidman, 2010; Huang, Macbeth, Dodge, & Jacobstein, 2004; George, Taylor, Schmidt, & Weist, 2013; Lazarus & Sułkowski, 2011; National Center for Health Statistics, 2010; Short, Weist, Manion, & Evans, 2012; United States Department of Health and Human Services, 2005; Weist, Rubin, Moore, Adelsheim, & Wrobel, 2007; Weisz, Sandler, Durlak, & Anton, 2005). Within the last 11 years, school systems have been strongly encouraged to participate in the identification and treatment of mental health disorders in children (President’s New Freedom Commission on Mental Health, 2003). Furthermore, it is believed primary care settings, like schools, should include child mental health as a major component in the promotion of healthy student development (Huang et al., 2005). A recent report published by the Surgeon General’s Conference on Children’s Mental Health shaped national policy (McClure, Kubiszyn, & Kaslow, 2002; U.S. Public Health Service, 2000). The policy called for the integration of “family, child and youth-centered mental health services into all systems that serve children and youth” and “engaging families and incorporating the perspectives of children and youth in the development of all healthcare planning” (U.S. Public Health Service, 2000). Pursuing these mandates requires not only the expansion of prevention and early intervention but includes the training of school psychologists, teachers and other school personnel to recognize the signs of emotional problems in children and to make the necessary referrals (Forness, Kim, & Walkedr, 2012; Repie, 2005). For this goal to be achieved, school psychologists must resist the temptation to relegate the mental health needs of children to the “health care sidelines,” and instead work as a profession.
not only to increase awareness but also to organize services necessary to effectively address the mental health and psychopathology of students (Tolan & Dodge, 2005).

Interest in the clinical and public health implications of pediatric bipolar disorder (PBD) has been steadily increasing (Birmaher et al., 2006). Although once considered a rarity, identifying children with bipolar disorder (BD) has increased in prevalence over the past 10 years shifting the disorder from relative obscurity toward being a meaningful diagnosis (Bhangoo et al., 2003; Blader & Carlson, 2007). In addition, a growing body of literature has emerged which focuses on the identification of the characteristics of PBD to assist clinicians in making a differential diagnosis (Faraone, Glatt, & Tsuang, 2003; Lofthouse & Fristad, 2006; Weller, Weller, & Fristad, 1995).

Even though previous research has increased understanding of PBD, there remains considerable debate regarding the disorder’s diagnostic features and prevalence (Youngstrom, 2007). Historically, the significant symptomatic overlap of PBD with Attention Deficit-Hyperactivity Disorder (ADHD), Oppositional Defiant Disorder (ODD) and Conduct Disorder (CD) has led to concerns that the disorder is underdiagnosed (Papolos & Papolos, 2006; Weller, Weller, & Fristad, 1995). However, the relatively recent clinical, academic, and public increase in awareness of mania in children coupled with the apparent lack of clinical training for assessment, diagnosis, and treatment is giving rise to concerns of misdiagnosis and inappropriate medical and therapeutic interventions (James & Javaloyes, 2001; Lofthouse & Fristad, 2004).

Despite diagnostic uncertainty, the literature describes a disorder with devastating effects on the pediatric population resulting in impairments across psychosocial domains including high risk of suicide, psychosis, and significant family aggregation (Birmaher et al., 2006; Lofthouse & Fristad, 2004). Research on PBD also suggests a significant need for increased
psychoeducational training for teachers and parents, and the creation of research based classroom interventions for students (Biederman, 1998; Klein, Pine, & Klein, 1998; Lofthouse & Fristad, 2006). Consequently, there is a need for research that would enhance school psychologists’ accurate identification of symptoms, effective collaboration with teachers and parents, and implementation of meaningful interventions and accommodations, pertaining to students with PBD.

Prevalence

Estimates of the prevalence of PBD are difficult due to the paucity of any national or international epidemiological studies to determine the disorder’s prevalence in the pediatric population (Soutullo et al., 2005; Weller, Weller, & Fristad, 1995); however, there is evidence the prevalence of PBD may be similar to adult BD levels (Geller & Luby, 1997). Multi-national studies of adults suggest a lifetime prevalence of bipolar disorder across various clinical and subclinical forms ranges from three to seven percent (Soutullo et al., 2005; Youngstrom, 2007; Kessler, Rubinow, Holmes, Abelson, & Zhao, 1997; Merikangas et al., 2007; Weissman et al., 1996). The American Psychiatric Association (2000) suggests similar prevalence rates and estimates the lifetime prevalence for adults to be 0.4% to 1.6% for Bipolar I Disorder, approximately 0.5% for Bipolar II Disorder, and from 0.4% to 1% for Cyclothymic Disorder.

Based on their study of older adolescents (14 – 18), Lewinsohn, Klein, and Seeley (1995; 2003) suggested the lifetime prevalence of bipolar disorders was approximately 1% with an additional 5.7% of the youths exhibiting subsyndromal symptoms of bipolar disorder (i.e., a distinct period of abnormally and persistently elevated, expansive or irritable mood). Even so, limitations of the Lewinsohn and colleagues studies include a sole reliance upon adolescent interviews, absence of parent interviews or other outside sources, and only using research
participants with Bipolar II and Cyclothymia. Nevertheless, other research applying the DSM-III-R (American Psychiatric Association, 1987) criteria have come to similar conclusions and estimate the prevalence of mania within adolescent populations to range from 0.6% to 0.7% (Carlson & Kashani, 1988; Kashani et al., 1987). Additional studies with pubescent individuals indicate the first incidence of bipolar disorder and subthreshold bipolar disorders is greatest in adolescence and declining in young adulthood (Lewinsohn et al., 2003). Unfortunately, these studies do not adequately capture the prevalence of bipolar disorder in prepubertal children (DeJong & Frazier, 2003).

Further evidence of comparable prevalence rates of mania between adult and pediatric populations may be derived from retrospective studies. In the United States, as many as 60% of adults reported experiencing the onset of their bipolar disorder before twenty years of age, and 10% - 20% reported an onset before 10 years of age (Egeland et al., 2003; Joyce, 1984; Lish, Dime-Meenan, Whybrow, & Price, 1994; Loranger & Levine, 1978; Pavuluri, Birmaher, & Naylor, 2005). A European retrospective study, including 12 national patient organizations in 11 countries, resulted in similar figures (Morselli & Elgie, 2003). Both the US and European findings support the idea most patients with bipolar disorder had a childhood onset in spite of Europe’s generally lower rates of diagnosing bipolar disorder in the pediatric population compared to the US (Soutello et al., 2005) and the international skepticism of the apparently high prevalence of PBD in the US (Gillberg et al., 2004). Despite the presence of retrospective studies, our knowledge of the prevalence and onset of bipolar disorder in children remains deficient.

**Diagnostic Criteria**

Developing the skill necessary to accurately diagnose pediatric mental disorders is a
priority and is typically associated with long-term positive treatment outcomes. Over time, if left unidentified and untreated, PBD may have a prolonged course, be less responsive to treatment, and lead to legal difficulties, multiple hospitalizations, severely impaired interpersonal relationships, diminished academic functioning, and increased rates of substance abuse and suicide (Findling, Gracious, McNamara, Youngstrom, & Demeter, 2001; Geller et al., 2003; Lewinsohn et al., 2003; Steinhausen, Haslimeier, & Metzke, 2007). In short, the probability of recovery from PBD diminishes as time increases between initial symptoms and actual treatment (Goodwin & Jamison, 1990). This is all the more problematic when one realizes children and youth with emotional disabilities receive special education services more than approximately one year later than children with other types of disabilities (Wagner, Kutash, Duchnowski, & Epstein, 2005).

Identifying the presence of one or more episodes of abnormally elevated mood is central to diagnosing bipolar disorder and its various subtypes. Manifestations of mania and hypomania during childhood and early adolescence frequently differ from the symptoms exhibited in adulthood, thereby complicating the practitioner’s ability to make a differential diagnosis. For instance, younger adolescents may demonstrate BD symptoms which reflect both childhood and adult expressions of the disorder (Lewinsohn et al., 2003; Lofthouse & Fristad, 2006; Wozniak et al., 1995). Even older adolescents have been found to clinically present similar to children by demonstrating a predominantly irritable and mixed mood (Biederman et al., 2005).

To meet diagnostic criteria for mania, a “distinct period” of euphoric and/or irritable mood with a cluster of co-occurring symptoms that are functionally impairing must endure long enough to be significantly different from the child’s usual presentation (Lofthouse & Fristad, 2006). Obviously, care must be given to differentiate this period from the expected increase in
mood deregulation and variability often accompanying normal development (Bowring & Kovacs, 1992; Geller & Luby, 1997). Mania in children is atypical by adult standards particularly in regards to mood presentation (Biederman, et al., 2005). In children, a manic episode may be defined as either a distinct period of excessively elevated (i.e., inappropriately happy) or irritable (i.e., excessive temper tantrums, rages out of proportion to events) mood, or both (Craney & Geller, 2003; Lofthouse, Mackinaw-Koons, & Fristad, 2004). The National Association of School Psychologists (NASP 1993; NASP, 2005; Lofthouse et al., 2004) suggests criteria for “altered mood” requires identifying three or more symptoms including: (a) inflated self-esteem (e.g., child thinks s/he is smarter than everyone else despite failing grades); (b) grandiosity (e.g., a child believes and tells others s/he is able to run faster than a car); (c) decreased need for sleep (e.g., a child feels rested after a few hours of sleep); (d) rapid, loud, or uninterruptible speech; (e) racing thoughts, increased distractibility, increased goal-directed activity/psychomotor agitation (e.g., a child starts to rearrange the school library, cleans everyone’s desks, and plans to build an elaborate tree house in the backyard, but never finishes any of these projects); and (f) excessive involvement in pleasurable or dangerous activities (e.g., a previously mild-mannered child writes offensive notes to other children in class or attempts to jump out of a second story window).

Children also may experience depressive episodes as a part of their mood dysregulation. An episode of depression is defined by NASP (2005) and the American Psychiatric Association (2000) as a distinct period of sad or irritable mood or markedly diminished interest and/or pleasure in most activities. This period of depression includes four or more of the following symptoms: (a) significant appetite change; (b) sleep problems; (c) restlessness or slowed movement, (d) fatigue; (e) feelings of worthlessness or excessive guilt; (f) problems
concentrating; and (g) recurrent thoughts of death and/or recurrent suicidal thoughts, plans or attempts.

Unlike adults with BD, children with mania typically do not manifest euphoria, but severe irritability (Carlson, 1983; Davis, 1979; Emslie, Kennard, & Kowatch, 1994). In a study of 6- to 12-year old prepubertal children diagnosed with mania using DSM-III-R (American Psychiatric Association, 1987) criteria, Weller et al. (1995) reported 50% described a primarily irritable mood. Carlson’s (1983) literature review revealed children younger than 9 years old reported emotional lability, crying and irritability while those 9 years and older more commonly described grandiose delusions and euphoria. Without the typical manic presentation, clinicians may erroneously attribute a child’s emotional outbursts and belligerence to psychosocial factors or conduct disorder. Severe irritability also may be the predominant mood abnormality in adolescents with BD (Wozniak et al., 1995). The behavior frequently is described by parents and clinicians as aggressively out-of-control and is the primary reason why adolescents are referred for treatment or for hospitalization (Biederman et al., 2005). Not only must clinicians differentiate PBD from more common childhood disorders but they also need to consider whether behaviors (e.g., playing, activity levels, rate of speech) are consistent with those displayed by typical children and adolescents (McClellan & Werry, 1997).

The idea that there is a continuum describing PBD is gaining consensus. In 2001, the National Institute of Mental Health Research Roundtable on prepubertal bipolar disorder promoted the idea that PBD can present in “narrow” and “broad” phenotypes. The phenotyping model is viewed as “critical” in helping researchers as well as clinicians determine variables related to psychopharmacology, neurophysiology, treatment response, and prognosis (Pavuluri et al., 2005). Shortly following the roundtable report, Liebenluft and colleagues (2003b) proposed
a framework for classifying PBD into three subtypes (i.e., narrow, intermediate, broad) and suggested the disorder existed as a “spectrum.” The narrow type is marked by recurrent periods of depression and mania or hypomania and fits the definition of adult mania as described in the Diagnostic and Statistical Manual, Fourth Edition (DSM-IV; American Psychiatric Association, 2000; Craney & Geller, 2003). The broad phenotype, on the other hand, constitutes the majority of the referrals to clinicians and is the type most likely to be seen by school psychologists (Pavuluri et al., 2005). Symptoms include severe irritability, “affective storms,” mood lability, severe temper outburst, symptoms of depression, anxiety, hyperactivity, poor concentration, and impulsivity with or without clear episodicity (Biederman & Garcia, 1996).

Birmaher and colleagues (2006) were the first to describe the psychopathological course of each of the major clinical phenotypes of BD among children as well as adolescents. Of particular import was their acquisition of the largest subject pool of children and adolescents with BD ever gathered to date to be involved in the study. General findings highlighted the substantial morbidity of BD in this age group, including early age of first onset of mood disturbance, long duration, fluctuating course, high familial loading for mood and other psychiatric disorders, and high rates of comorbid disorders, particularly attention-deficit/hyperactivity disorder, disruptive behavior, and anxiety disorders. On average, subjects had 1.5 syndromal recurrences per year, particularly depressive episodes. Analyses of weekly mood symptoms showed subjects were symptomatic approximately 60% of the follow-up time, with about 22% of the time in full syndromal episodes and 38% of the time with subsyndromal symptoms. In addition, youth with BD showed high lifetime rates of psychosis. Furthermore, subjects in whom BD symptoms developed during their early childhood showed lower rates of
recovery, more time in mixed/rapid cycling episodes, and more symptom and polarity changes than those whose illness started later.

Despite the growing research on PBD phenotypes, consensus is not yet universal and school psychologists should be aware that researchers continue to use different sets of diagnostic criteria to define PBD. For example, Geller et al. (1998), in a study comparing clinical characteristics of children with BD to Attention-Deficit/Hyperactivity Disorder (ADHD) and healthy controls, found grandiosity, elated mood, hypersexuality, flight of ideas, and decreased need for sleep differentiated children with BD from the other groups. These results, though beneficial, must be considered in light of the understanding BD children were identified by demonstrating symptoms of grandiosity and/or elation. On the other hand, in their research, Biederman and Garcia (1996) emphasized the centrality of irritability in establishing the diagnosis of BD regardless of the absence of elation or grandiosity. The breadth of variability in defining core characteristics of PBD is problematic and not limited to these two particular defining frameworks. For instance, a review of the literature reveals some researchers employ strict, unmodified DSM-IV symptom criteria to establish a diagnosis of PBD while others do not (Pavuluri et al., 2005).

Whereas adults are more likely to present with discrete cycles of mania, hypomania, and depression, and tend to have an episodic and acute course, childhood BD tends to be chronic and continuous (Carlson, 1983; 2005a, 2005b; Weller et al., 1995). Some researchers suggest children with BD may exhibit both manic and depressive symptoms at the same time or within the same day (Geller, Tilman, Craney, & Bolhofner, 2004; Papolos & Papolos 2006). Geller et al. (1995) coined the term “complex cycling” to describe the presence of short cycles embedded within a more prolonged cycle or episode. Applying this model, mood shifts in children are
characterized by mixed states (i.e., simultaneous manic and depressive symptoms), rapid cycling (i.e., four or more mood episodes per year), ultra-rapid cycling (i.e., more than four mood episodes per year), and ultradian cycling (i.e., multiple episodes per day, requiring more than four hours of mania per day) (Geller et al., 1995; 2000; Lofthouse et al., 2004).

**Special Education Identification Criteria**

School psychologists attempting to provide mental health services in schools are faced with the challenge of navigating between two very different approaches to identifying an emotional disorder. The Individuals with Disabilities Education Improvement Act (IDEIA) of 2004 was developed for educational administrative purposes and establishes the boundaries of special education services. Whereas IDEIA has limited heuristic application when it comes to identifying mood disorders, the DSM and ICD are committed to a medical nosological schema with little concern for school issues (Wodrich et al., 2008). The IDEIA classification system is significant for doctoral-level, licensed psychologists who work with students outside of school as well as certified school psychologists – nearly three quarters of whom do not hold a doctoral degree and are not licensed to practice outside of the school setting (Carlson, Demaray, & Hunter-Oehmke, 2006). Although licensed psychologists typically serve school children from private offices, hospital settings, and mental health clinics, and are more likely to use the standard psychiatric taxonomy, some of these psychologists also work in schools which require the IDEIA’s administrative classification system (Wodrich et al., 2008).

The number of students receiving services under the IDEIA has grown steadily since its introduction (Erford, Balcom, & Moore-Thomas, 2007), yet confusion remains among school professionals at the local and state levels regarding the eligibility guidelines for the category of emotional disturbance (Cullinan & Sabomie, 2004). The criteria is described by many as vague,
poorly defined, and professionally indefensible (Olympia et al., 2004; Skiba, Grizzle, & Minke, 1994). The IDEIA (2004) describes an “emotional disturbance” as:

A condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree that adversely affects a child’s educational performance:

- An inability to learn that cannot be explained by intellectual, sensory, or health factors;
- An inability to build or maintain satisfactory interpersonal relationships with peers and teachers;
- Inappropriate types of behavior or feelings under normal circumstances;
- A general pervasive mood of unhappiness or depression; and/or
- A tendency to develop physical symptoms related to fears associated with personal or school problems.

The functional characteristics of children and youth classified with ED results in a wide range of disabilities including anxiety, Tourette’s, depression, obsessive-compulsive disorder, psychosis and bipolar disorder (Wagner et al., 2005a,b). Because the decision-making criteria are so general, the emotional disability category includes students with decidedly heterogeneous problems and diverse educational needs (Wodrich et al., 2008). Even though students with emotional disturbances are similar in that their problems are longstanding, significant, and markedly detrimental to educational success, students with ED are so diverse it often is very difficult to generalize the type, intensity, and duration of necessary interventions and accommodations. Consequently, an ED designation provides professionals with extremely limited planning information, little knowledge of the unique factors affecting a student with BD, and a tendency to label overt behaviors as a behavioral problem rather than symptomatic of a
medical issue (Senokossoff & Stoddard, 2008).

Contrary to intuition, the lack of category specificity has not lead to the over-identification of students but perhaps the opposite. IDEIA identification rates of students with emotional disturbance remain far below the estimates of the prevalence of severe childhood mental disorders (Forness, Kavale, & Lopez, 1993; Olympia et al., 2004; Repie, 2005). A report by the Judge David Baselon Center for Mental Health Law (2003) indicated as many as 80% of children and adolescents with mental and emotional disorders are not currently being identified and served under IDEIA. While the U.S. Surgeon General estimates 5% of all school-age children have mental disorders with “extreme functional impairment” and 11% have mental disorders with “significant functional impairment” (U.S. Department of Health and Human Services, 1999), current IDEA data indicate the number of students identified nationally with Serious Emotional Disturbance is 0.94% (U.S. Department of Education, 1999). This discrepancy strongly suggests many impaired children are not receiving needed services. Lack of adequate supports places students with PBD at increased risk of exclusion from general education settings (Helfin & Bullock, 1999), marginal to unsatisfactory educational performance (Benner, Nelson, & Epstein, 2002; Cullinan, Epstein, & Subornie, 1992; Greenbaum et al., 1996; Trout, Nordness, Pierce, & Epstein, 2003; U.S. Department of Education, 2002), and suspension and withdrawal (Morgan-D’Atrio, Northrup, LaFleur, & Spera, 1996; Wagner et al., 2005a, b).

Role of the School Psychologist

School psychologists possess a unique blend of skills that make them ideal for serving the mental health needs of children. Their training allows them to conceptualize problems holistically, to support their ideas about pediatric problems with empirically valid and reliable data, to collaborate with others to implement solutions to problems, and to evaluate outcomes
NASP-affiliated practitioners spend the majority (60% to 80%) of their time performing assessment activities related to special education classification (Curtis, Hunley, Walker, & Baker, 1999; Hosp & Reschly, 2002) and are in a position to serve as a “bridge” bringing together the school, family and community services to collaborate on behalf of the well-being of the child diagnosed with psychopathology (Cohen, Linker, & Stutts, 2006). Tashman and colleagues (2000) suggest school-based mental health may even be more beneficial to children than more traditional forms of mental health service delivery systems. The role of the school psychologist is critical if schools take seriously the role of complementing services of outside agencies, serving as a catalyst to coordinate services, and developing programs to improve and expand mental health programs in schools (Gutkin, 1995).

School psychologists also have at least two advantages many other health care professionals do not. First, they are able to regularly observe the behavioral manifestations of a child’s psychopathology in one of their primary ecological systems, and second, they are able to directly intervene with the student in that system (Davis, Kruczek, & McIntosh, 2006). School psychologists’ commitment to collaboration with school personnel provides ample opportunity to integrate and monitor treatments across home, school and community settings (Fagan & Wise, 2000; Pluymert, 2005). In addition, school psychologists may have the education and experience necessary to observe and report on the effects of medication (Gureasko-Moore, DuPaul, & Power, 2005; Kowatch et al., 2005), help school personnel identify correlations between behaviors and mood (Senokossoff & Stoddard, 2008), educate school personnel on the characteristics of PBD (CABF, 2007), and track the student’s progress resulting from academic modifications (Pluymert, 2005), all of which have been shown to increase positive outcomes.
Of some concern is that the few practices and intervention programs existing for childhood pathologies remain unknown to many school psychologists (Tolan & Dodge, 2005) despite an expressed desire to spend more time involved in intervention-related tasks and consultation (Hanson, Austin, & Lee-Bayha, 2004). For example, researchers have established the prevalence rates and needs of children with a variety of special education diagnoses, but little has been written to help school psychologists effectively respond to children with psychopathology (Davis et al., 2006). It also is expected school psychologists, like other mental health professionals, experience difficulty in accurately differentiating PBD from other pediatric pathology (Cassano, McElry, Brady, Nolen, & Placidi, 2000; Wozniak et al., 2003). Additionally, a review of the literature reveals very few studies have been conducted examining school psychologists’ preparation, methods for assessment, intervention practices, and competency for working with children with PBD in the school setting.

Research Questions

Despite the ongoing controversies regarding the core features of PBD, there is overall consensus on the disorder’s existence. There also is increased agreement between clinicians and researchers on the presence of narrow and broad phenotypes of PBD. Academic difficulties due to cognitive and behavioral interference, high comorbidity with ADHD, disruptive and anxiety disorders, chronicity, recurrence, rapid cycling, and mixed episodes also are believed to characterize the disorder. However, there is little research to show how closely American schools in general and school psychologists in particular align their practices with known parameters. In addition, evidence demonstrating school psychologists’ preparation to adequately serve children with PBD is lacking. It is suspected, due to the rapidly changing landscape of PBD research, the complicated aspect of diagnosing the disorder, and the low prevalence of PBD
compared to higher prevalence concerns like ADHD, school psychologists vary greatly in their approaches to PBD. The purpose of this study, therefore, is to investigate school psychologists’ identification and intervention practices as they relate to PBD. Specifically, a survey will be created and administered to licensed school psychologists in the United States to ascertain an accurate picture of their knowledge and their specific practices pertaining to PBD. The survey will focus on four central questions:

1. What is the general level of knowledge of school psychologists in the area of PBD? Current research emphasizes the importance of training and experience in order to make an accurate assessment of children with psychopathology (Huang et al., 2005; Tolan & Dodge, 2005). However, review of the literature reveals very little research has been carried out that examines the current level of knowledge and experience of school psychologists currently practicing in the schools in the United States. Related questions include:
   a. What is the general understanding and perceptions of school psychologists in regard to the diagnostic category of PBD?
   b. What is the general understanding and perceptions of school psychologists concerning the differential diagnosis, comorbidity, and signs and symptoms of PBD?
   c. Is there a difference in the levels of knowledge in the area of PBD when considering a practitioner’s level of education (e.g., Masters, Specialist, PhD), as well as whether or not nationally certified (i.e., NCSP)?

2. What are the general practices of school psychologists with regard to the identification of children suspected to have PBD? State and federal law mandate
certain methods for evaluation and intervention (IDEIA, 2004) and best practice research also describes an optimal approach (McConaughy & Ritter, 2005; Pluymert, 2005); however, how closely do school psychologists adhere to and follow these guidelines when addressing PBD?

a. How much time in general do school psychologists spend providing the following special education services: assessment for special education services, counseling students, providing academic and/or behavioral interventions, providing functional behavioral analyses, consulting with teachers, and doing research.

b. What is the primary role of school psychologists in the determination and classification of an emotional disorder?

c. What instruments and methods do school psychologists use when evaluating children suspected of an emotional disorder?

d. What is the level of involvement of school psychologists in pre-referral activities of children suspected having an emotional disorder?

e. What services are typically provided for students identified with an emotional disorder?

f. When considering the types of interventions and special education services provided for students identified with an emotional disorder, is there a difference in the above-mentioned practices between doctoral and non-doctoral school psychologists, those school psychologists who are nationally certified, or between school psychologists with greater and lesser amounts of experience?
3. What types of training have school psychologists received in the area of PBD identification and intervention, and do those with more formal training understand the symptomology of PBD better than those with informal training?

4. How prepared do current school psychologists feel to consult, assess, and intervene in cases suspected of PBD and what is the level of personal confidence related to their involvement in these activities?

Significance of Study

Dunner and Clayton (1987) concluded the biggest deterrent to treating PBD is recognizing it in the first place. Although more recent research has enhanced the ability of clinicians to make better diagnostic decisions, the perspective of Dunner and Clayton continues to be accurate. Are school psychologists doing a good job of recognizing PBD and perhaps more importantly are they contributing to the meaningful implementation of interventions for students with bipolar disorder? Unfortunately, the answer to these questions are unknown. If school psychologists are not receiving adequate training or staying current with recent research concerning PBD, then it is very likely many children with BD are at best being misidentified or worse, ignored. Not only is this a disservice to children, families, and school personnel, but it is a failure to fulfill the professional mandate to identify and treat childhood mental illness. This study intends on gathering the information necessary to assess the current practices and perceptions of school psychologists in America pertaining to PBD. However, the more important result of this study will be providing the data necessary for training institutions and academic systems to address shortcomings in school psychologists’ understanding and practice.

Surveys are “…one of the most important tools in the institutional research toolbox (Porter, 2004a),” and understandably, institutional research using surveys is one of the most
common approaches (Schlitz, 1988). Acquiring meaningful information about the current practices of school psychologists through the use of surveys is frequently employed (Chafouleas, Clonan & Vanauken, 2002; Fairchild & Zins, 1992; Hosp & Reschly, 2002; Reschly, 2000). Response rates for paper surveys sampling school psychologists across a variety of academic related issues have ranged between 37% and 74% (e.g., Carlson et al., 2006; Chafouleas, Riley-Tillman, & Eckert, 2003; Curtis, Grier, & Hunley (2004); Curtis, Hunley, & Chesno-Grier, 2002; Gureasko-Moore et al., 2005; Hosp & Reschly, 2002; Konce, 2007; Shannon & Bradshaw, 2002; Wilczynski, Mandal, & Fusilier, 2000). However, a meta-analysis of web-based survey response rates, by Fricerk and Schonlau (2002) reported rates as high as 78%. In addition, multiple follow-up contacts may significantly improve response rates (Fowler & Harrison, 2001; Pelco et al., 2000).

Web surveys appear to have the greatest benefits and lowest costs compared to other available alternatives (Porter, 2004). Web surveys not only avoid the costs of printing and postage but also reduce administration time and data entry errors, increase access to more people and turn-around time, and allow for design flexibility (Schmidt, 1997; Umbach, 2004; Zhang, 1999). In addition, the probability of increasing survey response rates is expected when the cost to the respondent decreases (e.g., Web surveys may be quicker to fill out than paper and pen surveys).

Although prepayments and postpayments may operate as an incentive in longitudinal studies (Collins, Ellickson, Hays, and McCaffrey, 2000), a meta-analysis of sixty-eight electronic surveys reported incentives actually depressed response rates slightly (Cook, Heath, & Thompson, 2000). This conclusion is further supported by numerous studies examining the effect of lottery postpayments showing there was little to no effect on response rates from lottery
incentives (Hubbard & Little, 1988; Porter & Whitcomb, 2004; Warriner et al., 1996). However, numerous studies of various populations indicate the use of prepaid incentives may increase response rates (Singer, van Howeyk, & Maher, 1998; Willimack, Schuman, Pennell, and Lepkowski, 1995).

Definitions

**Pediatric Bipolar Disorder (PBD).** PBD will be considered a distinct period of euphoric and/or irritable mood which is significantly different from a child’s typical presentation and results in functional impairment. The entire continuum of the disorder will be considered as represented by narrow and broad phenotypes which are informed by the DSM-IV.

**Attention Deficit/Hyperactivity Disorder (ADHD).** ADHD is a neurodevelopmental disorder typically diagnosed in childhood and often lasting into adulthood. Symptoms include difficulty paying attention, controlling impulsive behaviors, and/or being overly active. The DSM-IV will inform understanding of the diagnostic features, prevalence, and course of the disorder.

**Full-time practicing school psychologist.** An individual who maintains a current psychology license or school psychology certificate and who spends at least 25 to 40 hours per week working in a school system providing school psychology services including, but not limited to, assessment, consultation, psychoeducation, and intervention.

**School Psychologist.** “A professional psychological practitioner whose general purpose is to bring a psychological perspective to bear on the problems of educators and the clients educators serve” (Fagan & Wise, 2000, p. 4).

**Emotional Disturbance (ED).** ED is a special education classification defined by the Individuals with Disabilities Education Improvement Act of 2004 and is typically associated
with mental health issues resulting in an “inability to learn that cannot be explained by intellectual, sensory, or health factors (IDEIA, 2004).”

**Nationally Certified School Psychologist.** A school psychologist who has met the standards of the National Association of School Psychologist (NASP) *Standards for the Credentialing of School Psychologists, Standards for the Provision of School Psychological Services, Standards for Training and Field Placement Programs in School Psychology,* and *Principles for Professional Ethics.*
Diagnosing a child with Pediatric Bipolar Disorder (PBD) remains highly controversial (Harrington & Myatt, 2003; Healy, 2006; Klein et al., 1998) and is an area of ongoing research which crosses several disciplines. Research concerning the identification and treatment issues associated with PBD provides critical information foundational to the study at hand. First, the history and current context of recognizing bipolar disorder (BD) in children will be examined. After surveying the historical controversies associated with PBD, the research associated with the disorder’s prevalence, differential diagnosis, neuropsychological and bioecoological features, and comorbidity will be reviewed. Next, treatment options for children diagnosed with BD, including pharmacology and psychosocial therapy, will be reviewed. Following this the issues related to the role of public schools in helping students with PBD is examined. This will include educational law, special education eligibility, best practices in school identification, and classroom accommodations and modifications. Finally, an overview of how school psychologists are trained and prepared to work with special populations such as PBD and ED will be outlined.

Historical Context of PBD

Historically, the concept of pediatric manic-depressive or bipolar disorder has undergone multiple changes and continues to be a subject of ongoing controversy, debate, and refinement (Drabkin, 1955; Klein et al., 1998; Lofthouse & Fristad, 2004; McClellan, 2005; Youngstrom, 2007). A summary account of the historical development of PBD will be provided; however, a search of the literature will allow the reader to access several more detailed accounts (e.g.,
Over the last 40 years, there has been an explosion of knowledge about the identification and treatment of mental health disorders in children starting first with adolescents and then eventually school-age children (Angold & Costello, 2009). However, recognizing mental health suffering in infancy and early childhood has been difficult for society to accept (Egger & Emde, 2011). As recent as the mid 1930’s, Spitz (1949) urged practitioners to recognize the critical importance of psychosocial factors during infancy which he thought contributed to and created various forms of infantile suffering (e.g., anaclitic depression resulting from maternal emotional deprivation). Spitz’s views created controversy and were strongly criticized up through the 1950’s (Emde, 1983). Further illustrating an apparent resistance to admitting the existence of early childhood suffering may be the medical community, which failed to recognize child maltreatment until the 1960s (Helfer & Kempe, 1974). Resistance to children’s emotional and physical suffering has not been confined to early childhood. For example, not until the 1970s was childhood depression recognized as a valid psychiatric disorder and only at the end of the decade was the disorder included in psychiatry textbooks (Cytryn, 2003.)

The concept of bipolar psychopathology has been traced to ancient Greece. Mania and melancholia (depression) were two of the three forms of madness described by Alcmaeon of Crotona and other Greek physicians (Glovinsky, 2002). At that time, the disorder was believed to be the product of an interaction between bile and the brain resulting in a chronic disease without fever (Jackson, 1986). Ancient descriptions of both mania and melancholia typically encompassed a broader range of disorders than current definitions. For instance, delusions and delusional states were considered to be part of the definition of depression as well as mania. The
term “melancholicus mania” was first used by Bonet in 1679, and it appeared again in 1700 in an edition of Bonet’s work revised by Johannes and Jacob Mangetus (Altschule, 1976). The connection between melancholia and mania also was discussed throughout the seventeenth and eighteenth centuries. During this period it was typical to conceptualize melancholia as “partial insanity”, that is, the individual’s “derangement” was limited to a single idea or small number of related ideas while mania was viewed as “universal insanity” because the derangement pervaded through all of the individual’s thinking (Jackson, 1986). Thus, a continuum of increasingly disordered intellectual functioning became a representation of the ideas of melancholia degenerating into mania or worsening to become mania.

“Mania” in the 19th century, often referred to nearly every sort of socially inappropriate excitation or exaltation. As early as 1816, Jean-Etienne-Dominique Esquirol described three cases of prepubertal mania and melancholia, including an 8-year-old girl who displayed manic symptoms that are clearly recognizable as such today (Baethge et al., 2004). Jean Pierre Falret (1854) described a form of insanity which ran in a repetitive circle of pathological states he named la folie circulaire – the circular madness. The concept was quickly accepted throughout Europe, particularly in Germany, and cyclic recurrences of mania and depression in children were noted in many later nineteenth-century case vignettes, including separate reports by Emminghaus (1887) and Ritti (1883).

Throughout the twentieth century, mania was considered the most frequent type of psychosis and at other times as virtually non-existent in children. Between 1900 and 1910, Soukhanoff and Gannouchkine (1903) identified an onset of mania before age 15 years in 18% of 84 adult BPD patients. During the same decade, Friedman (1909) distinguished three types of PBD; periodic psychosis with brief alternating episodes of depression and manic excitement and
short euthymic intervals, isolated episodes of depression or excitement, sometimes related to stress, and brief episodes of mild depression or excitement progressing to more typical cyclic BD. In his seminal early textbooks, Ziehen (1926) classified BPD in children as involving single or recurring episodes of mania, or circular (bipolar) insanity. Amidst significant opposition, Ziehen established it was possible for the illness to start before adulthood, and he often is credited with setting the “standard” view of mania (Baethge et al., 2004). In Ziehen’s opinion, the psychopathology of children does not differ in principle from adult psychopathology. Although his view that children were simply not-fully-developed adults was prevalent in his time, it differed from the views espoused by other experts in child psychiatry who stressed the way children think and feel differs qualitatively from adults. Ziehen explicitly reported his views of acute mania and melancholy, as well as recurring mania and depression, were based significantly on Kraepelin’s concept of manic-depressive insanity. The often-cited Kraepelin (1921) study documented the onset of mania before age 10 in 4 of 903 manic-depressive patients and noted an increasing likelihood of mania after puberty. Furthermore, during this decade, mania was described as the most frequent psychosis in children (Rumke, 1928), commonly involving brief episodes and catatonic features (Lange, 1928), and frequently comorbid with anxiety (Homburger, 1926). However, despite growing practitioner and research awareness, a shift would soon occur over the coming decades, which would keep the idea of pediatric mania and depression from taking hold.

