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ATTACHMENT, SOCIAL SUPPORT COMPETENCIES, AND VULNERABILITY TO AFFECTIVE SYMPTOMATOLOGY AMONG ADOLESCENT OFFSPRING OF BIPOLAR DISORDER PARENTS

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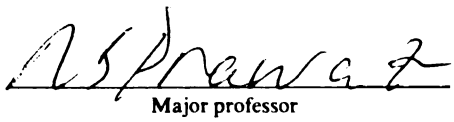

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By

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ABSTRACT

ATTACHMENT, SOCIAL SUPPORT COMPETENCIES, AND VULNERABILITY TO AFFECTIVE SYMPTOMATOLOGY AMONG ADOLESCENT OFFSPRING OF BIPOLAR DISORDERED PARENTS

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This study proposed and examined a process by which quality of attachment to parents influences vulnerability for affective symptomatology in offspring of parents with bipolar disorder. A path model was tested wherein three social support competencies - perceived social support, social self-efficacy, and fear of negative evaluation - mediate this relationship. I pursued the idea that secure attachment to parents, in contrast to insecure attachment, guides at-risk offspring to employ constructive assistance-seeking strategies and to evaluate social support in ways that reduce their risk for affective symptomatology. A review of the literature on the process in which secure attachment promotes social support competence that guides the at-risk adolescent to successfully access, recognize, and utilize support from important others during times of stress supports this idea. Self-report measures of attachment bonds to father and mother, perceived social support, social self-efficacy, fear of negative evaluation, and affective symptomatology were completed by adolescents who have a parent diagnosed with bipolar disorder. Results did not support the proposed mediational model; however, other relationships among attachment bonds, social support competency measures, and affective symptomatology were demonstrated. Implications for how findings advance current understandings about protection from risk in this population are discussed. Limitations of the study are noted and directions for future research are addressed.

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INTRODUCTION

It has been well established that being raised by a parent with an affective disorder places a child at risk for a number of psychiatric and psychosocial problems (see reviews by Beardslee, Versage, & Gladstone, 1998; Downey & Coyne, 1990; Goodman & Gotlib, 1999). In the last two decades, heightened interest in the children of affectively disordered parents has resulted in an extensive empirical literature base documenting particularly higher rates of mood disorders and impaired familial and peer relationships (Cytryn, McKnew, Bartko, Lamour, & Hamovit, 1982; Hammen, Burge, Burney, & Adrian, 1990).

Within the large body of literature on risks for children raised by parents with affective disorders there has been an overwhelming focus on children of depressed parents. Relatively few studies examine children who have experienced both parental depression and parental mania despite an alarming prevalence of manic-depression or bipolar disorder among adults and adolescents[1]. In a comprehensive study of mortality and disability from diseases, injuries, and risk factors conducted in 1990 and projected to 2020, bipolar disorder was ranked as the sixth leading cause of disability across physical and psychiatric disorders (Murray & Lopez, 1996). When bipolar parents and their offspring are studied, the data are most often collapsed with data from children of depressed parents with far fewer offspring of bipolar disordered parents included. While the disorders often share some symptoms of depression, their etiology, course, and treatment often differ. Nevertheless, a modest but provocative literature on the offspring of bipolar disordered parents exists and indicates that the disorder represents unique

[1] The terms bipolar disorder and manic depression are used interchangeably in the literature.

challenges for offspring. The current study seeks to examine offspring characteristics and coping processes that may render some offspring more or less vulnerable to affective disturbance.

Bipolar Disorder

Bipolar I disorder (BPD), a mood disorder, is typically a lifelong, episodic condition. The central feature of the disorder is that two kinds of mood episodes of differing polarity —major depressive and manic episodes—reoccur and are interspersed over time with periods of well-being. Bipolar depression is typically manifested by the following symptoms: sleep disturbance, lethargy, inertia and guilt associated with inertia, decreased interest and motivation, a pessimistic view of self, others, and the future, indecisiveness, diminished sense of competence and heightened sense of hopelessness, crying, and social withdrawal. During a depressive episode, oversensitivity to rejection or criticism is common. Persons with bipolar disorder often have difficulty distinguishing between real rejection or criticism and their own cognitive distortions – sometimes able to recognize intellectually that others' behavior was not intended to be rejecting or critical, but unable to inhibit or reduce their strong emotional reaction (e.g., sadness, guilt, embarrassment, or anger) to that behavior. Social withdrawal is common during depressive episodes. In contrast, the predominant mood of mania may be characterized as elevated, expansive, and irritable, and angry outbursts can occur. Mania is expressed through hyperactivity, flight of ideas, aggressiveness, and inflated self-esteem or grandiosity that often results in a proliferation of new ideas and projects and excessive or obsessive involvement in activities. While manic, individuals can flee unexpectedly (i.e., take spontaneous trips, disappear and reappear without explanation). Sleep disruption is

common and can cause a bipolar to feel exhausted but unable to slow down their thoughts or physical energy and drive enough to fall asleep. The lack of sleep can initially lead to more time for adventurous activity. However, unable to maintain the positive benefits of little sleep, irritability and paranoia take the place of euphoria; behavior becomes increasingly disorganized and thinking becomes confused. Problem-solving abilities are substantially diminished during episodes of both depression and mania.

Parental Bipolar Disorder and Offspring Vulnerability

Genetics. A genetic transmission hypothesis is implicit in most studies of offspring vulnerability to mood disorders. In bipolar disorder, genetics establishes risk. Trait markers of genetic liability are being actively researched but have yet to be identified. So, while direct tests are not yet available, family studies, twin studies, and adoption studies provided an indirect means of testing the genetic hypothesis.

For a person who has a parent with BPD, the risk of developing bipolar disorder at some time in his or her life is approximately 12% and the risk of developing recurrent major depressive disorder is also 12% (Rush, Cain, Raese, Stewart, Waller & Debus, 1991; Todd et al., 1996). Thus, there is an approximately 24% chance of a serious recurrent mood disorder of some kind in each offspring of a parent with BPD compared to approximately 1% in non-bipolar families (Lewinshon, Klein, & Seeley, 1995; Weissman, Leaf, & Tischler, 1988). When other affective disorders (e.g., cyclothymia, dysthymia) and subclinical levels of depression are considered, rates increase to as great as 63% (Cytryn et al., 1982; Gershon et al., 1985; Grigoroiu-Serbanescu, Christodorescu, Jipescu, Totoescu, Marinescu, & Ardelean, 1989; McKnew, Cytryn, Efron, Gershon, &

Bunney, 1979). Davenport, Adland, Gold, & Goodwin (1979) reported that 10 of 36 children in families with BPD in two generations or more developed bipolar disorder.

Although the biological transmission of affective illness across generations is supported, Beardslee et al. (1998) noted that even strong proponents of the genetic hypotheses maintain that the environment and its interaction with genetic predisposition must not be overlooked. There is little question that parental depression negatively affects the social-emotional environment within which children develop and that this, in turn, increases a child's risk for developing unipolar depression (see review by Goodman & Gotlib, 1999). Regarding bipolar disorder, genetic vulnerability is undeniably salient in its *etiology* but does not account fully for individual differences in the expression and maintenance of disturbance. For both unipolar depression and bipolar disorder, social and environmental factors are thought to explain the portion of variance not accounted for by genetic transmission and are widely considered to evoke or protect against genetic vulnerability.

Parenting deficits associated with BPD. Anthony (1975) was the first to describe impairments in parenting associated with BPD that may place the developing child at risk for depression or other social-emotional problems. Anthony described problems such as: a) taking but refusing to give, b) having little awareness of others and consequently little ability to empathize with them, and c) having an impoverished capacity to foster stable, secure attachment behaviors and emotional bonds with the child because of the parent's own dependency needs. Davenport et al. (1979) was the first to describe features of families with bipolar (manic-depressive) parents. These authors described several factors that influence the maintenance of pathology through generations, including the following:

avoidance of affect by family members (emotions are threatening), absence of intimate relationships apart from the family, displaced parental low self-esteem, and fears and defensive behavior related to illness heritability. In a follow up study, Davenport et al. (1984) reported that bipolar mothers were more overprotective but less attentive to their children's health needs and reported more negative affect toward the child. The authors reported that these mothers were disorganized, less active with their children, and more unhappy, tense, and ineffective. Bipolar parents also reported lower scores than controls in the areas of family interaction and social adjustment. Zahn-Waxler et al. (1984) hypothesized that problems in parent-child bonding occur in families where BPD exists because of a lack of parental consistency and stability.

Impact of parental BPD on offspring. The consequences for children exposed to parental BPD were studied primarily during the 1970's and 1980's. Problems of affect regulation and interpersonal relatedness dominate the small but thought-provoking literature. Anthony (1975) argued that children in these conditions suffer inconsistency in their emotional upbringing. He suggested that mood dysregulation may be a likely result if the child becomes enmeshed in the ever-shifting moods of the BPD parent. He also noted that problems of identification with the ill parent can arise, and there may be a tendency for offspring to become "magic helpers" constantly offering assistance to parents to make up for self-felt deficiencies.

Mayo, O'Connell, and O'Brien (1979) studied 22 offspring of BPD parents and found that 10 developed separation-anxiety. Twelve nonsymptomatic high-risk children were preoccupied with the health of their families. Cytryn et al. (1982) reviewed clinical and experimental studies of offspring of parents with affective illness, including those

with parents with BPD, spanning infancy, childhood, and early adolescence. These authors found a clear tendency toward early disturbances in the areas of affect regulation and social interaction. Gaensbauer et al. (1984) studied social and affective development in infants with a bipolar parent. These infants demonstrated disturbances in the quality of their attachments and problems regulating their emotions adaptively. Zahn-Waxler et al. (1984) also examined the social and emotional functioning of young offspring of manic-depressive parents. They reported difficulties in maintaining friendly social interactions, in sharing, and in helping playmates. The children studied had specific difficulty modulating hostile impulses. The authors suggested that experiencing the ill parent's emotional extremes in sadness, excitability, and irritability makes such disregulation of affect likely for offspring. Furthermore, the authors noted that the interpersonal and emotional problems of the offspring were similar to those of their parents. These children were followed and reported on four years later; patterns of maladjustment that had been identified earlier were evident at the four-year follow up. The children had more difficulty than controls with insight, empathy, establishing relationships, and regulating affect. Radke-Yarrow et al. (1985) studied the children of 14 BPD mothers and found that they had twice the level of insecure attachment than children of controls. The authors noted consistencies between this study and others that evidence both genetic and environmental influences on offspring development for children of parents with BPD. They, too, attributed offspring difficulties to "contrasting extremes and alterations" in the behavior of the bipolar parent.

Taken together, this literature suggests that experiencing the emotional inconsistency and shifting availability of a parent with BPD increases a child's risk of

certain adverse consequences. The children studied had trouble modulating their own mood and had specific problems with insight into their own behavior, sharing, regulating hostility, and demonstrating empathy. These deficiencies were linked to early difficulties establishing positive parent and peer relationships.

Aim of the Current Study

The focus of the research described above was primarily on young children but the findings have implications for social-emotional development beyond the early childhood years. That is, from a developmental perspective, early close relationships frame a child's subsequent transactions with his or her social world. Childhood difficulties establishing helpful, close bonds with principal caretakers have been linked to adolescent problems with self-esteem and depression, as well as to the use of less adaptive (problem-solving) coping strategies (e.g., seeking outside help in times of need) during adolescence (Armsden & Greenberg, 1987; Greenberg, Seigal, & Leitch, 1983). Such problems are thought to develop in large part because when one has early difficulty establishing close bonds, he or she tends to form subsequent relationships that are not supportive and are easily disrupted (Carlson & Sroufe, 1995).

Unfortunately, empirical research investigating the adolescent functioning of those young children involved in the initial offspring studies described above has not been reported. Furthermore, attempts to understand the impact of parental BPD on adolescent psychological functioning have not progressed beyond documenting rates of offspring psychopathology[2]. Although provocative, studies that simply correlate parental BPD with adolescent disturbance leave some important questions unanswered. For example, what enables some at-risk adolescents to fare better than others? Many children

who grow up with mentally ill parents, including those with parents who have BPD, adapt successfully despite significant adversity. Furthermore, are there certain person-characteristics that serve to buffer individuals from the negative consequences of parental BPD? The answers to these questions are undoubtedly complex and multifaceted. Nevertheless, research that directly addresses risk and protective factors for adolescent offspring is needed so that interventions to reduce psychopathology can be developed. Even in the extensive literature base on children of depressed mothers, explanations of why some children are able to withstand significant parental emotional disturbance without developing symptoms themselves remain understudied (Goodman & Gotlib, 1999). If progress in treating and preventing adolescent mood disturbance related to parental BPD is to be made, a move to more sophisticated, process-oriented explanations of resilience is necessary. One important next step is to explore individual differences that may reduce vulnerability. The current study represents such a step.

The present study used a process-oriented conceptual model - John Bowlby's attachment theory (1969, 1980, 1988) - to investigate a set of characteristics and associated coping strategies that may render some adolescent offspring more resilient than others. Attachment researchers have demonstrated that for adolescents, parental attachment relationships explain a moderate amount of variability in outcome measures of emotional adjustment (Armsden & Greenberg, 1987; Greenberg, Siegel, & Leitch, 1984). Despite a growing consensus that parental attachment plays a significant role in reducing vulnerability to affective psychopathology, virtually no empirical data clarifying the explanatory mechanisms underlying this relationship are available. To address this

[2] Mood disorders are the most prevalent form of psychopathology for this population.

limitation, the current study investigates a path model for understanding offspring resilience using a sample of adolescents who have experienced parental bipolar disorder.

LITERATURE REVIEW

Attachment Theory: A Framework for Examining Vulnerability to Affective Symptomatology

Attachment theory has been used as a framework for explaining adaptational risks for children exposed to parental illness, in particular risks for affective disturbance (Bowlby, 1969, 1973, 1980; Cummings & Cicchetti, 1990). In the past decade the theory "has gained increasing theoretical and research attention for its heuristic value in explaining how parental closeness can serve as a protective buffer and source of security throughout adolescence" (Kenny, Moilanen, Lomax, & Brabeck, 1993, p. 409). Before elaborating on links between attachment bonds and affective symptomatology, the relationship between attachment and social-emotional development is reviewed.

The Theory

Attachment is generally defined as an important enduring emotional bond of substantial intensity. Bowlby's (1969) attachment theory emphasizes bonds that develop between an infant and one or more caregivers as the first manifestation of the *attachment system* – a behavioral system that serves to protect the child and promote survival. Recently the theory has been used to guide research that describes emotional and psychological disturbances that can result at any age from the actual or threatened disruption of attachment bonds.

The essence of the theory is that human beings exhibit greater social and emotional adjustment when they have confidence in the accessibility and responsiveness

of a trusted other or *attachment figure*[3]. Two major dimensions of attachment have been suggested (Parkes & Stevenson-Hinde, 1982): a) the cognitive-affective dimension, defined as the underlying quality of affect toward attachment figures, and b) the behavioral dimension, defined as the utilization of these figures for support in times of stress and need.

The core assumption of attachment theory is that maintaining relatedness to others is a universal and fundamental survival need. Rooted in infancy, the attachment system is activated under conditions of "felt distress"; caregiver responses under these conditions determine not only the infants' physical safety but also his or her inner sense of security. As the child develops, organized patterns of behavior emerge to regulate proximity to attachment figures and maintain attachment bonds. As cognitive capacities increase, experiences with caregivers are organized into "internal working models" (IWMs) of the self and the attachment figure. These models guide expectations of self and others in relationships and contribute to one's developing sense of relational competence. Consequently, IWM's influence one's selection of coping strategies for dealing with stress, family stress in particular[4].

Mary Main (1990) described the attachment system as "context sensitive"; that is, different organizations and types of behavior are required to maintain proximity to caregivers depending on the anticipated availability of the caregiver. Sensitive, consistent patterns of caregiver responsiveness early in life tend to produce securely attached infants. With a foundation of a "secure base" in others, securely attached

[3] Attachment figures are most often parents, therefore the current study focuses primarily on parent-adolescent attachment relationships and secondarily on peer-adolescent attachment relationships.

children move out into the world, pursue new experiences and relationships, and feel confident they can return to find attachment figures supportive if they are needed (Bowlby, 1988). With secure attachment as a base, children spend more and more time exploring the environment and tolerating separation from caregivers with less distress (Ainsworth, 1989). When they do feel threatened, securely attached children communicate with attachment figures in ways that promote responsiveness (Cassidy, 1994). In turn, fears and stress are sufficiently alleviated so that exploration of the environment continues. Repeated positive experiences of seeking and receiving assistance from attachment figures when distressed instills confidence or "felt security" in the accessibility of one or more trustworthy others who can be relied upon to help regulate future distress. Over time, this confidence becomes internalized – securely attached children incorporate lessons learned from the reliable, sensitive caregiving of attachment figures and develop the capacity to effectively regulate their own emotions. As they become increasingly skilled socially, children learn to balance interpersonal dependence and independence. Having used their primary caregiver as a "secure base," securely attached infants demonstrate more enthusiasm, positive affect, and persistence in problem-solving situations as toddlers (Matas, Arend, & Sroufe, 1978) and respond more flexibly, persistently, and resourcefully in preschool (Sroufe, 1983). During middle childhood and adolescence, individuals with secure attachment histories show less negative reactions to periods of high family stress (Pianta, Egeland, & Sroufe, 1990; Sroufe, Levy, & Carlson,1998).

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[4] Stress results from an appraisal that the demands of a situation exceed one's resources. Here, it specifically refers to threats to the survival of the attachment bond, and, ultimately, to the survival of the individual.

In contrast, an insecure attachment orientation develops when caregivers are unresponsive, inconsistent, interfering, or when they insufficiently or inaccurately read and respond to the child's signals. In these environments, the child is more likely to develop a sense of self as unworthy of care and/or a model of important others as uncaring or undependable. Emotional reactions to insensitive caregiving can be intense (e.g., anger, rage, despair). Behavioral reactions range from detachment to hypervigilence toward the signals of the attachment figure, depending upon the child's subjective experience of others. On one hand, when children experience attachment figures as consistently *inaccessible*, motivation to continue help seeking diminishes. Warm behaviors that promote emotional intimacy fade over time. As hopelessness and emotional detachment increase the likelihood that the child will effectively communicate future needs to helpful others diminishes. On the other hand, if children experience caregivers as *unpredictable*, the child may become hypervigilant to the attachment behaviors (or lack there of) of important others to capture whatever attention may be available. Despite a strong desire for close relationships, these individuals are ambivalent about the trustworthiness of important others. A tendency to worry excessively about being evaluated and rejected makes it more difficult for the insecurely attached to establish healthy, supportive relationships. Interestingly, the tendency to inhibit or exaggerate emotions (Izard, Haynes, Chisholm, & Baak, 1991) may mirror the affective system of the attachment figure.

Internal working models. Although attachment is initially behavioral (i.e., parent-child interaction), models of self and other develop attachment experiences gradually become internalized cognitively by the child. Though models are progressively

constructed and are modifiable in response to significant changes in circumstances, mental models grow increasingly firm over time as our ability to seek, shape, and interpret experience converges with a tendency to view situations in ways that conform with prior experience. IWMs may therefore be conceptualized as "interpersonal schemas" (Safran, 1990) that guide how individuals interpret stressful interpersonal events. As a young child experiences repeated relational success via coordinated emotional communication with attachment figures (e.g., "If I show Mom that I am frightened, she will help me feel less so") working models of self and important others gradually begin to serve as a lens through which one views the relational behavior of important others. This lens focuses attention, filters information, and guides responses to stress, often operating at an unconscious level (Bowlby, 1988). Accordingly, as the young child develops, he or she becomes a more active force in the parent-child relationship. He or she begins choosing which relationships to seek out and the manner in which he or she participates in these, depending upon the degree to which they meet emotional needs. Children with negative models of self and/or others spend valuable time focused on their interaction with attachment figures to reduce distress. This distraction impedes opportunities to build relational skills. Dysfunctional personal schema are, consequently, more likely. For example, repeated unsatisfying experiences with caretakers can lead to the self-view that one is not capable of establishing fulfilling relationships (Bowlby, 1980). Despite longing for helpful, trusting interpersonal connections, the insecurely attached child anticipates and becomes hypersensitive to inconsistency and rejection. This makes him or her more likely to interpret subsequent interpersonal stress as threatening and respond accordingly. Unfortunately, these children

not only expect rejection from others but actually are often rejected by them (Sroufe, 1983).

Conversely, securely attached infants are likely to be less aggressive, and more cooperative, sympathetic, and competent in play when they are older (Ainsworth, 1983). Securely attached school-age children are more competent in their relationships with peers and adults, less fearful of strangers, and less prone to behavior problems (e.g., social withdrawal and anxiety) and dependent upon adults (Erickson, Sroufe, Egeland, & Byron, 1985; Sroufe, 1983). During adolescence, while attachment behavior is often directed toward non-parental figures, the ability to develop new supportive relationships continues to be significantly influenced by beliefs about one's relational competence brought forward from early parent-child relationships (Weiss, 1982). Although adolescence may be marked by periods during which parent accessibility is not necessary for adolescent "felt security," confidence in parental commitment remains crucial. During this time the actual presence of the attachment figure may become less important than the perceived adequacy of attachment relationships. In a study of late adolescence, internal representations of the quality of early childhood attachments significantly related to affect regulation and representations of self and others (Kobak & Sceery, 1988). Securely attached adolescents are rated by peers as being more ego-resilient, less anxious, and less hostile than less securely attached adolescents.

Hence, by adolescence, secure attachment can be conceptualized as a constructive interpersonal schema characterized by: a) a positive, coherent view of self that allows the adolescent to encapsulate stress and prevent it from spreading to the entire self-structure; b) an optimistic attitude toward others and problems such that stressful interpersonal

events are appraised in benign terms, enabling more constructive coping strategies to be employed; and, c) cognitive flexibility which permits one to revise schemas with new information and adapt to environmental change. Such a positive cognitive schema makes depression less likely according to cognitive models of depression (Beck, 1967). Empirical research indeed demonstrates that secure attachment during adolescence reduces risk for depression and other forms of psychopathology in general adolescent populations (Armsden, McCauley, Greenbery, Burke, & Mitchell, 1990; Kobak, Sudler, & Gamble, 1991) and, more specifically, for adolescents exposed to parental depression (Downey & Coyne, 1990).

Attachment Bonds, Parental BPD, and Resilience

Imagine the experience of a child whose bipolar-disordered parent fluctuates between periods of over-involvement to times of marked withdrawal from them. During a manic episode, the parent may become significantly more dramatic and grandiose about his or her self-presentation, obsessive about normally inconsequential matters, and significantly more intrusive and controlling of others in his or her immediate social space. Mania may then give way to depression, wherein the parent becomes self-absorbed, disinterested in the activity or behavior of the child, and overwhelmed by feelings of insecurity and beliefs that they are incapable of helping the child. Under these circumstances, how the child construes the situation and copes with this relationship instability should significantly impact his or her own vulnerability to affective disturbance. Attachment security acts as an inner resource to facilitate successful coping. A child with a secure attachment history is more likely to deal with distress by acknowledging it and then will appraise stress, and the efforts required to reduce it, as

manageable. He or she is more likely to enact active, constructive coping strategies, such as turning to others for support. Because the securely attached child carries an underlying sense of trust in self and others he or she is less likely to engage in self-blame or become hostile towards attachment figures. He or she is also more likely to view the self as resourceful and others as helpful. In addition, individuals with secure attachments have a higher tolerance for unpredictability, disorder, and ambiguity. This would be particularly beneficial for children exposed to parental BPD – cognitive flexibility should render one less distressed by unpredictable emotional episodes than individuals with more rigid cognitive schemata. For instance, for those who experience dramatic parental mood shifts, rules for coping behavior that hold in one affective state don't necessarily hold in the other (Pound, 1991). In this way, a secure attachment history would enable some offspring to endure parental mood swings and to be flexible in responding to changing circumstances. In a study of psychiatrically hospitalized adolescents, including those with affective disorders, Rosenstein and Horowitz (1996) indeed found that attachment organization was "overwhelmingly insecure." These authors suggested that adolescent symptomatology was related to a tendency to focus on the ill parent, inhibited exploratory behavior, and the subsequent failure to develop effective affect regulation strategies.

In contrast, the insecurely-attached child, more sensitive to both rejection and inconsistency and less tolerant of negative affect, is more likely to feel threatened by such parental behavior. More specifically, attachment theory holds that the child who has been unable to establish a sense of attachment security would react to such relational disappointment in one of two general ways -- by either becoming preoccupied with his or

her own feelings or by fiercely turning away from them. In the first case, he or she might ruminate on the negative thoughts and feelings generated by the parent's behavior and focus on memories of similar experiences. Plagued by a sense of helplessness and alienation, distress may be overwhelming and may spread to other areas of life (e.g., school performance, peer relationships). Intense emotional distress may continue even after the actual threat has terminated (e.g., during a period in which the BPD parent is functioning well). This child is more likely to cope by intensifying efforts to get the BPD parent to comfort him or her during periods of the illness when the parent is incapable of doing so rather than accessing more useful support-providers (e.g., the undiagnosed parent). In the second case, the insecurely attached child might exhibit a more defensive style, emphasizing the untrustworthiness of significant others. This child would likely prioritize maintaining distance from potentially helpful others and would minimize overt expressions of distress; both of which make it less likely that needed support is obtained. Furthermore, such defensiveness is typically accompanied by an underlying sense of anxiety. In the long run, this makes it more difficult for the defensive (insecurely attached) child to mitigate pain associated with parental affective episodes.