From the 1930s through the 1960s, mania and depression in children and adolescents typically were not considered by clinical theorists when making a diagnosis; instead, these symptoms frequently were associated with psychotic disorders of children with schizophrenia or identified as a dysfunction of the post pubertal or late adolescent superego (Klein, 1934; Rie,
1966; Rochlin, 1959). Bradley (1937), who inaugurated the modern era of pediatric psychoparmacology, stated BPD was very rare before puberty, and Lurie and Lurie concluded in 1950 that it simply did not occur in childhood. Kanner (1957) wrote in his seminal, mid-twentieth century American textbook of child psychiatry that mania in the pediatric population was “. . . so rare as not to be worthy of consideration.” This interesting omission may be reflective of the then-dominant psycholanalytic assumption that manic-depressive disorder was only possible in those who demonstrated higher-level cognitive structures which emerge with further psychosexual development after puberty (Glovinsky, 2002). At the start of the 60s, Anthony and Scott (1960) proposed operational diagnostic criteria for PBD based primarily on contemporary conceptualizations of the adult syndrome. Based on the literature, they concluded “occurrence of manic-depression in early childhood as a clinical phenomenon has yet to be demonstrated.” Unfortunately, Anthony and Scott did not assess BD in adolescence, and it is likely their review reflected the diagnostic expectations of that era without necessarily authenticating them (Faedda et al., 1995).

A host of others (e.g., Anthony, 1975; Lefkowitz & Burton, 1978; Lester & LaRoche, 1978; Rutter, 1972) sustained the hypothesis that a postpubertal level of maturity was necessary to exhibit and sustain mania and major depression well into the 1970s. Disbelief in a common occurrence of adult like bipolar disorder in pediatric populations broadly restricted interest in PBD despite the clinical observations of mania and melancholia in the young since antiquity (Mora 1980). It appears the interest in bipolar disorders at all ages was greatly stimulated by the discovery of the anti-manic effects of neuroleptic drugs, and the anti-manic and mood-stabilizing effects of lithium salts and certain anticonvulsants (Annell, 1969; Brumback & Weinberg, 1977; DeLong, 1978; DeLong & Aldershof, 1987; Weller, Weller, & Fristad, 1986; Youngerman &
Canino, 1978). Lithium became widely accepted as an innovative treatment for mania (Baldessarini, 1970), and toward the end of the 70s, several notable researchers suggested the implementation of new diagnostic criteria based on those proposed for adults (Davis, 1979; DeLong, 1978; Weinberg & Brumback, 1976). This renewed interest in bipolar disorder resulted in a significant increase of published research focused on better understanding the diagnostic features of mania with children and adolescents (McClellan & Werry, 1997) and effectively challenged the preconception mania did not occur in children and adolescents (Joyce, 1984; Loranger & Levine, 1978).

The rapid expansion of literature during the 1970’s and 80’s supporting a diagnosis of PBD was not without strong opponents and even today, PBD remains a debated diagnosis in pediatric mental health (Klein et al., 1998; McClellan, 2005; Youngstrom, 2007). Yet the number of scholarly publications has risen geometrically since 1995 (Lofthouse & Fristad, 2004), and there has been increasing recognition in the psychiatric literature as well as a growing public awareness and acceptance of pediatric bipolar disorder over the past two decades (Pavuluri et al., 2005).

In 1996, as part of a National Institute of Mental Health (NIMH) funded study, Geller et al. framed the first set of criteria for possible bipolar disorder in children. Applying these criteria, initial studies reported essentially little was known about the condition (Geller et al., 2002; Healy & Le Noury, 2007). Although there were children who met the criteria, those children had a very severe condition, which in other circumstances likely would have been diagnosed as childhood schizophrenia or patterns of hyperactivity against a background of mental retardation (Geller et al., 2003). However, also in 1996, an influential group based at Massachusetts’ General Hospital (MGH) nearly derailed the debate by suggesting there were
pediatric patients who may appear to have ADHD who in fact had mania or bipolar disorder (Biederman et al., 1996; Faraone et al., 1997b). It may be worth noting the MGH study used lay raters, did not interview the children about themselves, failed to use prepubertal age specific mania items, and used an instrument designed for studying the epidemiology of ADHD (Healy & LeNoury, 2007). Despite these significant limitations, the message stuck – cases of bipolar disorder were being misdiagnosed as ADHD. During a time when clinicians were searching for alternative options to treat children diagnosed with ADHD who did not respond to stimulants, this was a potent message (Healy & LeNoury, 2007). Further fueling the debate was a study (Lewinsohn et al., 2000) involving adolescents which pointed toward ill-defined over-activity rather than bipolar disorder. However, the resultant message may have reinforced the idea BD in minors was occurring at a greater frequency than previously suspected (Healy & LeNoury, 2007).

Perhaps responding to these developments, an NIMH roundtable meeting on prepubertal bipolar disorder met in 2001 to discuss the issues further and concluded PBD can present as “narrow” or “broad” phenotypes. Children with the narrow type have recurrent periods of major depression and mania or hypomania fitting the classic definition of BD type I or II described in DSM-IV (American Psychiatric Association, 1994). The majority of these children experience multiple episodes with rapid cycling (Findling et al., 2001; Geller et al., 2002), and their symptomatology is colored by their developmental stage. Despite having classic symptoms of mania or hypomania, a great proportion of children fail to meet the duration criteria of 4-7 days required to meet DSM-IV criteria for either and are usually diagnosed as BD not otherwise specified (NOS). During this same period, the Juvenile Bipolar Research Foundation website noted bipolar disorder in children did not present like bipolar disorder in adults due to rapid
cycling and called for the DSM to be updated to “. . . reflect what the illness looks like in childhood” (Pavuluri et al., 2005). In contrast to the narrow type, children with the “broad” phenotype constitute the majority of the referrals to clinicians and present with severe irritability, “affective storms,” mood lability, severe temper outburst, symptoms of depression, anxiety, hyperactivity, poor concentration, and impulsivity with or without clear episodicity (Biederman et al., 1996).

Building on this discussion, Leibenluft and colleagues (2003b) introduced a similar framework for classification of PBD spectrum into subtypes: “narrow,” “intermediate (2 types),” and “broad” phenotypes. In their model, the narrow phenotype is attributed to those who meet the full DSM-IV diagnostic criteria for mania or hypomania, including the duration criterion, and have the hallmark symptoms of elevated mood or grandiosity. The intermediate phenotypes include two sub-categories: those with the hallmark symptoms of short duration, i.e., 1-3 days, and those with episodic irritable mania or hypomania meeting the duration criteria without elation. The broad phenotype consists of non-episodic symptoms of severe irritability and hyperarousal, without symptoms of elated mood or grandiosity. The BD-NOS category in DSM-IV corresponds to the intermediate and broad phenotypes (National Institute of Mental Health Research Roundtable, 2002).

Healy and LeNoury (2007) note there are several significant ambiguities to keep in mind about this uniquely American position. For instance, there appears to be a willingness to set aside adult symptomology, which involves mood states persisting for week or months, to argue children’s moods may oscillate rapidly, up to several times per day, while maintaining the position the disorder is continuous with the adult illness. An additional caution raised by the authors is that the DSM-IV criterion for adult bipolar disorder requires fewer manic episodes to
make a diagnosis than the International Classification of Disease does. It is likely the international community views the DSM-IV criteria as making it too easy to diagnose bipolar disorder in adults. European articles concerning pre-pubertal bipolar disorder express continued agnosticism as to whether there is such an entity (Kyte, Carlson, & Goodyear, 2006), and PBD is much more rarely diagnosed in countries other than the United States (Soutullo et al., 2005). Similar concerns were voiced by Lofthouse and Fristad (2004) in their response to the question “Why now and why in America?” Another dynamic contributing to the increasing embrace of pediatric bipolar disorder may be due to the emerging concept of the bipolar spectrum (Akiskal, 1983) in adult psychopathology. This concept has helped establish a broader view of what constitutes bipolar disorder in adults and youth, including both “hard phenotypes” (psychotic and nonpsychotic Bipolar One) and “soft phenotypes” (BP-II, Cyclothymia, BP-NOS; Akiskal 2003). With broader criteria and more comprehensive methods to assess a wider range of symptoms, more children and adolescents are receiving diagnoses of bipolar disorder in the US (Lofthouse & Fristad, 2004).

An additional contributing factor to the growing contemporary acceptance of PBD in the US may be the de-stigmatization and increasing acceptance of the use of pharmacological solutions to mood disorders combined with what has been pejoratively termed “disease mongering” (Moynihan & Cassels, 2005). Starting in the 1950s, the depression experienced by those with manic-depressive illness has been treated with antidepressants and the manias with antipsychotics or lithium (Healy, 2006). Although lithium was believed to be the only agent effective as a prophylactic against further episodes of manic depressive illness (Healy, 1997), the drug was rarely referred to as a “mood stabilizer” before 1995. It was at this time Abbott Laboratories got a license to use the anticonvulsant sodium valproate (Depakote) for treating
acute mania (Department of Health and Human Services, 1995). After 1995, use of the term “mood stabilizer” increased dramatically and by 2001, more than a hundred article titles a year featured this term (Healy, 2006). Ironically, the academic psychiatric community has not yet come to consensus on the meaning of “mood stabilizer” (Bowden, 1998; Ghaemi, 2001; Sachs, 1996). However, lack of consensus has not appeared to hinder the message that patients with bipolar disorder needed to be identified and treated with mood stabilizers through the use of psychotropic drugs (Ghaemi, Sachs, Chiou, Pandurangi, & Goodwin, 1999; Ghaemi, Lenox, & Baldessarini, 2001). In July 2003, the Child and Adolescent Bipolar Foundation (CABF) convened a meeting concerning the treatment guideline process. This meeting was significantly supported by unrestricted educational grants from pharmaceutical companies including Abbott Astra-Zeneca, Eli Lilly, Forrest, Janssen, Novartis and Pfizer (Kowatch et al., 2005). At the very least, this assumed the widespread existence of pediatric bipolar disorder and reinforced the idea there was a need to treat it psychopharmacologically.

Finally, increased use of the Internet in the 1990s enabled parents of children with bipolar disorder to start numerous online support groups (Lofthouse & Fristad, 2004). In 1999, many of these parents were associated with the Internet-driven national organization, Child and Adolescent Bipolar Foundation (CABF), which continues to receive over 100,000 unique visits per month (Hellander, Sisson, & Fristad, 2003). Three years later, the Juvenile Bipolar Research Foundation (JBRF) became the first charitable foundation dedicated to the support of research in early onset bipolar disorder. There also has been a surge of attention in the popular media, ranging from special segments on news shows or Music Television to a cover article in Time magazine (Kluger et al., 2002), to nearly two dozen trade books aimed at parents and families, as well as health professionals (Lofthouse & Fristad, 2004).
Prevalence & Onset

There are several significant difficulties with obtaining an accurate prevalence figure for PBD. First there is the complication of understanding and distinguishing developmental norms from sociocultural expectations. For instance, the characteristics and extent of pediatric psychiatric disorders are not universally recognized nor is there consensus on the extent to which they differ on their core definitions and constellation of symptoms (Canino & Alegria, 2008). It should also be kept in mind that rates of mania and hypomania may be higher during prepubertal and early adolescence than during adulthood because of the difference in developmental trajectories (Geller et al., 2004a). In other words, mania or hypomania may predominate during the prepubertal and early adolescent age range, and depressive states may become more prevalent with age.

The lack of agreement concerning prevalence is likely due to the absence of a gold standard for validating most psychiatric conditions in general and PBD in particular (Robins, 1985). Classifications and the operationalization of child emotional disorders vary in different classificatory systems and within different iterations of the same category (APA, 1987, 1994; Canino & Alegria, 2008; World Health Organization, 1978, 1992, 2004). To illustrate this type of discrepancy, one needs look no further than the rates of ADHD between and within countries. For example, although the International Statistical Classification of Diseases and Related Health Problems, 10th edition (ICD-10), developed by the World Health Organization (WHO, 1992) and the Diagnostic Statistical Manual, Fourth Edition (DSM-IV) of the American Psychiatric Association (APA, 1994) both require that the symptoms present be developmentally inappropriate, persistent, and frequent, there are higher rates of ADHD when using the DSM-IV (Bird, 2002; Polanczyk, Silva de Lima, Horta, Biederman, & Rhode, 2007). In population-based
studies performed in the United States, rates of ADHD Hyperactive Type have varied from less than 1% to approximately 20% (Bird, 1996; Roberts, Attkisson, & Rosenblatt, 1998). To further complicate matters, nearly all children and youth at some time, in some context, could be described as exhibiting the symptoms of an emotional disorder (Kaufman & Landrum, 2009). Therefore, it is critically important to answer the question of how frequently a student’s emotional problems clearly stand out from the isolated, transitory, or minor problems of typical development thereby limiting their options for social and personal development.

Cultural perspectives also have an impact on acquiring accurate prevalence figures. There is evidence European countries are skeptical of the seemingly high prevalence of pediatric BD in the US (Gillberg et al., 2004). There is a lack of evidence as to why epidemiological and phenomenological differences across cultures exits especially since PBD is considered to primarily be a biological and genetic psychiatric disorder. Soutello and colleagues (2005) propose the differences may be due to any number of reasons including: relative lack of European data, differences in diagnostic criteria, clinician bias against pediatric BPD, over diagnosis in the US, or true higher prevalence of the disorder in the US due to environmental/cultural differences.

Social policy and economic realities also complicate the estimation of PBD prevalence. State and federal practices and economic restrictions often stand in the way of the legislative mandates that educational systems should provide thorough preventative and responsive mental health care for school-aged children. For example, the decision about who does or does not fit the criteria for special education services is often influenced by the State and Local Education System’s budgetary concerns. Inadequate funding typically results in a lack of identification processes, treatment resources, professional development, and related curriculum (Kauffman,
Over the past several decades, estimates concerning the percentage of students who should receive services under the special education classification of ED (a category under which many with PBD fall) fall in the range of three to six percent of the student population (see Anderson & Werry, 1994; Brandenburg, Friedman, & Silver, 1990; Costello et al., 1998; Costello, Egger, & Angold, 2005; Cullinan, Epstein, & Kaufman, 1984; Friedman et al., 1996; Juul, 1986; Kessler, Berglund, Demler, Jin, & Walters, 2005; Smith, Wood, & Grimes, 1988; U.S. Department of Health and Human Services, 2001; Wang et al., 2005), yet in practice, schools rarely identify two percent or more of their population as having an ED. Since the Office of Special Education Programs (OSEP) began collecting data in 1976 the identification rate for ED has remained stable at approximately 0.9%, which is significantly less than the predicted prevalence by the U.S. Department of Education (1980; Oswald & Coutinho, 1995). Mental health studies suggest even higher rates of diagnosable psychological and psychiatric impairments in youth (Costello et al., 1988; Friedman et al., 1996; McInerney, Kane, & Pelavin, 1992). There also is tremendous variation in identification rates between States. Data collected during the 1996-1997 school year revealed a 33-fold difference between the lowest and highest State identification rates. Unfortunately, it is likely only students with the most offensive and disruptive behaviors receive appropriate services.

Estimates concerning the lifetime prevalence of BD in adults may provide some indication of the prevalence of the disorder in children. The lifetime prevalence of BD I in adults typically ranges between 0.8% (American Psychiatric Association, 1994) to 1% (Soutullo et al., 2005) across gender and culture in the US. However, if other subclinical or subsyndromal forms of the spectrum (e.g., bipolar II disorder, cyclothymia) are included, prevalence ranges between three to seven percent (Kessler et al., 1997; Merikangas et al., 2007; Weissman et al., 1999).
Interestingly, the epidemiology and phenomenology of adult BPD internationally is similar to the US, with some countries reporting higher prevalence.

Research indicates the first incidence of BD and subthreshold BD is greatest in adolescence and declines in young adulthood. Clinical observers report very few new episodes occur after the age of 24 years (Lewinsohn et al., 2003b). Retrospective studies in adults with BD have reported as many as 60% experienced the onset of their BPD before 20 years of age (Pavuluri et al., 2005a; Soutullo et al., 2005) and 10%-20% reported the onset before 10 years of age (Egeland et al., 2003; Joyce, 1984; Lish et al., 1994). Loranger and Levine (1978) interviewed adults classified with BD and reported age of onset was found to be between five and nine years for 0.5% of the patients and between the ages of 10 and 14 years for 7.5%. Similar figures were reported by a European study including 12 national patient organizations, supporting the hypothesis most patients with BPD had a childhood onset.

Providing trustworthy prevalence estimates for the pediatric population are dependent on a consistent definition. Therefore, given the ongoing debate in characterizing PBD, it is not surprising that there is a paucity of data on the prevalence of preadolescent BD. Aside from one community study evaluating the rates of bipolar spectrum disorders in adolescents in high school (Lofthouse & Fristad, 2004), there is an absence of any national (or international) epidemiological study to determine the disorder’s prevalence in the pediatric population (Pavuluri et al., 2005a; Soutullo et al., 2005; Weller et al., 1995). The Lewinsohn and colleagues (1995) study surveyed 1700 adolescents (14 – 18 years of age) and reported a lifetime prevalence of bipolar disorders (primarily BPII and Cyclothymia) of approximately one percent. An additional 5.7% of the youths were described as having subsyndromal symptoms of BD defined as a “distinct period of abnormally and persistently elevated, expansive or irritable mood” as
well as multiple comorbidities, and associated psychosocial impairment which may have constituted a group of adolescents with BP-NOS (Lewinsohn, et al., 2003). In addition to being limited to an older adolescent population, the study solely relied on the Schedule for Affective Disorders and Schizophrenia for School-Age Children (K-SADS) (Orvaschel and Puig-Antich, 1987) and neglected other sources of information such as caregiver interviews (Dejong & Frazier, 2003).

A six-month study in a national sample of 13 to 18 year-old Dutch adolescents reported a prevalence of 1.9% for mania and 3.6% for major depression (Verhulst, vanderEnde, Ferinand, & Kasius, 1997). Because instrumentation included The Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1983) and the parent and child versions of the Diagnostic Interview Schedule for Children (DISC; National Institute of Mental Health, 1992), these results should be interpreted with caution (Pavuluri et al., 2005). The reason Pavuluri and colleagues encourage caution is that the CBCL is not a diagnostic instrument and fails to identify specific manic symptoms, and the items on the DISC are not robust enough to identify bipolar diathesis.

Data from the Great Smoky Mountains Study (GSMS) reported no BD Type I cases using the Child and Adolescent Psychiatric Assessment (Costello et al., 1996). Brotman et al. (2006) pooled items from several diagnostic sections of the Child and Adolescent Psychiatric Assessment (depression, hypomania/mania, hyperactivity/attention deficit, sleep disorders, oppositional defiant disorder/conduct disorder) to construct a severe mood and behavioral dysregulation approximating the proposed broad phenotype of Leibenluft et al. (2003b). Using the data from the GSMS, they reported a 4% prevalence of severe mood and behavioral dysregulation. Unfortunately, the Brotman and colleagues analysis lacked validity studies of the severe mood and behavioral dysregulation construct, and especially its link with bipolar
diathesis. Kashani et al. (1987), utilizing the DSM-III-R (American Psychiatric Association, 1987) reported that 0.7% of a community sample of 150 non-referred adolescents met the diagnostic criteria for mania. Carlson and Kashani’s (1988) survey of 14- to 16-year-olds found the prevalence of mania was 0.6% when severity and duration criteria were applied to the 13% displaying manic symptoms.

Obviously, the lack of broad representation and a varied understanding of PBD limits the usability of the above referenced studies to accurately project rates of PBD. Even though there is growing evidence the prevalence of BD among children is similar to both adolescent and adult BD levels (Geller & Luby, 1997), it is apparent more population-based studies using valid diagnostic instruments, multiple informants, and accepted construct definition are needed. Given the reluctance of clinicians in the past to diagnose children with BD, it is likely the prevalence rate has been underestimated historically. In addition, understanding prevalence and age of onset is made all the more difficult by the disorder’s diagnostic complexity. Developmental influences, atypical presentation, comorbidity, and symptomatic overlap with other disorders have resulted in misdiagnosis and under diagnosis of BD in children (Biederman 1998; Carlson, Bromet & Sievers, 2000; Emslie, Kennard, & Kowatch, 1994). Obviously, further study is necessary to clarify prevalence rates and age of onset.

Even though the diagnostic characteristics of PBD are continuing to be operationalized further, it is not likely over-identification is currently problematic. If this is true within the mental health fields, there is little reason to think those involved in special education services are not under-identifying as well. Costello et al., (2005) comes to a similar conclusion, stating:

Substantively, we can say with certainty that only a small proportion of children with clear evidence of functionally impairing psychiatric disorder receive treatment. Once
upon a time, when effective treatments for child and adolescent psychiatric disorders were rare, this was regrettable but not a major public health issue. Now it is. The tragedy is compounded by powerful evidence that most psychiatric disorders have their origins early in life: risk even for adult-onset disorders is often increased by childhood adversities, and disorders manifesting themselves in the early years often recur in adulthood. So the public health directive to intervene early is clear, but the reality is different. (p. 973)

Diagnostic Features

DSM-IV-TR criteria

Bipolar disorder manifesting itself in adolescence and young adulthood is widely accepted and believed to be similar to that of adult BD. Therefore, diagnosis and treatment of an adolescent or young adult benefits from applying the criteria established in the DSM-IV-TR. There also is a quickly growing body of research demonstrating the existence of the disorder in children. Historically, applying the DSM classifications of psychopathology first to adolescents and then to school-aged children has led to important advances which have allowed researchers and clinicians to study how childhood disorders are similar to and different from adult disorders (Angold & Costello, 2009). Similar to the adult expression of the disorder, PBD involves episodes of mania and depression; however, whereas mood changes in adults with BD often are manifested as a euphoric or sad mood, manic and depressive moods in children typically are expressed differently. Although the criterion for PBD in all of its expressions is yet to be universally agreed upon, over the past 10 – 15 years, a growing body of published research has focused on identifying the characteristics of PBD to assist clinicians in making a more consistent differential diagnosis.
Diagnosing a mood disorder requires clinicians to assess not only the presenting signs and symptoms but also the lifetime history of mood states, family history and response to previous treatments. Four different diagnoses clearly on the bipolar spectrum are distinguished in the DSM-IV-TR: Bipolar I and Bipolar II disorder, cyclothymia, and BD not otherwise specified (NOS) (American Psychiatric Association, 2000). The specific diagnosis requires the delineation of varying mood episodes, including, major depressive, manic, mixed, and hypomanic.

Manic episodes vary from individual to individual and occasionally within individuals. Using factor analysis as well as other approaches, the literature consistently describes the structure of mania. The most common indicators are motor activation, flight of ideas, pressured speech, and decreased sleep, while elated mood and increased sexuality are less common (Carlson & Goodwin, 1973; Carlson & Strober, 1979; Cassidy, Murry, Forest, & Carroll 1998; Goodwin & Jamison, 2007; Serretti & Olgiati, 2005). It has been suggested that the most objective and reliable single indicator of the diagnosis is decreased need for sleep (Rice, Rochberg, Endicott, Lavon, & Miller, 1992). The Swann and colleagues study (2003) supports the idea that impulsivity also is a key phenomenological feature of mania. They used the Barratt Impulsiveness Scale and reported impulsivity appears to persist even outside of the acute mood state in bipolar disorder. This suggests impulsivity may represent both a state as well as a trait feature of the illness. In addition, the literature indicates adults with the disorder tend to exhibit similar behavior and mood patterns during subsequent episodes (Beigel & Murphy, 1971) and manic and mixed episodes show diagnostic stability over time (Cassidy et al., 1998).

A diagnosis of bipolar I requires the presence of at least one experience of a manic or mixed episode. Once either has occurred, DSM-IV-TR and ICD nosologies consider the
individual to have a lifetime diagnosis of bipolar I disorder. If the individual is currently functioning well, then the classification is bipolar I “in remission.” If the person develops classic major depression, even years after the mania, then the correct diagnosis is “bipolar I, current episode: depressed.” The mood disturbance must either occur much of the day for most days over a period of at least one week, or the mood disturbance must be so extreme as to result in psychiatric hospitalization, in which case the one week duration requirement is waived.

Bipolar II disorder requires both a major depressive episode and a hypomanic episode at some point in the person’s life. A key difference between the diagnosis of mania and hypomania is not in the manic symptoms themselves, which are identical. It is the “marked” impact of those symptoms on social or occupational functioning, the lack of psychotic features, and the non-necessity of hospitalization, that differentiates the two episodes. If hypomania does not markedly interfere with daily functioning, then where does the idea of impairment come from? Vieta and colleagues (1997) suggest almost all the impairment in bipolar-II is a result of the depressive phase. Furthermore, they suggest even though bipolar II is generally considered less severe than bipolar I in regard to symptom intensity, it is more severe with respect to episode frequency. In fact, “...bipolar-II disorder is more severe in terms of an increased propensity for rapid-cycling and a greater number of mood episodes than bipolar-I disorder (Vieta, Gasto, Otero, Nieto, & Vallejo, 1997).” Bipolar-II also may be associated with higher risk of suicide (Rihmer & Kiss, 2002) and may be more difficult to diagnose than bipolar I due to hypomania being more subtle and less impairing than mania (Youngstrom, Youngstrom, & Starr, 2005). The other distinction between the two disorders lies in the duration of the syndrome. Mania is defined as lasting one week (less if hospitalization is required), whereas hypomania is for a minimum of 4 days.
Aside from at least one hypomanic episode, the diagnosis of Bipolar-II requires a clinical course characterized by at least one or more occurrences of a major depressive episode (APA, 2000). There are no evidence-based indications that bipolar depression consistently presents differently than unipolar disorder at the symptom level. However, the bipolar-unipolar distinction is important in terms of suicide risk, substance use, choice of pharmacological agent, and possibly choice of strategies for psychotherapy (Youngstrom, 2007). Data indicates individuals affected with bipolar II disorder also tend to first present clinically in the depressed phase of the illness, and therefore early-onset depression may be a marker for BD (Kovacs, 1996). In addition, diagnosis of bipolar II includes the individual’s experience of rapidly alternating moods. If a patient meets criteria for hypomania but has not experienced a major depressive episode, then the most appropriate diagnosis may be cyclothymia, which is not easily distinguishable from bipolar-not otherwise specified (NOS).

During a Mixed Episode, criteria are met for both a Manic Episode and for a Major Depressive Episode over a one week period where the symptoms are exhibited nearly every day (APA, 2000). Obviously, the disturbance is severe enough to cause significant impairment in daily functioning and is not the result of illicit drugs, medications, medical treatments, or a medical condition. In Kraepelin’s 1899 edition of his text, he placed emphasis on six types of mixed states that today’s clinicians may label as mania (dysphoric mania) or depression (agitated depression, depression with racing thoughts) (Marneros, 2001; Salvatore et al., 2002). A weakness of the DSM-IV criteria for a Mixed Episode may be the lack of empirical studies supporting the validity of the definition (McElroy et al., 1992). When McElroy and colleagues (1992) defined the criteria for a mixed episode as mania accompanied by as few as two or more depressive symptoms (dysphoric mania) there was increased treatment response to the use of
valproate over lithium. Perugi and colleagues (1997) investigated the “depressive mixed state,” and concluded patients (n=32) with depressive mixed states could be distinguished from patients (n=36) with pure bipolar depression by the presence of increased cyclicity with greater frequency of episodes in the latter group, compared to longer episodes with less interepisode recovery in the depressive mixed state group (Perugi, Akiskal, Micheli, Toni, & Madaro, 2001).

Cyclothymia also is part of the Bipolar Spectrum. The diagnosis requires a period of mood disturbance lasting at least 1 year in children with no more than 2 months free of symptoms. Mood states include depressive or Dysthymic symptoms along with periods of Hypomaniac symptoms. During the index period, the depressive symptoms cannot become sufficiently severe to meet criteria for a major depressive episode (in which case the diagnosis changes to unipolar depression, or perhaps bipolar II disorder), nor can the Hypomaniac symptoms become too impairing (in which case the diagnosis changes to bipolar I disorder).

Cyclothymia is estimated to occur in 0.4 to 6.3 percent of the population (Chiaroni, Hantouche, Gouyemet, Azorin, & Akiskal, 2005; Depue et al., 1981; Placidi, Maremmani, Signoretta, Liguori, & Akiskal, 1998). Kochman and colleagues (2005) identified 80 depressed children and adolescents with Kiddie-SADS semi-structured interview. After the two to four year follow up period, 43 percent of the sample had been diagnosed as bipolar. Of those participants who had been categorized as cyclothymic, 64 percent developed bipolar disorder. Of those children and adolescents who had not been categorized, 15 percent experienced a hypomaniac or manic episode ($p<.0001$). Akiskal and colleagues (1979) studied the course of cyclothymia and its relationship to the subsequent development of bipolar affective episodes. Thirty-six percent of the 50 cyclothymic participants developed full syndromal depression, hypomania, or mania, in contrast to only four percent of 50 nonaffective controls. Furthermore,
of the 25 cyclothymic patients requiring antidepressant medication for depressive illness, 44 percent became hypomanic.

It is especially difficult to assess the Cyclothymia construct. For example, the long duration required to make a diagnosis makes it hard to distinguish between temperamental traits and a mood episode (Youngstrom, 2007). In US clinical practice, cyclothymia is rarely diagnosed in youth (Youngstrom, Youngstrom, et al., 2005b). When pediatric cyclothymia is identified, it has been shown to be linked to high levels of impairment (Findling, Youngstrom, et al., 2002).

The DSM-IV-TR gives several examples of possible presentations for BD NOS, including repeated episodes of hypomania without lifetime history of manic, mixed, or depressive episodes. Other presentations include manifesting an inadequate number of “B criteria” symptoms in the context of episodic mood disturbance, or showing sufficient symptoms, but for an insufficient duration to meet established criteria for a diagnosis. BD NOS, like cyclothymia, tends to be diagnosed only rarely in clinical practice (Youngstrom, Youngstrom, et al., 2005b). However, BD NOS is linked to substantial clinical impairment, including poor functioning academically and interpersonally, high rates of service utilization and suicide risk, and substantial mood disturbance – whether NOS is defined as insufficient number of symptoms (Lewinsohn, Seeley, & Klein, 2003), insufficient duration (Findling, Youngstrom, et al., 2002), or a combination of the two. BD NOS appears to show patterns of familial risk and symptom severity (Axelson et al., 2006) that are consistent with it being on the bipolar spectrum; and more than one-fourth of youth with BD NOS progress to more fully syndromal bipolar presentations within a few years of initially being diagnosed with BD NOS (Birmaher et al., 2006).
Early onset mania

PBD is associated with severe impairment and a negative prognosis. It wreaks havoc on family life, school functioning, and peer relationships (Lewinsohn, Seeley, & Klein et al., 2003a). Over time, if left untreated, PBD may have a prolonged course, be less responsive to treatment, and lead to legal difficulties, multiple hospitalizations, and increased rates of substance abuse and suicide (Findling et al., 2001; Geller et al., 2003; Lewinsohn et al., 2003a).

Similar to the adult expression of the disorder, PBD involves episodes of mania/hypomania; however manifestations of mania during childhood and pre-adolescent phases of development often differ from those in adulthood. Mania in children is frequently atypical by adult standards particularly in regards to mood presentation (Biederman, et al., 2005). For instance, mania in children is not always characterized by a euphoric mood, and its course tends to be chronic and continuous rather than episodic and acute (Carlson, 1983, 2005; Lewinsohn et al., 2003a). In addition, symptoms of grandiosity and excessive involvement in pleasurable activities typically vary as a function of age and developmental level (Bowring & Kovacs, 1992; Geller & Luby, 1997). Obviously, care must be given to differentiate from the expected increase in mood deregulation and variability often accompanying normal development. Clinicians also need to consider whether behaviors (e.g., playing, activity levels, rate of speech) are consistent with those displayed by normal children and adolescents (McClellan & Werry, 1997). Further complicating the diagnostic process is the tendency for preadolescents to experience high rates of rapid cycling along with very high comorbidity rates with attention-deficit/hyperactivity disorder and conduct disorder (Carlson, 2005; Geller, Tilman, Craney, & Bolhofner, 2004).

In children, a manic episode may be defined as either a distinct period of excessively elevated (i.e., inappropriately happy) or irritable (i.e., excessive temper tantrums, rages out of
proportion to events) mood, or both (Craney & Geller, 2003; Lofthouse, Mackinaw-Koons, & Fristad, 2004). The National Association of School Psychologists (NASP; 2000; Lofthouse et al., 2004) criteria for “altered mood” requires identifying three or more symptoms including: (a) inflated self-esteem (e.g., a child thinks she is smarter than everyone else despite failing grades); (b) grandiosity (e.g., a child believes and tells others he is able to run faster than a car); (c) decreased need for sleep (e.g., a child feels rested after a few hours of sleep); (d) rapid, loud, or uninterruptible speech; (e) racing thoughts, increased distractibility, increased goal-directed activity/psychomotor agitation (e.g., a child starts to rearrange the school library, cleans everyone’s desks, and plans to build an elaborate tree house in the backyard, but never finishes any of these projects); and (f) excessive involvement in pleasurable or dangerous activities (e.g., a previously mild-mannered child writes offensive notes to other children in class or attempts to jump out of a second story window).

Unlike adults with BD, children may manifest severe irritability instead of euphoria (Carlson, 1983; Davis, 1979; Emslie et al., 1994). In a study of 6- to 12- year old prepubertal children diagnosed with mania using DSM-III-R (American Psychiatric Association, 1987) criteria, Weller et al. (1995) reported that 50% described a primarily irritable mood. Carlson’s (1983) literature review revealed children younger than nine years old reported emotional lability, crying and irritability while those nine years and older more commonly described grandiose delusions and euphoria. Without the typical manic presentation, clinicians may erroneously attribute a child’s emotional outbursts and belligerence to psychosocial factors or conduct disorder (Wozniak et al., 1995).

This is not to say children even as young as preschool ages do not also present relatively classic DSM-IV defined manic or hypomanic symptoms. There is evidence symptoms of elated
mood, pressured speech, heightened interest in sex, and perhaps grandiosity may be more specific to mania than other associated symptoms such as aggression, irritability, distractibility, or increased motor activity (Geller et al., 2000; Geller et al., 2002c). In Geller and Colleagues (2002c) study of 93 children with prepubertal and early adolescent onset of bipolar disorder (mean age at onset 7.3 years), Geller and colleagues (1998b, 2002c) found five mania-specific symptoms were especially likely to discriminate bipolar children from children with ADHD or normal comparison groups: elation, grandiosity, flight of ideas/racing thoughts, decreased need for sleep, and hyper-sexuality. They also reported symptoms of psychosis were found in 60 percent of the sample, including half who had delusions of grandiosity. On follow-up, it was discovered psychosis predicted more weeks ill with mania or hypomania (Geller et al., 2004). Supporting the prevalence of psychotic features, Pavuluri and colleagues (2004b) reported the prevalence ranged from 18 to 88 percent with the most common subtype to be the grandiose type. A history of psychosis also was reported by research groups lead by Biederman et al. (2004) and Birmaher (2006) with rates of 25 (n=298) and 33 (n=283) percent respectively.

The above-mentioned studies by Geller and colleagues required elation and/or grandiosity for the diagnosis of mania; however, uncertainty remains about what actually constitutes these two symptoms (Carlson, 2005). Methods of assessment vary widely, as do cultural expectations and developmental factors, and all are likely to influence the diagnosis of both euphoria and grandiosity (Breslau, 1987; Goodwin & Jamison, 2007; Harrington and Myatt, 2003). Some studies have defined mania by the presence of highly labile moods with intense irritability, rage, explosiveness, and destructiveness; extreme agitation; and behavioral dysregulation (Biederman, Faraone, Wozniak, & Monuteaux, 2000). Both irritability and rage are noted as prominent features in many bipolar children (e.g., Faraone et al., 1997a, b; Carlson
& Kelly, 1998; Geller et al., 2002c) including those in preschool. Among adolescents and children diagnosed with BD, retrospective parent reports at the time of diagnosis suggest irritability, distractibility, increased activity, and other affective and behavioral symptoms may be present before age 5 (Egeland, Hostetter, Pauls, & Sussex, 2000; Wozniak et al., 1995). In a community sample of preschoolers selected for high or nonclinical scores on the CBCL, Lavigne and colleagues (1999) found externalizing disorders to be the most prevalent; 16% met criteria for oppositional defiant disorder, and 2% met criteria for ADHD. Even though a small proportion of preschoolers with disruptive behaviors may be experiencing mania, the lack of data clearly delineating distinct manic states is still lacking (Youngstrom, 2007). Therefore, it remains unclear whether and when preschoolers’ symptoms reflect mania rather than nonspecific hyperactivity and irritability.