However, the negative effect of such variable parental emotionality would conceivably be less if other attachment figures are available or when the child's environment otherwise provides a sense of stability. Offspring are more likely to develop a sense of trust in others and, in turn, a sense of self as resourceful if structures and resources in the home are effective in: a) alleviating stress for family members and the ill parent; and, b) for providing stability for the children. Given such circumstances, the risk for developing affective psychopathology should be less than when the environment is

compromised by parental psychopathology. Secure attachment enables one to realistically evaluate attachment-related experiences and develop relational competence so that during periods of parental unavailability, alternative sources of support are sought and utilized to alleviate distress. In contrast, when instability is prominent and other attachment figures are unavailable, offspring vulnerability to psychopathology should be highest because there are fewer opportunities to develop relational competence (e.g., accurately reading behaviors, particularly emotional, of others) that might buffer them from future stress. Insecure attachment strategies may seem adaptive when sensitive caregiving is compromised; however, the long-term consequences (e.g., inability to develop close, positive relationships in the future) are a diminished sense of personal resourcefulness/control that would likely exacerbate risk for affective psychopathology.

A specific example demonstrates how secure attachment, in contrast to insecure attachment, might protect a child from the negative effects of parental BPD. Envision a manic parent over-reacting to an expression of sadness from a child who misses a friend that has recently moved to another town. The manic parent might dramatize the sadness, ridicule the child to others, propose unreasonable solutions for seeing the missed child, and/or become irritable, dismissing the child's feelings. Alternatively, during an episode of depression the BPD parent might respond by intense crying, verbally obsess about additional losses in their own or the child's life, or express feelings of helplessness and withdraw. If the child has been able to achieve a sense of security within their attachment relationships, he or she is equipped with a sense of social competence and corresponding tendency to effectively access, recognize, and utilize social support; this renders him or

her less likely to be disappointed by the parent's reaction and less likely to internalize the response as rejection.

Although the adolescent children of BPD parents have not been empirically studied, young offspring have been. These studies (described earlier in this review) demonstrate that secure attachment indeed buffers young offspring from developing affective symptomatology. These studies, and those in the more general adolescent literature suggest that adolescent offspring of BPD parents are at greater risk for affective disturbance if they have a history of insecure attachment relationships. However, the correlational nature of the existing data do little to *explain* the relationship between attachment and affective disturbance for at-risk children. Empirical identification of the mechanisms linking attachment and affective symptomatology in this population would strengthen the theoretical model of attachment and depression, would increase understandings of parental BPD and offspring vulnerability to affective symptoms, (Cummings & Cicchetti, 1990) and may extend to other models linking parental behavior and offspring resilience.

For the current investigation, a comprehensive literature review revealed three potential mediators of the relationship between attachment and affective symptomatology: 1) perceived social support, 2) social self-efficacy, and 3) fear of negative evaluation. Additionally, there is support for examining the moderating role that the non-diagnosed parent may play in reducing vulnerability.

Perceived Social Support

Perceived social support (PSS) refers to a generalized appraisal that individuals develop in which they believe that they are cared for and valued, that significant others

are available to them in times of need, and that they are satisfied with the relationships they have (Procidano & Heller, 1983). Perceptions are initially developed through early close relationship experiences (Sarason, Pierce, & Sarason, 1990); parental attitudes towards a child and the behavior associated with them gradually become incorporated by the child into generalized expectations about the supportiveness of others and one's own support worthiness. As such, PSS tends to be relatively consistent across time even when individual social circumstances change (Sarason et al., 1986; Sarason, Sarason, & Shearin, 1986). Children whose parental relationships have been supportive and well matched to the child's needs develop optimistic expectations about the willingness of others to provide support. In contrast, children whose needs for support are not met in such a way develop a general view of others as unwilling or unable of meeting their needs for support (Coble, Gantt, & Mallinckrodt, 1996). In this way parental support influences cognitive schemata regarding the self (e.g., I am worthy of support and valued by others) and the availability of supportive relationships (e.g., that others wish to be of help). Persons are more likely to develop confidence in their own abilities to manage relational distress if they believe that social support exists. In an empirical study of the relationship between adolescent PSS and models of self and other, Blain, Thompson, and Whiffen (1993) demonstrated that secure attachment was associated with high levels of perceived social support from family and friends.

PSS is also associated with vulnerability to affective disturbance. Research demonstrates that an inverse relationship exists between PSS and depression and between PSS and manic-depression; higher levels of support correlate with lower levels of symptomatology (O'Connell, Mayo, Eng, Jones, Gabel, 1985; Stefos, Bauwens, Staner,

Pardoen, & Mendlewics, 1996; Johnson, Winett, Beyer, Greenhouse, & Miller, 1999). Moreover, while the link between PSS and vulnerability to affective symptomatology is not clearly understood, one explanation may be that perceptions of social support influence physiological processes (e.g., cardiovascular functioning, immune functioning) (Uchino, Cacioppo, & Kiecolt-Glaser, 1996); this is particularly intriguing given the biological foundation of bipolar disorder.

For children of affectively ill parents, Beardslee and Podorefsky (1988) maintained that interpersonal relationships can protect offspring from developing their own symptoms. A deep commitment to relationships in particular was linked to resiliency. One study specifically examined the role of social support in outcomes for children raised by a parent with BPD. Pellegrini et al. (1986) compared the personal and social resources in children of patients with BPD to those of controls. They found that psychiatric well-being is related to the quality of personal and social resources one has; nondisordered probands demonstrated a strikingly superior profile of personal resources in comparison to disordered probands. Caution is warranted in generalizing from one study, and the retrospective nature of this research prohibits causal interpretations. Nevertheless, the authors' arguments for additional research investigating links between PSS and vulnerability to affective disorders for at-risk adolescents are compelling.

Several studies indicate that a positive relationship with the non-ill parent in particular may buffer the offspring from the negative impact of the ill-parent's affective disturbance. Rutter (1987) specifically emphasized the protective role of the non-disturbed parent in providing a source of support and consistency for offspring of affectively ill parents. This is especially relevant for the current study, as parental BPD is

characterized by mood swings that are typically inconsistent and unpredictable. Similarly, Fisher, Kokes, Cole, Perkins, and Wynne (1987) reviewed the literature on competent children at risk and found that perceptions of support from the non-ill parent characterized well-functioning children of disturbed parents.

To summarize the link between attachment and PSS, confidence in the availability of others during times of need, coupled with the ability to accurately read the signals of others should lead to higher levels of PSS for the securely attached. Children with insecure attachment histories usually have lost confidence that important others are accessible and willing to offer support in times of need (Bowlby, 1973). Furthermore, when those with insecure attachment histories do feel threatened and experience associated negative emotions, they communicate this in ways that are less likely to promote responsiveness from others (Cassidy & Kobak, 1988; Kobak & Sceery, 1988). They also tend to direct heightened distress-related emotions (e.g., desperation, anger, hostility) toward attachment figures, thereby further diminishing the likelihood that helpful others will be available when needed. This cycle should increase vulnerability to affective disturbance as it inhibits environmental exploration and reduces self-confidence in building new potentially supportive relationships (Ainsworth, Blehar, Waters, & Wall, 1978).

Fear of Negative Evaluation.

Included in the notion that working models guide beliefs and expectations about social relationships, one's belief about how they are perceived by others is correlated with the model of self (Sarason, Peirce, Shearin, Sarason, Waltz, & Poppe, 1990) and theoretically linked with parental attachment and risk for affective disturbance. That is,

securely attached individuals value close relationships and hold optimistic beliefs about how others perceive them. They are less sensitive to rejection than those who are insecurely attached and more likely to have emotional needs met through stable, trusting relationships. Because their own views of self and appraisals of how other's view them are more positive, objective, and flexible, persons with secure attachment histories are better equipped to manage relational stress and environmental change (Rosenstein & Horowitz, 1996). Thus, the higher an adolescents' sense of secure parental attachment, the less preoccupied or debilitated he or she should be by the relational stress and environmental change that so often characterizes families with a psychologically-distressed parent.

The often unpredictable parental mood swings and erratic behavior of a bipolar parent make it more likely that offspring will be subjected to negativity and family stress within the home (Hodgins, Faucher, Zarac, & Ellenbogen, 2002) and shame and stigma outside the home (Lefley, 1989; Oestman & Kjellin, 2002). As high anxiety about others' negative evaluations increases risk for depression (O'Connor, Berry, Weiss, and Gilbert, 2002) the adolescent who has been able to develop a strong sense of parental attachment and thus a stronger sense of self will have less apprehension about others' evaluations. This, in turn, should serve to reduce his or her own vulnerability to affective psychopathology.

Social Self-Efficacy (SSE)

One's belief in his or her ability to effect social interaction, or *social self-efficacy (SSE)*, is also linked theoretically and empirically to social competence, attachment and risk for affective disturbance. It has been suggested that deficits (real or imagined) in the

ability to affect others' emotional states contributes to a diminished sense of social competence, namely social anxiety (Vertue, 2003). However, attachment theorists assert that a secure relationship with one or both parents throughout childhood contributes to the development of a positive schemata about one's own social-effectiveness (SSE) (Mallinckrodt, 1992). Coordinated communication and a history of relational successes are incorporated by the child into beliefs about his or her sense of socially competency. The more optimistic one is about his or her ability to impact the outcome of stressful events, the less vulnerable one is to using dysfunctional cognitive processes and, in turn, to developing depression (Beck, 1967). Similarly, Dozier, Stoval and Albus (1999) noted that depression may be linked to a "sense of uncontrollability [for stressful events] on the part of the child (p. 500)." This is particularly relevant for offspring of BPD parents, where intermittent and largely unpredictable mood swings characterize the environment. Among early to middle adolescents, parent attachment was found to be associated with lesser hopelessness and a less externally-oriented locus of control and with greater self-management (coping) skills (Armsden et al., 1987). Cognitive models of depression would benefit from research that elucidates the environmental and familial precursors of the dysfunctional cognitive processes described in current models of depression (e.g., Beck) (Coble, Gantt, & Mallinckrodt, 1996). In one empirical study, Ehrenberg and Cox (1991) found an inverse relationship between social self-efficacy beliefs and depression; however, studies that investigate the underlying mechanism between SSE and psychopathology are rare.

Taken together, PSS, SSE, and FNE are conceptualized in the current study as social support competencies that guide individuals to organize his or her social world in

such a way that risk for affective symptomatology is either increased or reduced. "Competency" refers to both a set of interpersonal relationship skills and experiences and the beliefs [about the relational self and others] that prompt an individual to employ those skills to recruit social support.

Path Model Summary

As described in this review, the attachment system is organized around maintaining proximity to caretakers and, later, to those emotionally close to us. As we develop, affectional bonds that have been established with caregivers widen and change as we enter into other relationships. By adolescence, secure attachment is typified by emotional closeness with several others and trust in their availability and responsiveness. Securely attached adolescents are able to display positive emotions that enhance social interaction and social competence. They are also able to tolerate negative affect while remaining engaged with others (Sroufe, Schork, Frosso, Keroski, & LaFrenier, 1985). It is the argument of the current study that social support competence (high levels of PSS and SSE and low levels of FNE) leads one to engage socially in a manner that should render some at-risk adolescents more resilient to the negative impact of their parent's bipolar illness than those who are less socially competent. PSS, SSE, and FNE are conceptualized here as related but unique elements of social support competence. Each competency is included in the path model under investigation because of its potential to explain variation in the relationship between parental attachment bonds and offspring affective symptomatology. In sum, one's motivation to seek healthy relationships and success in doing so is influenced by these aspects of social support competence that develop from repeated satisfying relationship experiences. The more an individual

perceives that support is available when needed and the more he or she believes they can effect interpersonal interaction, the more likely they are to successfully access and utilize support from others when distressed (e.g., during periods of extreme parental mood fluctuation). Similarly, the more optimistic persons are about their own social status, the less vulnerable they should be to developing anxiety or depression when faced with relational stress.

Summary of the Literature

For offspring of parents with bipolar disorder, the risk for developing affective disturbance is high. Although genetics establishes risk, psychosocial factors impact whether that risk is heightened or attenuated. However, research that addresses just how psychosocial factors influence risk is rare. The development and evaluation of mediational models that demonstrate how these variables exert their influence are needed so that more effective preventative and therapeutic interventions can be developed. Hypothetical links among the variables should be tested, with the most promising models subjected to further experimentation and analysis.

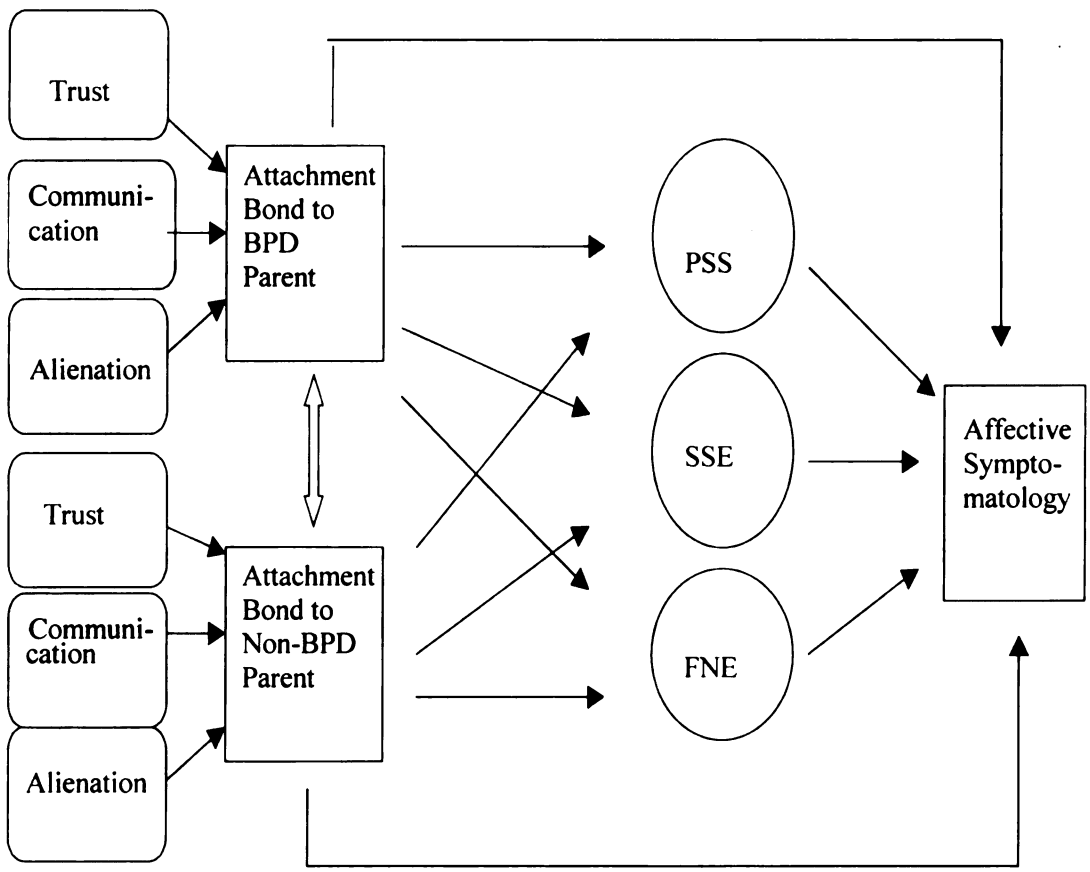
In the current study, theoretical and empirical evidence is presented that supports an investigation of the relationship between quality of parental attachment bonds, aspects of social support competence, and offspring vulnerability for affective symptomatology. This support comes from three main sources: the broad developmental psychopathology literature, an extensive literature on offspring of depressed parents, and the small but persuasive literature on children of BPD parents. Across these bodies of literature, secure attachment, in contrast to insecure attachment, is associated with better outcomes for offspring of parents with affective disturbance. Extant theoretical and empirical research

suggests that parental attachment quality affects the development and deployment of various social support competencies that may function as the means by which affective symptoms are either inhibited or amplified. Rice, Cunningham, and Young (1997) found that the association of parental attachment bonds to emotional adjustment was indeed mediated by social competence in a large sample (N= 630) of Black and White adolescents. Under the stressful conditions associated with having a BPD parent, attachment organization presumably guides the adolescent's expectations of availability of social support (perceived social support) and of their own resourcefulness in accessing and utilizing such support (social self-efficacy). Additionally, secure attachment decreases pessimism and anxiety about how others view the self (fear of negative evaluation). Therefore, in cases where a parent with BPD has been able to call upon supportive others or supportive others have otherwise been available to meet his or her needs for safety and comfort during affective episodes, the child is more likely to develop a sense of others as trustworthy and a sense of self as worthy of care. Trust that attachment figures understand and respect one's needs and that they can be relied upon for help should lead the individual to feel more confident in their own relational capability. This, in turn, renders the individual more likely to seek others under future conditions of stress and to accurately read signs of support from others. In this way, attachment orientation guides the adolescent to actively turn to or avoid others during stressful times. In contrast, adolescents with insecure attachments fear others' evaluations and are less likely to effectively seek or establish support from needed others during times of stress. These individuals are more likely to exhibit anger toward or emotional detachment from attachment figures when attachment bonds are threatened. This, in

combination with their more negativistic attitudes and compromised ability to recognize support when it is available renders them more susceptible to affective symptomatology.

Figure 1 demonstrates the relationship between quality of attachment to parents, social support competence, and affective symptomatology.

Figure 1. A model that describes the relationship between quality of attachment to parents, PSS, SSE, FNE, and affective symptomatology for adolescents of bipolar parents.



HYPOTHESES

I. Adolescecnt Attachment quality differences between attachment to BPD parent and attachment to non-BPD parent.

1) In comparison to the relationship between the adolescent and BPD parent, the relationship between the adolescent and the non-diagnosed parent should reflect a higher degree of secure parent-adolescent attachment.(i.e., higher scores on trust and communication and lower scores on alienation).

II. Relations of parental attachment quality to affective symptomatolgy

1) Indexes of secure parent-adolescent attachment (i.e., higher scores on trust and communication and lower scores on alienation for each parent) will be significantly related to lower levels of affective symptomatology.
2) Indexes of secure attachment between the adolescent and the non-diagnosed parent will moderate the relationship between insecure attachment with the diagnosed parent and affective symptomatology.

III. Relations of parental attachment quality to social support competencies

3) Indexes of secure parent-adolescent attachment (i.e., higher scores on trust and communication and lower scores on alienation for each parent) will be significantly related to social support competence (higher levels of perceived social support and social self-efficacy, and lower levels of fear of negative evaluation).

IV. Relations of social support competence to affective symptomatology

4) Perceived social support, social self-efficacy, and fear of negative evaluation (reverse scored) will each make significant and unique contributions to the prediction of affective symptomatology.

V. Mediational Model

5) Social support competencies will significantly mediate the relation between attachment to parents and affective symptomatology.

METHODOLOGY

Participants

Participants were 96 adolescents and 86 parent respondents. A discrepancy between the number of adolescent and parent respondents exists because siblings were permitted in the study, therefore some parent respondents provided information for multiple children. Sixty-three percent of the parent respondents were mothers of the enrolled adolescents and 37% were fathers of these adolescents. All respondents were recruited from the Depressive and Manic-Depressive Association, from the National Alliance of the Mentally Ill, or from participating psychiatrists' offices.

Twelve percent of represented families reported an annual household income of less than $20,000, 32% reported an annual household income of $20,000-$40,000. Seventeen percent reported an annual household income of $40,000-60,000. Twenty percent report an annual household income of $60,000-$80,000. Eight percent reported an annual household income of $80,000-$100,000. Ten percent reported an annual household income of over $100,000.

Parent participants

The age of the diagnosed parent ranged from 34 to 56 years old, with a mean of 45.27 (SD = 5.75). Seven percent of the sample reported that the diagnosed parent had attended or completed high school, 62% had attended or received a degree from a college or university, and 31% had pursued graduate studies. Regarding diagnostic/treatment history, age of onset ranged from 2-45 years old, with a mean of 22.78 years (SD = 8.97). Age of diagnosis ranged from 18-53 years old, with a mean of 33.62 years (SD = 10.95). The approximate number of affective episodes in the lifetime of the diagnosed parent

ranged from 1-100 with a mean of 19.03 (SD = 22.17). Fifty-three percent reported that the diagnosed parent had not been hospitalized because of their bipolar disorder. Thirty-one percent reported they had been hospitalized for their disorder between 1-3 times, and 6% had been hospitalized four or more times. Ninety-seven percent of the parent participants reported that the diagnosed parent had taken medication for bipolar disorder. Ninety-six percent have taken an antidepressant, 28% have taken antianxiety medication, and 21% have taken antipsychotic medications. Ninety percent of the parent respondents reported that the adolescent has not taken medication for an affective disorder. Of those adolescents who have taken medication, 8% reported that they had taken an antidepressant, 3% reported that an antianxiety medication was used, and 1% reported that antipsychotic medications had been taken. Parents reporting on the adolescents provided the following information about the diagnoses and treatment of their adolescents. Only 7% reported that their adolescent had been diagnosed with an affective illness. Of these, the age of onset for the adolescent ranged from 5-17 with median ages of 10 and 11 reported. Three adolescents had been diagnosed at age 10, three at age 12, and one at age 13. The approximate number of affective episodes in the adolescent's lifetime ranged from two to ten - one reported two episodes, one reported four episodes, two reported five episodes, and two reported ten. Three adolescents have been hospitalized from 1-3 times, three have been hospitalized four or more times.

Adolescent participants

Adolescent participants were 49% males and 51% females, ranging in age from 12 to 17 years old, with a mean age of 14.62 (SD = 1.37). Eighty-six percent of the adolescents in this sample were Caucasian, 3% were Hispanic, 2% were American

Indian, and 1% were African American. Six percent selected "other" as their ethnicity. Fifty percent reported that they had received individual counseling services. Nineteen percent reported they had received between one and five sessions, 11% reported they had received between 6 and 15 sessions, 5% reported they had received between 16 and 30 sessions, and 11% reported they had received 30 or more sessions. Fourteen percent reported that they had received group counseling services. Thirteen reported they had received between one and five sessions, one reported they had received between 16 and 30. Forty percent reported that they had received family counseling services. Twenty-five reported they had received between one and five sessions, 7 reported they had received between 6 and 30 sessions, 1 reported receiving between 16 and 30 sessions, and 4 reported they had received 30 or more sessions. Only 2 adolescents enrolled in the study have been hospitalized for psychiatric or psychological services. Sixteen percent reported that they have taken psychotropic medication. Six have taken antidepressant medication; of these, 4 had also taken anti-anxiety medication. Six percent of respondents reported that they had been arrested for a misdemeanor crime. No respondents reported that they had been arrested for a felony crime. Ten percent of the sample reported that they have used illicit drugs.

Procedure

Three methods of recruiting subjects were used. For the first method, the principal investigator visited local chapters of the DMDA and NAMI associations to inform members of the current research study. Association members were told that the research involved a study of resiliency in adolescent offspring of BPD parents and were given information regarding requirements for the study (e.g., subject requirements, time

requirements, risks and benefits, etc.). Persons who indicated interest were asked if they could be contacted via telephone by the principal investigator for enrollment in the study. For the second method of recruitment, advertisements with the contact information of the principal investigator were placed on DMDA and NAMI websites and in association newsletters (see Appendix A). For the third method of recruitment, notices of the study and contact information of the investigator (see Appendix A) were distributed to Rush Medical Center psychiatrists in private practice who were informed of the study and who agreed to recruit potential subjects. The response cards left in the psychiatrist's offices were colored coded. Each office was assigned one color. When the interested individual contacted the investigator, she asked the individual which color card they obtained so that the investigator could more accurately describe the subject pool (e.g., all subjects came from one particular office) while still maintaining some degree of privacy for the subjects. If both parent and child verbally agreed to participate in the study, consent forms were mailed to the parent and adolescent. All participants were required to sign an informed consent before data gathering materials were distributed. The parent also signed a consent permitting the adolescent to be interviewed. The adolescent also signed an assent agreeing to participate. When the principal investigator received the completed consent forms, subjects were given code numbers and then a packet of questionnaires with code numbers on each was mailed to the adolescent. Participants were given contact information for the principal investigator and an opportunity to ask questions about the study with answers provided when possible. Packets distributed to adolescents contained instructions and all measures. To maintain confidentiality, instructions were written on each packet that the adolescent information was to remain confidential -- the adolescent

was to complete the information alone. A sticker was provided in the packet. Adolescents were instructed to place and seal the sticker on the envelope when materials were completed and to sign the sticker so that confidentiality was assured.