**Child depressive features**

Considering PBD, NASP (2005) defines an episode of depression as a distinct period of sad or irritable mood or markedly diminished interest and/or pleasure in most activities. This period of depression includes four or more of the following symptoms: (a) significant appetite change, (b) sleep problems, (c) restlessness or slowed movement, (d) fatigue, (e) feelings of worthlessness or excessive guilt, (f) problems concentrating, and (g) recurrent thoughts of death and/or recurrent suicidal thoughts, plans or attempts. For some children, BD first emerges as symptoms of a depressive episode (Geller, Fox, & Clark, 1994; Lish et al., 1994). Similar to the study of mania, the study of depression in the pediatric population was overlooked in early epidemiological research. In particular, depression was viewed as a distinct disorder of adulthood and adolescent emotional disturbances were thought to be linked to puberty, which were viewed as transient and universal (Patton, 2007). Unfortunately, studies of bipolar disorder in the
pediatric population often combine childhood- and adolescent-onset groups. Even though unipolar depression in children is more prevalent than mania and described by marked clinical and etiological heterogeneity, longitudinal studies exploring the outcomes of childhood depressive episodes are uncommon (Goodwin & Jamison, 2007). Therefore, the ability to identify depressive episode predictors of eventual bipolar disorder is limited.

Controlling for ADHD across groups, Wozniak and colleagues (2004) compared 43 children with bipolar depression and 109 children with unipolar depression. The results indicated the children identified with bipolar depression were more severely depressed and anhedonic. Not only were the children in this group more likely to be suicidal, feel hopeless, and require medication and hospitalization, but they also demonstrated higher rates of comorbidity with oppositional defiant disorder, conduct disorder, obsessive compulsive disorder, and alcohol abuse. In addition, it was reported the likelihood of a family history of bipolar disorder was double in the bipolar sample (20%) compared to the unipolar sample (8%).

Research on children who have “switched” from an initial diagnosis of depression to bipolar disorder suffers from small samples sizes and has yielded little information on predictors of bipolarity. Luby and Mrakotsky (2003) compared preschoolers with and without a family history of bipolarity with hopes of identifying differences in symptoms. Only one tenuous difference emerged distinguishing the groups: restlessness (“moves around a lot”). A different study (Geller et al., 1994) compared 79 severely depressed children 6- to 12-years-old. At the two and five year follow-up 32 percent switched either to bipolar-I or bipolar-II. The same individuals were re-contacted as young adults (mean age = 12). Of that group, 49 percent were found to have switched to bipolar disorder including 33 percent with bipolar-I (Geller et al., 2001b). According to Geller and associates, family history of mania was a significant predictor
of bipolar switching. However, it is worth noting the Geller and colleagues sample likely was atypical and may be biased due to high rates of referral for suspected bipolar disorder.

Focusing on an outpatient population, Weissman and colleagues (1999) followed up (M=11 years) on children with prepubertal depression. Although they only found six percent had developed bipolar disorder, the rate was much higher than the comparison group. Lewinsohn and colleagues (1995) found an even lower percentage (1%) of adolescents diagnosed with prepubertal depression had developed BD. As has been the case for most topics related to pediatric bipolar disorder, these studies differed in diagnostic and exclusionary criteria, thereby making it difficult to draw confident conclusions.

Currently the onset of clinical depression during adolescence is an accepted clinical diagnosis and is known to correlate with a poorer long-term prognosis (Walker, 2002). Adolescents with depression are more likely to experience a chronic course with repeated episodes than individuals who first experience depression in adulthood. It is expected adolescents with BD who experience cycles of depression will experience similar psychosocial correlates as adolescents who are solely diagnosed with depression. Depressed adolescents have significantly more negative life events, deficient coping capacity, increased negative self-related cognitions and attribution styles (Steinhausen, Haslimeier, & Metzke, 2007). Adolescents experiencing depression are more prone to experiencing themselves and their psychosocial relationships in a negative way. A large longitudinal representative community study of preadolescence, late adolescence, and early adults, reported low self-esteem, maternal rejection, and internalization problems showed come causal effects (Steinhausen et al., 2007).

**Phenotyping**

The phenotyping model is viewed as “critical” in helping researchers as well as
clinicians determine variables related to psychopharmacology, neurophysiology, treatment response, and prognosis. In 2001, the National Institute of Mental Health Research Roundtable on Prepubertal Bipolar Disorder promoted the idea that pediatric BD can present in “narrow” and “broad” phenotypes (Pavuluri, Birmaher, & Naylor, 2005). The narrow type is marked by recurrent periods of depression and mania or hypomania and fits the classic definition of BD as described in the DSM-IV-TR (American Psychiatric Association, 2000; Craney & Geller, 2003). Children also experience multiple episodes with rapid cycling (Geller et al., 1995) and have symptomology that is influenced by the child’s developmental stage (Pavuluri et al., 2005).

Pavuluri and colleagues (2006) also reported that despite having classic symptoms of hypomania or mania, most children fail to fulfill the criteria for duration of four to seven days, respectively. In this case, the NIMH Roundtable suggested a diagnosis of BD-NOS is to be applied and serves to accommodate children with severe affective instability. The broad phenotype constitutes the majority of the referrals to clinicians (Pavuluri et al., 2005) and is the type most likely to be seen by school psychologists. Symptoms include severe irritability (“affective storms”), mood lability, severe temper outburst, symptoms of depression, anxiety, hyperactivity, poor concentration, and impulsivity with or without clear episodicity (Biederman & Garcia, 1996b).

Perhaps building upon the NIMH Roundtable suggestions, Leibenluft and colleagues (2003b) also proposed a framework for classifying pediatric BD into subtypes. Their spectrum also had a “narrow” category, which accounted for children meeting the full DSM-IV diagnostic criteria for mania or hypomania (including duration criteria) as well as the core symptoms of elevated mood or grandiosity. An “intermediate” substage included two categories, one with the hallmark symptoms of short duration (i.e., one to three days) and the other with the characteristics of irritable mania or hypomania meeting the duration criteria but without elation.
Finally, the “broad” type consisted of nonepisodic symptoms of severe irritability and hyperarousal without the symptoms of elated mood or grandiosity. Leibenluft et al. (2003a) suggested the BD-NOS category corresponded to the intermediate and broad phenotypes. In some data, these presentations appear to be on a continuum with bipolar illnesses, albeit involving more rapid rates and briefer episodes of mood disturbance. Some have noted this clinical presentation seems highly similar to borderline personality disorder in adults and may in fact be a juvenile precursor to BD (MacKinnon & Pies, 2006).

It appears the idea there is a spectrum describing pediatric BD, including at least broad and narrow types, is gaining consensus. However, consensus is not yet universal and school psychologists should be aware researchers often use different sets of diagnostic criteria to define PBD. For example, Geller et al. (1998b), in a study comparing clinical characteristics of a sample of children with BD and Attention-deficit/hyperactivity disorder (ADHD) along with healthy controls, found grandiosity, elated mood, hypersexuality, flight of ideas, and decreased need for sleep differentiated children with BD from the other groups. They also reported “irritability” was highly common in both the ADHD and BD participants. However, the results must be considered in light of the understanding that the PBD children were identified for the study by demonstrating symptoms of grandiosity and/or elation. On the other hand, Biederman and Garcia (1996) in their study of BD children emphasized the centrality of irritability in establishing the diagnosis of BD regardless of the absence of elation or grandiosity. The breadth of variability in defining core characteristics of PBD, however, is not limited to these two views. A review of the literature also will reveal that some researchers use unmodified DSM-IV symptom criteria to establish a diagnosis (Pavuluri et al., 2005).

In addition to the debate on core symptoms and the presence or absence of episodes, there
also is the definition and role of “cycling” to be considered. In contrast to adults, who are more likely to present with discrete cycles of depression and mania, it is believed children with BD may exhibit both manic and depressive symptoms at the same time or within the same day. Instead of being episodic or acute in course, as is the case with most adults, pediatric BD tends to be chronic and continuous, which makes identifying discrete episodes very difficult (Weller, Weller, & Fristad, 1995); however, this does not mean that on occasion children will not demonstrate similar syndromal characteristics observed in adults with BD (Cassano et al., 2000). Geller et al. (1995) coined the term “complex cycling” to describe the presence of short cycles embedded within a more prolonged cycle or episode. Mood shifts in children are currently characterized by mixed states (i.e., simultaneous manic and depressive symptoms), rapid cycling (i.e., four or more mood episodes per year), ultra-rapid cycling (i.e., more than four mood episodes per year), and ultradian cycling (i.e., multiple episodes per day, requiring more than four hours of mania per day; Geller et al., 1995; Lofthouse et al, 2004b).

**Neuropsychological features**

Children with BD often present with significant cognitive deficits that may adversely affect school functioning both academically and socially. Compromised academic functioning in PBD has resulted in the increased use of special education services (Faedda, Baldessarini, Glovinisky, & Austin, 2004). For instance, a line of research estimated the incidence of math and reading difficulties in PBD to be approximately 30%-40% (Wozniak et al., 1995). There is adequate evidence demonstrating the capacity to regulate emotion is hindered by a variety of neurocognitive activities, including dysfunction of the neurotransmitter systems (notably dopamine and serotonin) and of the limbic-cortical system, diminished activity of the frontal-cortical regions, and/or elevated activity in the amygdala (Miklowitz, 2007). Cognitive
neuroscience also has developed neuropsychological test paradigms having the potential to increase understanding of the neural mechanisms mediating the symptoms of BD in both children and adults (Dickstein et al., 2004; Leibenluft, Charney, & Pine, 2003). Neuropsychological research may provide insight into the commonly regarded brain networks that could be disrupted in PBD and the functional impairments that may underlie the behavioral and emotional dyscontrol that is characteristic of the disorder (Doyle et al., 2005). It is believed increasing a school psychologist’s understanding of the biological basis of childhood pathology should “… facilitate communication with neurologists, neurosurgeons, and other medical personnel who entrust the care of their patients in the schools to school psychologists (Davis 2006).”

It remains unclear whether neuropsychological deficits are stable and exist independently of clinical states (Basso, Lowery, Neel, Purdie, & Bornstein, 2002). Some studies have suggested cognitive dysfunctions may persist in remission states beyond the episodes of the illness; thus, these deficits may be chronic (Martinez-Aran et al., 2004a; Thompson et al., 2005). On the other hand, structural and functional neuroimaging techniques have indicated the subcortical white matter, the basal ganglia, the hippocampus, the amygdala, the frontal lobes, the temporal lobes, and the cerebellum may be involved in bipolar disorder (Baumann & Bogerts, 2001; Bearden, Hoffman, & Cannon, 2001). In addition, there are some clinical factors that may influence cognitive functioning in bipolar patients, episodicity of mania (Ferrier & Thompson, 2002; van Gorp, Altshuler, Theberge, wilkins, & Dixon, 1998), as well as chronicity (Clark & Goodwin, 2004; Clark, Iversen, & Goodwin, 2002; van Gorp et al., 1998).

It is expected cognitive impairment is related to a worse clinical course and poor functional outcome. Studies of adults with BD have demonstrated neuropsychological deficits in
several cognitive areas including set shifting and sustaining attention (Clark & Goodwin, 2004; Clark, Iversen, & Goodwin, 2002; Liu et al., 2002), working memory (Ferrier & Thompson, 2002; Thompson et al., 2006; Thompson et al., 2007), episodic memory (Krabbendem et al., 2000), verbal learning and memory (Cavanagh, Van Beck, Muir, & Blackwood, 2002; Clark et al., 2002; Ferrier & Thompson, 2002; Martinez-Aran et al., 2004b; van Gorp, 1998), declarative memory (Cavanaugh et al., 2002; Ferrier et al, 1999) and executive function and decision-making (Basso et al., 2002; Martinez-Aran et al., 2004b; Murphy & Sahakian, 2001; Rubinsztein et al., 2001; Thompson et al., 2006; Zimmerman, DelBello, Getz, Shear, & Strakowski, 2006).

Using single photon emission computed tomography with 43 outpatients across a variety of bipolar states confirmed the presence of functional disturbances in the frontosubcortical structures, the cerebellum and the limbic system in bipolar patients (Benabarre et al., 2005).

Although it may be expected children and adolescents with BD also will demonstrate difficulties in these areas, a number of researchers advise caution when inferring neurocognitive function in pediatric bipolar disorder is similar to that found in adult populations (Pavuluri et al., 2006). For instance, the psychotropic medications to stabilize mood in children may influence cognitive function and/or cause sedation, especially if given in high doses (MacQueen & Young, 2003). There also are developmental issues of constant change in a child’s neurocognitive capacity, so the impact of BD on functional brain differences can be expected to be different in children than adults (Luna, Garver, Urban, Lazar, & Sweeney, 2004). Furthermore, the high rate of ADHD in youth with BD makes it challenging to identify deficits common to pediatric bipolar disorder (Geller et al., 2002b). This is especially germane given the cortical-striatal systems reported to underlie ADHD (Dickstein et al., 2004) are also implicated in bipolar disorder (Ferrier & Thompson, 2002). Nevertheless, recent studies examining neurocognitive function in
children with BD include impairment in attention and set shifting (Dickstein et al., 2004; Meyer et al., 2004), visuospatial memory (Dickstein et al., 2004; Olvera, Semrud-Clikeman, Pliszka, & O’Donnell, 2005), processing speed and interference control (Doyle et al., 2005), sensorimotor tasks and short-term memory for face and names (Castillo et al., 2000), verbal learning and memory (Glahn et al., 2005; Meyer et al., 2004; McClure et al., 2005; Olvera et al., 2005), and abstract problem solving or executive function (Doyle et al., 2005; Murphy et al., 1999).

Possessing a significantly higher Weschler Intelligence Scale for Children (WISC) Verbal IQ (VIQ) than Performance IQ (PIQ) is one of the most commonly reported neuropsychological findings in children with PBD (Mattis, Papolos, Luck, Cockerham, Thode, 2011). In one study (Pavuluri et al., 2006b), performance IQ from the WISC was reported to be lower in PBD than in ADHD, conduct disorder, and oppositional defiant disorder and similar to that seen in schizophrenia. As early as 1983, a greater than 15-point discrepancy between VIQ and PIQ in children at high risk for PBD was demonstrated by Decina and colleagues (1983). The discrepancy was most significant with offspring of bipolar I parents versus those of bipolar II parents. In this high-risk sample, those reported to manifest expansive moods were more likely to exhibit the aforementioned cognitive discrepancy. Some have suggested this pattern may be a trait marker of a genetic predisposition to PBD (Mattis et al., 2011). Others have observed the same VIQ>PIQ pattern (see FlorHenry, 1983; Flor-Henry, Yeudall, Koles, & Howarth, 1979; Sackheim, Decina, Epstein, Bruder, & Malitz, 1983). In contrast, the VIQ > PIQ finding is not a feature of ADHD (e.g., see Doyle et al., 2005; Jonsdotter, Bouma, Sergeant, & Scherder, 2006). Kestenbaum (1979) and McDonough-Ryan et al. (2002) also found significant VIQ> PIQ discrepancies as well as psychomotor deficits in children at risk for PBD.
Given the hypothesized correlation between PBD and difficulties with cognition, one might expect cognitive functioning to improve with symptom remission (Pavuluri et al., 2006b). However, improvement has not always been found to be uniform across domains and some BD patients show persistent cognitive impairment during remission (Beardon et al., 2001). McGrath and colleagues (1997), for example, reported improved executive function when symptoms were remitted but not in the domains of attention, inhibition, and psychomotor speed.

Interpretation of pediatric neuropsychological data is complicated due to the fact that 60-90% of children with BD also meet criteria for comorbid ADHD (Doyle et al., 2005). Because individuals with ADHD also exhibit neuropsychological deficits, it is necessary for neuropsychological studies of pediatric BD to address this comorbidity. Several studies have addressed the role of comorbid ADHD on neurocognitive functioning in youth. Wozniak et al. (1995) have reported children with BD have lower full scale IQ and lower Wide Range Achievement Test (WRAT) Arithmetic percentiles and WRAT/Gilmore Reading standard scores compared with children with ADHD and no disorder. Doyle and colleagues compared 57 youth with BD and 46 healthy control subjects on a battery of clinical neuropsychological measures including subtests from the Wechsler Intelligence Scales for Children and Adults -Third Edition (Wechsler, 1991), the Stroop (Golden, 1978), the Continuous Performance Test (Seidman et al., 1998) and the Wide Range Achievement Test-Third Edition (Jastak & Jastak, 1993). It was noted bipolar disorder in children was associated with impairments in sustained attention, working memory, and processing speed after controlling for ADHD. It also has been demonstrated subjects with PBD, regardless of medication and illness status, demonstrate impairments in the domains of attention, executive functioning, working memory, and verbal learning compared to healthy individuals (Pavuluri, Schenkel, Aryal, et al., 2006). Also, bipolar
subjects with comorbid ADHD performed worse on tasks assessing attention and executive function than patients with bipolar disorder alone. The absence of differences in the deficits of neurocognitive profiles between acutely ill undedicated patients and euthymic medicated patients suggests these impairments are trait-like characteristics of pediatric bipolar disorder. The cognitive deficits found in individuals with PBD suggest significant involvement of frontal lobe systems supporting working memory and mesial temporal lobe systems supporting verbal memory, regardless of ADHD comorbidity (Pavuluri, Schenkel, Aryal, et al., 2006). McClure and colleagues (2005) reported greater impairment of verbal memory in their pediatric bipolar disorder group that was comorbid with ADHD compared to those with pediatric bipolar disorder alone. Their report of a lack of impairment in verbal memory in subjects with pediatric bipolar disorder without ADHD (Clark & Goodwin, 2004; Ferrier & Thompson, 2002; Rubinsztein et al., 2001) is in sharp contrast to adult studies of bipolar disorder that showed prominent impairment in memory function. Using the Cambridge Neuropsychological Test Automated Battery, Dickstein et al. (2004) reported difficulties in attentional set shifting and visuospatial memory in PBD participants as compared with healthy controls. However, results were limited due to the various psychotropic medications being taken by participants and the variety of BD characteristics exhibited amongst the children with BD. In summary, despite methodological limitations and varied tests, the majority of the available data point to similar neurocognitive profiles in pediatric bipolar disorder, irrespective of comorbid ADHD (Pavuluri et al., 2006b).

In another study, 35 children and adolescents who met DSM-IV diagnostic criteria for the narrow phenotype of PBD were compared to 20 psychologically healthy youths using a battery of verbal (California Verbal Learning Test for Children, Test of Memory and Learning [TOMAL]) (Delis et al., 1994; Reynolds & Bigler, 1994) and visuospatial (Rey-Osterreith
Complex Figure Test, TOMAL Facial Memory) (Rey, 1941) memory tests (McClure et al., 2005). Results were consistent with findings in adults with BD in that children and adolescents with PBD performed more poorly than controls on measures of verbal learning/memory and delayed facial recognition memory. The results of a neuropsychological study by McClure and colleagues (2003) indicated children with BD misinterpreted sad, happy, and fearful child faces, but not adult faces, as angry, as compared with anxious and healthy groups. These results suggest children with BD possibly over perceive anger among peers, which may relate to increased social difficulties.

Behavioral data in pediatric bipolar disorder suggest deficits in motor inhibition (Leibenluft et al., 2007; McClure et al., 2005), whereas behavioral data in adults with bipolar disorder show similar deficits and relate them to the impulsivity characteristic of both mania and depression (Swann, Dougherty, Pazzaglia, Pham, & Moeller, 2004). In addition, functional magnetic resonance imaging studies in both adolescents and adults with bipolar disorder indicate differences in striatal activation between patients and comparison subjects while they are performing motor inhibition tasks (Blumberg et al., 2003b; Strakowski et al., 2005). Deficits in pediatric motor inhibition have been linked to irritability (Hoeksma, Oosterlaan, & Schipper, 2004) which is a common and disabling symptom of PBD. Other studies have indicated motor inhibition is mediated by several regions of interest that are also implicated in the pathophysiology of bipolar disorder (Blumberg et al., 2003; Rubinsztein et al., 2001), including the ventral prefrontal cortex, striatum, and anterior cingulated. One study found that in relation to comparison subjects, children with bipolar disorder and a family history of bipolar disorder had increased ventral prefrontal cortex activation while viewing emotional pictures or performing a spatial working memory task (Chang et al., 2004). In the same study, the children had greater
anterior cingulated activation than the comparison subjects during the spatial working memory task.

Illnesses such as Huntington’s and Parkinson’s diseases, where the basal ganglia (BG) are implicated, usually present with mood dysregulation. Previous researchers have reported adults with unipolar mood disorder have smaller BG than controls; however, available studies are conflicting with respect to adults with BD. For example, some studies report larger BG in patients with bipolar disorder, although not all studies have confirmed this finding (Sanches et al., 2005). Sanches and colleagues (2005) compared the BG of fifteen children and adolescents who met DSM-IV criteria for bipolar disorder and twenty-one healthy controls.

Among bipolar patients it was found that a statistically significant inverse correlation between age and the volume of right and left caudate and left putamen among bipolar patients. There also was an inverse correlation between length of the illness and right putamen volumes and a significant negative correlation between length of illness and left putamen volumes. Contrary to studies showing larger striatal volumes in adult bipolar subjects, the researchers observed that the volumes might eventually become smaller in bipolar patients. Such a mechanism might underlie, in part, eventual volumetric reductions in striatal volumes and consequent effects on the processing of emotions. A further implication was that a neurodegenerative process may be involved with PBD.

Although each of the above-referenced studies possesses limitations, the increasing support for PBD as a neuropsychological problem has implications on diagnosis and intervention for school psychologists. Learning disabilities and complications in executive functioning in children with PBD may not simply be secondary symptoms of the disorder, they may provide anatomical clues related to the causes of the disorder. Either way, children with PBD are
expected to have learning difficulties related to cognitive functioning and will need appropriate educational accommodations.

_Etiological factors_

Of the many risk factors associated with BD, genetic factors have received the most attention (Tsuchiya, Byrne, & Mortensen, 2003). The study of children with psychopathologically ill parents has been employed with good success over the past 30 years and has helped clinicians examine the early signs and course of a disorder as well as to identify potential individuals for early intervention (Goodwin & Jamison, 2007). The familial risk posed by parents with BD to their children is well documented and, aside from schizophrenia, exceeds the heritability of all other major mental illnesses (Chang & Steiner, 2003; Farone, Tsuang, & Tsuang, 1999; McGuffin et al., 2003). Even though the fraction of risk attributed to genetic factors is approximately 50% or less, contextual factors also may be associated with increased risk for developing BD (Berrettini, 2000). After all, children living with a bipolar parent experience both the genetic predisposition along with the environmental impact of living with such a parent. Researchers, therefore, have examined environmental risks, such as demographics (i.e., gender, ethnicity, SES), factors related to birth, family dysfunction, medical issues, and diet.

Historically, researchers have recognized and consistently attributed a higher rate of BD among the relatives of pediatric onset bipolar disordered children (Faraone, Glatt, & Tsuang, 2003; Tsuchiya et al., 2003). Family history of BD as a risk factor has been considered since Kraeplin (1921) and revisited in 1960 by Anthony and Scott as one of the 10 important diagnostic criteria. In 1979, Davis also pointed to family history. However, prior to the 70s no formal studies of children with manic-depressive parents were conducted (Geller & Luby, 1997).
Offspring studies have steadily increased since the late 70s and have shed light on the early development and onset of BD. Chang and Steiner (2003) delineate the benefits of such studies along four dimensions. First, high risk populations may serve to demonstrate early symptoms of prodromal BD. Second, longitudinal observation and assessment may reveal the nature of the natural progression of childhood-onset bipolar disorder. Third, the reduction and/or elimination of the presence of drug or alcohol use which typically confounds or changes the presentation of BD in older populations. Fourth, these children are unique in having been raised by and/or exposed to a parent with bipolar disorder. The environmental effects of having a parent with bipolar disorder can therefore be studied as well.

Since 1997, studies have continued to consistently report about a 50% incidence of some psychiatric disorder in cross-sectional assessment of child and adolescent bipolar offspring (Chang, Steiner, & Ketter, 2000; McMahon et al., 1994; Taylor & Abrams, 1973; Weissman et al., 1984). Estimates range from four- (Lapalme Hodgins, & LaRoche, C., 1997) to five- (Hodgins et al., 2002) times greater risk for children of parents with bipolar disorder (BD) to develop a mood disorder compared to children of parents without psychiatric disorders. Transmission of BD has been well established by twin studies and pedigree analyses (Geller, B., & Luby, J. 1997). For instance, Kelsoe (1997) demonstrated a 67% concordance rate of bipolar disorder for monozygotic twins and a 25% concordance rate for dizygotic twins. In addition, having a first-degree relative with bipolar disorder may confer a 6.5% risk of developing bipolar disorder, and a 10% risk for developing a major depressive episode, compared to one and five percent respectively for controls (Kelsoe, 1997).

Several studies utilizing the Child Behavior Checklist (CBCL) demonstrated a high degree of heritability (Althoff et al., 2005; Mick, Biederman, Pandian, and Faraone, 2003).
Youngstrom (2007) notes that in samples where PBD is rare (i.e., general population), the majority of individuals with such a profile do not actually have a BD diagnosis; however, a heritable behavior pattern not isolated to PBD may be entirely consistent with a polygenic model of illness. That is, there may be a specific gene “. . . conferring risk for the ‘bipolar profile’ of behaviors captured by the CBCL, and this gene might often be present in individuals with PBD. At the same time, the gene also may convey risk for aggressive behavior and occur in the context of other disorders, such as conduct disorder (CD) or ADHD (Youngstrom, 2007).”

As concordance rates in identical twin studies do not approach 100%, it has been proposed that BD develops in a child with genetic predisposition in response to external stressors. The kindling model suggests mood disorders are created by an interplay between a susceptible genetic diathesis and environmental stressor, which “. . . causes actual biological changes at the genetic level that over time lead to the crossing of a neurobiological threshold for a mood episode (Chang & Steiner, 2003)”. It is believed each successive episode of mania or depression reinforces the biological changes thereby leading to more frequent and spontaneous episodes. So aside from providing a genetic risk to their offspring, the presence of the parent who intermittently may become manic, dysfunctional, or neglectful must be considered a significant influence on the developing child (Chang, Blasey, Ketter, & Steiner, 2001).

As early as 1985, Laroche and colleagues reported marital discord and exposure to parental illness before age 3 years were positively correlated with offspring psychopathology. More recently, Aln and Torgersen (1993) associated marital discord with elevated risk for early-onset BD. Families with a bipolar parent have less cohesion and organization and more conflict than families considered “typical” (Chang et al., 2001). Three studies discussing stressful life events and PBD suggested an exposure to such events occurring within a short period prior to the
first onset (e.g., within 6 months) was associated with an increased risk for BD (Ambelas, 1987) and psychotic mania (Bebbington et al., 1993; Mathew, Chandrasekaran, & Sivakumar, 1994).

In some research, environments which manifest a high frequency and intensity of criticism, hostility, and or emotional over-involvement from a caregiver are operationalized as “high expressed emotion” (EE; Miklowitz, 2007). Individuals with BD who return home to high-EE families following an acute episode are two to three times more likely to relapse in the subsequent 9 months than are persons who return to low-EE environments (Barrowclough & Hooley, 2003; Miklowitz et al., 2003). Miklowitz (2007) further describes the model:

…the causal and reactive roles of parental EE (Expressed emotion) in mood disorders begins with a child who has temperamental disturbances (e.g., irritability, low frustration tolerance, mood instability, high anxiety) or compromised cognitive functioning. These early disturbances partially reflect the child’s genetic vulnerability to bipolar or other psychiatric disorders. The child is paired with a parent who, by virtue of his or her own neurobiology and social history, reacts to the child’s behavior with frustration and hostility (expressed as frequent criticisms of the child) or with guilt and anxiety (expressed in overly protective behaviors). Repeated exposure to criticisms, anxiety, or over-involvement during the period when a child is developing a sense of identity may contribute to self-doubt, self-criticism, and core beliefs about relationships as aversive and conflict-ridden. These schemata for the self may interfere with the child’s acquisition of emotional self-regulatory skills, as reflected in depression, anxiety, aggression, and the inability to tolerate negative states of affect. In turn, his or her negative counterreactions fuel high-EE attitudes and behaviors in parents, which recursively contribute to the child’s emotional and cognitive vulnerabilities. (p. 193)
This type of model is particularly important when it comes to the discussion of psychoeducation and its role in helping to equip families in both the prevention and treatment of offspring with BD. Better understanding these biopsychosocial mechanisms will further enhance the effectiveness of psychosocial interventions through psychoeducation, family therapy, and cognitive behavioral therapy.

A literature review focusing on environmental associations by Tsuchiya and colleagues (2003) focused on 95 studies which examined the first onset of BD compared with a non-psychotic non-affective reference population, and contained a description regarding an exposure to the specific risk factor prior to the first onset of BD. Results indicated there was not a demonstrated, statistically conclusive difference in lifetime or period prevalence of BD across multiple domains, including ethnicity, birth order, and high socioeconomic status of parent or child. In fact, the selected studies often came up with confounding and often opposite results. For example, two studies (Fogerty et al., 1994; Szadocsky et al., 1998) concluded the lifetime prevalence for a manic episode to be higher in males whereas others reported higher rates in females (Helgason, 1977; Brewin et al., 1997; Lloyd & Jones, 2000) or no difference at all (e.g., Spicer, Hare, & Slater, 1973; Weeke et al., 1975; Daly, Webb, & Kaliszer, 1995).

On the other hand, Papulos (2003) conducted a retrospective study of parental reports of chronological symptom development in children later diagnosed with bipolar disorder. Results of the study indicated 42% of the sample had prodromal separation anxiety disorder, 55% reported arousal disorders of sleep (night terrors, restless leg syndrome, bruxism), and 70% reported marked sensitivity to sensory stimuli in infancy and early childhood. Papulos concluded because panic disorder is highly comorbid with adult bipolar disorder, the foregoing studies suggest
... if indeed the temperamental trait of behavioral inhibition represents a low threshold for arousal, and separation anxiety disorder in children is a precursor to both panic disorder and bipolar disorder, it is possible that both trait and several DSM-IV conditions may share a common genetic diathesis with variations on a theme. (p. 91)

Comorbidity

Because of overlapping symptoms with other psychiatric disorders, it often is difficult to differentiate PBD from other childhood problems. Numerous diagnoses both resemble and coexist with PBD. The most common comorbidities identified in youths meeting criteria for BD are ADHD, anxiety disorders, oppositional defiant disorder (ODD), and conduct disorder (CD; e.g., Geller et al., 2003; Geller and Luby, 1997; Kowatch, Youngstrom, Danielyan, & Findling, 2005; Lewinsohn et al., 2003b). PBD also may be associated with higher risk of meeting criteria for other conditions, such as enuresis or eating disorders (Weckerley, 2002). In a review of research on rates of comorbidity of PBD with other disorders, it was reported that rates ranged between 11% and 75% for ADHD, 46.4% and 75% for ODD, 5.6% and 37% for CD, 12.5% and 56% for anxiety disorders, and 0% and 40% for substance abuse disorders (Pavuluri et al., 2005). These comorbidities with more easily identifiable disorders have often led to long latencies between the emergence of bipolar disorder symptoms in childhood and its clinical diagnosis (Papolos, 2003). The ease of misdiagnosis is highlighted by the work of Biederman and colleagues (1996) who found 96% of children who met the criteria for BD did so for ADHD; however, only 16% of ADHD patients met the criteria of mania/hypomania. Similarly, in another study it was reported that of children presenting bipolar symptoms, approximately 90% of prepubertal and 30% of adolescent subjects were classified as ADHD (Geller & Luby, 1997). This significant comorbidity makes prognosis and treatment all the more difficult for children.
with BD. Rates of comorbidity vary according to the age of the child, sample selection, and methods used to ascertain the symptomatology (Pavuluri et al., 2005).

The rate of comorbid ADHD was initially reported to be extremely high and in excess of 90% (Biederman et al., 1996; Geller et al., 2003). Other investigations using different referral patterns or interview procedures have found closer to 60% of youths with BD also meet criteria for ADHD. The lower rates are more similar to the rates of comorbid ADHD diagnosed clinically in youth treated for BD (Youngstrom, Youngstrom, et al., 2005b). If ADHD were an unrelated illness that affects roughly 5% of the general population, then it also should manifest in roughly 5% of BD cases (Youngstrom, 2007). What accounts for the much higher rate of coincidence? ADHD often involves distractibility, high motor activity, talkativeness, and impulsive behavior, all of which can look like manic behaviors (Klein et al., 1998). The high rate of comorbidity might be inflated by research interviewers or clinicians who do not sufficiently determine whether the symptom is most attributable to a mood disorder or another condition (Youngstrom, 2007). Other investigators argue, comorbid ADHD may represent a distinct subtype of BD, which point to patterns of heritability and the fact that youth with comorbid ADHD and BD often show greater impairment and worse course (Biederman et al., 1996a; Faraone, Biederman, Mennin, Wozniak, & Spencer, 1997a).

In many cases, prepubertal and early adolescent BD may be differentiated from ADHD due to the presence of persistent mania. Symptoms such as impulsivity, hyperactivity, irritability and distractibility are shared by both BD and ADHD (Emslie et al., 1994; Geller et al., 2002; James & Javaloyes, 2001), whereas the presence of grandiosity, elated mood, flight of ideas, hypersexuality, and decreased need for sleep are more common to PBD (Geller et al., 2002). Wozniak, Biederman, Mundy, and colleagues (1995) found 94% of a sample of 43 children aged
12 or younger evaluated with current or previous mania also met DSM-III-R criteria for ADHD, while only 19% with a diagnosis of ADHD also met criteria for current or previous mania. Geller et al. (2004) hypothesize that ADHD in children and adolescents with BPD may be a separate diathesis, a reflection of mania plus normal childhood developmental behaviors, shared genetic vulnerabilities, and/or the result of unknown overlapping criteria for both diagnoses. One measure, the Adult Mania Rating Scale, was used with a group of prepubertal children and was found useful in delineating between children with mania from those with hyperactivity (Fristad, Weller, & Weller, 1992). It also has been suggested that the two disorders can be distinguished by examining the history of the child to determine the persistence and earlier onset of ADHD versus the lack of euphoria or depressed mood of PBD (James & Javaloyes, 2001). Children with BD also may be more irritable compared to children classified with ADHD.

Until about two decades ago, it was commonly assumed ADHD remitted during the transition to adolescence. However, recent studies of children with ADHD at puberty have brought this view into question. Generally, antisocial behavior, substance misuse, and academic failure become more prominent during adolescence in individuals with ADHD (Patton, 2007). Given the high morbidity and disability resulting from BD and ADHD individually, it is thought their co-occurrence results in a more severe clinical picture. Correlates of comorbid PBD and ADHD include higher rates of other disorders like conduct disorder, oppositional defiant disorder, and psychiatric hospitalization (Biederman et al., 1996). An Italian study (Masi et al., 2006) of 98 referred patients (mean age 13.7 SD 3 years) with a diagnosis of BD by the Schedule for Affective Disorders and Schizophrenia for School-Age Children, Present and Lifetime version were followed for 6 months. Thirty-seven BD patients (37.8%) presented a lifetime diagnosis of comorbid ADHD. The mean age of onset of ADHD was 3.7 (SD 1.1) years, and the
mean age of onset of BD was 10.0 (SD 3.2) years. Bipolar subjects with comorbid ADHD were predominantly male, younger, and had an earlier onset of BD (8.1 versus 11.1 years). Bipolar-ADHD patients presented more frequently a chronic rather than an episodic course of BD, with an irritable rather than an elated mood. They showed higher rates of oppositional defiant disorder/conduct disorder, lower rates of panic disorder, and less frequently received antidepressant medications. Finally, ADHD comorbidity was associated with a greater psychosocial impairment. ADHD comorbidity is frequent in juvenile BD and can influence age of onset, phenomenology, comorbidity, and course of BD.

ADHD may be associated with a lower age at onset of BD. Sachs and colleagues (2000) assessed adult bipolar subjects (n=56). Those with a history of childhood ADHD were age and sex matched with bipolar subjects without a history of childhood ADHD. The age at onset of the first affective episode was lower for the subjects with bipolar disorder and a history of childhood ADHD (mean = 12.1 years, SD=4.6) than for those without a history of childhood ADHD (mean=20.0 years, SD=11.3). ADHD in children of bipolar probands might identify children at highest risk for development of bipolar disorder.

The differential diagnosis between PBD and ODD and CD also can be difficult due to the overlap in symptomology (Kovacs & Pollock, 1995; Geller et al., 1998; Geller, Zimerman, Williams, et al., 2000; Wilens et al., 2003). Almost all children younger than age 12 who meet criteria for ODD or CD meet criteria for ADHD and PBD (Reeves et al, 1987). Rey (1993) reported that one-third of all community-based children with any psychiatric condition had a diagnosis of or met criteria for ODD, that symptoms of ODD appear to be stable over time, and that ODD has a developmental profile and sex distribution different from those of CD. Outbursts of anger, antisocial behavior, substance abuse, hypersexuality, and adolescent turmoil often are
associated with adolescent BD and misdiagnosed as CD (Cassano et al., 2000; Emslie et al., 1994), although there are instances of comorbidity too (Carlson, 2005). Bowring and Kovacs (1992) contend that a mental status examination and a detailed patient history enabled differentiation between the two disorders. The diagnostic history may reveal a sudden onset of severe behavioral disturbances with PBD whereas with conduct disorder the duration of disturbances may have been evident over several years (James & Javaloyes, 2001). A further possibility for delineation lies in determining the nature of the troubling behaviors. Mischievousness and not vindictiveness distinguishes a manic child’s behavior from one who has conduct disorder, whose behavior is typically more hurtful of others (Weller et al., 1995). Weller et al. (1995) also noted children with conduct disorder do not have psychotic symptoms, push of speech or flight of ideas as do children with mania.

Psychopharmacology

Untreated, BD typically follows a progressive and deteriorating course (Geller et al., 2004). Unfortunately, even with empirically supported treatments, clinicians may not utilize them and families with BD children may not be able to access them (Lofthouse & Fristad, 2004). Lewinsohn, Klein, and Seeley (1995) found only 41% of young adults with BP-II and cyclothymia and 27% with subsyndromal bipolar symptoms utilized mental health treatments. Fortunately, in the past 10 to 15 years, specific pharmacological treatments for children with BD have emerged, including the first randomized controlled treatment studies of lithium (Geller et al., 1998) and quetiapine augmentation of divalproex (DelBello, Schwiers, Rosenberg, & Strakowski, 2002).

As with adult BD, psychopharmacological treatment is considered by many as the first line treatment for PBD (Walsh, 1998; Weckerley, 2002). Typically, clinicians extrapolate from
adult findings when making decisions about the suitability of mood stabilizers for children (McClure, 2002). On the basis of adult pharmacology for BD, it is recommended when choosing first-line medications for treatment of mania, clinicians take into account the type of BD (e.g., mixed, rapid cycling, uncomplicated), pattern of illness, family history of BD, gender, and individual side-effect profile (McClure, 2002). Currently, the compounds most likely to be helpful in treating PBD also have the potential for serious side effects and probably should not be prescribed to children unless one is fairly confident in the diagnosis and the potential for benefit (Youngstrom & Duax, 2005). Although adolescents are treated with a variety of agents, including antipsychotics, stimulants, mood stabilizers, SSRIs, and tricyclic antidepressants, due to the lack of studies using children and the poor quality of the few conducted studies the efficacy of such medications to treat children with BD has yet to be established (Bhangoo et al., 2003; Bowden & Rhodes, 1996). For instance, according to the American Academy of Child and Adolescent Psychiatry (AACAP (1998) practice parameters, mood stabilizing compounds, such as lithium carbonate (Lithium) and valproate (Depakote), may be useful in the treatment of prepubertal BD. However, the effects of these agents in the childhood population are poorly understood, and the Food and Drug Administration (FDA) has not yet approved use of lithium for treatment of children under 12 years of age or valproate for those under 18 (McClure, Kubiszyn, and Kaslow, 2002; Pavuluri et al., 2005b).

Approximately sixty percent of adult patients with bipolar disorder respond to lithium and anticonvulsants (McElroy & Keck, 2000), and those who do not respond to lithium typically respond to anticonvulsants (Rea et al., 2003). Available studies suggest lithium is relatively safe for use in preadolescents (McClure et al., 2002) and has been found to be 40 to 60% effective in treating children and adolescents (Emslie et al., 1994; Kafantaris, 1995; Strober, Morrell,
Side effects, such as gastrointestinal problems, headache, tremor, enuresis, fatigue, ataxia, and leukocytosis, however, are common with younger children typically experiencing more such effects than older children (Ryan, Bhatara, & Perel, 1999). Other side effects occur less frequently, although preschoolers treated with lithium may be at higher risk for neurological side effects than other children (Geller et al., 1998). Results of open-label trials examining the efficacy of lithium in children with BD have yielded positive findings. DeLong and Aldershof (1987) found that of BD youth treated with lithium for 2 months, 73.7% showed improvement, and 66% continued to benefit during long-term treatment. Results were comparable for children under and over 14 years of age. In a more recent open label trial, Kowatch and colleagues (2005) treated 8-18-year old outpatients who had acutely manic BD with lithium for 2 months and found evidence of improvement in 38% of the individuals. Improvement rates were comparable for children treated with carbamazepine (38%) and valproate (53%). Despite these findings, a number of children clearly fail to respond to lithium treatment, and controlled studies are needed to evaluate the extent to which, and for whom, lithium is effective. The efficacy of lithium use with adolescents comorbid for BD and substance abuse was demonstrated in the only placebo-controlled trial to date (Geller et al., 1995). Although lithium has been found to be effective in treating mania in the pediatric population, physicians remain hesitant to prescribing the drug because of decreased tolerability (Bowden & Rhodes, 1996), risk of lithium toxicity, and difficulty in maintaining a therapeutic dosage among children and adolescents (McIntosh & Trotter, 2006). As a result, physicians and prescribing clinicians are beginning to explore the use of newly manufactured and recently approved medications (e.g., Risperdal, Seroquel) to treat pediatric PBD.
Carbamazepine and valproate are anticonvulsants commonly used to treat BD and other affective disorders. Walsh (1998) reported these medications have the same level of effectiveness in reducing the frequency of manic cycles as does Lithium (Bowden, 1998; Janicak, Davis, Preskorn, & Ayd, 1993); whereas, other studies have suggested Carbamazepine is inferior to Lithium (Bowden & Rhodes, 1996) and that there may be an increased risk of agitation and aggression by taking the medication (Popper, 1995). Preliminary research by Keck and colleagues (1992) and Walsh (1998) has suggested valproate may be more effective in addressing rapid cycling compared to carbamazepine. Both valproate and carbamazepine have been used widely in children, primarily for treatment of seizures. Although their safety and side-effect profiles are well documented, little is known about their efficacy for the treatment of prepubertal BD, and no controlled studies with either medication have been published (McClure et al., 2002). Carbamazepine, in particular, is poorly understood with regard to treating acute mania, and unlike Valproate, its efficacy has not yet been established in adults (McClure et al., 2002). Other approved anticonvulsant medications, like lamotrigine, gabapentin, topiramte, and tiagabene have been considered as potential mood stabilizers for children with PBD but their use is not recommended as such until controlled studies demonstrate their efficacy and safety (Davanzo & McCracken, 2000).

Atypical antipsychotic medications, such as risperidone (Risperdal) and olanzepine (Zyprexa), have received attention as potential agents for childhood BD. The FDA has recently approved olanzepine for treatment of adult mania, and in a recent open trial, olanzepine significantly decreased manic symptoms in a sample of 23 youth (5 – 14 years of age) with BPD (Frazer et al., 2001). Weight gain, however, was a problem for many of the treated children. In a chart review of BD outpatients who were 4 – 17 years of age (61% <12 years old), Frazier and
coworkers (1999) found risperidone (typically along with other medications) led to improvements in manic symptoms and aggression over 1-34 months. No serious adverse effects were reported, although 18% of the sample gained weight, and 18% experienced mild sedation. In a recent case study, Chang and Ketter (2000) reported improvement of manic symptoms in three cases of acute mania in 9 – 12 year olds given olanzepine in combination with lithium or Valproate.

Combination pharmacotherapy (polypharmacy) such as using lithium and anticonvulsants along with various combinations of newly developed medications appears to be an increasing trend, especially when different combinations of mood stabilizers, stimulants, and antipsychotics have been shown effective (Bhangoo et al., 2003; Davanzo & McCracken, 2000; Kafantaris, Coletti, Dicker, Padula, & Kane, 2001; Kowatch, Sethuraman, Hume, Kromelis, & Weinberg, 2003). In particular, during manic episodes, it is not uncommon for both antipsychotics and mood stabilizing medications to be prescribed (Emslie et al., 1994). Typically, mood stabilizers (e.g., Depakote, Lithium, Tegretol, Topamax) are considered the first line of pharmacological intervention and, if necessary, are followed by anti-psychotic medications (e.g., Abilify, Clozaril, Geodon, Risperdal, Seroquel) to help reduce aggressive or psychotic symptoms (Lofthouse et al., 2004). After a child’s mood has been stabilized with a mood stabilizer, low dose anti-depressant medications may be used to reduce depressive and anxiety symptoms. Psychostimulants also may reduce ADHD symptoms of inattention, impulsivity, and hyperactivity; however, there is concern stimulant medications (Carlson & Mick, 2003; DelBello et al., 2002), tricyclic antidepressants (Geller, Fox, & Fletcher, 1993), or selective serotonin reuptake inhibitors (Ghaemi, Hus, Soldani, & Goodwin, 2003; Papolos, 2003) may induce manic symptoms and therefore must be monitored carefully (Bhangoo et al., 2003; Carlson, 2005; Lofthouse et al.,
2004b; Youngstrom, 2007). Although it has proven difficult to demonstrate evidence of pharmacotoxicity in research studies (Carlson, 2003; Carlson & Mick, 2003), even the “best-case scenario” suggests selection of inappropriate pharmacological interventions exposes patients to all of the potential risks, with little potential for benefit (Youngstrom, 2007). There appears to be increasing support for the use of polypharmacy, but it should be kept in mind only a limited number of studies have been published demonstrating their capacity to produce the desired results. Further complicating the issue is evidence that adolescents become medication resistant, resulting in multiple trials of medications (Bhangoo et al., 2003).

Psychosocial Treatment

Pediatric bipolar disorder is associated with significant morbidity and mortality, nevertheless effective psychosocial treatment strategies remain underdeveloped and understudied (Fristad, Gavazzi, & Mackinaw-Koons 2003a). Even thought lithium carbonate, anticonvulsants and antipsychotic agents, mood stabilizers, and stimulants demonstrate efficacy in the stabilization and treatment of PBD, the prevention of recurrences and control of symptomatic fluctuations through pharmacological intervention alone has been less than adequate (Rea et al., 2003). For instance, 60% of patients have recurrences within two years after an acute episode and approximately 50% experience significant inter-episode symptoms (Miklowitz, George, Richards, Simoneau, & Suddath, 2003).

Even though current practice parameters indicate pharmacotherapy should be considered the first line of treatment, a growing body of evidence suggests psychoeducational (Firstad, Gavazzi, & Mackinaw-Koons, 2003), family therapy (Miklowitz & Otto, 2006), cognitive behavioral therapy (Feeny, Danielson, Schwartz, Youngstrom, & Findling, 2006; Pavuluri et al., 2004), and other psychosocial interventions have significant value as adjunctive treatments. A
large amount of published research supports the use of cognitive and behavioral interventions when treating children with unipolar depression (Dujovne, Barnard, & Rapoff, 1995), and it has been demonstrated pharmacotherapy can be effectively augmented by psychosocial interventions whose objectives include decreasing family stress and improving psychosocial functioning, compliance with medication, identifying “triggers” and early warning signs of mood destabilization to help prevent relapse, and the patient’s ability to cope with environmental stressors (Miklowitz, 1996; Sachs, Guille, & McMurrich, 2002). Unfortunately, too few studies have been published regarding the effectiveness of such interventions with PBD populations despite the fact that the critical features necessary to develop effective psychosocial interventions for children with BD have been delineated (Fristad, Goldberg-Arnold, & Gavazzi, 2003; Lofthouse & Fristad, 2004). Without proven assessment and psychosocial treatment techniques, there is a tremendous unmet need for helping families to make sense of their struggles and to address them constructively (Youngstrom, 2007).

In 2004, a systematic review of the literature assessing the effectiveness of psychological interventions for adult BD was conducted (Vieta & Colom, 2004). The authors concluded cognitive, cognitive-behavioral, and schema-focused therapies were the most effective psychosocial interventions to address the depressive features of adult BD. They also reported there was little research to support the use of these therapies in addressing the manic or hypomanic symptoms of adult BD. Instead, pharmacological treatments appear most beneficial in addressing these symptoms. Scott and Colom (2005) examined 32 outcome studies which occurred between 1960 and 1998 describing the combined use of psychologic and pharmacologic treatments. Most of the reports addressed group (45%) or family approaches (45%). Less than half were randomized, controlled trials; however, it was clear that in many of the studies,
individuals receiving adjunctive psychologic treatments had better subjective and objective clinical and social outcomes than individuals receiving usual psychiatric care consisting mainly of treatment with mood stabilizers and outpatient support, and that many of these differences reached statistical significance.

In 1996, the National Institute of Mental Health recommended the creation of adjunctive psychosocial interventions as a primary research focus for PBD (Prien & Rush, 1996). A variety of studies have demonstrated an association between socioenvironmental stressors and remission-relapse cycles thereby suggesting psychosocial interventions may be advantageous (Morris, Miklowitz, & Waxmonsky, 2007). These symptom exacerbating relations include levels of familial expressed emotions (Goldstein, Miklowitz, & Richards, 2002), low parental warmth (Geller et al., 2002), and stressful life events which disrupt the individual’s social rhythm (Malkoff-Schwartz et al., 2000). It has been suggested adjunctive psychosocial intervention objectives should prevent relapses and reduce inter-episode symptoms by enhancing patients’ stress-coping abilities and encourage psychopharmacological compliance through psychoeducation and support (McClure et al., 2002; Miklowitz et al., 2003). Adjunctive family therapy, individual cognitive-behavioral therapy, and interpersonal and social rhythm therapy, are associated with increased stabilization of symptoms compared to interventions solely relying on medication and active clinical management (Miklowitz et al., 2003; Rea et al., 2003).

“Expressed emotion” (EE) emerged as a term from a series of studies that focused on relapse rates in adults diagnosed with schizophrenia (Fristad et al., 2003). High EE may include critical comments, hostility, and emotional over involvement, and is a general predictor of poor outcome across diagnostic categories (Butzlaff & Hooley, 1998). Given the severe clinical manifestations of BD in children, reducing EE in their family unit has the potential to
significantly reduce symptom severity and improve therapeutic outcomes. The evidence is clear that parents of children with disabilities have many unmet needs and equipping those families to shift from “emotion focused coping” to “problem focused coping” may be a very useful strategy (Sloper, 1998).

Increased disagreement between caregivers on child behavior management issues has been linked to lower levels of family problem-solving, higher rates of child problem behaviors, and diminished parental effectiveness (Fristad, Gavazzi, & Mackinaw-Koons, 2003). Because children with bipolar disorder tend to have a heightened sensitivity to conflict (Miklowitz & Goldstein, & Nuechterlein, 1995) it may be speculated that the likely increase of parental tension caused by disagreements over appropriate treatment and methods to manage symptoms of BD (Hellander et al., 2003) may have a deleterious impact on the child’s recovery. Fristad and colleagues (2003) initiated an approach utilizing “multifamily psychoeducation groups” (MFPG), which showed promise during the piloting phase. During the treatment program, families meet for 8, 90-minute sessions in multifamily psychoeducation groups (MFPG). Each session was highly formatted with specific content to be taught and skills to be practiced. The sessions would begin and end with a family component and included middle sessions for individual work. Parents also received workbooks containing materials presented in the session as well as copies of the children’s activities. Family projects were assigned to be completed during the week and were designed to reinforce concepts taught during the session. Most of the therapeutic techniques utilized in MFPG were not unique to this intervention. What is unique, however, is the way in which teaching families about the child’s illness and treatment options (including how to work effectively with the mental health system and school system), followed by training families in communication exercises, cognitive-behavioral interventions, and social problem-solving.
strategies focused on the children’s mood symptom management was integrated.

Family focused interventions for BD tend to be psychoeducational in orientation. Common elements include teaching families how to recognize the signs and symptoms of the disorder, developing strategies to intervene early to new episodes, assuring consistency with medication schedules, managing family members’ affective reactions to the illness, its prognosis, and its expected treatments, and developing coping strategies relevant to their unique situation (Miklowitz, 2007). Miklowitz and colleagues’ (2003) family-focused therapy (FFT) approach resulted in patients experiencing significantly fewer relapses, reduced mood disorder symptoms, better medication adherence, and longer survival intervals than patients undergoing crisis management, a less intensive psychoeducational intervention, during a two year period. FFT is a 21-session psychoeducation program administered in conjunction with pharmacotherapy over nine months following an episode of mania and consists of education for patients and their caregivers about the disorder, communication enhancement training, and problem solving skills training. Miklowitz’s results are similar to other randomized trials of psychosocial interventions with individuals and families which demonstrated a decreased relapse risk in bipolar disorder by 30% (Perry, Tarrier, Morriss, McCarthy, & Limb, 1999) to 40% (Lam, 2002) during intervals that range from 12 to 24 months. Key features of the Family-Focused Treatment (FFT) approach include:

- Commences shortly after an acute episode of mania, depression or mixed disorder.
- Involves the patient and one or more relatives.
- Conducted in 21 sessions over 9 months (weekly for 3 months, biweekly for 3 months, monthly for 3 months)
Consists of three consecutive modules:

1. **Psychoeducation**: didactic information and interactive discussion about the symptoms of bipolar disorder, early warning signs, relapse prevention plans, roles of risk and protective factors, and the importance of medication adherence (7 sessions)

2. **Communication enhancement training**: behavioral rehearsal of effective speaking, listening, and negotiating skills, with homework practice (7-10 sessions)

3. **Problem-solving skills training**: identify and define specific family problems, brainstorm solutions, evaluate the advantages and disadvantages of each solution, choose one or a combination of solutions, develop implementation plans, and homework between sessions (4-5 sessions).

Pavuluri et al. (2004) developed a child and family focused cognitive behavioral therapy specifically designed for children with BD – Child- and Family-Focused Cognitive-Behavioral Therapy. The therapy integrated cognitive-behavioral therapy and interpersonal principles of psychotherapy, modified the conventional behavior therapy and emphasized empathic validation. In addition to addressing the needs of the child, their model also helped parents become aware of their own unhelpful cognitions and to learn new tools in order to serve as ‘coaches’ for their affected offspring. For example, the use of psychoeducation can help parents (and teachers) better understand the biological basis of mood swings often displayed among children with BD. By recognizing that difficulties with regulation of affect may have a biological basis, parents may recognize the unintentional aspects of BD and be more likely to respond empathically. The psychoeducation aspect of this model also taught parents how to monitor a child’s mood and
address rapid cycling. In addition, the parents learned anger-management skills they could implement with their children to help in affect regulation. Preliminary results indicated a good symptomatic response and parent satisfaction.

Another promising psychosocial treatment to be used in conjunction with pharmacological intervention was proposed by Danielson, Feeny, Findling, and Youngstrom (2004). The model was based in part on successful treatment models for adult BD and included 12 sessions lasting approximately 60 minutes with corresponding homework assignments for both the adolescent with BD as well as caregivers. Sessions topics included: psychoeducation, medication compliance, mood monitoring, anticipating stressors, problem solving, identifying and counteracting negative thinking, sleep maintenance, assertiveness, and family communication. Given the model’s approach and content, it is easy to see how a school psychologist with understanding of BPD could be involved in the intervention.

Finally, Otto, Reilly-Harrington, Kogan, Henin, and Knauz (2009) developed a treatment manual for BPD that may be able to be adapted for adolescents. They initially focused on cognitive restructuring and activity management strategies. As treatment progresses, they focus on enhancing an individual’s emotional-social problem-solving skills (Otto, Reilly-Harrington, & Sachs, 2002). Otto and colleagues (2002, 2009) also recommend the use of vivid metaphors and stories to assist clients in recognizing the specific aspects of BPD, teaching emotional regulation, and when training specific cognitive skills. Similar treatment programs are being studied such as the multisite NIMH-funded Systematic Treatment Enhancement Program for Bipolar Disorder, which is studying the efficacy of various psychotherapy approaches (Otto et al., 2002).
School-Based Identification

Emotional disorders in general, and PBD in particular, create significant barriers to learning and limit the acquisition of academic, vocational, and social skills (Merrell & Walker, 2004; U.S. Department of Health and Human Services, 1999). Some estimates suggest over 20% of school-age children would qualify for a psychiatric diagnosis and have mental health needs so severe as to require attention, treatment, and supports (Hoagwood & Erwin, 1997). A 2001 report of the U.S. Department of Education estimated, nationwide, 5% of school-age children have mental health impairments resulting in extreme functional limitations, and 11% have mental health impairments that cause significant functional limitations. It is likely children with emotional disorders are under-identified within the local educational system and too few receive the necessary mental health services. This may be due, in part, to the belief by some school personnel and systems that they are not responsible or accountable for the mental health needs of students (Walker, Ramsay, & Gresham, 2004).

School systems have identified and classified children with disabilities since the introduction of Public Law 94-142 in 1975. Public Law 94-142, later reauthorized in 1990 and 1997 as Individuals with Disabilities Act (IDEA), and then as the Individuals with Disabilities Improvement Act (IDEIA) in 2004, provides federal guidelines to assign students to 13 special education categories (e.g., specific learning disability, mild cognitive impairment). IDEIA provides broad definitions of disability categories which represent enduring educational problems requiring alternative, specialized services. Because the decision-making criteria are so general, categories include students with decidedly heterogeneous problems and diverse educational needs (Wodrich, Pfeiffer, & Landau, 2008). Even though the United States government has formalized the identification of an emotional disorder (IDEIA, 2004), there
remain discrepancies across the country in the definition used to describe the disorder and the special education services provided the identified child. States also lack systematic and standardized procedures for screening and evaluating children with emotional problems (Rudy & Levinson, 2008).

The IDEIA classification system is significant for doctoral-level, licensed psychologists who work with students outside of school as well as for certified school psychologists working within the school environment. A complicating factor is that the special education scheme has limited heuristic application because it was contrived for educational administrative purposes whereas the DSM-IV-TR (and upcoming DSM-V) is committed to a medical nosological schema with little concern for school issues (Gresham & Gansle, 1992; Wodrich, Pfeiffer, & Landau, 2008). Although a school psychologist may be familiar with DSM-IV-TR diagnostic criteria as well as trained to make differential diagnoses through use of the standard psychiatric taxonomy, they are required to work with students within the IDEIA framework. Nevertheless, working knowledge of DSM diagnoses may help school psychologists not only to better conceptualize school-based emotional disorders but also to provide a descriptive system for collaboration and communicating with mental health professionals and other non-school service providers (McConaughy & Ritter, 2005).

School psychologists play a key role in assessing ED to determine eligibility for special education. In practice, school psychologists often become involved with children exhibiting emotional or behavioral problems before they are formally referred for an evaluation (McConaughy & Ritter, 2005). For example, the school psychologist may have already collaborated with the child’s teachers to define problem behaviors and/or develop classroom interventions or counseling may have been provided to the child or their families. School
psychologists are to be concerned that children with emotional disorders receive “comprehensive assessment and intervention services” in a manner valuing collaboration and recognizing the critical role of the family and other community service providers (NASP, 2005; Ringeisen, Henderson, & Hoagwood, 2003).

The IDEIA (2004) definition of ED states that it is a condition characterized by one or more of the following characteristics over a long period of time and to a marked degree that adversely affects educational performance: (a) an inability to learn that cannot be explained by intellectual, sensory, or health factors; (b) an inability to build or maintain satisfactory interpersonal relationships with peers or teachers; (c) inappropriate types of behaviors or feelings under normal circumstances; (d) a general pervasive mood of unhappiness or depression; and (e) a tendency to develop physical symptoms or fears associated with personal or school problems. The definition includes children who are schizophrenic but excludes children who are socially maladjusted, unless they also are ED. The federal definition of ED has been the target of much criticism (Coleman & Webber, 2002; Gresham, 2012; Kauffman, 1997). For instance, Gresham (2012) contends that the criterion reveals immediate complications within the definition as well as between other disorders. For example, Criterion A of the definition also could apply to the category of specific learning disabilities; Criterion B implies that ED primarily involves social skills deficits; and C and D appear to suggest ED involves internalizing disorders, whereas E seems to imply ED cannot include externalizing behavior problems. Other criticisms include the exclusion of children identified as socially maladjusted and the meaning and measurement of such terms as “long period of time,” “marked degree,” and “adversely affects educational performance” (IDEIA, 2004). Professionals and advocacy groups have long criticized the IDEIA definition as being overly restrictive and not supported by legal precedent or educational and
clinical research (Forness, 1992; Skiba & Grizzle, 1992). Obviously, the IDEIA (2004) definition is “ambiguous, circular, and logically contradictory” (Gresham, 2005).

This definition is so broad it may encompass children with severe mood disorders apparent by overt behaviors (e.g., PBD) to less conspicuous, more internal symptoms (e.g., anxiety) (Wodrich et al., 2008). Even though students with emotional disturbances are similar in that their problems are longstanding, significant, and markedly detrimental to educational success, students with ED are so diverse it often is very difficult to generalize the type, intensity, and duration of necessary interventions and accommodations. Consequently, it would seem, an ED designation provides professionals with extremely limited planning information (Wodrich et al., 2008). Perhaps more troubling is the failure to designate a child with a disability under the current IDEA system due to the lack of connection between research on the characteristics and histories of students who persist with genuine disabilities and administrative categorization (Berninger, 2006). Use of the DSM-IV-TR may provide a solution to IDEA’s problem of heterogeneity and give psychologists a better way to classify students (Wodrich et al., 2008). For example, a broad, indistinct categorization of ED could be replaced with several distinctive clinical ones with the potential of rooting caregiver response and intervention in a more specific, research-based manner. However, use of the DSM-IV-TR criteria for diagnostic and classification purposes poses its own set of limitations including poor coverage of academic and developmental disorders, inadequate listing of school-based symptoms, and an under appreciation of the unique demands imposed by the academic setting and process (Wodrich et al., 2008).

It also is important to note the federal definition of ED specifically excludes students who are characterized as “socially maladjusted (IDEIA, 2004).” This exclusion is based on the
scientifically unsubstantiated belief that students with disorders of conduct are responsible for their behavior and thus do not have a “true disability” compared to students with internalizing behaviors (e.g., anxiety, depression, fearfulness; Gresham, 2012). This is of some concern since children potentially identified as ED and those with PBD in particular may demonstrate chronic behavior problems often associated with “social maladjustment” including noncompliance, aggression, and disrespect toward authority figures (Coleman & Webber, 2002). Because ED is a category used to describe students whose behavior deviates from their peers in terms of degree rather than kind, the category is considered to be fraught with confusion (Gresham, 2012).

In the early 1990’s, the National Mental Health and Special Education Coalition attempted to substitute a new definition of “emotional or behavioral disorders (EBD)” for the IDEA definition. The coalition’s definition was and continues to be endorsed by the National Association of School Psychologists and, if applied, may go a long way to reducing much of the confusion (Forness & Knitzer, 1992):

- Emotional or Behavioral Disorder (EBD) refers to a condition in which behavioral or emotional responses of an individual in school are so different from his/her generally accepted, age appropriate, ethnic or cultural norms that they adversely affect performance in such areas as self-care, social relationships, personal adjustment, academic progress, classroom behavior, or work adjustment.

- EBD is more than a transient, expected response to stressors in the child’s or youth’s environment and would persist even with individualized interventions, such as feedback to the individual, consultation with parents or families, and/or modification of the educational environment.
• The identification of EBD must be based on multiple sources of data about the individual’s behavioral or emotional functioning. EBD must be exhibited in at least two different settings, at least one of which is school related.

• EBD can co-exist with other disabilities.

• This category may include children or youth with schizophrenia, affective disorders, anxiety disorders, or who have other sustained disturbances of behavior, emotions, attention, or adjustment.

This definition also recognizes children with emotional disorders are a diverse group with difficulties existing along a spectrum of intensity, duration, and frequency of occurrence. Many states have adopted the definition of ED, while others have posited their own definitions modeled on the federal definition, and a few states do not require categorical classifications for special education (McConaughy & Ritter, 2002). SPs trained around the U.S. will need to learn and follow their own states’ unique definitions, rules, and regulations.

Special Education Identification

Response to intervention

Current assessment practices in most U.S. schools for identifying children in need of special education services are structured around a Response to Intervention (RTI) framework. RTI is based on the idea of determining whether an adequate or inadequate change in academic or behavioral performance has been achieved as a result of an intervention. The model is often conceptualized as three tiers moving from the three-tiered model from universal conditions for all students (Tier 1), to targeted interventions of varying degrees of intensity (Tier 2), to very intensive interventions for individual students (Tier 3). This model assumes an academically or behaviorally struggling child will receive the best intervention available and feasible within a
given setting. If the child shows an inadequate response to a research-based intervention delivered with fidelity, then they should be eligible for additional assistance, including more intense interventions, specialized assistance, and special education and related services.

RTI is built upon the foundation of identifying children as early as possible who are at risk of behavioral difficulties so early response may minimize, if not, eradicate, negative outcomes. Schools often wait until it is too late to intervene effectively on children’s emotional difficulties (Walker, Nishioka, Zeller, Severson, & Feil, 2000). Early identification of problem behaviors through the use of screenings and subsequent interventions should help prevent the escalation of these problems or at least help the child receive clinical help as early as possible.

Assessment team issues

A further complication may be the perspective taken by team members relative to the nature and/or cause of the disorder. This is particularly influential when it comes to decisions of treatment and intervention. McConaughy and Ritter (2002) describe four general perspectives on the nature of EDs. One perspective views psychopathology as the basis for the child’s difficulties and suggests that both genetic and environmental factors contribute to the individual’s emotional, behavioral, and social difficulties. This perspective uses a classification system to describe and label problematic behavior problems. Additionally, it acknowledges that familial and environmental factors may contribute to the development of child psychopathology. Examples include mental illness in a parent, substance abuse, low socioeconomic status, and life stress (Jensen, Bloedau, Degroot, Ussery, & Davis, 1990). This view would seem to be most in line with the current conceptualization of PBD. A second perspective assumes a lack of psychopathology and assesses the reciprocal interactions between individuals’ behaviors and their environments. Within the school context, the focus is on the school environment and the
children’s interaction patterns with peers, teachers, and administrators. The third perspective attempts to identify the functional relationships between environmental events and problem behaviors and assumes all behavior serves some function for children. Changing behavior, therefore, focuses on antecedent events precipitating behaviors, consequences reinforcing behaviors, and interventions that alter antecedents, consequences; or both. Finally, the fourth perspective emphasizes the effectiveness of interventions and defines disorders by the extent to which the students’ behaviors prove resistant to interventions. The degree to which the assessment team emphasizes each of these four perspectives will likely be influenced by the purpose of the assessment. In the case of students suspected of PBD, the multidisciplinary team may need to “rule out” certain of the above perspectives through the assessment process. For example, in many schools before a child can be referred for assessment of a possible ED an intervention (perspective 4) and/or FBA (perspective 3) must be administered.

It is apparent school-based assessment of EDs may have several purposes. Rudy and Levinson (2008) suggest the possibility of four unique purposes. The assessment may be designed to help teachers cope with behavior problems that are manifested in regular education classroom settings. If this is the case, then it is likely the assessment team will adopt either the behavioral-environmental interaction or the intervention-focused perspective since both may offer the most effective classroom strategies for teachers. A second purpose may be to help children reduce their problem behavior and improve their competencies and skill. Once again, the behavioral-environmental interaction or the intervention-focused perspective may be the most effective perspective to adopt. If the purpose is to determine whether a child is eligible for special education services, then the team will be making classification and eligibility questions. Therefore, the team should probably take the child psychopathology perspective as the basis for
the assessment. Finally, the assessment may be intended to determine whether children and their families need to be referred for mental health services outside of the school setting. Again, the team will likely consider adopting a psychopathology perspective of ED. As part of the multidisciplinary team, it may be necessary for the SCHOOL PSYCHOLOGIST not only to clarify the specific purpose but to understand that more than one purpose may need to be addressed before a decision is made. Depending on the purpose of assessment, the school psychologist may emphasize each of the four perspectives to different degrees (McConaughy & Ritter, 2002).

Assessment best practices

The goal for assessment should be to identify students’ needs and to assist in developing and implementing interventions when they are warranted (NASP, 1993). The school psychologist’s assessment of emotional disorders can serve several purposes within the school system. These include (1) helping teachers cope with behavior problems in regular education classrooms; (2) helping students to reduce their problems and improve their competencies; (3) determining whether a student is eligible for special education services; and (4) Referring children (and perhaps families) for mental health services outside of the school setting (McConaughy & Ritter, 2005). Through assessment, the school psychologist may be involved with reviewing referral and screening information, consulting with teachers and other school staff, planning and conducting assessment procedures, interpreting assessment data and preparing reports, and linking assessment data to intervention planning, implementation, and evaluation. The National Association of School Psychologists position statement on students with emotional and behavioral disorders provides four general characteristics of an effective identification process (NASP, 2005), 1) Comprehensiveness, 2) multiple sources of information,
3) appropriate assessment methods, and 4) a comprehensive formulation of the relevant issues.

**Comprehensiveness.**

**Screening.** Screening for emotional difficulties should occur as early in the child’s school career as possible and should be efficient, practical, and evidence based (Davis, Young, Hardman, & Winters, 2011; President’s Commission on Excellence in Special Education, 2002; U.S. Department of Health and Human Services, 1999). Systematic screening is not designed to make a Special Education determination or a definitive diagnosis. Instead, screenings are intended to lead to research-based interventions to ameliorate the behaviors of concern. Early interventions have a greater chance of being effective than do interventions administered later (Walker, Severson, & Feil, 1995). Screening procedures require an understanding of various decision rules and associated statistics to make correct decisions and avoid incorrect determinations (Gresham, 2012). Bennet and colleagues (1999) contend the issue in screening is knowing whether the degree of predictive accuracy is high enough to justify the use of a particular method. A further means of increasing the value of screening is to utilize a multiple gating procedure (Severson & Walker, 2002), which involves a series of progressively more extensive and precise assessments (“gates”) that provide for multimethod and multisource assessment of children’s difficulties. Unfortunately, few screening tools have been specifically designed and researched to identify at-risk elementary school students with either externalizing or internalizing behaviors.

Walker and Severson (1992) developed the Systematic Screening for Behavior Disorders (SSBD) for use in elementary schools. The SSBD is proactive and incorporates three stages. The screening takes into consideration both teacher judgments and direct observations to identify students at-risk for an ED. The first stage involves teacher nomination. The teacher filling out a
Critical Events Inventory and a short adaptive and maladaptive behavior checklist for each of the nominated students follows this. Students whose scores exceed the established cut off are then candidates for Stage 3, which involves a 15-minute interval observation across settings (e.g., classroom, playground).

Other screening methods include the Strength and Difficulties Questionnaire (SDQ; Goodman, 1997); the Behavior Assessment System for Children, Behavioral and Emotional Screening System (BASC-2 BESS; Kamphaus & Reynolds, 2007); and the Student Risk Screening Scale (SRSS; Drummond, 1994). The SDQ contains 25 questions and the BASC-2 BESS has 25 – 30 items. Although the possibility of completing either of these tools is minimal, it seems unrealistic to expect teachers to complete either one of them for every student and unnecessary for students who are clearly not at risk (Davis, et al., (2011). A solution to these issues may be to use a teacher nomination form like the SSBD to identify students at-risk and then confirm the student’s risk status by administering a standardized instrument like the SDQ or BASC-2 BESS. The SRSS asks the teacher to check which of seven behaviors (if any) are characteristic of each student and can provide an overview of an entire class in about 10 – 15 minutes. However, the SRSS only identifies students with externalizing concerns.