Parent and child were assigned subject numbers. Adolescents were assigned consecutive subject numbers that began with 100. The parent was assigned a subject number that began with 200, but that corresponded to the adolescent's number. For example, the first adolescent was assigned #100, his/her parent was assigned #200. The next adolescent was assigned #101, and his/her parent #201. Parental demographic information, and adolescent data was gathered together as one set and placed in an envelope together. Parental and adolescent consent forms were kept separate from the data to protect confidentiality. Adolescent participants received $25 after completing and returning all materials. Parent participants did not receive financial compensation for their participation; this was decided upon to reduce the chance that an individual without the diagnosis would enroll in the study simply to receive the cash incentive. A check was mailed to the adolescent upon completion of materials. If materials were not returned to the investigator within two weeks of when they were provided, a reminder card was sent (see Appendix B). If materials remain outstanding two weeks after the reminder card was sent, the investigator contacted the participants by phone. Approximately 20 families were dropped after some initial contact because they were either no longer interested in participating or they provided insufficient information required for inclusion in the study.

Measures

Demographic Questionnaire. Demographic information was collected from the parent via telephone interview (see Appendix C). The first question asked was whether the adolescent was adopted, as adoption is considered an exclusion criteria because it eliminates the otherwise established genetic vulnerability. The parent participant was asked the following information regarding the diagnosed parent: date of birth, highest level of education received, household income, number of others in the adolescent's immediate or extended family diagnosed with an affective disorder, parental diagnostic and treatment history, and an allowance was given for a brief description of the parent's illness. Demographic information collected from the adolescent included: date of birth, gender, grade level in school, ethnicity, and treatment and delinquency history (see Appendix D).

Adolescent Psychopathology Scale (APS: Reynolds, 1998). The APS is a multidimensional self-report measure of adolescent psychopathology and social-emotional problems and competencies designed for use with adolescents age 12 to 19. It consists of 20 Clinical Disorders scales which have a high level of content validity with respect to DSM-IV disorder symptom specifications and were designed to assess empirically the severity of symptoms associated with specific DSM-IV clinical disorders. The development of the APS was based on clinical samples of over 500 adolescents from 31 impatient and outpatient treatment settings in 21 states and a non-clinical sample of over 2800 adolescents. Three APS Clinical Disorders scales were used in the current study: Major Depression, Dysthymic disorder, and Mania. The Major Depression scale consists of 29 items reflecting DSM-IV symptoms, with items rated on the basis of their

occurrence over the past 2 weeks. The Dysthymic Disorder scale consists of 16 items rated as to their occurrence over the past six months. The Mania scale consists of 13 items that evaluate symptoms of a Manic Episode. The factor structure of these scales correspond to the DSM-IV diagnostic criteria for these disorders and provides evidence for construct validity. Reynolds (1993) reported an internal consistency reliability of .95 for both the normal and the clinical samples for the Major Depression scale. The Dysthymia Disorder scale demonstrated internal consistency reliability coefficients of .89 and .88 for the clinical and non-clinical samples, respectively. The Mania scale demonstrated internal consistency reliability coefficients of .81 and .80 for the normal and clinical samples, respectively. Each scale represents a type of affective symptomatology.

Scores on the APS are provided in the form of T-scores, with a mean of 50 and a standard deviation of 10, with clinical levels variable across APS scales to accommodate differences in base rates across disorders.

Inventory of Parent & Peer Attachment (IPPA; Armsden, 1986; Armsden & Greenberg, 1987). This measure was designed to assess adolescent's perceptions of the positive and negative cognitive-affective dimension of attachment relationships with their parents and close friends – particularly how well these figures serve as sources of psychological security. Three broad dimensions are assessed: degree of mutual trust; quality of communication; and extent of anger and alienation. Trust (e.g., "When I am angry about something, my mother/father tries to be understanding.") refers to confidence or felt security that attachment figures are available and responsive to the adolescent's attachment needs. Communication (e.g., "I tell my mother/father about my problems and

troubles.") refers to the quality of verbal communication with attachment figures. Alienation (e.g., "I don't get much attention from my mother/father.") refers to the amount of anger toward or emotional detachment from attachment figures. This scale was included because frequent and intense anger and/or detachment represent responses to actual or threatened disruption of an insecure attachment bond. The IPPA is a self-report questionnaire and consists of 25 identical items in each of the mother, father, and peer sections, yielding 3 attachment scores. Items are rated on a 5-point Likert-type scale ranging from 1 (never true) to 5 (always true). Respondents are asked to rate attachment to each parent up to age 12. This measure shows high convergent validity with the original IPPA where Armsden (1986) reported alpha coefficients for the three scales from .87 to .92. Armsden and Greenberg (1987) reported three-week test-retest reliabilities of between .86 and .93.

The parent portion of the IPPA was designed to assess adolescent's perceived attachment to each parent by estimating the extent to which adolescents perceive that each parent understands and is sensitive to the adolescents' emotional concerns. Participants or respondents are asked to think how well each item describes each parent's behavior while the subject was growing up, especially before age 12.

Parent attachment scores of 12-18 year-olds are moderately correlated with the degree of positive family coping (communication among family members and relatives concerning problems) (Lewis, Woods, & Ellison, 1987). In a sample of 10-to 16-year old psychiatric patients, less secure parent attachment was related to clinical diagnosis of depression, parent rating of the adolescent's depressive symptoms, and to patient's self-reported level of depression (Armsden, McCauley, Greenberg, Burke, & Mitchell, 1991).

scores on the IPPA have also been moderately associated with positiveness and stability of self-esteem, life-satisfaction, and affective status (depression, anxiety, resentment/alienation, covert anger, and loneliness) among late adolescents (Armsden & Greenberg, 1987; Armsden, 1986). Scores on the IPPA were not found to be significantly related to socio-economic status among a sample of 400 18- to 20-year-olds. In the same study, negligible but significant positive correlations were obtained between attachment and parents' education levels (Armsden, 1986).

Social Provisions Scale (SPS; Russell & Cutrona, 1987). This measure of global perceived social support was designed to assess the six functions of social relationships proposed by Weiss (1974). These functions, termed "provisions" by Weiss, include the following: (a) reliable alliance, assurance that one can count on others for tangible assistance; (b) reassurance of worth, acknowledgement of one's competence and skill; (c) attachment, a sense of emotional closeness and security; (d) social integration, a sense of belonging to a group of people who share common interests and recreational activities (e) guidance, advice and information; and (f) opportunity for nurturance, a sense of responsibility for the well-being of another person. The measure asks respondents to rate the degree to which their relationships with others are currently supplying each of the provisions. Each provision is assessed by four items, two that describe the presence and two that describe the absence of the provision. Respondents indicate on a 4-point Likert-type scale (1 = not at all true; 4 = completely true) the extent to which each statement describes their current social relationships. For scoring purposes, the negative items are reversed and summed together with the positive items to form a score for each social provision. Summing the six individual provisions scores also forms a total social

provisions score. Internal consistency for the total scale score is high, ranging from .85 to .92 across a variety of populations. Alpha coefficients for the individual subscales range from .64 to .76. Reliability for the scale ranges from .87 to .91 across a range of samples (Cutrona & Russell, 1987). Several studies support the validity of the SPS (Cutrona & Russell, 1987; Russell, Cutrona, & Yurko, 1984). Among first year college students, the six social provisions in combination accounted for 66% of the variance in scores on the UCLA Loneliness Scale (Cutrona, 1982). Discriminant validity of the SPS has been demonstrated against relevant measures of mood (e.g., depression), personality (e.g., self-esteem), and social desirability (Russell & Cutrona, 1985).

To minimize the shared theoretical and method variance with the IPPA, instructions for the SPS were slightly modified. The respondent was asked to only report the level of social support received from "friends, family members *other* than parents, and other adult members of the community (e.g., teachers, coaches, etc.).

Adolescent Social Self-Efficacy Scale (A-SSE; Connolly, 1989). This scale contains 25 items which describe commonly occurring social events reported to be problematic for teenagers (Ford, 1982; Furnham & Argyle, 1981). These include 5 items describing social assertiveness (e.g., "Stand up for yourself when another kid in your class makes fun of you"); 5 items describing performance in public situations (e.g., "Work on a project with a student you don't know very well"); 5 items describing participation in social groups or parties (e.g., "Put yourself in a new and different social situation"); 7 items describing aspects of friendship and intimacy (e.g., Start a conversation with a boy or girl you don't know very well"); and 3 items describing giving or receiving help (e.g., "Ask another student for help when you need it"). The

student is asked to rate each item on a 7-point scale ranging from "impossible to do" to "extremely easy to do". Total scores can range from 25 to 175. Connolly (1989) reported reliability and validity information. Alpha coefficients of internal consistency are reported at .90, .92, and .95 for two samples of high school students and one sample of emotionally disturbed adolescents, respectively. Two-week test-retest reliability was reported at .84. SSE was significantly correlated with components of the self-concept including perceived social acceptance, general self worth, cognitive and physical competence, and self-esteem. Construct validity was further supported by relations to ratings of social adjustment.

Fear of Negative Evaluation Scale (FNE)-Revised (Watson & Friend, 1969; Leary, 1983).

This scale, a brief version of the original FNE scale, was designed to assess one's fear of negative evaluation defined as "apprehension about other's evaluations, distress over their negative evaluations, and the expectation that others would evaluate oneself negatively." The content assesses concerns regarding negative evaluations as opposed to the expectation that one was negatively evaluated. The original scale consists of 30 true-false items that are summed, with higher scores indicating higher FNE. The revised version utilized in the current study consists of 12 items and correlates with the original version (.96). For the Brief FNE Scale, item-total correlations range from .43 to .75, and Cronbach's alpha coefficient is .90. Internal consistency is high, as reported at .92 and .94 in two samples. One-month test-retest reliability is .75. Evidence for convergent validity exists; FNE scores correlate moderately with other measures of apprehension in social situations (e.g., SAD Scale, r =.51; Interaction Anxiousness Scale, r = .32).

Design

This study employed a correlational design. There was no manipulation of variables or group assignment via random or nonrandom methods. Path analysis was used here to test a theory of the possible causal order among the selected variables under study. The study was designed to provide estimates of the magnitude of the hypothesized effects.

One hundred and one subjects were enrolled but data was excluded from the analyses for five subjects because they did not have scores on one or more of the variables. Ninety-six adolescent participants and 86 parent participants were enrolled so that satisfactory power to detect a medium effect size for the five-predictor model (α = .05) examined here could be reached.

Analyses

A 2 x 2 analysis of variance was used to test for significant gender differences between selected predictor variables and the criterion variable, APS scores. This ANOVA tested whether there were adolescent gender differences in APS scores, whether the gender of the diagnosed parent was related to APS scores, and whether the gender of adolescent and the gender of the parent interacted to predict APS scores. Intercorrelations of key variables were also computed. Then, a paired samples t test was conducted to test for hypothesized mean differences among variables. Finally, a series of linear regressions were conducted to test whether indexes of attachment bonds to the diagnosed parent, attachment bonds to the non-diagnosed parent, perceived social support, social self efficacy, and fear of negative evaluation made independent, significant contributions to the prediction of adolescent affective psychopathology.

Adolescent affective psychopathology was a composite variable created by aggregating scores and weighting three scales of the APS: dysthymia, mania, and depression. The significance of interaction effects, after controlling for main effects, in predicting symptomatology was tested. Data met the regression assumptions regarding normality and homoscedasticity. Some degree of multicollinearity did exist, though it appeared to be modest.

RESULTS

In this section, data analyses are detailed and findings presented. First, scale descriptives are provided. Relationships between demographic variables and adolescent affective psychopathology scores were then tested. Demographic variables that were found to be significantly associated with APS scores are briefly described. Intercorrelations among these selected demographic variables and key model variables are presented. Next, results from a comparison of means between the two predictor variables - attachment bonds to the diagnosed parent and attachment bonds to the non-diagnosed parent - are provided. Then, findings from a series of linear regressions testing for main effects and interaction effects among predictor and criterion variables are presented. These regressions tested whether attachment bonds to the diagnosed parent, attachment bond to the non-diagnosed parent, perceived social support, social self-efficacy, and fear of negative evaluation made significant and unique contributions to the prediction of adolescent affective psychopathology. Mediator and moderator hypotheses were also tested and results provided. A path diagram is included that contains standardized path coefficients depicting relationships among the variables. Lastly, several follow-up post-hoc comparisons are presented.

Scale Descriptives

The means, standard deviations, and ranges of the key model variables are presented in Table 1. There was a substantial range of scores for each scale; this is to be expected given that individuals representing a wide range of affective symptomatolgy were included in this study. Comparing means to normative groups for the scales used in the current study is complicated by the fact that individuals for the current study were not

selected according to clinical versus nonclinical characteristics in the manner that normative groups are chosen. Nevertheless, it is noteworthy that for this sample, symptomatology is slightly positively skewed; however, this is to be expected given the nature of the at-risk sample used.