The assessment of a child suspected of an ED and/or PBD should provide an objective and observable description of the student’s difficulties. This stage of assessment may be likened to a problem solving approach similar to the behavioral consultation model presented by Bergan and Kratochwill (1990). In that model, consultation has four stages: problem identification, problem analysis, plan implementation, and treatment evaluation. In the case of beginning to identify a child suspected of an ED, the stages are similar: identify behavioral excesses, deficits, or both; analyze the antecedent and consequent events surrounding these excesses and deficits;
differentiate acquisition and performance deficits, implement an intervention plan; and evaluate the effects of the intervention plan. This approach to and process of identifying and analyzing behavior is a core principle of an RTI approach (Brown-Chidsey & Steege, 2005; Gresham, 2005).

*Functional behavior assessment.* Functional behavior assessment (FBA) procedures are recommended to gather information about the child’s behavior in relationship to the instructional and social environment (Knoster & McCurdy, 2002). The FBA adheres to a problem-solving process that is designed to identify the function of problem behaviors for the child, which then leads to interventions. FBA involves the assessment and linking of external environmental conditions to specific behaviors so these behaviors can be predicted and controlled (Ervin, Ehrhardt, & Poling, 2001). The use of FBA and positive behavioral intervention planning (BIP) was first included in and required by the 1997 amendments to the Individuals with Disabilities Education Act. The use of FBA as a critical component in designing interventions for problem behaviors has a long history of empirical support (Carr, 1993; Gresham, Watson, & Skinner, 2001; O’Neill, Horner, Albin, Storey, & Sprague, 1997; Steege, Mace, & Brown-Chidsey, 2007; Witt, Daly & Noell, 2000). Once the function of behavior is determined, this information is used to design interventions to reduce problem behaviors and to facilitate positive replacement behaviors (Knoster & McCurdy, 2002; O’Neill et al., 1997; Witt et al., 2000). When suspecting a child may have an ED such as PBD, FBA not only provides evidence on whether a given set of behaviors can be changed or are likely to be organic, but also provides a multimethod strategy involving direct observations, interviews, records review, and behavior ratings about a given student’s behaviors. In conducting an FBA as part of the comprehensive individual evaluation, evidence is provided regarding whether the student demonstrates an ED and is in need of special
education and related services (Rudy & Levinson, 2008).

**Observation.** Direct observation is an expected best practice as well as an essential component of FBAs. Observations should occur across settings, times, and contexts. Two broad categories of observation recording systems include empirical and narrative recording (Breen and Altepeter, 1990). Time sampling, continuous event recording, and interval recording, are examples of empirically based observation and require operationally and predefined behaviors to be meaningful. In contrast, narrative recordings require the school psychologists to observe and transcribe student’s behaviors throughout a designated period. Examples include descriptive time sampling, daily logs, and antecedent-behavior-consequence analysis (Mcconaughey & Ritter, 2005).

**Context and history.** Environmental factors also must be taken into consideration, such as the student’s relationship between the instructional, social and community environment and the specific people and systems that impact the difficulties demonstrated by the student. Although it is likely the student’s perceived shortcomings and weaknesses have initiated the referral for assessment, the strengths and available resources of the student, family, teacher(s) and school setting, also should receive attention. This is especially important as these may be useful to the development of intervention plans.

Historical data should include the duration of the difficulties, their relationship to specific developmental or situational stressors and any previous attempts to resolve the student’s difficulties. According to NASP (2005) gathering historical background information should include:
- **Intensity**: The severity of the difficulties as they affect academic achievement, social skills, and interpersonal relationships within the family, community and school settings;

- **Pervasiveness**: The extent to which difficulties occur in different situations within the school, family or community settings;

- **Persistence**: The extent to which difficulties have continued despite the use of well-planned, empirically-based and individualized intervention strategies provided within the least restrictive environments.

- **Developmental and cultural functioning**: The student’s current developmental status and the extent to which the student’s behavior is different from the behavior expected for children of the same age, culture, and ethnic background.

There is tremendous value in gathering a thorough family history. Tsuchiya and colleagues (2003) conducted a meta-analysis reviewing over 100 articles discussing more than 30 different risk factors potentially associated with PBD. It was concluded that only family history of BD was robust enough to merit clinical interpretation. An earlier meta-analysis (Hodgins et al., 2002) found on average, 5% of children with a biological parent affected by BD already met criteria for a BD themselves at the time of the research assessment. It also was reported that having a bipolar parent doubled a child’s risk of developing psychopathology in general, and tripled the risk of developing mood disorders. Obviously learning whether or not there is a history of BD is a critical piece of information; however, Youngstrom (2007) cautions that clinicians should remember that (1) family history of bipolar illness increases risk of psychopathology, and especially BD; (2) the vast majority of children with a parent diagnosed with BD still do not have PBD themselves; and (3) they often show other, nonbipolar behavioral
problems. Additional concerns include how prone “historical” diagnoses are to error and the added burden placed on family members by conducting a more systematic and structured interview. Although one solution may be to ask parents to fill out a brief screening measure, such as the Mood Disorder Questionnaire (MDQ; Hirschfeld et al., 2000), the sensitivity of such measures are at best moderate (around .4 to .6) and insufficient at detecting bipolar II and “bipolar spectrum” (Miller, Klugman, Berv, Rosenquist, & Ghaemi, 2004).

Academic functioning. All multidisciplinary evaluations require some type of assessment of the child’s current level of academic performance to establish the need for special education services. Group or individually administered standardized achievement tests, curriculum-based assessment, review of grades, and portfolio assessments are all examples of assessment methods. Scales such as the BASC-2 Teacher version (Reynolds & Kamphaus, 2006) can yield information concerning student’s academic achievement and adaptive behaviors.

Multiple sources of information

Multiple informants. Children’s behavior often varies from setting to setting, and information should be obtained from a variety of sources. Best practice requires that information be gained from the children’s caregiver/parent and teachers(s) as well as from direct assessment of the child (McConaughy & Ritter, 2005). Parents can provide specific information regarding the history of the presenting problem, other problem areas, developmental progression, feasibility of interventions, family resources, and stressors (Rudy & Levinson, 2008). Aside from family members, school psychologists also should, when feasible, use information from community treatment providers, teachers and other school personnel, social service workers, and school records, medical records, or other relevant records.

It is important for the multidisciplinary team to remember that no one informant observes
all aspects of a child’s behavior and that each observer is limited by factors such as context, perceptions, and biases. A typical strategy used in assessment of ED/BPD is to administer a behavior checklist to parents, teachers, and youth (Quinn & Fristad, 2004). The thought on this practice is that different informants will provide additional, unique information above and beyond what can be learned from a single respondent (Achenbach, McConaughy, & Howell, 1987; Muschkin & Malone, 2007) and that a greater volume of information will lead to greater diagnostic accuracy (Youngstrom, Joseph, & Greene, 2008). Agreement between informants, however, is expected to be moderate at best (Achenbach et al., 1987). Some researchers have found results from multiple informants often provides contradictory information that is at best difficult to interpret, and worst, not useful in making a determination (Achenbach et al., 1987; Ruffalo & Elliott, 1997). Reasons for this expected discrepancy are that a child’s behavior may be situationally specific (Ruffalo & Elliott, 1997; Thuppal, Carlson, Sprafkin, & Gadow, 2002) or that informants may have different characteristics and abilities that affect their ability to accurately describe the behaviors they see in children (Cai, Kaiser, & Hancock, 2004; De Los Reyes & Kazdin, 2005). However, differing perspectives do not need to be interpreted as “right and wrong”, but underscores the need for multiple informants to acquire an accurate picture of a child’s behavior. While some (Thuppal et al., 2002) researchers have found it useful to incorporate teacher report of child behavior, others have suggested the teacher report is markedly less valuable than parent report when identifying PBD (Hazell, Lewin & Carr, 1999; Youngstrom, Findling, & Calabrese, 2003). In general, large discrepancies between parent, teacher, and youth ratings of behavior problems in PBD have been reported across a number of studies (Hazell et al., 1999; Kahana, Youngstrom, Findling, & Calabrese, 2003; Youngstrom, Findling, & Calabrese, 2003). On the whole, however, parent report has been shown to be
significantly better than teacher report or youth self-report in identifying PBD in children (Hazell et al., 1999; Kahana et al., 2003; Youngstrom et al., 2005).

**Interviewing.** Interviews play a significant role in the assessment of PBD/ED in both clinical and school settings (Busse & Beaver, 2000; McConaughy, 2000a, 2000b). Structured interviews typically improve the reliability and validity of information acquired and often are used with multiple informants. Some structured diagnostic formats can be time-consuming and may feel unnatural to the participants due to their rigid pattern of questioning. An example is the NIMH Diagnostic Interview Schedule for Children, Version 4 (Shaffer, Fisher, Lucas, Dulcan, & Schwab-Stone, 2000). Other formats use standard question formats but allow for more flexibility to create a more conversational style. Examples include the Child Assessment Schedule (Hodges, Gordon, & Lennon, 1990) and the Schedule for Affective Disorders and Schizophrenia for School-Age Children (Ambrosini, 2000). An unstructured interview format may be used and can be individually designed to assess specific areas of problematic functioning. However, use of unstructured interviews should be cautioned because they may not address separate relevant issues such as other problem areas, the child’s strengths, and previously attempted interventions (Rudy & Levinson, 2008). Additionally, unstructured interviews may make it difficult to compare information received from multiple informants (McConaughy & Ritter 2002). Semistructured interviews provide a minimal amount of structure while providing a flexible format and the potential to compare obtained data. A semistructured approach may be the most appropriate for interviews with children (McConaughy & Achenbach, 1990). Children under the age of 10 years are likely to be unreliable reporters of their own behavior (Edelbrock, Costello, Dulcan, Kalas, & Conover, 1985); however, time spent with younger children may provide an opportunity to observe behavioral tendencies and interaction styles, impulsivity and
distractibility, displays of anxious or depressed behaviors, and a range of emotions. Once rapport is established the child may be asked about the problem as well as their thoughts on family, school, social, and personal factors (Breen & Altepeter, 1990).

**Appropriate assessment methods**

The potential effects of identifying a child as having an emotional disorder necessitate the use of instruments that have empirically demonstrated high reliability and validity. Norms should be representative, current and appropriate for the individual being assessed in terms of age, culture/ethnicity, and gender. Both indirect and direct assessment methods should be used as appropriate. Indirect methods may include behavior checklists, structured interviews, rating scales, and other appropriate assessment techniques. Assessments that are specific to one emotional or behavioral dimension (e.g., ADHD) should not be used in isolation, but should be part of a more comprehensive assessment of multiple emotional and behavioral domains (NASP, 2005). Direct methods may include behavior observation, standardized self-reports from a child, curriculum-based assessment, and analysis of work samples.

It also is likely SPs will need to take a categorical as well as an empirically based approach to determine if the child’s behavior is due to psychopathology, such as PBD. Categorical classifications provide specific criteria to describe symptoms of a disorder. If all of the specified symptoms are met, or present, the individual is considered to have the disorder. Examples include the DSM-IV-TR (APA, 2000) and current special education classification systems (Rudy & Levinson, 2008). In the empirically based assessment approach, problems are rated quantitatively according to frequency, duration, and intensity. Ratings yield standard scores and percentiles for evaluating a child’s behaviors compared to peers and delineate clinical cutoff points for differentiating between criterion groups. Examples include the Behavior Assessment
System for Children (BASC-2; Reynolds & Kamphaus, 2006), Reynolds Child Depression Scale (W. M. Reynolds, 1989), the Behavioral and Emotional Rating Scale (Epstein & Sharma, 1998), and the Achenbach System of Empirically Based Assessment (ASEBA; Achenbach, 1991a). The ASEBA includes the Child Behavior Checklist (CBCL; Achenbach, 1991b), which is designed to obtain parents’ ratings of emotional or behavioral problems of children aged 4 – 18. Best practice in assessing EDs requires that a standardized rating scale should be obtained from at least one parent and one teacher. If feasible, it is beneficial to acquire ratings from both parents, more than one teacher, and a self-report from the child. The results of the standardized rating scales should be integrated with information gained from other assessments methods (e.g., interviews, observations, etc.; Mcconaughy & Achenbach, 1990).

Comprehensive formulation of issues

After the data has been gathered, the findings must be integrated into a written report. Simply stating the child qualifies for ED is insufficient. The report should provide clear and specific descriptions of the child’s emotional problem as reported by the measures used (McConaughy & Ritter, 2002). The results of the assessment should provide working hypotheses about a child’s behavioral and emotional functioning, developmental history, areas of significant impairment in school (academic achievement, adaptive behavior, social skills, and interpersonal relationships) and impairment outside the school setting (vocational skills, and function within the community). The presence of social maladjustment along with emotional and behavioral disorders should be noted for planning interventions (McConaughy & Ritter, 2002; Merrell & Walker, 2004).

School Based Support

Students identified by schools as emotionally disturbed (ED) exhibit significant learning
problems (Epstein, Kinder, & Bursuck, 1989; Gresham, Lane, MacMillan, & Bocian, 1999; Kauffman, 2001; Ruhl & Berlinghoff, 1992; Sutherland and Wehby, 2001) and they have been unsuccessful in gaining the skills necessary to achieve academically and socially (Kauffman, Cullinan, & Eptein, 1987; Patterson, DeBeryshe, & Ramsey, 1989; Trout et al., 2003) resulting in negative school and life outcomes. According to the 25th Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act (U.S. Department of Education, 2003), children with ED earn lower grades than any other group of children with disabilities. They fail more courses and minimum competency examinations and are retained at the same grade level more frequently than children who have other types of disabilities. The average grade point average of children identified with ED is 1.7, compared with 2.3 for all students receiving special education services, and 2.6 for all students in regular education. Children identified with ED also fail one or more courses annually, drop-out at a rate exceeding 59%, and miss an average of 18 to 20 days of school per year, all of which are significantly higher than any other group of children. Forty percent of ED students, whether they graduate or drop out, will not participate in additional education, vocational training, or full-time, non-minimum wage employment (Edgar, 1987; Wagner et al., 1993). More than one-half of all students with ED are arrested within five years of leaving school and among dropouts with ED the figure exceeds to a shocking 70% (Wagner et al., 1993). Students diagnosed as BD and identified as ED are often judged by others to be disruptive, insubordinate, uncooperative, and exhibiting behaviors that interfere with learning (Landrum, 1992; Jolivette, Stichter, & McCormick, 2002). Compared to their non-ED or –BD peers, students identified as ED tend to be less engaged; more likely to display off-task behaviors; more impulsive, disengaged, and inattentive; more likely to have poor relationships and lower self-esteem (Swaggart, 1998;
Szymanski & Zolotor, 2001). Osher, Osher, and Smith (1994) summarized the situation which persists nearly twenty years later: "Educating students identified as seriously emotionally disturbed is one of the most stressful, complex, and difficult challenges facing public education today, and perhaps one of our greatest failures" (p. 7).

School-based prevention and intervention practices have become essential for reducing the incidence of mental health problems that interfere with learning and social development (Dwyer, 2004). In response to the need for expanded mental health services for children, research on the use of universal (i.e., targeting all students) and selective (i.e., targeting students at risk) school-based interventions for mental, emotional, and behavior problems has grown considerably over the past decade (Hoagwood et al., 2007; Stormont, Reinke, & Herman, 2010; Weissberg, Kumpfer, & Seligman, 2003). Despite the increased availability of evidence-based interventions and the importance of targeting the school setting, the widespread adoption and implementation of evidence-based practices and interventions to both promote children’s mental health and intervene with children with specific issues has not occurred (DuPaul, 2003; Kratochwill, 2007; Schaughency & Ervin, 2006).

A large obstacle to providing students with ED the services they need, is that the educational professionals most likely to impact the students’ behavior and mental health needs on a daily basis may not have the resources or knowledge to do so (George, George, Gersten, & Grosenick, 1995; Kratochwill & Shernoff, 2004; Vannest, Temple-Harvey, & Mason, 2009). Teachers face increasing challenges of educating and managing students with ED and consistently report a felt need for additional training in the areas of working with children exhibiting externalizing problems, effective classroom management and behavioral interventions, and engaging and effectively working with families of special needs children.
(Jacobson, 1998; Reinke et al., 2011). One study reported 89-percent of teachers agreed schools should be involved in addressing mental health needs of children yet only 34-percent felt they had the skills necessary to support these children (Reinke et al., 2011). Given the robust literature about effective classroom management practices, it is disconcerting that so many teachers feel unprepared to manage challenging student behaviors. According to the same study, teachers expressed a desire for school psychologists to play a greater role in screening, conducting assessments, and teaching social emotional lessons in the classroom. School psychologists working within school districts wanting to utilize evidence-based practices could serve as consultants supporting teacher-implemented programs and practices as well as provide much desired professional development (McClelland, Morrison, & Holmes, 2000; Ringeisen et al., 2003). Professional development should range from providing knowledge on the characteristics of a child with BD (i.e., inappropriate emotional response, rapidly changing moods in a short period of time, etc.) to how to monitor mood changes and/or the effects of medication (Kowatch et al., 2005; Senokossoff & Stoddard, 2009).

Translating educational and behavioral research into best classroom and special education practices is of national concern (Abbott, Walton, Tapia, & Greenwood, 1999). The research-to-practice gap is well documented and continues to limit student outcomes and presents significant obstacles for students with an ED (Cook et al., 2003; Szymanski & Zolotor, 2001). For example, Shores, Gunter, and Jack (1993) suggested teachers of students with an ED seldom use effective practices, and the lack of such practices magnifies the deficits of these students (Sutherland & Wehby, 2001). Even though there has been extensive research identifying effective practices in the area of SPED with the potential to dramatically improve student outcomes (Greenwood & Abbott, 2001), implementing and sustaining these effective strategies over time has proven
extremely challenging (Abbott et al., 1999; Fitzpatrick & Knowlton, 2007; Klingner, Ahwee, Pilonieta, & Menendez, 2003; Spooner & Browder, 2003). In addition, sometimes teachers do not use techniques identified as effective because of a lack of treatment acceptability, distrusts of empirical research, and a low regard for the characteristic of research-based as an important selection criterion for adopting intervention practices (Boardman, Arguelles, Vaughn, Hughes, and Klingner, 2005; Landrum, Cook, Tankersley, & Fitzgerald, 2002). Conversely, other popular, professionally recommended programs are grounded in little or no research supportive of their use with students identified as having an ED (Fitzpatrick & Knowlton, 2009). For example, practitioners for decades have incorporated the popular level system into their behavior management programs as a way of encouraging students with an EBD to acquire appropriate social, behavioral, and academic skills (Farrell, Smith, & Brownell, 1998). However, Smith and Farrell (1993) argued that little—if any—research exists to support the effects of level systems for this student population.

**Self-management & -monitoring strategies**

Two strategies supported in intervention research dating back to the 60s and early 70s (McDougall, 1998) are self-management and self-monitoring. Self-management strategies have been effectively implemented across all grade levels from preschool (Connell, Carta, & Baer, 1993) and elementary school (Fantuzzo & Polite, 1990), and have been successful for students with ED (Nelson, Smith, Young, & Dodd, 1991). Shapiro et al. (1998) suggested self-management can be conceptualized on a continuum from external agent control (authority) to student internal control (evaluation). Thus, the goal of self-management is to refocus and engage students with disruptive and other behavior problems toward independent behavior control (Shapiro et al., 1998). Further, as students with disabilities learn how to effectively use and apply
self-management strategies, the responsibility for external behavior-management systems shifts from authority management to student accountability (King-Sears, 1997). Students with disabilities who have been taught self-management interventions have successfully generalized their behaviors to other situations and settings (King-Sears, 1997), reduced disruptive behaviors in both general and special education classrooms (Rhode, Morgan, & Young, 1983), and increased appropriate social interactions within and outside the school setting (Strain, Kohler, Storey, & Danko, 1994). These positive results also have reduced the demands on teacher time (Snyder & Bambara, 1997).

Self-monitoring involves the student’s recognizing and recording designated target behavior(s). Often, one’s awareness and counting of target behaviors serve as useful interventions by themselves (McDougall, 1998). Self-monitoring has an extensive research base showing its effectiveness with students with disabilities (Reid, 1996; Webber, Scheuermann, McCall, & Coleman, 1993), including those with behavioral difficulties (Shapiro and Cole, 1994). Several studies have shown self-monitoring improved classroom behavior of students in special education programs (Hughes, Korinek & Gorman, 1991; Nelson et al., 1991). The intervention is often recommended and used by practitioners to enhance the acquisition and maintenance of specific skills (Allinder, Bolling, Oats, & Gagnon, 2000) because self-monitoring has been shown to increase desired student outcomes (Harris, 1986; Maccini & Hughes, 1997; Studwell & Moxley, 1984), increase appropriate school behaviors, and decrease inappropriate behaviors (Keel, Dangel, & Owens, 1999; Webber et al., 1993). Gable and Hendrickson (2000) suggested self-monitoring strategies have contributed to the long-term stability of appropriate social responses of students who are inept at reading social situations.

Classroom accommodations
Responding to the need for expanded mental health services for children, research on the use of universal (i.e., targeting all students) and selective (i.e., targeting students at risk) school-based interventions for mental, emotional, and behavior problems has grown considerably over the past decade (Hoagwood et al., 2007; Stormont, Reinke, & Herman, 2010; Weissberg et al., 2003). Schools provide excellent settings for targeting children’s mental health, their academic performance, and the important connection between them (Greenwood, Kratochwill, & Clements, 2008). However, despite the increased availability of evidence-based interventions and the importance of targeting the school setting, the widespread adoption and implementation of evidence-based practices and interventions to both promote children’s mental health and intervene with children with specific issues has not occurred (DuPaul, 2003; Kratochwill, 2007; Schaugency & Ervin, 2006). However, a number of potentially beneficial clinical and educational recommendations for school difficulties are available and have been used with success to help students with emotional or behavioral difficulties/disorders to improve their academic performance (c.f. Baxendall, 2003; CABF, 2012; Crundwell & Killu, 2007; Greenwood, Delquadri, & Hall, 1984; Heward, 1994; Levendoski & Cartledge, 2000; McIntosh & Trotter, 2006; Reinke et al., 2011; Vannest et al., 2009).

**Academic flexibility**

Erratic academic performance can be expected at times and may stem from poorly modulated affect. The erratic academic performance may be characterized as periods where assignments are on time, fully completed, and completed with enthusiasm with periods where assignments are late, partially completed (or not completed at all), and completed with low motivation. As symptoms of PBD wax and wane, teacher’s may need to modify their expectations regarding the amount, content of, and time allowed for activities, assignments, and
tests. Academic adjustments may include altering pace of delivery, increased organizational support, creating assignments, which build on the student’s strengths. Based on the child’s fluctuations in mood, attention, energy, and motivation, it may be necessary to accept late assignments. Side effects of medication may include increased thirst and urination, drowsiness, and sluggishness. Allowing unlimited access to fluids and restroom, and establishing a private signal to covertly communicate these needs to the teacher may be beneficial. Minimizing distractions and surprises, and maintaining a stable environment with consistent expectations, provides students with structure and predictability, and reduces the level of undesirable reactivity to instructional demands. Modify the pace of instruction, opportunities to practice, work demands, activity level, and degree of interactions with peers.

Students with BD may benefit from consistent and structured routines within the home and school settings. This includes routinizing daily activities, following a classroom discipline program, responding to poor affective regulation with flexibility, developing assignment completion checklists, and informing students in advance of any changes in the classroom or daily school schedule. Teach students to develop short- and long-term goals due to difficulties in regulating emotion and impact on work production and task completion. Use daily planners, visual organizers, to-do lists, and assignment completion checklists.

During manic episodes children and adolescents often display episodes of inflated self-esteem or grandiosity. Parents and teachers need to be taught to recognize these episodes and how to effectively address them. Students may overly commit to projects and extracurricular activities or pursue projects that have little chance of being completed. Teachers and parents can help redirect students during periods of inflated self-esteem so they avoid being embarrassed later when they realize they have over committed. Teachers may wish to modify time constraints
to ease feelings of pressure/anxiety and decrease difficulties with performance expectations. Provide additional instructions, act as a scribe, monitor progress and frustration levels and use technology that provides output modifications.

Sleepiness

A common symptom of students with BD is a poor sleep pattern. Extreme difficulty falling to sleep, frequently wake-up during the night, and engaging in activity during the night are not uncommon. At school, students may be tired, irritable, complain of being tired, and fall asleep in class. It is important for teachers to not assume that because students fall asleep in class that the parents are to blame or the students are being oppositional. If students with BD are consistently tired during the school day, then possible interventions may include a shortened school day and/or Internet courses so they can complete the work outside the school setting.

Episodes of intense emotion

Intense emotions such as sadness, rage, and tearfulness, may unexpectedly occur. Making prior arrangements for the child to access a safe, private place to go may help in them regaining control and helping other students avoid being distracted. Again, establishing a private signal for the child to covertly communicate their need to take a brief time-out during class may not only improve response time but also teach the child self-management skills. If an FBA has not occurred previously, then the teacher may want to arrange for one to identify potential triggers and setting events that precede a student’s loss of control. An FBA also helps to develop a behavior plan to teach the child new ways to prevent or cope with stressors and frustrations. For instance, if episodes are due to boredom, provide enrichment activities; if they are due to hunger or low blood sugar, allow the child to eat a mid-morning/afternoon snack; and if episodes occur during particularly difficult activities, reduce demands to a level the child can manage. It
also is recommended that a crisis plan be put into place. Use strategies such as categorization and “bid ideas” (Ellis, Farmer, & Newman, 2005), concept mapping, graphic organizers, and guided notes. Deliver feedback (Konold, Miller, & Konold, 2004) to provide ongoing support to acquire skills due to lack of engagement during class time. For example, helping students regulate their anxiety and irritability by providing a picture schedule of the day’s sequence of activities helps to preplan individualized schedules. Also, advanced notice of changes in classroom or daily activities and development of a plan for “down time” during naturally unstructured periods of the day can be helpful in decreasing anxiety among children with PBD.

Cross-system communication

Develop methods for parents and teachers to communicate daily about problems and positive behaviors. Work with parents to develop consistent and structured routines across the home and school environments. Identify an emergency contact person who can pick the child up if parents are not available. Partnering with parents may allow the SCHOOL PSYCHOLOGIST to provide additional support to the family unit by monitoring medication, reporting on symptom severity, connecting family with community services, and educating on behavior management techniques and coping skills. Provide ongoing education to school personnel regarding the disorder. Build teams to work with students with bipolar disorder to provide more consistency, effectiveness, and flexibility.

Social Deficits

The development of coping mechanisms and problems solving strategies, understanding self-directedness and personal responsibility may be provided and/or facilitated by school personnel in an individual or group counseling environment. Recognize social skills difficulties and have the child work with the guidance counselor, school psychologist, or school social
worker regularly to improve those skills. Foster an environment of inclusiveness in the classroom through open discussion, providing appropriate peer mediation and support (Bowers et al., 1999; Fowler et al., 1986), protect students from ridicule or rejection, and setting the occasion for positive, collaborative working relationships.

Transition planning

Prepare for transitions back to school following hospitalization or after an upsurge in symptoms that precludes success in negotiating an entire school day. It also may be necessary to arrange for temporary homebound instruction followed by gradual transition back to school if needed or arrange for partial days at school. Develop a crisis management plan for the following areas: explicit instructions to manage the unsafe behavior (i.e., who does what, when and where), identification of a safe place for the student to go and who will provide appropriate supervision, alternative backup plans if the safe place does not work, recovery procedures for all involved following the crisis (e.g., distress and debrief the class with the student involved.

Dealing with medication side-effects

Most require multiple medications to alleviate symptoms of mania, depression, and comorbid conditions (Lofthouse & Fristad, 2006). Cognitive dulling may be a result of some medications, making it necessary to provide more time to complete assignments, increased teacher-feedback and support, decreased workload, and avoiding student embarrassment by not calling on to answer questions unless s/he volunteers. Physical side effects may include visual blurring, slowed motor function, increased urinary frequency, nausea, or flatulence.
Training for School Psychologists

Many different personnel, including guidance counselors, social workers, teachers, principals, schools nurses, and community resource personnel play a role the design, implementation, management, and evaluation of mental health services in public schools (Nastasi, Vargas, Bernstein, Pluymert, 1998). School psychologists are an important part of the delivery of school-based mental health services and may be the ideal persons to take on key roles in mental health services because of their training, desirability for the job, and functions within the school (Nastasi, et al., 1998).

According to NASP (2008), in the year 2004–05, the number of credentialed school psychologists in the US numbered approximately 38,000. However, taking into account graduates entering the field, attrition, and retirements, the estimated number of credentialed school psychologists in the year 2008 was approximately 35,4000 (Curtis et al., 2004). Approximately 80% of NASP regular members are practicing school psychologists in their primary employment (Curtis et al., 2008). If this figure applies to non-NASP members, then there are an estimated 28,500 practicing school psychologists in the U. S. in 2008. About 83% of school psychologists, including those who serve as administrators, have their primary employment in public schools (Curtis et al., 2008), which is up from 77.5% in 2002 (Curtis et al., 2002). The number of practitioners credentialed by state departments of education is approximately 94%, while nearly 31% are licensed through a state board of psychology (Curtis et al., 2008). The number of practicing school psychologists with doctoral degrees is estimated to be around 25%.

Curtis, Grier, and Hunley (2004) estimate an ongoing shortage of practicing school psychologists. The ratio of school psychologists to students ranges between 1,482 (Curtis et al.,
2008) to 1,671 (U.S. Department of Education, 2008) per student. NASP (2000) recommends a school psychologist to student ratio of 1 to 1,000. Dividing the total student enrollment of 49,113,000 (U.S. Department of Education, 2008) by 1,000 yields 49,113 school psychologists (NASP, 2008). Thus, approximately 19,700 additional school psychologists were needed during the time of these estimates to meet the recommended ratio. It is doubtful this discrepancy has changed much in the past four years since approximately 1,750 new school psychologists graduate and entered the field each year (Curtis et al., 2004).

As of the year 2012, NASP estimates there to be approximately 200 school psychology-training programs across the United States. The American Psychological Association grants accreditation to 62 school psychology doctoral training institutions with two of those programs no longer accepting students (American Psychological Association, 2012). NASP (2000b) standards establish the specialist level (60 graduate hours or 90 graduate quarter hours) for entry to professional practice. The APA (1987) policy establishes the doctoral degree for entry in the field. Preparation of school psychologists has changed dramatically over the past 30 years. Specialist level of training, whether or not they actually held a specialist or doctoral degree, has grown from approximately 70% of the field in 1970 (Farling & Hoedt, 1971) to 86.5% in 2000 (Curtis et al., 2002). School psychologists actually holding a specialist degree or higher, increased from 5.2% to 58.5% during the same period of time. The number of school psychologists increased the greatest during the 1980s (Reschly, 2000) and their preparation was greatly influenced by the adoption of standards for both credentialing and training by NASP in the 1970s (Curtis et al., 2004). Although masters-level practitioners remain in the field, masters-level training programs have almost disappeared. According to Thomas (1998), master’s level programs declined from 16% in 1986–1987 to only 4% by 1996–1997 while specialist level
programs had increased to 66.1% and doctoral programs to 29.5% by 1996–1997. Consequently, it would appear that the percentage of school psychologists prepared at the specialist level or higher will continue to increase gradually in the years ahead, with those prepared at the masters level eventually constituting a very small percent of the field (Curtis et al., 2004).

Accredited institutions, whether affiliated with NASP, APA, or both, must practice by an established set of guidelines to ensure quality training for students in school psychology. According to the APA (2008), graduates must be capable of “diagnosing or defining problems through psychological assessment and measurement and formulating and implementing intervention strategies” and receive training which includes “theories and methods of assessment and diagnosis, effective intervention, consultation and supervision, and evaluating the efficacy of interventions.” NASP also places an emphasis on preparation in the areas of assessment, intervention, counseling, and consultation. The NASP training standards require school psychologists to acquire “knowledge of behavioral, mental health, collaboration, and other consultation models and their application to particular situations. School psychologists should provide or contribute to prevention and intervention programs that promote the mental health and physical well-being of students” (NASP, 2000). The NASP Blueprint for Training and Practice III (Ysseldyke et al., 2006) made an even stronger statement: “School psychologists should be the leading mental health experts in schools who are knowledgeable about development in social, affective, and adaptive domains”.

A study conducted by Curtis, Grier, Abshier, Sutton, and Hunley (2002) revealed nearly one-third of the respondents completed 25 or fewer initial special education evaluations during 1999 – 20000, demonstrating a decreasing trend in the number of special education evaluations compared to previous years. However, school psychologists indicated they spent nearly 80% of
their time completing special education evaluations, with 41% of that time being spent in assessment activities, 25% in report writing, 25% in meetings, and 8% in other activities. The authors concluded that more time was spent by school psychologists in conducting initial special education evaluations and reevaluations and other special education related activities than in all other professional functions combined.

As noted, mental health services currently do not represent a priority in schools even though they likely have resources, in the person of the school psychologist, with the desire and training to be involved in the delivery of mental health services. In the face of slow, systemic reform, it may be necessary for school psychologists to be proactive and to seek roles allowing them to deliver some level of mental health services. Power, McGoey, Heathfield, and Blum (1999) proposed school psychologists encompass the domains of intervention, program development, training, and applied research. Given their training, a school psychologist should be in an excellent position to assist with interventions for children with mental health problems by conducting FBAs, collaborating with other team members to develop strategies, and providing technical assistance in the implementation of interventions (Power et al., 1999). In addition, school psychologists can provide continuing education of other professionals within the school setting.

Nastasi et al. (1998) identified seven roles school psychologists can fulfill in the delivery of mental health services in schools, including:

1. Prevention specialists who help teachers and school administrators foster the development of competent individuals;

2. Child advocates who assist schools in establishing mechanisms for identifying and treating students with psychiatric disorders;
3. Direct service providers to help children with emotional disorders such as depression and bipolar disorder; and help to families who are at risk or have disabilities;

4. Trainers of teacher consultants to extend the scope of consultation services in schools;

5. Health care service providers;

6. System-level interventionists, and

7. Organizational facilitators in school reform and interagency collaboration.

School psychologists must be competent to fulfill the role of mental health service provider and to “recognize their strengths and limitations of their training and experience, engaging only in practices for which they are qualified” (NASP, 2010). It also is expected that if a school psychologist is lacking in a needed competency s/he should consult with other professionals, make referrals, or acquire more training.

Central to all of this is the role of the school psychology program. Recently, researchers stated school psychology programs have not quite embraced the school-based mental health services (SMHS) model and “. . . need to decide whether, in fact, they desire to educate and train students in the delivery of school-based mental-health services” (Perfect & Morris, 2011). It is likely some school psychology programs will need to restructure current curricula to fulfill this mandate (Perfect & Morris, 2011). Perfect and Morris suggest training programs wanting to better equip their graduates to provide SMHS may wish to consider courses in therapeutic and crisis intervention, and psychopharmacology – areas of skill and knowledge essential to work with students with PBD and/or ED classification. Further research is needed to better understand to what degree current school psychologists possess the competency necessary to effectively
work with a PBD population.

Chapter Summary

Reviewed in this chapter were the current research related to pediatric bipolar disorder. A brief historical overview of PBD served as a foundation to better understand the challenges and ongoing complications associated with the diagnosis. Research on rates of prevalence and the current diagnostic criteria as understood in the literature and including the adult criteria outlined in the DSM-IV (American Psychiatric Association, 2000) were provided. The unique expressions of early onset mania and childhood depression, comorbid disorders, neuropsychological features, and etiological factors were each examined. Review of psychopharmacological and psychosocial therapeutic responses to the child with PBD were followed by an examination of school-based identification processes, including IDEIA and NASP definitions of ED, RtI, FBA, and assessment best practices. Finally, research regarding the degrees, training, and experience held by school psychologists was investigated with respect to recommendations from PBD and SMHS literature.

Based on the review of literature, it is proposed that additional experience, training, and knowledge in the area of PBD would result in more accurate assessments and more meaningful interventions. It is necessary to gain a greater understanding of school psychologists’ current practices, levels of knowledge and experience. The current survey will assess school psychologists’ knowledge, training, and methods for evaluating and providing interventions for children with PBD. The data acquired should assist training programs develop curricula necessary to equip school psychologists to competently provide support to students with emotional disorders in general and PBD in particular.
Chapter 3
Method

Overview

The current study investigated practicing school psychologists’ depth of knowledge, breadth of experience and training, current assessment practices, and variety of direct services provided to students with PBD. An electronic survey (See Appendix A) was adapted from a similar online survey of school psychologists entitled “Autism: Assessment and Intervention Practices of School Psychologists and the Implications for Training in the United States” (Rasmussen, 2009). A link to the PBD survey was emailed to school psychologists currently practicing full-time in the public school setting.