Table 1

N's, Means, Standard Deviations, and Ranges for Key Model Variables

Variable	N	M	SD	Range	α
1. Attachment bond to diagnosed parent	96	90.96	16.58	46-116	.05
2. Attachment bond to non-diagnosed parent	96	85.18	21.65	25-122	.05
3. PSS	96	79.94	7.68	62-94	.05
4. SSE	96	125.46	23.24	80-164	.05
5. FNE	96	37.05	8.13	16-50	.05
6. APS	96	2.28	.38	1.30-2.77	.05

Note. PSS = Perceived Social Support; SSE = Social Self-Efficacy, FNE= Fear of Negative Evaluation; APS = Adolescent Affective Psychopathology.

Preliminary Analyses

Demographic variables. Analysis of variance and independent samples t test procedures were used to explore whether demographic group differences among adolescents that were associated with adolescent affective psychopathology. Results showed that four demographic variables were significantly related to APS scores: Gender of the diagnosed parent, parent education level, number of individual therapy sessions an adolescent participated in, and adolescent psychotropic medication use. Results of the analysis of variance and independent samples t-test procedures are presented in Table 2.

Analysis of variance showed no significant gender differences among adolescents in this study on the measure of adolescent affective psychopathology (APS scores), t (96) = 2.22, $p > .05$. However, a two-way analysis of variance showed that gender of the diagnosed parent was significantly related to APS scores (F (4,85) = 12.11, $p < .001$). Adolescents who had a diagnosed father had higher APS scores (M = 2.47, SD = .24) than those adolescents with a diagnosed mother (M = 2.193, SD = .41). The interaction term (gender of the adolescent * gender of the parent) was not significant (F (1,93) = 1.443, $p > .05$. Thus, when the adolescent's father is the parent who has been diagnosed with bipolar disorder, adolescent psychopathology scores are statistically higher regardless of the gender of the child.

One-way analysis of variance showed that group differences exist regarding level of parent education, F (2,89) = 5.72, $p < .01$. Tukey's post hoc comparisons showed that adolescents whose parents had attended college (M = 2.30) or graduate training (M = 2.39), scored higher on the APS than those whose parents had completed high school only (M = 1.88). This comparison was significant at the $p < .05$ level.

One-way analysis of variance showed group differences on APS scores between adolescents who reported that they had received different amounts of individual counseling, $F(3,84) = 3.381$, $p < .05$. Adolescents who have received 16 or more individual counseling sessions scored lower on the APS than those who have received five or fewer sessions.

Findings from an independent samples t-test procedure showed that adolescent psychotropic medication use was significantly associated with APS scores, $t(96) = -2.862$, $p < .01$. Adolescents who had taken psychotropic medication scored lower on the APS than those who had not.

Table 2

Results from ANOVAs and Independent Samples T Tests Testing Significant Relationships Between Demographic Variables and APS Scores*

Demographic Variable	N	M	SD
Gender of the Diagnosed Parent			
Male	36	2.47	.24
Female	60	2.20	.41
Parent Education			
High School	6	1.88	.45
College	57	2.30	.35
College +	29	2.40	.29
# Adolescent Individual Therapy Sessions			
0	47	2.35	.34
1-5	17	2.36	.42
6-15	10	2.26	.23
16 +	14	2.01	.46
Adolescent Psychotropic Medication use			
Yes	15	2.03	.26
No	73	2.34	.38

Note. Only demographic variables reaching statistical significance are presented.

Interrcorrelations Among Demographic Variables and Scales.

A correlation matrix demonstrating relationships among the demographic variables that were associated with this study's outcome variable and the key model variables is presented in Table 3. It was expected that indexes of attachment bonds to parents would be significantly and positively correlated with each measure of social support (after fear of negative evaluation scores were reversed) and with the outcome measure. Only partial support for these relationships was found. Only indexes of attachment bonds to the diagnosed parent were significantly correlated to measures of social support competence, namely perceived social support and social self-efficacy. Unexpectedly, parental attachment bonds were not significantly correlated with APS scores. As expected, all measures of social support competence were significantly and positively correlated with each other. Of all the predictor variables studied, only fear of negative evaluation was correlated with APS scores.

Table 3

Intercorrelations Among Selected Demographic Variables and Key Model Variables

Variable	1	2	3	4	5	6	7	8	9	10
1. Attachment bond to diagnosed parent	---	.16	.36**	.34**	-.07	-.04	-.23*	.21	.01	-.01
2. Attachment bond to non-diagnosed parent		----	.08	-.18	-.19	.09	.01	-.04	-.17	-.32**
3. PSS			---	.58**	.28**	.23*	-.22*	-.21*	-.35**	.10
4. SSE				---	.41**	.01	-.37**	.07	.09	.40**
5. FNE					---	.35**	.31**	.05	.30**	-.04
6. APS						---	.28**	-.28**	-.14	-.33**
7. Parental Education							---	-.16	-.34**	-.24*
8. Number of Individual Counseling Sessions								---	.27*	-.01
9. Adolescent Psychotropic Medication Use									---	-.19
10. Gender of Diagnosed Parent										---

Notes. PSS = Perceived Social Support; SSE = Social Self-Efficacy, FNE= Fear of Negative Evaluation; APS = Adolescent Affective Psychopathology. APS scores represented continuous variables, with high scores indicating high symptomatolgoy. Parent education and number of individual counseling sessions, were categorical variables, with higher scores indicating higher levels of education and counseling. Adolescent psychotropic medication use was dummy coded such that the scores indicate whether or not medication was used.

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

Results of Primary Analyses

Relations of adolescents' attachment bonds with each parent. To test the first hypothesis that in comparison to the relationship between the adolescent and the BPD parent, the relationship between the adolescent and the non-diagnosed parent should reflect a higher degree of secure parent-adolescent attachment, a paired-sample t test was conducted and sample means compared. Results showed that the hypothesis was not supported. The mean score for the index of attachment bond between the adolescent and his or her diagnosed parent was 90.96 (SD = 16.58), whereas the mean score for his or her non-diagnosed parent was 85.17 (SD = 21.65), $t(96) = 2.262$, $p = .026$. Adolescents in this sample reported more secure attachment bonds with the BPD parent than with the non-diagnosed parent.

Regression Analysis: Contributions of Parental Attachment Bonds to the Prediction of Adolescent Affective Psychopathology.

A hierarchical regression was conducted to test the hypothesis that after controlling for selected demographic variables, indexes of attachment bonds to the diagnosed parent and to the non-diagnosed parent would each make independent and significant contributions to the prediction of adolescent affective symptomatology. In addition, the hierarchical regression tested the hypothesis that, after controlling for main effects, the interaction of indexes of attachment bonds with each parent would make unique, significant contributions to the prediction of APS scores. The demographic variables: Gender of the diagnosed parent, parent education, number of adolescent individual counseling sessions, and adolescent psychotropic medication use were entered as covariates in step one. At step two, indexes of attachment bond to the diagnosed

parent and attachment bond to the non-diagnosed parent were regressed on the measure of adolescent affective psychopathology. At step three, the interaction effect of these respective bonds was tested. As recommended by Aiken and West (1991), measures of attachment were centered prior to creating the interaction terms and testing their significance to reduce multicolinearity effects. Results are presented in Table 4.

The covariate block entered at step one was a significant predictor of APS scores; the covariates collectively accounted for 23% of the variance in APS scores ($\underline{R}^2 = .232$, $\underline{p} < .001$). Unexpectedly, the addition of parental attachment bonds at the second step was not significant in adding to the prediction of APS scores ($\Delta\underline{R}^2 = .047$, $\underline{p} > .05$). The interaction term added in step three did significantly and positively contribute to the prediction of APS scores ($\Delta R^2 = .063$, $\underline{p} < .01$), explaining an additional 6% of the variance in APS scores. As hypothesized, results showed that attachment bonds to the non-diagnosed parent moderated the relationship between attachment bonds to the diagnosed parent and APS scores, $t(96) = -2.726$, $p < .01$. The significant interaction effect was plotted as advised by Aiken and West (1991) to help interpret the interaction (see Figure 2). Data met regression assumptions regarding normality, linearity, and homoscedasticity. This interaction demonstrated that high indexes of attachment to the diagnosed parent are associated with lower levels of symptomatolgy and that this relationship is more pronounced when strong attachment bonds with the non-diagnosed parent also exist.

Table 4

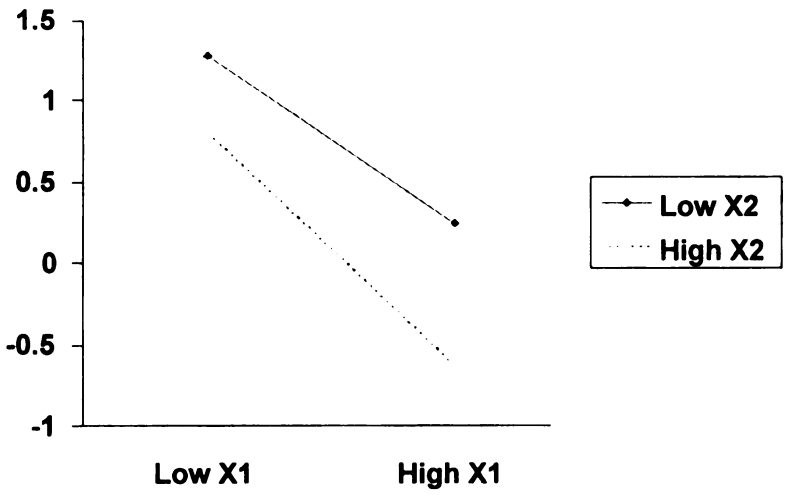
Summary of Hierarchical Regression Analysis for Attachment Bonds Predicting APS scores (N = 96).

Variable	B	SE B	ß
Step 1			
Gender of Diagnosed Parent	-.24	.08	-.31**
Parent Education	.12	.07	.18
Number of Individual Counseling Sessions	-.06	.03	-.23*
Adolescent Psychotropic Medication use	-.13	.13	-.11
Step 2			
Attachment bond to diagnosed parent	-.00	.00	.18
Attachment bond to non-diagnosed parent	-.00	.00	-.20
Step 3			
Interaction (attachment bond to diagnosed parent * attachment bond to non-diagnosed parent)	-.00	.00	-.28**

Note. Adjusted R^2 =.194 for Step 1 ($p < .001$); Δ Adjusted R^2= .030 for Step 2 (ns); Δ Adjusted R^2 = .059 for Step 3 ($p < .01$).

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

Figure 2: Interaction for Regression Analysis: Attachment Bond to Diagnosed Parent & Attachment Bond to Non-Diagnosed Parent as Predictor Variables and APS Scores as Criterion Variable



Note. X1 = Attachment Bond to Diagnosed Parent, X2 = Attachment Bond to Non-Diagnosed Parent

Regression Analyses: Contributions of Parental Attachment Bonds to the Prediction of Social Support Competence

It was hypothesized that after controlling for selected demographic variables, indexes of secure parent-adolescent attachment would be significantly related to each measure of social support competence. To test this hypothesis, three separate regression analyses were conducted. For each regression, main effects and interaction effects were tested using a three-step regression procedure. At the first step of each regression, selected demographic variables were entered as covariates. Attachment measures were entered at step two. Each measure of social support competence (PSS, SSE, and FNE) represented the dependent variable, respectively. Prior to testing the interaction term,

indexes of attachment to the diagnosed parent and to the non-diagnosed parent were appropriately "centered" as advised by Aiken & West (1991). Results of these regression analyses are presented in Table 5.

Attachment Bonds and Perceived Social Support. The covariate block alone contributed 27% to the overall variance in PSS scores ($R^2 = .275$, $p > .001$). While attachment bond to the diagnosed parent, $t(96) = 3.44$, $p < .01$, was significantly and positively predictive of PSS, no significant main effect was found for attachment bond to the non-diagnosed parent, $t(96) = -1.08$, $p > .05$. When entered as a block, attachment variables explained an additional 9% of the variance in PSS scores beyond that explained by the covariates alone, $F(2,79) = 5.9$, $p < .01$. The entry of the interaction term at the third step was not significant in enhancing the prediction of perceived social support.

Attachment Bonds and Social Self-Efficacy. The covariate block alone contributed almost 18% of the overall variance in SSE scores ($R^2 = .177$, $p < .01$). Parental attachment bonds made significant individual contributions to the variance in SSE scores accounting for an additional 12% of the variance in SSE scores ($\Delta R^2 = .126$, $p \leq .001$). However, while attachment bond to the diagnosed parent, $t(96) = 3.70$, $p < .001$, was significantly and positively predictive of SSE, no significant main effect was found for attachment bond to the non-diagnosed parent, $t(96) = -1.613$, $p > .05$. The inclusion of the interaction term was not significant in enhancing the prediction of SSE.