Participants

The demographic characteristics and practices of school psychologists have been examined through numerous surveys by both independent and professional organization-sponsored investigators (e.g., Curtis, Chesno-Grier, Hunley, 2004; Curtis et al., 2002; Fisher, Jenkins, & Crumbley, 1986; Hosp & Reschly, 2002). For this investigation, a list of school psychologists from public school districts across eighteen states was generated through an Internet search. Current estimates suggest there are approximately 29,000 school psychologists in U.S. Public Schools (Charvat, 2005). Concerning online survey sample sizes with large populations such as this, Ritter and Sue (2007) suggest that a sample size of 384 is necessary to assure a maximum 5% margin of error at the 95% confidence level. However, Dillman (2000) suggests a sample size of 240 participants may be enough to achieve a commensurate level of confidence with a population similar in size. Although this study is based on a non-probability sample, it was, nevertheless, determined to acquire 384 qualifying surveys to increase the
likelihood of generalizability. A total of 1005 school psychologists were invited to participate and a 38% response rate was pursued. This response rate is similar to previous surveys of school psychologists (see Chafouleas et al., 2002) but may be considered low according to some researchers (Curtis et al., 2002, 2004; Fricker & Schonlau, 2002; Hosp & Reschly, 2002.). Although Van Horn, Green, and Martinussen’s (2009) meta-analysis of 308 survey administrations with a similar population of mental health practitioners resulted in an average response rate of 49.6%, in general response rates to surveys by various means (e.g., phone, postal mail, email) have been in decline across various professional populations (Curtin, Presser, and Singer, 2005; Dey, 1997; Larson & Poist, 2004).

The total sample size was acquired by an Internet search of school districts across eighteen states. Historically, in the absence of membership lists from state or national school psychology associations, researchers have obtained mailing lists from state departments of education to conduct surveys (Lewis, Truscott, & Volker, 2008; Meachem & Peckham, 1978). School districts’ and their website addresses were obtained in this manner and resulted in 1062 email addresses of which 57 were rejected leaving 1005 sent emails. After the initial mailing, 126 emails were returned due to delivery failure and removed from the email list for subsequent emails. This procedure was followed for the second and third mailings resulting in a total of 862 emails successfully reaching the intended school psychologist.

Only full-time, school psychologists practicing in a school district were included in the study. Fagan and Wise (2000) describe a full-time practicing school psychologist as an individual maintaining a current school psychology license or certificate who spends at least 30 – 40 hours per week providing psychological services including assessment, intervention, consultation, psychoeducation, and other direct services to students. Participants were asked to
provide their gender, degree(s) earned, professional affiliation(s), years of experience, geographical location of current assignment, and whether or not they were a National Certified School Psychologist (NCSP). In addition, participants were asked to estimate how many psychoeducational evaluations they completed in a year, to describe the age ranges of students typically assessed, and to approximate the percentage of their time spent in Special Education related services. According to Curtis (1999), the majority of school psychology practitioners are trained at the non-doctoral level (20.6%). More specifically, a little more than 40% obtained a master’s degree and 36% held a specialist degree. Sixty-two percent of those surveyed by Curtis held the NCSP certification and nearly 80% of respondents indicated their preparation had been at the 60-hour/specialist level or higher before entering the profession. In addition, nearly one-third of school psychologists have been in the field more than 15 years and approximately 17% with more than 20 years of experience. Concerning the current study, means and percentages of demographic data are reported in Chapter 4.

Procedures

The Internet is quickly becoming the preferred mode of communication for many Americans (Duffy, 2000; Wijndaele et al., 2007) and researchers across disciplines are noting the value of and relying upon data collected online (e.g., McMahon et al., 2003; Raziano, Jayadevappa, Valenzula, Wiener, & lavizzo-Mourey, 2001). Wijndaele and colleagues (2007) demonstrated the internal consistency, equivalency, as well as test-retest reliability of computerized versions of the same paper-and-pencil questionnaires were comparable. Additional benefits of online research include reduced response time (Lazar & Preece, 1999), lowered cost (Granello & Wheaton, 2004), flexibility and control over format (Dillman et al., 1999; Lazar & Preece 1999), higher percent of questions answered completely and accurately
(Dykema, Jones, Piche, & Stevenson, 2013; Messer, Edwards, & Dillman, 2012) and increased recipient acceptance of the format particularly for individuals who are college educated (Cartwright et al., 1999; Franceschini, 2000). However, a number of disadvantages have been identified which are associated with web-based surveys. In particular, web-based research may result in lower response rates compared to traditional mail surveys (Dykema et al., 2013; McLeod, Klabunde, Willis, & Stark, 2013; Schaefer & Dillman, 1998). Respondents possessing inadequate computers and software (Dillman, Tortora, & Bowker, 1999), lacking control over the testing situation (Buchanan & Smith, 1999), and fearing a loss of privacy and confidentiality (Frankel & Siang, 1999), are among the suggested reasons for this dilemma.

The present study initially contacted participants through an invitation email letter explaining the importance of the survey and the purpose it served, addressing the issues of confidentiality and anonymity, and informing the respondent of the approximate time needed to complete the survey (See Appendix B). Prospective respondents were invited to access the survey by following a web link provided in the body of the email. The initial webpage included a detailed description of the study, what information would be collected, and how the data would be used and stored. After respondents read this information and agreed to participate, they were allowed to access the survey through a provided link. By selecting this link, participants formally acknowledged voluntary participation and informed consent. Anonymity of respondents was maintained by not linking entries with URL or email addresses. Because follow-up contacts have been shown to improve response rate (e.g., Fox, Crask, & Kim, 1988; Salant & Dillman, 1994; Sue & Ritter, 2007; Yammarino, Skinner, & Childers, 1991), two reminders were sent through email at selected intervals (i.e., five and ten business days after the initial contact; see Appendices C and D)
As an incentive to respond, recipients were informed a donation of $2.00 would be made per completed survey not to exceed a total of $750.00 to the NASP Children’s Fund. The Children’s Fund is a tax-exempt, non-profit, independent charity, which disperses monies for purposes consistent with the priorities of NASP. Those priorities include advocating for the welfare of children and adolescence, promoting optimal learning environments, and developing meaningful academic and social-emotional interventions (NASP, 2013). In addition, respondents had an opportunity to indicate interest in receiving an executive summary of the survey’s findings. Requests by participants to receive a summary of the study’s results was handled separately from the survey and required participants to contact the lead researcher by a provided email. Participants were informed their request would be treated as confidential and destroyed once the request for a summary was fulfilled.

Instrumentation

The survey for this study was modeled after similar tools used to investigate the assessment and interventions practices of school psychologists (Hosp & Reschly, 2002; Messmer-Wilson, 2006; Rasmussen, 2009; Smith, 1999) and was composed of four sections. Section one utilized a series of multiple-choice, fill-in-the-blank, and forced option questions, to ask participants to provide demographic information including level of education, type of degree, professional affiliation(s), years of experience, and whether or not an NCSP.

Section two investigated the general knowledge and perceptions of respondents in the area of PBD through the use of Likert scales, multiple-choice, and forced choice questions. Current misconceptions and facts about PBD were taken from current research and used to investigate school psychologists’ understanding of PBD, including its features, differential diagnoses, and comorbid disorders.
The third section also used Likert scales, rank order, forced choice, as well as multiple-choice and fill-in-the blank formats to assess school psychologists’ current assessment and intervention practices in their school. Specific areas addressed included time spent in various Special Education activities, role in the determination and classification process, personal assessment practices, and the provision of interventions and supports for students and their families.

The final section used a series of multiple-choice and Likert scales asking school psychologists to describe self-perceptions of preparedness to provide services for students identified with an emotional disturbance as well as levels of self-confidence pertaining to the assessment and identification of PBD and related mood disorders.

Due to the original nature of this survey, validity and reliability are unknown. However, a doctoral level school psychologist, licensed clinical psychologist, and special education tenured professor reviewed and critiqued the initial draft of the survey as well as to evaluate the survey’s online presentation. Considerable changes were made in content and format based on the reviewers’ feedback before being sent to participants.

Statistics

Research Question 1. What is the general level of knowledge of school psychologists in the area of PBD?

a. What is the general understanding and perceptions of school psychologists in regard to the diagnostic category of PBD?

b. What is the general understanding and perceptions of school psychologists concerning the differential diagnosis, comorbidity, and signs and symptoms of PBD?
c. Is there a difference in the levels of knowledge in the area of PBD when considering a practitioner’s level of education (e.g., Masters, Specialist, PhD), as well as whether or not nationally certified (i.e., NCSP)?

Descriptive statistics (i.e., means, frequencies, and standard deviations) were calculated for questions related to participants’ levels of knowledge. To further compare the groups, a one-way analysis of variance utilizing the mean percentages correct on questions measuring knowledge level also were applied for each of the conditions provided they were found to be independent. It was expected that those with more training and experience would have a higher percentage of correct answers.

Research Question 2. What are the general practices of school psychologists with regard to the identification of children suspected of having an emotional disorder?

a. How much time in general do school psychologists spend providing the following special education services: assessment for special education services, counseling students, providing academic and/or behavioral interventions, providing functional behavioral analyses, consulting with teachers, and doing research.

b. What is the primary role of school psychologists in the determination and classification of an emotional disorder?

c. What instruments and methods do school psychologists use when evaluating children suspected of an emotional disorder?

d. What is the level of involvement of school psychologists in pre-referral activities of children suspected having an emotional disorder?

e. What services are typically provided for students identified with an emotional disorder?
When considering the types of interventions and special education services provided for students identified with an emotional disorder, is there a difference in the above-mentioned practices between doctoral and non-doctoral school psychologists, those school psychologists who are nationally certified, or between school psychologists with greater and lesser amounts of experience?

Means and standard deviations were calculated and reported for questions inquiring about school psychologists’ current practices. Concerning whether or not level of education or years of experience results in any significant difference in practices, a one-way analysis of variance was applied. It was expected that those with more training and experience would have a greater level of involvement in counseling, providing interventions, consulting with teachers, taking part in pre-referral activities, and providing specific services for students with an emotional disorder.

Research Question 3. What types of training have school psychologists received in the area of PBD identification and intervention, and do those with more formal training understand the symptomology of PBD better than those with informal training?

Research Question 4. How prepared do current school psychologists feel to consult, assess, and intervene in cases suspected of PBD and what is the level of personal confidence related to their involvement in these activities?

For both questions 3 and 4, means and standard deviations were calculated to investigate the types of training held by school psychologists, their perceptions of their preparedness, and their level of confidence in working with children with PBD. The group of school psychologists determined to have formal/advanced training will be compared to those with “minimal” training on their responses regarding their perceived preparedness. An ANOVA will be applied to determine if those with formal training feel more prepared to deliver the services of consultation,
assessment and intervention.

The IBM Statistical Package for the Social Sciences – 22\textsuperscript{nd} Edition (SPSS-22) will apply the described statistics.
Chapter 4

Results

Response Rate

A total of 1,005 school psychologists’ email addresses were acquired from an Internet search across eighteen states. Three emails were sent to each participant over the course of 10 business days. The total number of emails failing to be delivered and returned to the sender over the course of the mailings was 143. Reasons for rejection included invalid or expired email addresses, problems with email servers, or no longer serving as a full-time school psychologist. Because returned emails were removed from subsequent mailings it is likely participants received the original and two follow-up contacts. Although 862 emails were not automatically returned, the actual number of received emails is likely lower due to junk email folders and spam blockers. Of the 307 who agreed to the terms of the study, 258 finished the survey. Examination of those who did not complete the survey indicated 41% dropped out before completing the section on demographics, which may indicate those respondents did not fit the required criteria to participate.

In total, 258 surveys were completed for a response rate of 29.93%. Of these completed surveys, 7 respondents were removed because they reported not working at least 25 hours in a school setting, leaving 251 participants for continued analysis completed the surveys. Although a sample size of 384 was desired, some researchers (Dillman et al., 2009; Dykema, Jones, Piche, & Stevenson, 2013; Ritter & Sue, 2007) suggest a minimum sample size of 240 may be adequate to achieve a representative sample from large populations.
Demographics

Questions 1 through 11 of the survey focused on demographic information. Based on the 251 participants who reported their highest degree earned, 77.7% indicated they held either a Masters or Specialist degree, 20.3% held doctoral degrees (i.e., PhD, EdD, PsyD), and 2.0% indicated they held some other certification (e.g., Certificate of Advance Study, Certificate of Advanced Graduate Study) as their highest training acquired. Concerning membership in professional organizations, 60.2% (n=151) belonged to NASP, 10.0% (n=25) to APA, and 7.6% (n=19) belonged to both NASP and APA with 37.1% (n=93) indicating they belonged to no national organization. In addition, 50.6% (n=127) reported they belonged to a State organization. A total of 113 respondents (45.2%) indicated they were a National Certified School Psychologist and of the 108 indicating the approximate number of years considered an NCSP, 71.3% held the NCSP distinction for fifteen years or less (see Table 1).

Table 1
Approximate Number of Years Considered an NCSP

<table>
<thead>
<tr>
<th>Category</th>
<th>n</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 5</td>
<td>38</td>
<td>35.2</td>
</tr>
<tr>
<td>6 to 10</td>
<td>24</td>
<td>22.2</td>
</tr>
<tr>
<td>11 to 15</td>
<td>15</td>
<td>13.9</td>
</tr>
<tr>
<td>16 to 20</td>
<td>7</td>
<td>6.5</td>
</tr>
<tr>
<td>21 to 25</td>
<td>9</td>
<td>8.3</td>
</tr>
<tr>
<td>26 or more</td>
<td>15</td>
<td>13.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>108</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

125
Concerning years serving as a school psychologist, nearly two-thirds (64.1%) had served in the school system fifteen years or less with nearly a quarter of respondents (24.6%) serving 21 years or longer (See Table 2). The majority of respondents (83.1%) were female, which is slightly above the overall proportion practicing school psychology primarily in a school setting (Approximately 74.0%; Curtis, 1999; NASP, 2008). Participants also were given an opportunity to describe the geographical location of their current job to which 248 responses indicate 19.4% serve in an urban area, 42.7% in a suburban area, and 36.3% in an area considered rural. In addition, survey software made it possible to determine the state from which the participant was responding as well as to infer representation from each of the four NASP designated regions (See Appendix C). Of the twenty states represented, nearly 36% were located in the NASP Northeast.

Table 2
Approximate Number of Years Serving as a School Psychologist

<table>
<thead>
<tr>
<th>Years</th>
<th>n</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 5</td>
<td>52</td>
<td>21.0</td>
</tr>
<tr>
<td>6 to 10</td>
<td>67</td>
<td>27.0</td>
</tr>
<tr>
<td>11 to 15</td>
<td>40</td>
<td>16.1</td>
</tr>
<tr>
<td>16 to 20</td>
<td>28</td>
<td>11.3</td>
</tr>
<tr>
<td>21 to 25</td>
<td>25</td>
<td>10.1</td>
</tr>
<tr>
<td>26 or more</td>
<td>36</td>
<td>14.5</td>
</tr>
<tr>
<td>Total</td>
<td>248</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Region, 34% from the Southeast Region, 16% from the Central Region, and nearly 14% from the Western Region. Respondents were asked to estimate the number of psychoeducational evaluations personally completed during a school year. Of the 231 valid responses, the Mean estimate was 51.16, with a Median of 50.00 and an SD of 36.138. Respondents’ estimates of the percentage of time spent in special education related services indicated nearly 88% spend at least half or more of their time each week in activities such as assessing students, writing reports, and attending case conferences (See Table 3).

Table 3

Estimated Percentage of Time Spent in Special Education Related Services

<table>
<thead>
<tr>
<th>Time spent</th>
<th>n</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 10%</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>10 – 25%</td>
<td>6</td>
<td>2.4</td>
</tr>
<tr>
<td>26 – 50%</td>
<td>23</td>
<td>9.2</td>
</tr>
<tr>
<td>51 – 75%</td>
<td>73</td>
<td>29.2</td>
</tr>
<tr>
<td>76 – 90%</td>
<td>88</td>
<td>35.2</td>
</tr>
<tr>
<td>More than 90%</td>
<td>59</td>
<td>23.6</td>
</tr>
<tr>
<td>Total</td>
<td>250</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Research Question 1. What is the general level of knowledge of school psychologists in the area of PBD?

Research Question 1a. What is the general understanding and perceptions of school psychologists in regard to the diagnostic category of PBD?
Perceptions of PBD (Survey Questions 12 – 17, 20)

Through the use of a Likert scale, participants were asked to indicate to what degree they agreed or disagreed with 9 statements about PBD (See Table 4).

*PBD is currently under diagnosed in the United States.* Nearly half of respondents (46.8%) disagreed in some manner with this statement with only 21.6% agreeing (M=3.32; SD=1.05).

*The diagnosis of PBD should be based on the DSM adult symptomology.* The vast majority of respondents (81.9%) indicated disagreement with this statement, with only 8% finding agreement. No other statement in this section garnered as much strength of opinion (M=4.17; SD 0.974).

*Most children exhibiting symptoms of PBD will develop into adults with Bipolar Disorder.* Nearly a third of respondents (32.7) were undecided about this statement, while 46% either mildly or strongly agreed (M=2.710; SD=0.958).

*Children should not be diagnosed with Bipolar Disorder.* Although approximately half of respondents (49.4%) disagreed to some degree with this statement, 29.6 percent expressed a level of agreement (M=3.23; SD=1.170).

*Behavioral approaches to reducing problematic behaviors due to PBD are relatively ineffective without the concurrent use of medications.* Concerning this statement, a little over half of respondents (54.4) mildly or strongly agreed with a quarter of participants (24.4) expressing overall disagreement (M=2.60; SD 1.07).

*It is appropriate to prescribe antipsychotic medications to children exhibiting symptoms of mania.* Perhaps surprisingly, just over three percent strongly disagreed with this statement, with nearly one third undecided and almost half of respondents expressing mild or strong agreement (M=2.83; SD 1.14).
agreement (M=2.68; SD 0.961).

*The majority of adults diagnosed with Bipolar Disorder exhibited symptoms of mania as children.* Very few respondents felt strongly either way about this statement (M=2.68; SD=0.862) with 36.7% mildly agreeing, 41.1% undecided, and 13.7% mildly disagreeing.

Table 4
Participant Perceptions and Opinions about PBD

<table>
<thead>
<tr>
<th>Statement</th>
<th>Valid Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>12. PBD is currently under diagnosed in the United States.</td>
<td>4.0</td>
</tr>
<tr>
<td>13. The diagnosis of PBD should be based on the DSM adult symptomology.</td>
<td>2.0</td>
</tr>
<tr>
<td>14. Most children exhibiting symptoms of PBD will develop into adults with Bipolar Disorder.</td>
<td>7.7</td>
</tr>
<tr>
<td>15. Children should not be diagnosed with Bipolar Disorder.</td>
<td>8.5</td>
</tr>
</tbody>
</table>
Table 4 (cont.)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Valid Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>16. Behavioral approaches to reducing problematic behaviors due to PBD are relatively ineffective without the concurrent use of medications.</td>
<td>13.2</td>
</tr>
<tr>
<td>17. It is appropriate to prescribe antipsychotic medications to children exhibiting symptoms of mania.</td>
<td>7.2</td>
</tr>
<tr>
<td>20. The majority of adults diagnosed with Bipolar Disorder exhibited symptoms of mania as children.</td>
<td>6.4</td>
</tr>
</tbody>
</table>
Research Question 1b. What is the general understanding and perceptions of school psychologists in regard to the differential diagnosis, comorbidity, and signs and symptoms of PBD?

**Signs and Symptoms (Survey Questions 18 – 19, 21)**

Participants were asked to indicate agreement or disagreement concerning two statements about PBD through the use of a Likert scale. A third question required selection of a correct response amongst four distractors. The correctness of their answers was determined on current research. Therefore, the first statement is false, the second is true, and the correct selection for the third statement was “euphoria” (See Table 5).

Table 5

**Respondents’ Understanding of PBD Signs and Symptoms**

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Mildly Agree</th>
<th>Undecided</th>
<th>Mildly Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>18. The course of mania in children is typically of short duration and episodic.</td>
<td>6.8</td>
<td>44.2</td>
<td>33.7</td>
<td>12.4</td>
<td>2.8</td>
</tr>
<tr>
<td>19. Children diagnosed with PBD are expected to have a significantly higher VIQ than PIQ</td>
<td>1.2</td>
<td>13.7</td>
<td>55.4</td>
<td>21.3</td>
<td>8.4</td>
</tr>
</tbody>
</table>
The course of mania in children is typically of short duration and episodic. Of the 251 respondents, 15.2 percent were correct in disagreeing with this statement. The remaining 84.8 percent were either undecided or incorrect (M=2.60; SD 0.897).

Children diagnosed with PBD are expected to have a significantly higher Verbal IQ than Performance IQ. Similar to the previous statement, nearly 15% of respondents were correct in agreeing with this statement and 85.1 percent responded incorrectly (M=3.22; SD 0.830).

Of the following symptoms, which do you think is most likely to be exhibited by children with PBD? Only 5.6% selected the most correct response “euphoria”. Nearly thirty percent of respondents selected “hyperactivity” with 57.7% selecting “irritability”, 3.2% “grandiosity”, and 4.4% “flight of ideas”.

Differential Diagnosis (Survey Questions 22 - 31)

Participants were provided a four-point Likert scale and asked to describe how difficult it is to differentiate PBD from other disorders. The scale ranged from Very Easy (1) to Very Difficult (4). The means scores and standard deviations for those ten disorders are summarized in Table 6.

The two disorders reported to be the most difficult from which to differentiate PBD were ADHD with a mean score of 2.96 (SD=0.725) and Oppositional Defiant Disorder with a mean score of 2.97 (SD=0.712). Autism and Asperger’s Disorder were reported by participants to be two of the easiest disorders from which to differentiate PBD with mean scores of 1.70 (SD=0.665) and 1.87 (SD=0.698), respectively.
Table 6

Mean Level of Difficulty in Differentiating Disorders from PBD

<table>
<thead>
<tr>
<th>Disorder</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autism</td>
<td>1.70</td>
<td>0.665</td>
</tr>
<tr>
<td>Asperger’s Disorder</td>
<td>1.87</td>
<td>0.698</td>
</tr>
<tr>
<td>Attention Deficit/Hyperactivity Disorder</td>
<td>2.96</td>
<td>0.725</td>
</tr>
<tr>
<td>Conduct Disorder</td>
<td>2.88</td>
<td>0.733</td>
</tr>
<tr>
<td>Oppositional defiant disorder</td>
<td>2.97</td>
<td>0.712</td>
</tr>
<tr>
<td>Childhood Depression</td>
<td>2.94</td>
<td>0.636</td>
</tr>
<tr>
<td>Thought Disorder</td>
<td>2.90</td>
<td>0.647</td>
</tr>
<tr>
<td>Anxiety Disorder</td>
<td>2.84</td>
<td>0.659</td>
</tr>
<tr>
<td>Pervasive Developmental Disorder NOS</td>
<td>2.04</td>
<td>0.759</td>
</tr>
</tbody>
</table>

Comorbidity (Survey Questions 32 – 50)

A list of seven disorders (Autism spectrum disorders, attention deficit/hyperactivity disorder, conduct disorder, oppositional defiant disorder, obsessive compulsive disorder, childhood depression, and though disorder) was given to participants who were asked to estimate the percentage of individuals with PBD who also receive a diagnosis of one or more of the listed disorders. Attention deficit/hyperactivity disorder (mode=51, M=63.84) and oppositional defiant disorder (mode=76, M=55.96) were indicated by participants to be the disorders most commonly found comorbid in those diagnosed with PBD. The least common comorbid condition reported by participants was autism spectrum disorders (mode=11, M=18.82; see Table 7)
Table 7

Participant Estimates of the Percentage of Individuals with PBD and Comorbid Conditions

<table>
<thead>
<tr>
<th>Disorder</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mode</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autism Spectrum Disorders</td>
<td>198</td>
<td>0</td>
<td>92</td>
<td>11</td>
<td>8.82</td>
<td>16.636</td>
</tr>
<tr>
<td>Attention Deficit/ Hyperactivity Disorder</td>
<td>243</td>
<td>0</td>
<td>97</td>
<td>51</td>
<td>63.84</td>
<td>23.991</td>
</tr>
<tr>
<td>Conduct Disorder</td>
<td>235</td>
<td>0</td>
<td>100</td>
<td>76</td>
<td>48.79</td>
<td>26.075</td>
</tr>
<tr>
<td>Oppositional Defiant Disorder</td>
<td>238</td>
<td>0</td>
<td>95</td>
<td>76</td>
<td>55.96</td>
<td>25.465</td>
</tr>
<tr>
<td>Obsessive Compulsive Disorder</td>
<td>225</td>
<td>0</td>
<td>85</td>
<td>11</td>
<td>26.39</td>
<td>20.311</td>
</tr>
<tr>
<td>Childhood Depression</td>
<td>239</td>
<td>0</td>
<td>100</td>
<td>21</td>
<td>51.96</td>
<td>27.450</td>
</tr>
<tr>
<td>Thought Disorder</td>
<td>239</td>
<td>0</td>
<td>100</td>
<td>51</td>
<td>46.70</td>
<td>26.355</td>
</tr>
</tbody>
</table>

Due to PBD’s significant number of shared symptoms with ADHD, participants were provided a list of 12 symptoms (irritability, impulsivity, grandiosity, hyperactivity, distractibility, elated mood, flight of ideas, decreased need for sleep, talkativeness, high motor activity, inattention, rapid cycling) and asked to select only those items most common to and indicative of PBD. The three symptoms participants reported most indicative of PBD were rapid-cycling (85.6%), irritability (82.4%), and elated mood (80.0%). According to respondents, distractibility (19.2%) and inattention (19.6%) were thought to be the least symptomatic of PBD (see Table 8).
Table 8

Selected Symptoms Most Common to and Indicative of PBD

<table>
<thead>
<tr>
<th>Disorder</th>
<th>N</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irritability</td>
<td>206</td>
<td>82.4</td>
</tr>
<tr>
<td>Impulsivity</td>
<td>75</td>
<td>30.0</td>
</tr>
<tr>
<td>Grandiosity</td>
<td>179</td>
<td>71.6</td>
</tr>
<tr>
<td>Hyperactivity</td>
<td>71</td>
<td>28.4</td>
</tr>
<tr>
<td>Distractibility</td>
<td>48</td>
<td>19.2</td>
</tr>
<tr>
<td>Elated Mood</td>
<td>200</td>
<td>80.0</td>
</tr>
<tr>
<td>Flight of Ideas</td>
<td>163</td>
<td>65.2</td>
</tr>
<tr>
<td>Decreased Need for Sleep</td>
<td>149</td>
<td>59.6</td>
</tr>
<tr>
<td>Talkativeness</td>
<td>98</td>
<td>39.2</td>
</tr>
<tr>
<td>High Motor Activity</td>
<td>73</td>
<td>29.2</td>
</tr>
<tr>
<td>Inattention</td>
<td>49</td>
<td>19.6</td>
</tr>
<tr>
<td>Rapid-cycling</td>
<td>214</td>
<td>85.6</td>
</tr>
</tbody>
</table>

Research Question 1c. Is there a difference in the levels of knowledge in the area of PBD when considering a practitioner’s level of education (e.g., Masters, Specialist, PhD), as well as whether or not nationally certified (i.e., NCSP)?

To determine whether a school psychologists’ level of education related to level of knowledge about PBD, each respondent’s answers to survey Questions 18, 19, and 21 were scored according to current research. The statement made for Question 18 (*The course of mania in children is typically of short duration and episodic.*) is considered to be false, while the
statement for Question 19 (*Children diagnosed with PBD are expected to have a significantly higher Verbal IQ than Performance IQ*) is considered to be correct. The Likert scale responses were scored so that high scores corresponded to being more correct while low scores indicate a less correct response. Concerning survey question 21 (*Of the following symptoms, which do you think is most likely to be exhibited by children with PBD*), the only selection considered correct was “euphoria” with all other responses being considered incorrect. Based on the information provided by participants concerning the level of training they had received, the groups (Masters degree level of training vs. Doctoral level of training) were compared on their response to the above questions to determine if their level of education or designation as an NCSP had a predictable effect on their correct understanding of particular symptoms of PBD.

The Levene’s F Test was used to test the assumptions of homogeneity of variance with the level of significance set *a priori* (*α*=.05). Across compared variables, the null hypothesis for the assumption of homogeneity of variance was met (See Table 9). There is, therefore, an increased confidence in the reliability of the ANOVA, which indicated there was no significant relationship between level of education (See Table 10) or NCSP designation (See Table 11) on the correctness of responses to survey questions 18, 19, and 21.

### Table 9

Results of Levene’s Test Level of Education and NCSP on Knowledge

<table>
<thead>
<tr>
<th></th>
<th>Level of Education</th>
<th>NCSP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><em>F</em></td>
<td><em>p</em></td>
</tr>
<tr>
<td>Q18. Course of mania in children</td>
<td>.106</td>
<td>.745</td>
</tr>
</tbody>
</table>
Table 9 (cont.)

<table>
<thead>
<tr>
<th>Level of Education</th>
<th>NCSP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$F$</td>
</tr>
<tr>
<td>Q19. Higher Verbal IQ</td>
<td>.840</td>
</tr>
<tr>
<td>than Performance IQ</td>
<td></td>
</tr>
<tr>
<td>Q21. Most likely symptom</td>
<td>.027</td>
</tr>
</tbody>
</table>

Table 10
Tests of Between-Subjects Effects Highest Degree Earned

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>$\mu^2$</th>
<th>$F$</th>
<th>$p$</th>
<th>Partial $\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q18. Course of Mania in Children</td>
<td>.019</td>
<td>.019</td>
<td>.024</td>
<td>.877</td>
<td>.000</td>
</tr>
<tr>
<td>Q19. Verbal and Performance IQ</td>
<td>.127</td>
<td>.127</td>
<td>.183</td>
<td>.669</td>
<td>.001</td>
</tr>
<tr>
<td>Q21. Most likely symptom</td>
<td>.000</td>
<td>.000</td>
<td>.007</td>
<td>.935</td>
<td>.000</td>
</tr>
</tbody>
</table>

Table 11
Tests of Between-Subjects Effects NCSP

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>$\mu^2$</th>
<th>$F$</th>
<th>$p$</th>
<th>Partial $\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q18. Course of Mania in Children</td>
<td>.460</td>
<td>.460</td>
<td>.574</td>
<td>.449</td>
<td>.002</td>
</tr>
<tr>
<td>Q19. Verbal and Performance IQ</td>
<td>.043</td>
<td>.043</td>
<td>.061</td>
<td>.804</td>
<td>.000</td>
</tr>
<tr>
<td>Q21. Most likely symptom</td>
<td>.025</td>
<td>.025</td>
<td>.465</td>
<td>.496</td>
<td>.002</td>
</tr>
</tbody>
</table>
Research Question 2. What are the general practices of school psychologists with regard to the identification of children suspected of having an emotional disorder?

Research Question 2a. How much time in general do school psychologists spend providing the following special education services: assessment for special education services, counseling students, providing academic and/or behavioral interventions, providing functional behavioral analyses, consulting with teachers, and doing research.

General Practice (Survey Question 52)

Participants were asked to provide an estimate of time spent in a variety of Special Education activities. Not surprisingly, the most time spent by respondents was in providing assessment for services (mode=50, M=49.74, SD=21.321). The three activities in which respondents spent the least amount of time were academic intervention (mode=10, M=7.61, SD=7.60), functional behavior analysis (mode=5, M=6.75, SD=5.416), and research (mode=.0, M=1.98, SD=3.616; see Table 12).

Table 12
Participant Estimates of the Percentage of Time in Special Education Activities

<table>
<thead>
<tr>
<th>Disorder</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mode</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment for Special Education Services</td>
<td>0</td>
<td>95</td>
<td>50</td>
<td>49.74</td>
<td>21.321</td>
</tr>
<tr>
<td>Counseling Students</td>
<td>0</td>
<td>60</td>
<td>.0</td>
<td>8.83</td>
<td>10.581</td>
</tr>
<tr>
<td>Academic Intervention</td>
<td>0</td>
<td>35</td>
<td>10</td>
<td>7.61</td>
<td>6.660</td>
</tr>
<tr>
<td>Behavior Intervention</td>
<td>0</td>
<td>45</td>
<td>10</td>
<td>10.70</td>
<td>7.824</td>
</tr>
<tr>
<td>Functional Behavior Analysis</td>
<td>0</td>
<td>40</td>
<td>5</td>
<td>6.75</td>
<td>5.416</td>
</tr>
</tbody>
</table>
Table 12 (cont.)

<table>
<thead>
<tr>
<th>Disorder</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mode</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consultation with Teachers</td>
<td>0</td>
<td>60</td>
<td>10</td>
<td>14.22</td>
<td>9.352</td>
</tr>
<tr>
<td>Research</td>
<td>0</td>
<td>20</td>
<td>0</td>
<td>1.98</td>
<td>3.616</td>
</tr>
</tbody>
</table>

Research Question 2b. What is the primary role of school psychologists in the determination and classification of an emotional disorder?

Role (Survey Question 53)

Respondents were asked to select one of three provided statements, which most accurately reflected their primary role in the determination, and classification of an emotional disturbance. The vast majority of the 250 respondents (98.8%) reported they participated as part of a multidisciplinary team to determine the special education eligibility of students with a possible emotional disorder. Less than one percent (N=2, .8%) indicated they sat on the multidisciplinary team making eligibility decisions but did not participate in conducting the evaluations.

Research Question 2c. What instruments and methods do school psychologists use when evaluating children suspected of an emotional disorder?

Instruments and Methods (Survey Questions 54 – 55)

A list of ten common assessment procedures was provided and participants asked to use a 4-point Likert scale ranging from “always” to “never”, to describe the frequency with which they employed each activity when receiving a referral for a possible emotional disturbance. Two individuals did not respond to this question due to their non-involvement in the assessment of students with an emotional disturbance. More than 75% of the remaining 249 respondents indicated they always reviewed school records (95.2%), reviewed academic work (83.2%), and
conducted a teacher interview (75.9%). Approximately two-thirds of participants reported they always reviewed medical records (69.1%), utilized classroom observations (66.8%), recorded a developmental history (66.4%), and interviewed the student (66.3%). Eighty percent of respondents never observe the referred student in his or her home environment and 12.2% never interview caregivers. Table 13 details the results.

Table 13
Frequency of Use of Evaluation Procedures

<table>
<thead>
<tr>
<th>Method</th>
<th>Valid Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Always</td>
</tr>
<tr>
<td>Review of school records</td>
<td>95.2</td>
</tr>
<tr>
<td>Review of medical records</td>
<td>69.1</td>
</tr>
<tr>
<td>Review of academic work</td>
<td>83.2</td>
</tr>
<tr>
<td>Classroom observation of student</td>
<td>66.8</td>
</tr>
<tr>
<td>Home observation of student</td>
<td>2.0</td>
</tr>
<tr>
<td>Functional Behavioral Analysis</td>
<td>29.8</td>
</tr>
<tr>
<td>Developmental history</td>
<td>66.4</td>
</tr>
<tr>
<td>Caregiver interview</td>
<td>51.2</td>
</tr>
<tr>
<td>Student interview</td>
<td>66.3</td>
</tr>
<tr>
<td>Teacher interview</td>
<td>75.9</td>
</tr>
</tbody>
</table>

Utilizing a similar Likert scale as the previous question, participants involved in assessing students for a possible emotional disturbance were asked to indicate how often they personally used specific measures during the assessment process. The three assessment measures always used by the majority of participants included behavior rating measures (86%),
cognitive ability measure (65.5%), and an academic achievement measure (59.8%). Nearly 46% of participants indicated they never administered a neurologically based evaluation and 42.5% never utilized a projective measure. Table 14 details the results.