Attachment Bonds and Fear of Negative Evaluation. The covariate block did make a significant contribution to the overall explained variance in FNE scores

($R2 = .123$, $p < .05$), explaining 12% of the overall variance. However, after covariates were controlled, the additional predictors did not make significant, unique contributions to FNE.

Table 5

Summary of Hierarchical Regression Analysis for Attachment Bonds Predicting Social Competence scores (N = 96).

Variable	B	SE B	ß
Perceived Social Support			
Step 1			
Gender of Diagnosed Parent	-2.1	1.63	-.13
Parent Education	-5.30	1.47	-.37**
Number of Individual Counseling Sessions	-.77	.56	-.13
Adolescent. Medication Use	-12.59	2.75	-.49**
Step 2			
Attachment bond to diagnosed parent	.15	.04	.33**
Attachment bond to non-diagnosed parent	-.03	.04	-.11
Step 3			
Interaction (attachment bond to diagnosed parent * attachment bond to non-diagnosed parent)	.00	.00	.157

(table continues)

Variable	B	SE B	ß
Social Self Efficacy			
Step 1			
Gender of Diagnosed Parent	15.18	5.05	.32**
Parent Education	-9.04	4.56	-.21
Number of Individual Counseling Sessions	.48	1.73	.02
Adolescent Medication Use	4.52	8.5	.06
Step 2			
Attachment bond to diagnosed parent	.52	.14	.38***
Attachment bond to non-diagnosed parent	-.17	.11	-.17
Step 3			
Interaction (attachment bond to diagnosed parent * attachment bond to non-diagnosed parent)	-.00	.00	-.07
Fear of Negative Evaluation			
Step 1			
Gender of Diagnosed Parent	-1.31	1.92	-.07
Parent Education	-3.25	1.73	-.21
Number of Individual Counseling Sessions	-.25	.66	-.04
Adolescent Medication Use	5.79	3.24	.21
Step 2			
Attachment bond to diagnosed parent	-.04	.05	-.09

(table continues)

	Variable	B	SE B	ß
	Attachment bond to non-diagnosed parent	-.07	.04	-.21
Step 3				
	Interaction (attachment bond to diagnosed parent * attachment bond to non-diagnosed parent)	-.00	.00	-.13

Note. PSS: Adjusted R^2 =.239 for Step 1($p < .001$); Δ Adjusted R^2= .08 for Step 2 ($p < .01$); Δ Adjusted R^2 = .012 for Step 3 (ns). SSE: Adjusted R^2 =.136 for Step 1($p < .01$); Δ Adjusted R^2 = .114 for Step 2 ($p < .001$); Δ Adjusted R^2 = .005 for Step 3 (ns). FNE: Adjusted R^2 = .080 for Step 1 ($p < .05$); Δ Adjusted R^2 = .00 for Step 2 (ns); Δ Adjusted R^2 = .005 for Step 3 (ns).

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

Regression Analysis: Contributions of Perceived Social Support, Social Self-Efficacy, and Fear of Negative Evaluation to the Prediction of Adolescent Affective Psychopathology.

Tables 6, 7 and 8 present the results of these analyses. As hypothesized, regression analyses demonstrated that after controlling for demographic variables, perceived social support was significantly and positively predictive of adolescent affective psychopathology, $t(96) = 2.80$, $p < .01$. Results also supported the hypothesis that fear of negative evaluation (reverse coded) was significantly and positively predictive of APS scores, $t(96) = 5.06$, $p < .001$. Additionally, social self-efficacy was

significantly and positively predictive of adolescent affective symptomatology, t(96) = 1.90, p < .05.

Table 6

Summary of Hierarchical Regression Analysis for Perceived Social Support Predicting APS scores (N = 96).

Variable	B	SE B	ß
Perceived Social Support			
Step 1			
Gender of Diagnosed Parent	-.24	.07	-.31***
Parent Education	.12	.07	.17
Number of Individual Counseling Sessions	-.06	.02	-.23**
Adolescent Medication Use	-.13	.13	-.11
Step 2			
PSS	.01	.00	.33**

Note. *p < .05; ** p < .01; *** p < .001

Table 7

Summary of Hierarchical Regression Analysis for Social Self Efficacy Predicting APS scores (N = 96).

Variable	B	SE B	ß
Social Self Efficacy			
Step 1			
Gender of Diagnosed Parent	-.24	.07	-31***

Parent Education	.12	.07	.17
Number of Individual Counseling Sessions	-.06	.02	-.23**
Adolescent Medication Use	-.13	.13	-.11
Step 2			
SSE	.00	.00	.22*

Note. *p < .05; ** p < .01; *** p < .001

Table 8

Summary of Hierarchical Regression Analysis for Fear of Negative Evaluation Predicting APS scores (N = 96).

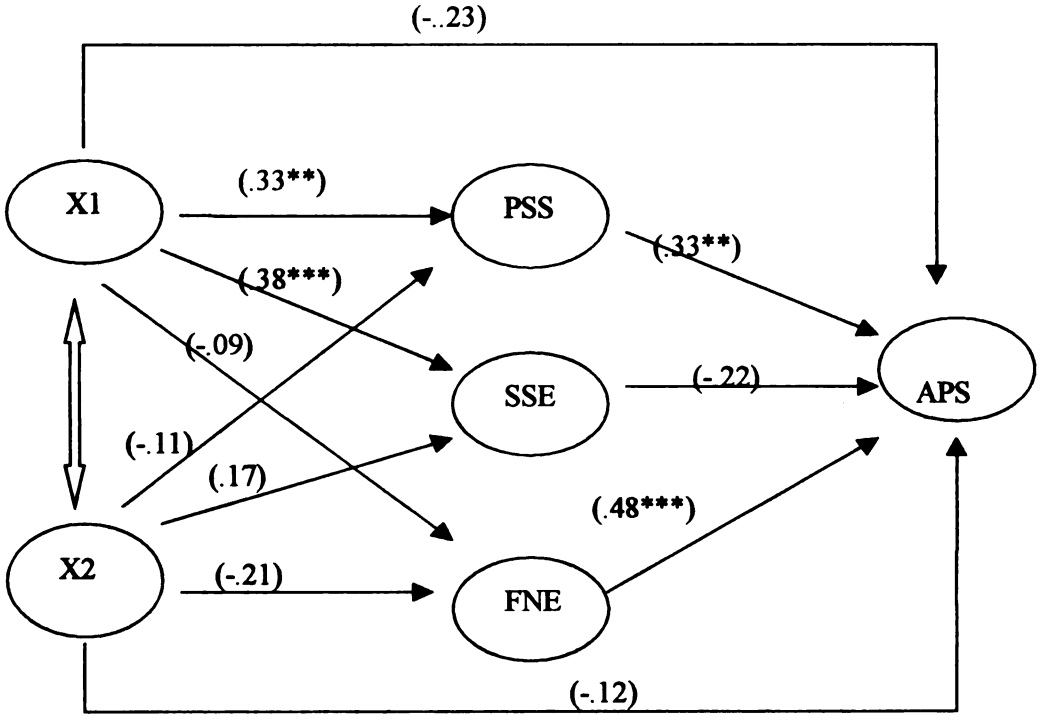
Variable	B	SE B	ß
Fear of Negative Evaluation			
Step 1			
Gender of Diagnosed Parent	-.24	.07	-31***
Parent Education	.12	.07	.17
Number of Individual Counseling Sessions	-.06	.02	-.23**
Adolescent. Medication Use	-.13	.13	-.11
Step 2			
FNE	.02	.00	.48***

Note. PSS: Adjusted $\underline{R}^2$ =.194 for Step 1($\underline{p} < .001$); Δ Adjusted $\underline{R}^2$= .074 for Step 2 ($\underline{p} < .01$). SSE: Adjusted $\underline{R}^2$ = .194 for Step 1($\underline{p} < .001$); Δ Adjusted $\underline{R}^2$= .035 for Step 2 ($\underline{p} < .05$); FNE: Adjusted $\underline{R}^2$ = .194. for Step 1 ($\underline{p} < .001$); Δ Adjusted $\underline{R}^2$ = .213 for Step 2 ($\underline{p} < .001$).

* $\underline{p} < .05$; ** $\underline{p} < .01$; *** $\underline{p} < .001$

Figure 3 presents a summary of the obtained coefficients representing relationships among all key model variables.

Figure 3: Path Diagram Presenting a Summary of the Obtained Standardized Coefficients for Tested Relationships Among All Proposed Model Variables.



Note. X1 = Attachment bond to diagnosed parent; X2 = attachment bond to non-diagnosed parent; PSS = perceived social support; SSE = social self efficacy; FNE = fear of negative evaluation, APS = adolescent psychopathology scale.
Standardized coefficients were used.

*p < .05; **p< .01; ***p < .001

Post Hoc Analyses

The goal of the current study was to propose and test a mediational model for explaining the relationship between parental attachment bonds and adolescent affective symptomatology. In order to examine mediating effects, however, a predictive relationship between parental attachment bonds and APS scores was required. Surprisingly, parental attachment bonds did not predict APS scores for this study sample. Given this pivotal finding, an analysis of the proposed mediator model as initially proposed was unwarranted. Instead, post hoc analyses were conducted to explore whether the attachment construct as measured in this study was masking a relationship between the variables. Additionally, post hoc analyses were conducted to further test model variable relationships.

One potential reason for the inability of the attachment measures to predict APS scores in this study involves the measurement of parental attachment bonds. The parental attachment bond construct utilized in this study contains three subscale components: trust, communication, and alienation. In the analyses presented in this chapter to this point, these subscales were summed to obtain a total parental attachment bond score. This aggregate score was used to test the study hypotheses. However, given that a relationship between attachment bonds and affective symptomatology has been well documented, it seemed worthwhile to explore the possibility that a relationship in fact existed but that using an aggregate score masked the relationship. Scale descriptives and intercorrelations among these components of attachment and key model variables are presented in Table 9.

Table 9

Means, Standard Deviations, and Intercorrelations for the Components of Parental Attachment Bonds (Trust, Communication, and Alienation) and Key Model Variables

Variable	N	M	SD	1	2	3	4	5	6	7	8	9	10
1. Trust X1	96	32.82	9.65	1.0	.55**	.91**	.50**	.07	.35**	-.00	.08	-.01	-.26**
2. Trust X2	95	32.16	10.11		1.0	.49**	.90**	.46**	-.02	-.01	.1	.04	-.06
3. Communication X1	96	25.28	8.20			1.0	.47**	.06	.34**	..01	.90**	.47	-.28**
4. Communication X2	96	24.84	8.04				1.0	.44**	.07	.05	.09	.10	-.10
5. Alienation X1	96	14.89	5.19					1.0	.27**	.10	.09	.10	.02
6. Alienation X2	96	15.24	6.14						1.0	.12	.24*	.18	-.14
7. PSS	96	79.94	7.68							1.0	.58**	.28**	.23*
8. SSE	96	125.46	23.24								1.0	.41**	.01
9. FNE	96	37.05	8.1									1.0	.35**
10. APS	96	2.28	.38										1.0

Notes. Trust X1 = trust associated with the diagnosed parent; Trust X2 = trust associated with the non-diagnosed parent, Communication X1 = communication associated with the diagnosed parent; Communication X2 = communication associated with the non-diagnosed parent; Alienation X1 = attachment alienation associated with the diagnosed parent; Aliencation X2 = attachment alienation associated with the non-diagnosed parent; PSS = Perceived Social Support; SSE = Social Support Efficacy; FNE = Fear of Negative Evaluation; APS = Adolescent Psychopathology Scale.
*p < .05, ** < .01

Post hoc analyses were conducted to explore relationships among the attachment components and APS scores. First, post hoc regression analyses were conducted to determine if the components of the parental attachment made unique and significant contributions to the prediction of APS scores when measured independently. To investigate this possibility, APS scores were regressed on each attachment component separately. To remain consistent with the model as initially proposed, each component was assessed in relation to the diagnosed parent as well as the non-diagnosed parent. Thus, six separate regression analyses were required using APS scores as the dependent variable in each. Main effects and interaction effects for each regression were tested using a three-step regression procedure. For each regression, the covariates were entered in the first step. At step two, trust, alienation, and communication were entered, respectively, as a block. The interaction term was included at step three. Again, as recommended by Aiken and West (1991), measures of trust, communication, and alienation were appropriately "centered" prior to conducting the analyses.