Table 14

Frequency of Use of Assessment Measures

<table>
<thead>
<tr>
<th>Method</th>
<th>Always</th>
<th>Often</th>
<th>Sometimes</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive ability measure</td>
<td>65.5</td>
<td>24.1</td>
<td>9.6</td>
<td>0.8</td>
</tr>
<tr>
<td>Academic achievement measure</td>
<td>59.8</td>
<td>18.0</td>
<td>12.1</td>
<td>10.0</td>
</tr>
<tr>
<td>Neuropsychological Evaluation</td>
<td>7.0</td>
<td>13.9</td>
<td>33.2</td>
<td>45.9</td>
</tr>
<tr>
<td>Adaptive behavior rating measure</td>
<td>14.9</td>
<td>21.3</td>
<td>55.4</td>
<td>8.4</td>
</tr>
<tr>
<td>Behavior rating measure</td>
<td>86.0</td>
<td>12.0</td>
<td>2.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Attention Scale</td>
<td>30.0</td>
<td>32.8</td>
<td>34.0</td>
<td>3.2</td>
</tr>
<tr>
<td>Anxiety Scale</td>
<td>25.8</td>
<td>23.4</td>
<td>39.5</td>
<td>11.3</td>
</tr>
<tr>
<td>Depression Inventory</td>
<td>25.8</td>
<td>20.6</td>
<td>41.1</td>
<td>12.5</td>
</tr>
<tr>
<td>Projective measure</td>
<td>13.8</td>
<td>10.9</td>
<td>32.8</td>
<td>42.5</td>
</tr>
</tbody>
</table>

Research Question 2d. What is the level of involvement of school psychologists in pre-referral activities of children suspected having an emotional disorder?

Pre-referral Involvement (Survey Question 56)

Respondents also were asked to consider their level of involvement in three activities occurring before a student was referred for special education services due to a possible emotional disturbance. Over half of all respondents indicated they were either often or always involved in research based interventions (66.2%), functional behavior analysis (57%), and consultation with
teachers (91.7%), before students are referred for a formal evaluation for a possible emotional disturbance (see Table 15).

Table 15

Level of Involvement in Three Pre-Referral Activities

<table>
<thead>
<tr>
<th>Method</th>
<th>Always</th>
<th>Often</th>
<th>Sometimes</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Based Intervention</td>
<td>29.9</td>
<td>36.3</td>
<td>24.7</td>
<td>9.2</td>
</tr>
<tr>
<td>Functional Behavior Analysis</td>
<td>23.9</td>
<td>33.1</td>
<td>31.9</td>
<td>11.2</td>
</tr>
<tr>
<td>Consultation with Teacher</td>
<td>59.0</td>
<td>32.7</td>
<td>6.4</td>
<td>2.0</td>
</tr>
</tbody>
</table>

Research Question 2e. What services are typically provided for students identified with an emotional disorder?

Services Provided (Survey Question 57)

Participants were asked to describe the frequency they provided a variety of services often needed by students identified with a mood disorder and receiving special education services for an emotional disturbance. The services respondents indicated least likely, if ever, to occur included monitoring the effects of prescribed medication(s) (80%), providing caregiver support (80.4%), consulting with the student’s doctor (76.3%), and providing small group support for the student (79.6%). Describing their frequency as often or always, respondents were most likely to consult with teachers concerning instructional strategies and academic accommodations (74%), to develop behavior modification plans for school use (64.6%) and to consult with the teacher to implement and monitor the effectiveness of behavior modification plans (73.1). See Table 16 for further details.
Table 16

Frequency of Provision of Services for Students with an Emotional Disorder

<table>
<thead>
<tr>
<th>Method</th>
<th>Always</th>
<th>Often</th>
<th>Sometimes</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitor effects of prescribed medications(s)</td>
<td>4.4</td>
<td>15.7</td>
<td>41.0</td>
<td>39.0</td>
</tr>
<tr>
<td>Consult with student’s doctor</td>
<td>2.8</td>
<td>20.9</td>
<td>60.2</td>
<td>16.1</td>
</tr>
<tr>
<td>Social skills training for student</td>
<td>5.6</td>
<td>21.9</td>
<td>41.8</td>
<td>30.7</td>
</tr>
<tr>
<td>Provide caregiver support</td>
<td>3.6</td>
<td>16.0</td>
<td>51.2</td>
<td>29.2</td>
</tr>
<tr>
<td>Develop behavior modification plans for</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>home use</td>
<td>.8</td>
<td>5.2</td>
<td>56.6</td>
<td>37.3</td>
</tr>
<tr>
<td>Develop behavior modification plans for</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>school use</td>
<td>19.6</td>
<td>44.8</td>
<td>28.8</td>
<td>6.8</td>
</tr>
<tr>
<td>Consult with teacher concerning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>instructional strategies and academic accommodations.</td>
<td>26.8</td>
<td>47.2</td>
<td>23.6</td>
<td>2.4</td>
</tr>
<tr>
<td>Consult with teacher to implement and</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>monitor effectiveness of behavior</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>modification plans.</td>
<td>28.1</td>
<td>45.0</td>
<td>22.9</td>
<td>4.0</td>
</tr>
<tr>
<td>Provide individual counseling for</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>student</td>
<td>6.0</td>
<td>21.5</td>
<td>44.2</td>
<td>28.3</td>
</tr>
<tr>
<td>Provide small group counseling/</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>support for student</td>
<td>3.2</td>
<td>17.2</td>
<td>39.2</td>
<td>40.4</td>
</tr>
</tbody>
</table>
It was of some interest to know if there was a significant difference in the above-mentioned practices between doctoral and non-doctoral school psychologists, NCSP designated school psychologists, as well as between school psychologists with greater and lesser amounts of experience in schools. The Levene’s F Test was used to test the assumptions of homogeneity of variance with the level of significance set a priori ($\alpha=.05$). Across compared variables, the null hypothesis for the assumption of homogeneity of variance was met with the exception of one variable (See Table 17). Application of the ANOVA indicated there was no significant relationship between level of education (See Table 18), NCSP designation (See Table 19), or years of experience (See Table 20) on the provision of services.

Table 17

Results of Levene’s Test Levels of Education, NCSP, Years of Service on Practice

<table>
<thead>
<tr>
<th></th>
<th>Level of Education</th>
<th>NCSP</th>
<th>Years of Service</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$F$</td>
<td>$p$</td>
<td>$F$</td>
</tr>
<tr>
<td>Monitor effects of medications</td>
<td>.274</td>
<td>.601</td>
<td>.025</td>
</tr>
<tr>
<td>Consult with student’s doctor</td>
<td>.446</td>
<td>.505</td>
<td>1.487</td>
</tr>
<tr>
<td>Social skills training</td>
<td>.243</td>
<td>.622</td>
<td>.021</td>
</tr>
<tr>
<td>Care giver support</td>
<td>.001</td>
<td>.972</td>
<td>.050</td>
</tr>
<tr>
<td>Behavior modification home</td>
<td>.250</td>
<td>.618</td>
<td>3.123</td>
</tr>
<tr>
<td>Behavior modification school</td>
<td>.287</td>
<td>.593</td>
<td>.061</td>
</tr>
<tr>
<td>Consult with teacher academics</td>
<td>1.63</td>
<td>.202</td>
<td>.292</td>
</tr>
<tr>
<td>Consult with teacher behavior</td>
<td>.017</td>
<td>.896</td>
<td>.000</td>
</tr>
<tr>
<td>Individual counseling</td>
<td>.250</td>
<td>.617</td>
<td>1.531</td>
</tr>
<tr>
<td>Group counseling</td>
<td>1.200</td>
<td>.274</td>
<td>5.182</td>
</tr>
</tbody>
</table>
Table 18

Tests of Between-Subjects Effects Highest Degree Earned

<table>
<thead>
<tr>
<th></th>
<th>$\mu^2$</th>
<th>$F$</th>
<th>$p$</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitor effects of medication</td>
<td>1.695</td>
<td>2.418</td>
<td>.121</td>
<td>.010</td>
</tr>
<tr>
<td>Consult with student’s doctor</td>
<td>.539</td>
<td>1.140</td>
<td>.287</td>
<td>.005</td>
</tr>
<tr>
<td>Social Skills training</td>
<td>.352</td>
<td>.467</td>
<td>.495</td>
<td>.002</td>
</tr>
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<td>Care giver support</td>
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<td>.006</td>
</tr>
<tr>
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<td>.013</td>
<td>.911</td>
<td>.000</td>
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<td>.626</td>
<td>.001</td>
</tr>
<tr>
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<td>.057</td>
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<td>.000</td>
</tr>
<tr>
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<td>.729</td>
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<td>.301</td>
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</tr>
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Table 19

Tests of Between-Subjects Effects NCSP

<table>
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<tr>
<th></th>
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<th>$p$</th>
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<tbody>
<tr>
<td>Monitor effects of medication</td>
<td>.510</td>
<td>.726</td>
<td>.395</td>
<td>.003</td>
</tr>
<tr>
<td>Consult with student’s doctor</td>
<td>1.455</td>
<td>3.090</td>
<td>.080</td>
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<td>Social Skills training</td>
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<td>.009</td>
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<td>.000</td>
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<td>.007</td>
<td>.932</td>
<td>.000</td>
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<td>.779</td>
<td>.000</td>
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<tr>
<td>Group counseling</td>
<td>.482</td>
<td>.726</td>
<td>.395</td>
<td>.003</td>
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### Table 20

Tests of Between-Subjects Effects Years of Service

<table>
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<th>(\eta^2)</th>
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<td>.692</td>
<td>.630</td>
<td>.014</td>
</tr>
<tr>
<td>Consult with student’s doctor</td>
<td>.266</td>
<td>.561</td>
<td>.730</td>
<td>.012</td>
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<tr>
<td>Social Skills training</td>
<td>.664</td>
<td>.880</td>
<td>.495</td>
<td>.018</td>
</tr>
<tr>
<td>Care giver support</td>
<td>.326</td>
<td>.552</td>
<td>.737</td>
<td>.011</td>
</tr>
<tr>
<td>Behavior modification home</td>
<td>.267</td>
<td>.734</td>
<td>.598</td>
<td>.015</td>
</tr>
<tr>
<td>Behavior modification school</td>
<td>.565</td>
<td>.787</td>
<td>.560</td>
<td>.016</td>
</tr>
<tr>
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<td>.446</td>
<td>.816</td>
<td>.009</td>
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<td>Consult with teacher behavior</td>
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<td>.354</td>
<td>.880</td>
<td>.007</td>
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<tr>
<td>Individual counseling</td>
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<td>.949</td>
<td>.450</td>
<td>.019</td>
</tr>
<tr>
<td>Group counseling</td>
<td>.448</td>
<td>.651</td>
<td>.661</td>
<td>.013</td>
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</table>
Research Question 3. What types of training have school psychologists received in the area of PBD assessment and intervention and do those with more formal training understand the symptomology of PBD better than those with informal training?

Training (Survey Question 58)

Respondents were asked to indicate the type of training they had received specific to three categories: emotional disturbances, pediatric bipolar disorder, and adult/adolescent bipolar disorder. A significant number (86.9%) of the 251 school psychologists responding to this query had completed formal course work in emotional disturbances in their training program. The majority of respondents also reported having an internship or residency experience (68.9%) as well as had attended a workshop presentation or in-service training (79.3%) addressing the topic of emotional disturbances. To create a clearer picture of the training experiences of participants, a dichotomy of formal and informal training was created. School psychologists who indicated they had completed either formal course work or an internship or residency program were grouped into a formal training group and those school psychologists who indicated their only training in emotional disturbances was through workshops or in-service trainings were placed in an informal training group. When considered in this way, 91.2% had received formal training in emotional disturbances, while 7.6% reported having only informal training.

Concerning the training experiences of participants pertaining specifically to PBD, only 16.3% indicated they had completed formal coursework in a training program and a mere 10.4% reported having any internship or residency experience. Less than half of the respondents (43.0%) had learned about PBD through a workshop or in-service training. As done previously, respondents were coded dichotomously. This procedure revealed 21.2% had formal training in PBD with 29.6% having informal training. The remaining 49.2% indicated having had no
training at all concerning PBD. For more details, see Table 21.

Table 21

Types of Training across Areas of Concern Reported by School Psychologists

<table>
<thead>
<tr>
<th>Level of training</th>
<th>Emotional Disturbances</th>
<th></th>
<th>PBD</th>
<th></th>
<th>Adult/ Adolescent BD</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Percent</td>
<td>N</td>
<td>Percent</td>
<td>N</td>
<td>Percent</td>
</tr>
<tr>
<td>Formal course work</td>
<td>218</td>
<td>86.9</td>
<td>41</td>
<td>16.3</td>
<td>94</td>
<td>37.5</td>
</tr>
<tr>
<td>Internship or residency</td>
<td>173</td>
<td>68.9</td>
<td>26</td>
<td>10.4</td>
<td>50</td>
<td>19.9</td>
</tr>
<tr>
<td>Workshops or in-services</td>
<td>199</td>
<td>79.3</td>
<td>108</td>
<td>43.0</td>
<td>130</td>
<td>51.8</td>
</tr>
</tbody>
</table>

Once the Levene’s F Test established homogeneity of variance, an ANOVA was applied to determine whether or not there was a significant relationship between the types of training related to PBD with level of correctness on survey questions 18, 19, and 21. The level of significance was set a priori (α=.05). Application of the ANOVA indicated there was no significant relationship between types of training and level of knowledge concerning specific symptoms of PBD.

Research Question 4. How prepared do current school psychologists feel to consult, assess, and intervene in cases suspected of an Emotional Disorder?

Preparation and Confidence (Survey Questions 59 – 60)

Participants were asked to describe their quality of preparedness to provide a variety of services including consultation to parents and teachers, assessment of EDs within the Special Education framework, and interventions for both academic and behavior concerns. A Likert Scale was used for response purposes: 1 = Not Prepared at All, 2 = Minimally Prepared, 3 = Somewhat Prepared, and 4 = Very Prepared. Independent responses were given to each of the
five areas which yielded the following means: Teacher Consultation $M=3.50$, $SD=.641$; Parent Consultation $M=3.33$, $SD=.730$; Assessment $M=3.81$, $SD=.436$; Academic Intervention $M=3.37$, $SD=.676$; Behavior Intervention $M=3.49$, $SD=.635$.

In total, 251 school psychologists reported on their level of preparation to provide teacher consultation services for students identified with an emotional disorder and 58% reported they felt very prepared, 34.8% reported they were somewhat prepared, and 7.2 percent reported minimally prepared or not prepared at all. Concerning levels of preparation to provide parent consultation, 46.6% percent of the 251 respondents reported they felt very prepared, 41.8% reported they felt somewhat prepared, with 9.6% and 2.0% reporting they felt minimally prepared or not prepared at all respectively. When describing levels of preparedness to provide academic interventions, 90% of respondents indicated they felt very or somewhat prepared to do so. Similarly, 93.9% of respondents reported feeling very or somewhat prepared to provide behavioral interventions. A significant majority of participants (83.3%) indicated they were very prepared to provide assessment services with another 15.5% feeling somewhat prepared. Only 1.2% of respondents reported they were minimally or not prepared at all (See Table 22).

Table 22

School Psychologists’ Reported Preparedness for Providing Services to Students with an Emotional Disturbance

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Very prepared</td>
<td>58.0</td>
<td>46.6</td>
<td>83.3</td>
<td>46.6</td>
<td>56.6</td>
</tr>
<tr>
<td>Somewhat prepared</td>
<td>34.8</td>
<td>41.8</td>
<td>15.5</td>
<td>45.4</td>
<td>37.3</td>
</tr>
</tbody>
</table>
Table 22 (Cont.)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Minimally prepared</td>
<td>6.8</td>
<td>9.6</td>
<td>0.8</td>
<td>6.4</td>
<td>5.2</td>
</tr>
<tr>
<td>Not prepared at all</td>
<td>0.4</td>
<td>2.0</td>
<td>0.4</td>
<td>1.6</td>
<td>.8</td>
</tr>
</tbody>
</table>

Note: The values represent mean percentages.

Recognizing that mood disorder diagnoses are not typically provided by School Psychologists within school systems, respondents were asked to describe their level of confidence when it came to identifying signs and symptoms of PBD, making a differential diagnosis between PBD and other more common disorders, as well as having knowledge of current medications to treat childhood mania and depression. A Likert Scale was used for response purposes: 1 = Not At All Confident, 2 = Somewhat Confident, 3 = Confident, and 4 = Very Confident. Independent responses were given to each of the four areas which yielded the following means and standard deviations: Identifying signs and symptoms $M=2.21, SD=.822$; Making a differential diagnosis $M=1.91, SD=.793$; Knowledge of current medications for mania in children $M=1.68, SD=.780$; Knowledge of current medications for depression in children $M=2.01, SD=.817$ (Table 23).
<table>
<thead>
<tr>
<th>Level of confidence</th>
<th>Signs/ Symptoms</th>
<th>Differential Diagnosis</th>
<th>Knowledge of Meds – Mania</th>
<th>Knowledge of Meds - Depression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very confident</td>
<td>8.4</td>
<td>4.4</td>
<td>3.2</td>
<td>6.0</td>
</tr>
<tr>
<td>Confident</td>
<td>21.9</td>
<td>14.3</td>
<td>10.0</td>
<td>15.9</td>
</tr>
<tr>
<td>Somewhat confident</td>
<td>53.0</td>
<td>49.8</td>
<td>39.0</td>
<td>51.4</td>
</tr>
<tr>
<td>Not at all confident</td>
<td>16.7</td>
<td>31.5</td>
<td>47.8</td>
<td>26.7</td>
</tr>
</tbody>
</table>

**Chapter Summary**

A total of 1,005 school psychologists’ email addresses were acquired from an Internet search across eighteen states and email contact was attempted with each of these school psychologists. An estimated 143 emails were returned due to failure of delivery; however, the actual number of received emails is likely lower due to junk email folders and spam blockers. In total, 258 surveys were completed for a response rate of 29.93%. Of these completed surveys, 7 respondents were removed because they reported not working at least 25 hours in a school setting, which left 251 valid survey responses.

Concerning their highest degree earned, nearly 78% of respondents indicated they held either a Masters or Specialist’s degree, with just over 20% indicating they held a doctoral level degree. The remaining 2.0% indicated they held some other school psychology certification as their highest training acquired. Concerning membership in professional organizations, over half (60.2%) belonged to NASP, ten-percent to APA, and 7.6% belonged to both organizations.
Over a third of respondents indicated they held no membership in a national school psychology organization. A total of 113 respondents (45.2%) indicated they were a National Certified School Psychologist and of the 108 indicating the approximate number of years considered an NCSP, nearly three quarters (71.3%) held the NCSP distinction for fifteen years or less. The majority of respondents (83.1%) were female and regarding the number of years participants had served as a school psychologist, 64.1% had worked in a public school system for fifteen years or less and 24.6% had served longer than 20 years. Participants also were given an opportunity to describe the geographical location of their The largest percentage (42.7%) of participants indicated they worked in a suburban area, while 36.3 percent described their area as rural and 19.4% as urban. The vast majority (88%) of respondents’ estimated spending at least half of their time was spent in activities typically associated with special education.

A strong majority (81.9%) of respondents indicated the diagnosis of PBD should not be based on the DSM criteria for adults, implying some understanding that the childhood disorder may express itself differently symptomologically. Other statements concerning PBD, however, did not have this level of agreement amongst participants. Although nearly thirty percent (29.6%) of respondents reported PBD was not an appropriate diagnosis for children, nearly half (46%) expressed some level of agreement that most children exhibiting symptoms of PBD would likely develop into adults with Bipolar Disorder. Only 21.6 percent of respondents thought it inappropriate to prescribe antipsychotic medications to children exhibiting symptoms of mania while a similar amount (24.4%) indicated behavioral approaches to addressing PBD behaviors would not benefit from the concurrent use of medications.

Overall, the vast majority of respondents responded incorrectly to specific statements about the signs and symptoms of PBD. The course of mania in children was misidentified by
approximately 85 (84.8%) percent and a similar number (85.1%) did not understand the differential diagnostic significance of a child with PBD having a higher Performance than Verbal IQ. An even greater number of respondents (94.4%) were unable to select the most likely symptom exhibited by children with PBD. A univariate ANOVA indicated there was no significant relationship between one’s level of education or NCSP designation on the likelihood of responding correctly to these indicators. Participants not only reported the most difficult disorders to differentiate from PBD were ADHD and ODD, but also indicated those same disorders were the most likely to be comorbid with PBD. When asked to distinguish ADHD from PBD symptomologically, rapid-cycling (85.6%), irritability (82.4%), and elated mood (80.0%) were identified to be most indicative of PBD, while distractibility (19.2%) and inattention (19.6%) were thought to be the least symptomatic of PBD.

Participants were asked to estimate the amount of time spent on a variety of special education activities. Quite easily, the most time spent on a weekly basis was in the provision of assessment services (M=49.74, SD=21.321) while providing academic interventions (M=7.61, SD=7.660), functional behavior analysis (M=6.75, SD=5.416), and research (M=1.98, SD=3.616) were the activities participants were least likely to spend time performing. Nearly all (98.8%) of the participants indicated they participated as part of a multidisciplinary team to determine the special education eligibility of students with a possible emotional disorder. During their assessment process, it was reported by respondents they always or often provide the following procedures: review of school records (99.6%), medical records (92.4%), and academic work (96.8%), classroom observation (89.6%), developmental history (81.6), and teacher interview (96.8%). However, only 3.6% utilize home observations and just over half (51.6%) a functional behavior analysis.
The three assessment measures always used by the majority of participants included behavior rating measures (86%), cognitive ability measure (65.5%), and an academic achievement measure (59.8%). Nearly 46% of participants indicated they never administered a neurologically based evaluation and 42.5% never utilized a projective measure. Respondents also were asked to consider their level of involvement in three activities occurring before a student was referred for special education services due to a possible emotional disturbance. Over half of all respondents indicated they were either often or always involved in research based interventions (66.2%), functional behavior analysis (57%), and consultation with teachers (91.7%), before students are referred.

Concerning the frequency with which respondents provided a variety of services for students with an emotional disorder, respondents always or often consulted with teachers concerning instructional strategies and academic accommodations (74%), developed behavior modification plans for school use (64.6%) and consulted with the teacher to implement and monitor the effectiveness of behavior modification plans (73.1). However, respondents indicated they were least likely, if ever, to monitor the effects of prescribed medication(s) (80%), provide caregiver support (80.4%), consult with the student’s doctor (76.3%), or provide small group support for the student (79.6%). Application of an ANOVA procedure indicated there was no significant difference in the above-mentioned practices between doctoral and non-doctoral school psychologists, NCSP designated school psychologists, or between school psychologists with greater and lesser amounts of experience in schools.

A highly significant amount of respondents had received formal training, either through training programs and/or internships, in emotional disturbances (91.2%) whereas only 21.2% had formal training in PBD. A significant relationship between the types of training related to PBD
with level of correctness on survey questions 18, 19, and 21 was not found.

Not surprisingly, when asked about perceived levels of preparedness, 83.3 percent of respondents indicated they felt very prepared to provide assessment services. Respondents indicated they only felt somewhat or minimally prepared to provide teacher consultation (41.6%), parent consultation (51.4%), academic intervention (51.8%) and behavior intervention (42.5%). Concerning PBD in particular, nearly three quarters of respondents reported they were only somewhat or not at all confident with the signs and symptoms (69.7%), making a
differential diagnosis (81.3%), or having knowledge of the medications currently used to treat childhood mania (86.8%) or depression (78.1%).
Chapter 5

Discussion

Chapter Overview

The purpose of this study was to investigate school psychologists’ level of knowledge and breadth of experience and training pertaining to PBD. Of added interest were the current assessment practices and variety of direct services provided to students with PBD and/or ED as defined by current special education federal guidelines. The study was divided into four sections not including those questions pertaining to demographic information. First, the perceptions and general knowledge of school psychologists in the area of PBD was assessed with specific focus on their understanding of differential diagnosis, comorbidity, and signs and symptoms. Additionally, whether or not the educational level of school psychologists impacted the level of knowledge in the area of PBD was examined. Comparisons also were made between those identified as nationally certified (NCSP) and those who were not. Next, the general practices of school psychologists regarding the assessment and identification of children suspected of having an ED were explored to determine how well these methods aligned with current understanding of best practices. This included questions regarding the types of services provided before and after special education identification, such as counseling, academic and behavioral interventions, and teacher consultation, as well as questions about the methods and instrumentation used when evaluating students referred for an emotional disorder. Similar to section one, a comparison was made between the level of involvement and types of practices of more highly trained school psychologists. Section three inquired about the types of training school psychologists received specifically in the area of PBD and ED identification and intervention and if the different types of training translated into a noticeable difference in school psychologist practices. The last
purpose of this study was to explore how prepared and confident school psychologists feel to provide consultation, assessment, and intervention in cases of PBD and ED.

Knowledge

Perceptions of PBD

Participants were provided a variety of statements representing common thoughts and perceptions about PBD. Only the question concerning whether or not participants thought the diagnosis of PBD should be based on the DSM adult diagnostic criteria amassed what could be considered a significant consensus. Nearly 82% of respondents expressed some level of disagreement concerning the use of the DSM adult criteria for BD with children. Although most school psychologists may believe different criteria should be applied to children suspected of PBD, there may not be any clear idea on what those criteria should be. In addition, as will be described later, there appears to be scant knowledge about what the current research describes as the unique features of PBD.

When asked if PBD is currently under-diagnosed, the majority of respondents were either undecided or disagreed. Despite there being a historical view PBD has been misdiagnosed in favor of more familiar disorders such as ADHD, ODD, and CD (Morselli & Elgie, 2003; Papolos & Papolos, 2006) or undiagnosed due to cultural reluctance to identify mental health disorders in the young (Egger & Emde, 2011), when asked if PBD is currently under-diagnosed in the United States the majority of school psychologists were either undecided or disagreed. It would be beneficial for future research to explore the reason(s) school psychologists hold this view. Does there remain reluctance on the part of school psychologists to identify children with a mental health disorder in general and PBD in particular? Or perhaps, practitioners fear the lack of distinct, pediatric-specific, diagnostic criteria is leading to misdiagnosis? Considering only 30%
thought PBD should not be diagnosed and 46% thought it was likely PBD was a precursor to adult BD, there is some indication the reason for practitioners’ uncertainty about the utility of the diagnosis may be more due to diagnostic confusion than to disbelief in the disorder. If so, training institutions may want to examine their curriculum concerning pediatric psychopathology to confirm the information being taught about PBD is reflective of current research.

School psychologists expressed a primarily mild or undecided view about the efficacy of psychopharmacological and behavioral treatment of PBD. Perhaps this is an expression of an understandable reluctance to utilize psychotropic medications with a child population; nevertheless, current research continues to recognize the necessity for including a psychopharmacological response as the first line of treatment for mania in children as well as an essential element for supporting psychosocial interventions (McClure, 2002; Weckerly, 2002). Furthermore, mood-stabilizing compounds such as Lithium and Depakote have long been recognized by the AACAP to be useful in treating PBD, even though the effects of such agents on children are not fully understood nor in many instances approved by the FDA (Pavuluri et al., 2005b). Most school psychologists lack the licensure and training necessary to prescribe medications; however, they are often in positions to provide guidance to caregivers wrestling with treatment options, consultation with teachers dealing with unwanted behaviors related to medicinal side effects, and observation of the student’s day to day response to psychotropics. This indecision on the part of practitioners may be further evidence many school psychologists have not availed themselves to the current literature on the treatment of childhood mania and depression. It is also possible school psychologists either believe they are not in a position to provide this type of care or acknowledge they are ill-equipped to do so. Regardless of the reason, the ability of a school psychologist to provide meaningful consultation to teachers and
caregivers or to monitor side effects of medications used to treat PBD are limited by this
confusion.

As noted earlier, retrospective studies in adults with BD indicate up to 60% experienced
the onset of their BPD before 20 years of age (Pavuluri et al., 2005a; Soutullo et al., 2005) with
10%-20% reporting the onset before 10 years of age (Egeland et al., 2003). Caution must be
exercised when considering ex post facto information, yet there seems to be some evidence
supporting the idea many adults diagnosed with BD exhibited symptoms of mania as children.
Most survey respondents are either uncertain or lean in the direction of thinking a child with
PBD is likely to continue exhibiting symptoms into adulthood; however, the implications of this
“lean” as well as the benefit of asking this particular question remain unclear.

*Signs and Symptoms*

For over twenty years researchers have made a distinction between adult and childhood
expressions of BD (Carlson, 1995, 2005; Geller, Tilman, Craney, & Bohofner; Weller et al.,
1995). For instance, it is known adults are more likely to present with discrete cycles of mania,
hypomania, and depression, and tend to have an episodic and acute course. Children on the other
hand tend to exhibit mania and depression in a more chronic and continuous manner. Geller and
colleagues in 1995 coined the term “complex cycling” to describe PBD as a pattern of brief
cycles embedded within a more prolonged episode. It is also widely held by the research
community that mood shifts in children are more likely to be expressed as mixed states – the
simultaneous exhibition of both manic and depressive symptoms (Geller et al., 1995; Lofthouse
et al., 2004). Therefore, it is a bit disconcerting most school psychologists were unaware of this
distinction (85.1%). The consequences of this confusion may include: (a) missed opportunities
to intervene early; (b) misidentification of a mental health disorder as either ADHD or a
behavioral issue; (c) failure to employ best practices when providing interventions of a child with an emotional disorder. Such consequences, whether experienced singularly or as a whole, will only exacerbate the distress of a child with PBD.

Biederman and colleagues (1996) demonstrated the ease of misdiagnosing PBD as ADHD and reported nearly all (96%) children who met the criteria for PBD did so for ADHD, whereas only 16% of ADHD patients met the criteria of mania or hypomania. A similar finding by Geller & Luby (1997) reinforced the historical difficulty of differentiating the two disorders as well as the likelihood a child presenting bipolar symptoms is likely to be classified as ADHD. However, two key features of mania in children, elevated and/or irritable mood, are not shared with ADHD (Lofthouse, Mackinaw-Koons, & Fristad, 2004). Since the year 2000, the National Association of School Psychologists has provided a list of symptoms to be used when identifying an altered mood, including inflated self-esteem, grandiosity, pressured speech, racing thoughts, and risk-taking. Although the majority of school psychologists identify “irritability” as the most likely symptom they will observe, it is not known how school psychologists are defining the term. The term “irritability” is shared with several other disorders, which may make it very difficult to differentiate PBD primarily based on that symptom. There also is evidence symptoms of euphoria, pressured speech, and grandiosity, in children are more specific to mania than other associated symptoms such as aggression, irritability, distractibility, or increased motor activity (Geller et al., 2000; Geller et al., 2002b). Only a small number of school psychologists indicated they would be expecting signs of euphoria (5.6%), grandiosity (3.2%), or flight of ideas (4.4%) in a child with PBD. Instead, they expected to observe hyperactivity (29.1%) and irritability (57.7%). Unfortunately, it is not known if this indicates a failure to understand differentiating symptoms or if the problem lies in how the question is asked. For example, school
psychologists were asked what they expected to see in a child with PBD and not “what is the best symptom to differentiate PBD from other disorders.”

Understandably, nearly a third of school psychologists identified hyperactivity as the other symptom they expected to observe. Therefore, it is uncertain how school psychologists differentiate between the hyperactive symptomology associated with ADHD and the hyperactive symptomology often associated with PBD. Because hyperactive symptomology is symptomatically shared by both PBD and ADHD, it is essential school psychologists be better informed on those symptoms unique to PBD. As mentioned previously, the presence of grandiosity, elated mood, flight of ideas, and decreased need for sleep are more common to PBD but may not be as readily identified.

It also has been suggested that the two disorders can be distinguished by examining the history of the child to determine the persistence and earlier onset of ADHD versus the lack of euphoria or depressed mood of PBD (James & Javaloyes, 2001).

School psychologists who want to improve their ability to understand mental health disorders, to effectively respond to students with a mood disorder, and to communicate with the medical practitioners treating a child diagnosed with PBD, need to better understand the biological basis of childhood pathology (Davis, 2006). Neuropsychological research provides insight into the brain networks that could be disrupted in PBD and the functional impairments underling the behavioral and emotional dyscontrol characteristic of the disorder (Doyle et al., 2005). One of the most commonly reported neuropsychological findings in children with PBD is that children with PBD typically possess a significantly higher WISC Verbal IQ (VIQ) than Performance IQ (PIQ). Given the formal training school psychologists have in cognitive assessment as well as the near universal popularity of the WISC across school districts (Flanagan
& Kaufman, 2009), this differential characteristic could be invaluable. Unfortunately, only a small portion (15%) of school psychologists appear to know of this indicator, even though it has been known since 1983 and repeatedly supported by the literature to the current day.

**Differential Diagnosis and Comorbidity**

Several other disorders not only share symptoms but also often coexist with PBD. In a review of research on rates of comorbidity of PBD with other disorders, it was reported that rates ranged between 11% and 75% for ADHD, 46.4% and 75% for ODD, 5.6% and 37% for CD, (Pavuluri et al., 2005). The ease of misdiagnosing PBD as some other disorder is further illustrated by the work of Biederman and colleagues (1996) who found 96% of children who met the criteria for BD did so for ADHD; however, only 16% of ADHD patients met the criteria of mania/hypomania. Similarly, in another study it was reported of the children presenting bipolar symptoms, approximately 90% of prepubertal and 30% of adolescent subjects were classified as ADHD (Geller & Luby, 1997). This significant comorbidity makes prognosis and treatment all the more difficult for children with BD. Respondents seem to recognize the likelihood of comorbidity with PBD and correctly indicated the most likely comorbid disorder would be ADHD.

Participants were given a list of twelve symptoms and asked to indicate which symptoms were more indicative of PBD than of ADHD. Rapid-cycling, irritability, and elated mood were the symptoms school psychologists thought would be most indicative of PBD. These results may provide some encouragement and confidence that school psychologists can adequately differentiate PBD from ADHD; however, the survey question and participants’ responses may just as likely indicate they are very familiar with the symptoms of ADHD and knew which symptoms did not belong.
Effects of Training and NCSP Designation

Participants were placed in one of two groups depending on their reported level of education. Those with a Masters degree level of training were in one group and those with a Doctoral level of training were placed in another. Surprisingly, based on the current data, the level of training received by school psychologists does not appear to significantly impact their understanding of PBD. In other words, those with additional formal training were no more likely to possess correct knowledge about PBD compared to those with less training.

The NCSP process was created by NASP to establish a nationally recognized standard to be used as a measure of professionalism for interested agencies as well as to promote the continuing professional growth and development of NCSPs (NASP, 2014). This includes NASPs commitment to the import of school mental health services, which states:

The National Association of School Psychologists (NASP) advocates for the provision of coordinated, comprehensive, culturally competent, and effective mental health services in the school setting, which include prevention and early intervention services as well as therapeutic interventions. These services should emphasize competence enhancement, prevention of mental illness, education, early intervention, and coordination of intensive interventions to adequately address student mental health needs (NASP, 2014)

Given the national interest and federal mandate for school psychologists to provide frontline mental health support as well as NASP’s commitment to mental health, one might expect NCSPs to have greater knowledge and confidence when it comes to PBD than those without the designation. However, according to the current data, meeting the qualifications for and the reception of the NCSP designation makes little to no difference in a practitioners ability to identify the symptoms of PBD. These results, if confirmed in further research, should be of some
concern to training institutions as well as professional organizations.

General Practice

Time Spent in Special Education Activities

Historically, of all the services provided by school psychologists the greatest amount of time is spent providing assessment services (Hosp & Reschly, 2002). Assessment provides a process to identify a student’s needs and to assist in developing and implementing interventions (NASP, 1993). Given this understanding of the role of a school psychologist, it is not surprising the average practitioner participating in the current survey reports spending half of their time in the Special Education identification process. Compared to the other listed activities, respondents spend much more time in assessment for special education services than providing counseling, interventions, consultation, or behavior analysis.

In 1997, Hoagwood and Erwin estimated over 20% of school-age children qualified for a psychiatric diagnosis and the requisite attention, treatment, and support, which come with such mental health needs. The U.S. Department of Education provided a more conservative estimate of 11% of school aged children were likely to have mental health impairments resulting in extreme functional limitations. Of course, as has been noted previously, the evidence suggests that such a percentage is low due to under-identification of mental health disorders in children (Walker, Ramsay, & Gresham, 2004). All of this begs the question, if school psychologists are spending at least half of their time in performing assessments, then do they have the time, let alone training, to provide other essential services? It could be assumed that those who spend less time in assessment spend more time in related services, yet based on the current study very little time is invested in counseling, academic and behavior intervention, functional behavior analysis, or consultation, all of which are necessary to provide best practice support.
**Role of Practitioner**

School psychologists typically serve as a regular participant on multidisciplinary teams responsible for determining the special education eligibility of students with a possible emotional disturbance. The role of the school psychologist in the case conference is not simply to provide a summary report of the assessment, but to lend their expertise in determining what is best for the student. Nearly all (98.8%) of the respondents reported they regularly participated as part of a multidisciplinary team making special education service determinations.

**Evaluation methods and instruments**

When assessing a child for ED school psychologists should follow IDEIA or their licensing state’s guidelines. The purpose of the evaluation is to identify students’ needs and to assist in developing and implementing interventions when warranted (NASP, 1993). According to NASP (2005), when assessing students with a possible emotional disturbance, school psychologists should be comprehensive. This includes conducting observations across settings, times, and contexts, collecting contextual, medical, and developmental information, and assessing academic functioning. Based on the data collected, the majority of participants reported including these methods in their evaluation practice.

Another aspect of NASPs definition of comprehensiveness is performing a functional behavior assessment (FBA). An FBA involves the assessment and linking of environmental conditions to specific behaviors so these behaviors can be predicted and controlled (Ervin, Ehrhardt, & Poling, 2001). The use of an FBA was first included in and required by the 1997 amendments to the Individuals with Disabilities Education Act. By conducting an FBA, the practitioner gathers essential evidence regarding whether the student’s problematic behaviors can be corrected or if the problem is more organic and in need of special education and related
services (Rudy & Levinson, 2008). According to the current study, not quite a third (29.8%) of participants reported always utilizing an FBA as part of the evaluation process. The reason or reasons why seventy percent of respondents are not consistently if ever applying an FBA is a matter of conjecture and perhaps of interest for further study. Although it is possible FBAs’s are being provided by school personnel other than the school psychologist, it is more likely FBAs are not being employed as frequently as they should which is disconcerting.

NASP also expects school psychologists to use appropriate assessment methods. The potential effects of identifying a child as having an emotional disorder necessitate the use of instruments that have empirically demonstrated high reliability and validity. Both indirect and direct assessment methods should be used when warranted. Indirect methods may include behavior checklists, structured interviews, rating scales, and other recognized assessment techniques. Based on the current data, the majority of respondents are likely utilizing appropriate measures during the assessment process. However, projective measures and a neuropsychological evaluation are rarely employed.

Even though administration of a cognitive ability measure is typically not required or expected to identify a student as ED, 89.6% respondents indicated they administer a cognitive measure often or always. This frequent use of cognitive ability measures during the evaluation process of a child suspected of an ED may provide an opportunity to better equip school psychologists to knowledgeably use the WISC when making a differential determination. Even if practitioners prefer other cognitive measures, they may choose to utilize the WISC when necessary. Because school psychologists receive a significant amount of formal training in the administration and interpretation of standardized measures, training institutions should educate pre-service school psychologists how to apply WISC results in this way when evaluating a child
for PBD or ED.

Services provided

As noted previously, school psychologists possess expertise in a variety of areas and are likely one of the most qualified persons in the school system to provide services often required by a student with PBD or ED. Organizations like the Child and Adolescent Bipolar Foundation, the Juvenile Bipolar Research Foundation, and authors such as Fristad and Goldberg-Arnold (2004), and Lofthouse and Fristad (2006) implore school psychologists to provide these services including being aware of and managing medication side effects and preparing for episodes of intense emotion, considering alternatives to regular classrooms, and educating school-based teams of the diagnosis and its implications on school performance. Unfortunately, the frequency which some of these helpful services are provided may not be as often or consistent as one would hope. For instance, according to respondents, monitoring the effects of prescribed medications, providing individual and/or group counseling, and consulting with the student’s doctor occurs inconsistently if at all. When examined further, neither a higher level of education nor possession of the NCSP designation results in these activities happening more frequently. It is likely the reasons for this inconsistency are mostly due to time constraints. However, another reason may be many school psychologists lack the formal preparation and the confidence necessary to provide such services. More encouraging was the indication school psychologists are more likely than not to develop behavior modification plans, and consult with the teacher concerning instructional and behavioral interventions.

Types of Training

When asked about the type of training received in the area of ED, 91% of respondents reported they had received formal training either through coursework and/or an internship.
addressing ED. Less than 10% indicated their only training on this subject was through a workshop or in-service. The quality of preparation changes considerably when participants were asked about the type of training they had received concerning PBD in particular. A mere one fifth (21.2%) of participating school psychologists reported having received formal training with another third (29.6%) of respondents indicating they only had informal training via workshop or in-service. Of greater concern is that nearly one half (49.2%) indicated they had no training at all concerning PBD. There are a couple of implications resulting from this data.

One implication may be that school psychologists are not actively participating in professional development opportunities. Or, perhaps, there is a dearth of quality curriculum for those who regularly avail themselves to in-service and workshop experiences. Regardless of one’s level of preparation, there is an expectation that the practitioner will participate in continued professional development (CPD; Fagan & Wise, 2000). Furthermore, NASP sees CPD as “. . . a responsibility of all school psychologists . . . (NASP, 2014) as well as an organizational responsibility to facilitate CPD experiences. An additional implication may be school psychology training programs are more likely to emphasize ED as defined by IDEIA with little to no attention given to specific clinical diagnoses such as PBD.

Preparation and Confidence

The lack of formal training in PBD mentioned above is likely a significant contributor to participants’ overall lack of confidence in identifying signs and symptoms of PBD, making a differential diagnosis between PBD and other more common disorders, and having knowledge of current medications used to treat mood disorders in children. This is not surprising because school psychologists within school systems are not required to make diagnoses of PBD nor respond to childhood mood disorders in a clinical way. Nevertheless, because of the professional
and national mandate to provide mental health services by way of the school system, professional and pre-service school psychologists should be better prepared. The existing dichotomy between childhood mood disorders and identification of emotional disturbances is further illustrated by the responses received concerning how prepared school psychologists feel when providing services to students with an emotional disturbance. Nearly 93% of participants reported an overall sense of being very or somewhat prepared to provide the services necessary to assess, intervene, and consult, when a student is suspected of having or has been identified with an Emotional Disturbance.

Limitations of Study

This survey was electronically sent to school psychologists across the United States. Amidst the advantages of utilizing digital technology, there are some disadvantages. For example, it is easy to delete an email or to forget about a survey invitation in the midst of a full inbox. Furthermore, a smaller than expected response rate to this survey was in part due to digital failure to deliver survey invitations (e.g., inactive email accounts).

In retrospect, the survey was too long and too broad. Despite efforts to create a survey that was quick and easy to complete, that objective was not met. The average time to complete the survey was 19 minutes and is likely a contributing reason why 16% of those who started the survey did not complete it. Busy practitioners may have felt the time commitment was too great. In the future, it may be helpful to enlist full-time practicing school psychologists to test-drive a survey in development and not solely rely upon clinicians in private practice or those serving in academia.

It was hoped the breadth of the survey would provide researchers as well as those involved in the training and supervision of school psychologists with an abundance of helpful
information. Although the current study has collected data, which can be used to inform the field, the current survey required too much demographic information and attempted to examine two significant topics at the same time. In the future, shorter surveys targeting more narrow subjects may result in deeper knowledge.

Because the topic of PBD was communicated through the introduction email as well as the entry page of the survey, this may have been a draw for practitioners with an awareness of and interest in PBD. Moreover, school psychologists who were unfamiliar with PBD or felt too uninformed about the subject to have made a meaningful contribution may have lacked the motivation necessary to complete the survey. Therefore, school psychologists responding likely had more interest in the topic than a true cross sample of the population. Although this is a common limitation of most surveys in general and digital surveys in particular, a briefer more specific survey, or a clearer explanation of who could participate, may have minimized this effect.

Another group of non-respondents may have been school psychologists who primarily work with an adolescent population. By its very definition, PBD is addressing the mental health concerns of a prepubescent population. Larger school districts often have more than one school psychologist with responsibilities for assessment and intervention to be divided according to school building or age group (e.g., elementary, secondary). It could be argued all school psychologists should be well informed of the issues effecting students regardless of age and therefore willing to participate in a survey focused on children; however, given the already acknowledged constraints on school psychologists time and the frequent need to narrow one’s expertise, it is an understandable problem.

Although it would have only added more questions to an already lengthy survey, it is
problematic that there is uncertainty as to how knowledgeable school psychologists are about BD in general. For instance, several questions imply a distinction between the symptoms of PBD and Adult/Adolescent BD and makes the assumption participants know what the diagnostic criteria is for post-pubescent BD.

The current study was most limited by the non-random acquisition of participants. Even though there was an attempt to select states equally across the four NASP regions, those states were not selected randomly but by the researcher’s own sense of which state would yield the most results. As a reminder, acquiring potential participants was done by initially trying to identify every public school district within a state and then locating a website for each of those districts and associated schools. This resulted in invitations to participate being sent to only those individuals with a published email address easily located on a local school or school district’s web page. In addition, school psychologists who work at full-time denominational and independent schools were not included. To complicate matters further, school districts and local schools vary on whether or not their practitioners (i.e., teachers, school psychologists, social workers, etc.) are identified at all through a website, let alone if an individual professional email address is provided.

Recommendations for Future Research

Even though a limitation of this study was its breadth, the data collected provides several opportunities for further study. First, this survey asked questions concerning PBD as well as ED, both of which are broad albeit related subjects. Future study could explore each of these topics separately and more narrowly through the use of more specific questions. Not only would this likely result in a reduction of interpretive error but also provide more actionable data. Second, given the variety of expression between bipolar disorder in children and adolescents, future
research on PBD could focus on school psychologist’s who spend the majority of their time working with a prepubescent population. Third, state specific studies may replicate this survey to contrast state results with national data. For that matter, school districts may wish to explore how they compare to the national average on assessment and intervention practices of its practitioners. An additional benefit of this recommendation would be the increased likelihood of acquiring a more thorough list of school psychologists by accessing state licensure records.

Fourth, several issues were raised by the data that exceeded the purpose of this study. For example, school psychologists selected “irritability” as a primary indicator of PBD. Although irritability is an indicator, it often expresses itself differently in children with PBD. Questions examining what school psychologists mean when using this term, as well as others, may be helpful for future educational opportunities. Fifth, this study may be replicated with specific school psychology professional organizations such as NASP and APA to make further comparisons on types of training, levels of confidence, and feelings of preparation. Sixth, not all school psychologists work full-time in a school setting. Because approximately 20% of school psychologists are also employed in independent private practice, non-school agencies, universities, and community or regional mental health centers (Fagan & Wise, 2000), an attempt could be made to explore how this population differs from those practitioners in the public schools.

Chapter Summary

The purpose of this study was to investigate the current knowledge and perceptions of school psychologists concerning PBD, their level of training and certification, as well as their current assessment practices and types of services provided within the school setting. School psychologists generally believe PBD should be determined with a different set of criteria than
those supplied by the DSM, which is used to diagnosis adolescents and adults. This belief may be rooted more in a school psychologist’s overall understanding of developmental differences across many disorders and not necessarily indicative of a clear understanding of the diagnostic differences between pre- and post-pubescent individuals with BD. When asked if PBD is currently under-diagnosed, most school psychologists reported they either disagreed or were undecided. Further research may reveal whether or not school psychologists hold this opinion because they are uncertain of the diagnostic criteria, genuinely believe it is mis- or over-diagnosed, or have an aversion to diagnosing children with mental health disorders such as BD. Given only a small minority of school psychologists expressed outright disagreement with the diagnosis, it is likely many think PBD is potentially a viable diagnosis. However, despite a belief in the likely efficacy of the diagnosis, practitioners were undecided about the course of PBD, the use of psychotropic medications with children as well as the benefits of a behavioral approach to treatment. It is likely school psychologists feel unprepared or too uninformed to hold a confident opinion about these particular issues.

School psychologists’ knowledge of the signs and symptoms of PBD appeared to be limited and inaccurate. Although there remain significant difficulties in accurately diagnosing PBD, there are known indicators, which increase the likelihood of a correct differential diagnosis. If known, these indicators will help a school psychologist during the assessment process. When school psychologists were asked how PBD presents, the majority incorrectly indicated the course of mania in children was acute and episodic. Euphoria is not always easily identified; however, it is thought by many to be one of the best indicators to distinguish PBD from other disorders. Grandiosity and flight of ideas are also symptoms used in the literature to differentiate PBD over ADHD. Only a very small number of school psychologists indicated they
would be expecting signs of euphoria, grandiosity, or flight of ideas in a child with PBD. Instead, they expected to observe hyperactivity and irritability.

Expecting to see hyperactivity is understandable since PBD and ADHD share it as a descriptor for a suite of behaviors. Although there are qualitative differences in how hyperactivity is commonly displayed in PBD and ADHD, it may be more beneficial for school psychologists to look for more specific behaviors such as the presence or absence of grandiosity, elated mood, and flight of ideas. Like “hyperactivity”, the term “irritability” is also shared when describing other disorders. Even though the majority of participants identified irritability as a likely symptom of PBD, knowing how they define irritability would instill greater confidence that they understand how this symptom is often displayed in children with PBD.

School psychologists having a good understanding of the biological basis of childhood psychopathology has long been encouraged by neuropsychologists. Ongoing neuropsychological research into mood disorders provides valuable insights to identifying PBD. One such insight is the tendency for children with PBD to possess a significantly higher WISC Verbal IQ than Performance IQ. Unfortunately, despite formal training in assessing cognitive abilities, this characteristic was not known by the vast majority of respondents.

One of the reasons PBD is often difficult to identify is not only its shared symptomology with other disorders but the likelihood of PBD being comorbid with those disorders. When presented with a set list of symptoms, survey participants successfully identified rapid-cycling, irritability, and elated mood as more indicative of PBD. It is hoped these results are an indication of respondents knowledge of PBD; however, it may simply be an indicator of how well versed respondents were with the symptoms of ADHD.

At the beginning of this research project, it was expected that the level of a practitioner’s
education would result in greater knowledge and understanding of PBD. Unfortunately, based on the data collected through this study, school psychologists holding a Doctoral degree are no more likely to understand PBD than those with a Masters or Specialists degree. This phenomenon also held true when comparing those participants with the NCSP designation to those without. If future research confirms these results, it behooves organizations like NASP as well as school psychology training institutions to seriously consider the implications.

This study confirmed the findings of previous research: the typical school psychologist continues to spend more time providing assessment than doing anything else. Sound psychosocial assessment is critical to the functioning of a school, and yet the mandate to also provide care to students with mental health problems requires a host of other services. Based on the results of this study, school psychologists may not have the time, training, or confidence to adequately provide academic and behavioral interventions, teacher and caregiver consultation, or other services associated with student care like monitoring medication side effects or counseling. Despite the entreaties of researchers and organizations specializing in childhood mood disorders, it is likely school psychologists are not providing these services as frequently as they should. Similarly, neither a higher level of education nor possession of the NCSP designation resulted in these activities happening more frequently.

The majority of participants provide best practice evaluation methods such as observing classrooms, collecting medical and developmental histories, reviewing school records and assessing academic performance. However, according to the data, there may be a failure on the part of school psychologists to provide or at least participate in an FBA, which is an essential piece of the assessment process for emotional disturbance. Whether this is an accurate conclusion or not, further research should investigate the frequency with which FBAs are
employed along with the role school psychologists play in conducting FBAs.

Aside from projective measures or neuropsychological evaluations, the majority of survey participants utilize appropriate measures in the assessment process. Of particular interest was the frequent use of cognitive measures when making a determination of an ED student. Although typically not required, this may represent an opportunity to utilize the WISC and to examine the differences in a student’s PIQ and VIQ.

Based on the current results, most (91%) respondents have received formal training addressing ED. However, nearly half had neither formal nor informal training pertaining to PBD. This lack of education about PBD may be a primary reason for some of the poor results above. It is likely this lack of training in PBD also contributes to participants’ lack of confidence in identifying signs and symptoms of PBD as well as making a differential diagnosis between PBD and other disorders.

This current study found reasons to be optimistic as well as reasons to be concerned about school psychologists’ knowledge and training in the area of PBD. The level of education and the designation of NCSP made no noticeable difference in what was known or in what was practiced. Overall, it is apparent school psychologists would benefit from more in-depth, formal training, as well as ongoing consultation if they are to adequately meet the national and organizational demands to provide adequate mental health care for young students.
References


Special Education, 21, 219–226.


American Psychiatric Association (2000). Diagnostic and statistical manual of mental disorders


doi:10.1016/j.jpsychires.2004.08.003


mood dysregulation in children. *Biological Psychiatry, 60*(9), 991-998.


http://www.sesrc.wsu.edu/dillman/papers/websurveyppr.pdf


Egger, H. L., & Emde, R. N. (2011). Developmentally sensitive diagnostic criteria for mental


Ferrier, I. N., & Thompson, J. M. (2002). Cognitive impairment in bipolar affective disorder:


Teacher Education and Special Education, 24, 276–289.


Hanson, T. L., Austin, G. A., & Lee-Bayha, J. (2004). Ensuring that no child is left behind: How are student health risks and resilience related to the academic progress of schools? Los Alamitos, CA: WestEd.


Helgason L. (1977). Psychiatric services and mental illness in Iceland. Incidence study (1966-


Joyce, P. R. (1984). Age of onset in bipolar affective disorder and misdiagnosis as schizophrenia.


bipolar affective disorder: Outcome of the first year. *Bipolar Disorders*, 4(Suppl.1), 104
118118.

Landrum, T. J. (1992). Teachers as victims: An interactional analysis of the teacher’s role in
educating atypical learners. *Behavioral Disorders, 17*, 135–144.

Landrum, T. J., Cook, B. G., Tankersley, M., & Fitzgerald, S. (2002). Teacher perceptions of the
trustworthiness, usability, and accessibility of information from different sources.

Landrum, T. J., Tankersley, M., & Kauffman, J. M. (2003). What is special about special
education for students with emotional or behavioral disorders? *Journal of Special

Lange, J. (1928). Die endogenen und reaktiven Gemüsterkrankungen und die manisch
depressive Konstitution. O. Bunke (Ed.) Handbuch der Geistes krankheiten, 6(2), 1-231.


Psychopathology in the offspring of parents with bipolar affective disorders. *Canadian


(1999). Rational service planning in pediatric primary care: Continuity and change in
psychopathology among children enrolled in pediatric practices. *Journal of Pediatric
Psychology, 24*(5), 393-403.


Affective Disorders, 67(1-3), 229-240.


Psychologists.


approaches within the state of Indiana. (Unpublished doctoral dissertation). Ball State University, Muncie, Indiana.


and specificity of the ood Disorder Questionnaire for detecting bipolar disorder. *Journal of Affective Disorders, 81*, 167-171.


terminology/pediatric.cfm


sociobehavioral problems. In K. Lane, F. M. Gresham, & T. O’Shaughnessy (Eds.), *Interventions for children with or at risk for emotional and behavioral disorders* (pp. 33-54). Boston: Allyn & Bacon.


Strober, M., Morrell, W., Lampert, C., & Burroughs, J. (1990). Relapse following


Tsuchiya, K. J., Byrne, M., & Mortensen, P. B., (2003). Risk factors in relation to an emergence


instruments for bipolar disorder in youths aged 5 to 17 years. *Journal of American Academy of Child and Adolescent Psychiatry, 43*(7), 847-858.


Appendix A

Survey

Hello:

In fulfillment of my dissertation, I invite you to participate in the following survey. The survey's purpose is to investigate the current assessment and intervention practices of school psychologists in the United States pertaining to Pediatric Bipolar Disorder. Participating in this survey will require you to answer questions about the aforementioned topic as well as provide some demographic information.

Please remember, a donation of $2.00 will be made per completed survey not to exceed a total of $750.00 to National Association of School Psychologists (NASP) Children’s Fund. The Children’s Fund is a tax-exempt, non-profit, independent charity, which disperses monies for purposes consistent with the priorities of NASP. Those priorities include advocating for the welfare of children and adolescence, promoting optimal learning environments, and developing meaningful academic and social-emotional interventions.

An additional benefit is that upon request respondents may receive a digital summary of the study's results. These requests will be handled separately from the survey and will require participants to contact the researcher by email (jstrotter@anderson.edu). This information will be treated as confidential and immediately destroyed once the request for a summary is fulfilled.

Your survey responses will be anonymous and data from this research will be reported only in the aggregate. Respondents are and will always remain unidentifiable to the researcher or any other entity. As a participant you must be an adult (18 years and above) and a full-time licensed School Psychologist.

Upon completion of my dissertation and subsequent publication of the research, all collected data will be removed from any and all storage devices and properly destroyed.

If you have questions at any time about the survey or the procedures, you may contact: Office of Research Integrity, Ball State University, Muncie, IN 47306, 765-285-5070 or irb@bsu.edu. In addition my dissertation chair, Dr. David McIntosh (demcintosh@bsu.edu; 765-285-5701) and myself (jstrotter@anderson.edu; 765-641-4401) are available to you at any time.

It will take approximately 7 to 10 minutes to complete the questionnaire. Your participation in this study is completely voluntary and there are no foreseeable risks associated with this project. However, if you feel uncomfortable answering any questions, you can withdraw from the survey at any point without concern or penalty.
It is very important for me to learn your opinions. If you agree to the terms of this study please indicate so by selecting the Terms/Acceptance Check Box below. Thank you very much for your time and support. Please start the survey by first selecting "I Agree" and then by clicking on the continue button below

☐ I agree

First, you will be asked to provide some demographic information.

Q1. Please indicate each degree you have earned.

☐ Masters
☐ Specialist
☐ Ed.D.
☐ Ph.D.
☐ Other

Q2. Do you belong to any professional organizations? Please select all that apply.

☐ NASP
☐ APA
☐ State Association
☐ Other

Q3. Are you a National Certified School Psychologist?

☐ Yes
☐ No

Q4. Approximately how many years have you been considered a National Certified School Psychologist?

☐ 1 to 5 years
☐ 6 to 10 years
☐ 11 to 15 years
☐ 16 to 20 years
☐ 21 to 25 years
☐ 26 or more
Q5. How many years of experience as a school psychologist do you have?

☐ 1 to 5 years
☐ 6 to 10 years
☐ 11 to 15 years
☐ 16 to 20 years
☐ 21 to 25 years
☐ 26 or more

Q6. What is your gender?

☐ Male
☐ Female
☐ Other

Q7. How would you describe the geographical location of your current job?

☐ Urban
☐ Suburban
☐ Rural
☐ Other

Q8. How would you describe your current, weekly work setting and the approximate number of hours in that setting?

Please mark all that apply.

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Q9. Approximately how many psychoeducational evaluations to you complete during a school year?

Q10. Approximately, what age ranges do you typically assess? Total should equal 100 percent.

- 2 – 5 Years (Preschool)
- 6 – 10 Years (Elementary)
- 11 – 14 Years (Middle School)
- 15 – 18 Years (High School)

Q11. Approximately, what percent of time do you spend in Special Education related services (e.g., testing, scoring of tests, classroom observations, writing reports, attending case conferences, etc.)

- Less than 10%
- 10 - 25%
- 26 - 50%
- 51 - 75%
- 76 - 90%
- More than 90%

For the purposes of this survey, Pediatric Bipolar Disorder (PBD) refers to a pre-pubescent population, exhibiting a distinct period of euphoric and/or irritable mood with a cluster of co-occurring symptoms that are functionally impairing and enduring long enough to be significantly different from a child's typical presentation and separate from mood variability often accompanying normal development.

Please indicate to what degree you agree or disagree with the following statements concerning Pediatric Bipolar Disorder (PBD).

Q12 – 16. Please indicate to what degree you agree or disagree with the following statements concerning Pediatric Bipolar Disorder (PBD).

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Mildly Agree</th>
<th>Undecided</th>
<th>Mildly Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>PBD is currently under diagnosed in the United States.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The diagnosis of PBD should be based on the DSM adult symptomology.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Most children exhibiting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
symptoms of PBD will develop into adults with Bipolar Disorder.

Children should not be diagnosed with Bipolar Disorder

Behavioral approaches to reducing problematic behaviors due to PBD are relatively ineffective without the concurrent use of medications.

Q17 – 20. What is your opinion concerning the following statements:

It is appropriate to prescribe antipsychotic medications to children exhibiting symptoms of mania.

The course of mania in children is typically of short duration and episodic.

Children diagnosed with PBD are expected to have a significantly higher Verbal IQ than Performance IQ.

The majority of adults diagnosed with Bipolar Disorder exhibited symptoms of mania as children.

You have completed over half of the survey! Taking your time to help me is very much appreciated.

Please remember, a donation of $2.00 will be made per completed survey not to exceed a total of $750.00 to the National Association of School Psychologists (NASP) Children’s Fund.
Q21. Of the following symptoms, which do you think is most likely to be exhibited by children with PBD?

- ☐ Euphoria
- ☐ Hyperactivity
- ☐ Irritability
- ☐ Grandiosity
- ☐ Flight of Ideas

Q22 – 31. In your opinion, how difficult is it to differentiate PBD from the following disorders.

<table>
<thead>
<tr>
<th>Disorder</th>
<th>Very Easy</th>
<th>Somewhat Easy</th>
<th>Somewhat Difficult</th>
<th>Very Difficult</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autism</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Asperger’s Disorder</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Attention Deficit/Hyperactivity Disorder</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Conduct Disorder</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Oppositional Defiant Disorder</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Obsessive Compulsive Disorder</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Childhood Depression</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Thought Disorder</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Anxiety Disorder</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Pervasive Developmental Disorder NOS</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
Q32 – 38 Children with PBD are often diagnosed with additional disorders. Please use the slider to estimate the percentage of individuals with PBD who also receive a diagnosis of one or more of the following disorders:

Autism

Asperger’s Disorder

Attention Deficit/Hyperactivity Disorder

Conduct Disorder

Oppositional Defiant Disorder

Obsessive Compulsive Disorder

Childhood Depression

Thought Disorder

Q39 - 50. Attention Deficit-Hyperactivity Disorder and PBD share a number of similar symptoms. Of the following symptoms, indicate which ones you think are more common to and indicative of PBD:

- Irritability
- Impulsivity
- Grandiosity
- Hyperactivity
- Distractibility
- Elated Mood
- Flight of Ideas
- Decreased Need for Sleep
Q51. Due to the disruptive behaviors typically associated with the diagnosis, children with PBD are often in need of Special Education services.

In your opinion, which of the following is the best Special Education category to provide services for a child diagnosed with PBD:

- [ ] Emotional Disturbance
- [ ] Other Health Impaired
- [ ] Other

Q52. As it relates to your work as a School Psychologist, what is the approximate percentage of time you are involved in the following Special Education activities?

- Assessment for Special Education services ______
- Counseling Students ______
- Academic Intervention ______
- Behavior Intervention ______
- Functional Behavior Analysis ______
- Consultation with Teachers ______
- Research ______

The Individuals with Disabilities Education Improvement Act (IDEIA) of 2004 uses the term “Emotional Disturbance” when referring to students who have an inability to learn due to possible mood. Although the local school system often uses different terms to designate this Special Education category (Emotionally Disturbed, Behavior Disordered, etc.) disorders, for the
purposes of this survey "Emotional Disturbance" will be used.

Q53. As a School Psychologist, which one statement most accurately reflects your primary role in the determination and classification of an emotional disturbance.

☐ I participate as part of a multidisciplinary team to determine the special education eligibility of students with a possible emotional disorder.

☐ A separate team conducts evaluations, but I sit on the multidisciplinary team to make eligibility decisions.

☐ I am not involved in determining and classifying children with emotional disorders at all.

Q54. Please indicate the frequency with which you administer the following when receiving referrals for a possible emotional disturbance.

If you work as part of a team, please only rate those methods YOU employ or for which you are responsible:

<table>
<thead>
<tr>
<th>Method</th>
<th>Always</th>
<th>Often</th>
<th>Sometimes</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review of school records</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Review of medical records</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Review of academic work</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Classroom observation of student</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Home environment observation of student</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Functional Behavioral Analysis</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Developmental history</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Caregiver interview</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Student interview</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Teacher interview</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>
Q55. Please indicate the frequency with which you administer the following types of measures when receiving referrals for a possible emotional disturbance.

If you work as part of a team, please only rate those methods YOU employ or for which you are responsible:

<table>
<thead>
<tr>
<th>Measure</th>
<th>Always</th>
<th>Often</th>
<th>Sometimes</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive ability measure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic achievement measure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neuropsychological based evaluation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adaptive behavior rating measure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Behavior rating measure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attention Scale</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxiety Scale</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression Inventory</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Projective measure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q56. How would you describe your level of involvement in the following activities before a student is referred for Special Education services due to a possible Emotional Disturbance?

<table>
<thead>
<tr>
<th>Activity</th>
<th>Always</th>
<th>Often</th>
<th>Sometimes</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Based Intervention</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Functional Behavior Analysis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consultation with Teacher</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q57. How often do you provide the following interventions/services for children receiving special education support for an Emotional Disorder and/or due to a diagnosis of a mood disorder (e.g., Depression, Bipolar)?
<table>
<thead>
<tr>
<th>Task</th>
<th>Always</th>
<th>Often</th>
<th>Sometimes</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitor effects of prescribed medication(s)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Consult with student's doctor</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Provide social skills training for student</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Provide caregiver support</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Develop behavior modification plans for home use</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Develop behavior modification plans for school use</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Consult with teacher concerning ongoing instructional strategies and academic accommodations</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Consult with teacher to implement and monitor effectiveness of behavior modification plans.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Provide individual counseling for student</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Provide small group counseling/support for student</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Q58. Please select the types of training you have received for the following areas of concern:

<table>
<thead>
<tr>
<th>Training Type</th>
<th>Emotional Disturbances</th>
<th>PBD</th>
<th>Bipolar Disorder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formal course work in training program.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Internship or residency experience.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Workshop presentation or inservice training.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
Q59. How would you describe your preparedness in adequately providing the following services for students with an Emotional Disturbance:

<table>
<thead>
<tr>
<th>Service</th>
<th>Not Prepared at All</th>
<th>Minimally Prepared</th>
<th>Somewhat Prepared</th>
<th>Very Prepared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher Consultation</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Parent Consultation</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Special Education Assessment</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Academic Intervention</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Behavior Intervention</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

Q60. Although mood disorder diagnoses typically are not provided by School Psychologists within school systems, how would you describe your level of confidence to do the following:

<table>
<thead>
<tr>
<th>Task</th>
<th>Not At All Confident</th>
<th>Somewhat Confident</th>
<th>Confident</th>
<th>Very Confident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify the signs and symptoms of PBD</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Make a differential diagnosis between PBD and other disorders</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Knowledge of current medications used to treat childhood mania</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Knowledge of current medications used to treat childhood depression</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>
Appendix B

Initial Contact

Dear Practitioner,

You have been selected from a group of school psychologists to participate in a national study on emotional disturbances in general and pediatric bipolar disorder (PBD) in particular. In order to gather research necessary to encourage the attention due this topic, your assistance is requested. We are asking for your help in providing information about the state of progress in the areas of PBD assessment, intervention, and professional training.

Please take a few minutes to visit the survey home page (http://pediatricbipolardisorder.questionpro.com). You will be taken to the home page of the survey where you can read more about the data collected and the methods for doing so. Your response is welcomed and appreciated.

Please note your completion of the survey will result in a donation of $2.00 toward the goal of raising $750.00 for the National Association of School Psychologists Children’s Fund (http://www.nasponline.org/about_nasp/childrens-fund.aspx).

If you have any questions about this study, please contact lead investigator Jeff Trotter at jstrotter@anderson.edu or the faculty advisor David E. McIntosh at demcintosh@bsu.edu.

We sincerely appreciate your assistance.

Jeffrey S. Trotter, Ph.D. Candidate
Lead Investigator, Ball State University

David E. McIntosh, Ph.D.
Faculty Advisor, Ball State University
Appendix C

Participation by State and NASP Region

<table>
<thead>
<tr>
<th>State</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arkansas</td>
<td>1</td>
</tr>
<tr>
<td>California</td>
<td>3</td>
</tr>
<tr>
<td>Connecticut</td>
<td>15</td>
</tr>
<tr>
<td>Florida</td>
<td>54</td>
</tr>
<tr>
<td>Georgia</td>
<td>12</td>
</tr>
<tr>
<td>Illinois</td>
<td>6</td>
</tr>
<tr>
<td>Indiana</td>
<td>3</td>
</tr>
<tr>
<td>Louisiana</td>
<td>3</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>6</td>
</tr>
<tr>
<td>Maine</td>
<td>5</td>
</tr>
<tr>
<td>Nebraska</td>
<td>6</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>15</td>
</tr>
<tr>
<td>New Mexico</td>
<td>1</td>
</tr>
<tr>
<td>New York</td>
<td>23</td>
</tr>
<tr>
<td>Ohio</td>
<td>23</td>
</tr>
<tr>
<td>Oregon</td>
<td>1</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>22</td>
</tr>
<tr>
<td>Virginia</td>
<td>14</td>
</tr>
<tr>
<td>Washington</td>
<td>18</td>
</tr>
<tr>
<td>Wyoming</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>239</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NASP Region</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central</td>
<td>38</td>
</tr>
<tr>
<td>Northeast</td>
<td>86</td>
</tr>
<tr>
<td>Southeast</td>
<td>82</td>
</tr>
<tr>
<td>Western</td>
<td>33</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>239</strong></td>
</tr>
</tbody>
</table>
Appendix D
First Follow Up Contact

Dear Practitioner,

Several days ago you received an email requesting your participation in a national study of the opinions and practices of school psychologists evaluating children with a possible Pediatric Bipolar Disorder (PBD) identification.

*If you have already completed the survey, please accept our sincere thanks. Your participation has resulted in a donation to the NASP Children’s Fund.*

If you have not yet participated, we are asking for your help in providing information about the state of progress in the areas of Emotional Disturbances as well as PBD assessment, intervention, and professional training. *Your participation is critical for a representative study.*

Please visit the survey home page ([http://pediatricbipolardisorder.questionpro.com](http://pediatricbipolardisorder.questionpro.com)). On the home page you can read more about the data collected and the methods for doing so.

Your completion of the survey will result in a donation of $2.00 toward the goal of raising $750.00 for the NASP Children’s Fund ([http://www.nasponline.org/about_nasp/childrens-fund.aspx](http://www.nasponline.org/about_nasp/childrens-fund.aspx)).

If you have any questions about this study, please contact lead investigator Jeff Trotter at jstrotter@anderson.edu or the faculty advisor David E. McIntosh at demcintosh@bsu.edu.

We sincerely appreciate your assistance.

Jeffrey S. Trotter, MA
Lead Investigator, Ball State University

David E. McIntosh, Ph.D.
Faculty Advisor, Ball State University
Appendix E
Second Follow Up Contact

Dear School Psychologist,

I want to invite you one last time, to participate in a survey concerning the opinions and practices of school psychologists evaluating children with a possible Emotional Disturbance. In particular I am interested in your thoughts about Pediatric Bipolar Disorder.

*If you have already completed the survey, please accept my sincere thanks. Please know you will not receive another email after today unless you requested our study results.*

If you have not yet participated, please visit the survey home page where you can learn more about the data collected and our methods: ([http://pediatricbipolardisorder.questionpro.com](http://pediatricbipolardisorder.questionpro.com)). The survey has taken most participants about 15 minutes to complete.

As a way of saying “thank you” for spending your valuable time to help me, I will donate $2.00 to the NASP Children’s Fund ([http://www.nasponline.org/about_nasp/childrens-fund.aspx](http://www.nasponline.org/about_nasp/childrens-fund.aspx)) for every survey completed.

If you have any questions about this study, please contact me, the lead investigator, at jstrotter@anderson.edu or the faculty advisor David E. McIntosh at demcintosh@bsu.edu.

I am very grateful for your help.

Jeffrey S. Trotter, MA
Lead Investigator, Anderson University

David E. McIntosh, Ph.D.
Faculty Advisor, Ball State University