Results of the three regressions are presented in Table 10. As already described in earlier analyses, the covariate block alone contributed 23% to the overall variance in APS scores ($R^2 = .232$, $p < .001$). When trust was entered at step two, it also made a significant contribution to the variance in APS scores, accounting for an additional 5% of the variance in APS scores ($\Delta R2 = .05$, $p < .05$). However, while trust associated with attachment bond to the diagnosed parent, $t(96) = -2.533$, $p < .05$, was significantly and positively predictive of APS scores, no significant main effect was found for trust associated with attachment bond to the non-diagnosed parent, $t(96) = 1.268$, $p > .05$. The

inclusion of the interaction term was not significant in enhancing the prediction of APS scores.

No main effects or interaction effects were found when APS scores were regressed on communication scores. Given the particularly strong correlational relationships between trust and communication scores for the diagnosed parent ($r = .91$, $p < .01$) and for the non-diagnosed parent ($r = .90$, $p < .01$), post hoc partial correlations were computed to further examine the relationship between communication and APS scores. However, after controlling for trust scores associated with the diagnosed parent, partial correlation coefficients indicated that communication scores were no longer statistically related to APS scores ($r = .35$, $p > .05$). After controlling for trust scores associated with the non-diagnosed parent, communication scores were also statistically unrelated to APS scores ($r = .22$, $p > .05$). These findings fail to support the notion that quality of communication with parents is linearly related to risk for affective symptomatology.

Results indicated that after controlling for covariates, alienation did not make a unique significant contribution to the prediction of APS scores. However, the inclusion of the interaction term for alienation was significant, $t(96) = 2.512$, $p < .05$, in enhancing the prediction of APS scores, which precludes the interpretation of main effects. The interaction term contributed an additional 6% to the overall variance explained. The significant interaction effect was plotted to help interpret the interaction (see Figure 4). Data met regression assumptions regarding normality, linearity and homoscedasticity.

Table 10

Summary of Hierarchical Regression Analysis for Trust, Communication, and Alienation Predicting APS scores (N = 96).

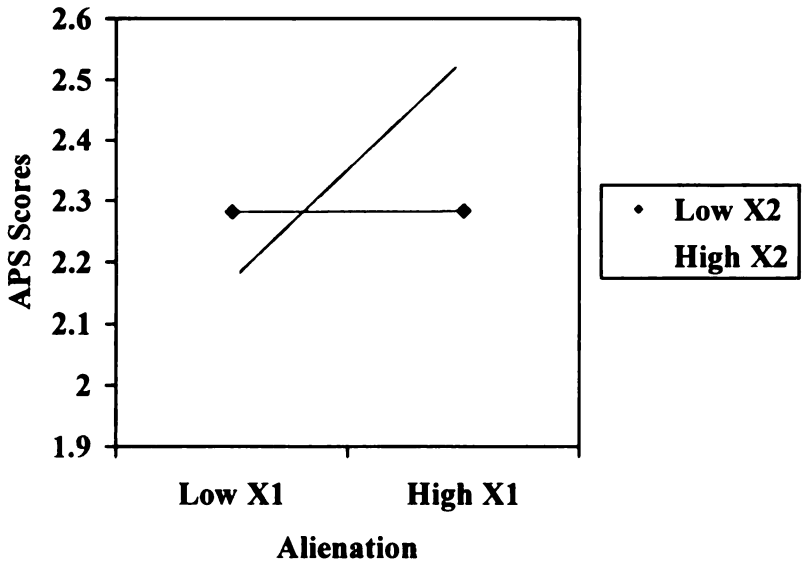
Variable	B	SE B	ß
TRUST			
Step 1			
Gender of Diagnosed Parent	-.24	.07	-.32**
Parent Education	.12	.07	.18
Number of Individual Counseling Sessions	-.05	.07	-.22*
Adolescent Medication Use	-.13	.13	.10
Step 2			
Trust: Attachment bond to diagnosed parent	-.01	.00	-.29*
Trust: Attachment bond to non-diagnosed parent	.00	.00	.15
Step 3			
Trust Interaction (Trust: Attachment bond to Diagnosed parent * Trust: Attachment Bond to non-diagnosed parent)	.00	.00	.13
COMMUNICATION			
Step 1			
Demographic Variables			

Step 2			
Communication: Attachment bond to diagnosed parent	-.01	.00	-.26*
Communication: Attachment bond to non-diagnosed parent	-.00	.00	.11
Step 3			
Communication Interaction (Communication: attachment bond to diagnosed parent * Communication: attachment bond to non-diagnosed parent)	.00	.00	.06
ALIENATION			
Step 1			
Demographic Variables			
Step 2			
Alienation: Attachment bond to diagnosed parent	.00	.00	.01
Alienation: Attachment bond to non-diagnosed parent	.00	.00	-.05
Step 3			
Alienation Interaction (Alienation: attachment bond to diagnosed parent * Alienation: attachment bond to non-diagnosed parent)	.00	.00	.72*

Note. Trust: Adjusted R^2 =.199 for Step 1($p < .001$); Δ Adjusted R^2= .043 for Step 2 ($p < .05$); Δ Adjusted R^2 = .008 for Step 3 (ns). Communication: Adjusted R^2 =.194 for Step 1($p < .001$); Δ Adjusted R^2 = .036 for Step 2 (ns); Δ Adjusted R^2 = .009 for Step 3 (ns). Alienation: Adjusted R^2 = .194 for Step 1 ($p < .001$); Δ Adjusted R^2 = .068 for Step 2 (ns); Δ Adjusted R^2 = .052 for Step 3 (ns).

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

Figure 4: Interaction Between Attachment Alienation Associated the Diagnosed Parent and Attachment Alienation Associated with the Non-Diagnosed Parent in Predicting APS Scores



Three patterns are suggested by the significant interaction: 1) low alienation associated with the diagnosed parent is related to lower symptomatology when lower alienation scores associated with the non-diagnosed parent are reported; 2) in cases where alienation associated with the non-diagnosed parent is high but low levels of alienation associated with the diagnosed parent exist, slightly lower symptomatology levels occur; and 3) the greatest effect of alienation on symptomatology occurs when high levels of alienation are associated with both the diagnosed parent and the non-diagnosed parent.

DISCUSSION

Overview

This chapter initially summarizes and interprets this study's key findings. The ways in which the findings of this study advance research into risk for affective psychopathology among offspring of bipolar disordered parents are then highlighted. Where hypotheses of this study were not supported, possible explanations that draw upon existing research and theory are offered. Implications of this study's findings for therapeutic intervention and prevention are also discussed. Finally, methodological limitations are noted and recommendations for future research are addressed.

The purpose of this study was to advance understanding of risk for affective psychopathology among adolescent children of bipolar parents. Because specific mechanisms through which risk is heightened or attenuated are not well understood, the focus of this study was to identify and test a potentially useful mediational model. The model tested was premised on extant genetic and psychosocial literature indicating that both the quality of one's relationship with parents influences one's sense of social competency; this, in turn may buffer the negative effects of parental affective disturbance on offspring. Attachment theory served as the lens through which this topic was addressed because of its heuristic utility in explaining the processes linking relational competency and outcomes for at-risk offspring. Attachment security has repeatedly been associated with better outcomes for children of affectively disturbed parents.

The present study tested a path model which posited that quality of attachment to parents influences one's perception of available social support, self-efficacy, and fear of being evaluated by others. These elements of social competency, in turn, impact risk for

affective symptomatology according to the model proposed. Hypotheses were tested regarding specific relationships among parental attachment bonds, perceived social support, social self-efficacy, fear of negative evaluation, and adolescent affective symptomatology. Next, a regression model indicating that attachment bonds were unique, significant predictors of adolescent affective psychopathology was tested. Consistent with the notion that attachment security promotes a healthy sense of self and others, it was also hypothesized the data would reveal that secure attachment with the non-diagnosed parent would moderate the relationship between insecure attachment with the diagnosed parent and affective symptomatology. Furthermore, it was anticipated that perceived social support, social self-efficacy, and fear of negative evaluation would predict adolescent affective psychopathology and mediate the relationship between parental attachment bonds and affective disturbance. These hypotheses were motivated by research findings which suggested that elucidating the specific coping mechanisms offspring engage in when dealing with an affectively ill parent is an important step toward reducing risk and improving intervention programs for this at-risk population (Goodman & Gotlib, 1999; Hodgins, Faucher, Zarac, & Ellenbogen, 2002).

Correlational Analyses

The path model presented in the current study was based, in part, upon the assumption that parental attachment bonds would be significantly correlated with APS scores; however, the findings did not support this assumption. Additionally, correlational analyses provided only partial support for anticipated relationships among indexes of parental attachment, social support competency, and adolescent affective symptomatology. Indexes of attachment bonds to the diagnosed parent were significantly and positively correlated with perceived social support and social self-efficacy but were,

unexpectedly, unrelated to fear of negative evaluation. It was anticipated that indexes of parental attachment bonds with the non-diagnosed parent would likewise be correlated with each measure of social competency; however, findings again did not demonstrate correlational relationships among these variables. Indexes of perceived social support, social self-efficacy, and fear of negative evaluation measure distinct but related constructs; therefore, it is not surprising that they were all significantly and positively correlated with each other. Further, while perceived social support and fear of negative evaluation were correlated with affective symptomatology as anticipated, social-self efficacy was not. A more detailed discussion of findings related to the relationship between social self-efficacy and adolescent risk follows.

Group Comparisons of Secure Parental Attachment

Contrary to hypotheses, adolescents in this study reported stronger attachment bonds with the diagnosed parent than with the non-diagnosed parent. This appears to be the first study that directly compares parental attachment between these two groups. Related studies compare parental attachments of clinical versus non-clinical groups rather than differentiating between the diagnosed parent and the non-diagnosed parent. In research on attachment theory and parental affective disturbance, the focus has been primarily on mothers-child relations. However, the risk literature has documented the positive role of a supportive adult in increasing the resilience of children at risk for psychopathology (Garmezy, 1985; Werner & Smith, 1980). Including fathers in the sample of diagnosed parents and attending to the attachment relationship with the non-diagnosed spouse is somewhat unique and may serve to broaden and diversify understandings of resiliency and risk.

The expectation that attachment bonds with the non-diagnosed parent would be stronger than those with the ill parent were based on extant research with depressed and bipolar parents which indicate that affective disturbance compromises parenting abilities. It has been reported that affective illness reduces a parent's dependablity, availablity, and consistency, and that mood and energy dysregulation makes it less likely the parent can generate the sustained, effortful behavior required to cultivate secure attachment bonds (Anthony, 1975; Zahn-Waxler, 1984). While it should be noted that stronger attachment bonds with the ill parent found in this study are only *relative to* the attachment bonds with the non-ill parent in this study, these findings are in line with the view that assumptions should not be made about attachment relationships based on diagnosis alone (Seifer, Sameroff, Dickstein, Keitner, & Miller, 1996).

Methodological explanations for the difference in attachment bonds with each parent found here are also possible. That is, in this study sixty percent of the parents in the diagnosed-parent category were mothers. Most research findings have shown that adolescents describe themselves as closer to mothers than fathers (Pipp, Shaver, Jennings, Lamborn, & Fischer, 1985). Furthermore, there are indications that children who have an affectively ill parent may be more empathic and prosocial towards a diagnosed mother than a diagnosed father. It was reported that children of parents with depressed mood were more able to recognize their mothers' unhappiness and describe their own feelings about their mothers' moods (Solantaus-Simula, Punamaeki, & Beardslee, 2002). The authors suggested that differences such as a heightened awareness of, and dialogue about, their mothers' feelings and their own feelings about the mother's moods, in combination with the mothers' tendency to more promptly validate their child's responses might

reflect more emotionally close relationships with mothers. Similarly, in a study using a cross-sectional sample of adolescents investigating perceptions of attachments with parents, adolescents reported seeking their mothers more than their fathers in support seeking situations and reported a higher quality of affect toward their mothers than fathers (Paterson, Field, & Pryor, 1994). The authors suggested that there may be more to the higher utilization of mothers than simply the fact that she is an easier person to communicate with. Fathers appeared to be perceived as less emotionally involved and thus not as equipped as mothers to offer appropriate comforting.

Additionally, bipolar parents who have spouses or who are in close contact with family members represent only a portion of bipolar parents. Many parents with BPD are unmarried, divorced, or alienated from their families due to the strain the symptoms of the illness can place on relationships. It has been reported that a combination of parental affective illness and divorce is associated with poor outcome in the offspring of affectively ill adults (Beardslee et al., 1993). The very nature of the two-parent household required for inclusion in this study suggests that these diagnosed parents may have higher levels of support than others. Given that support from the non-ill parent has been linked to better outcomes for persons with affective disorders (Prince & Jacobson, 1995), it is possible that the diagnosed parents in this study were less severely impacted by their illness than those represented in other studies in this area, making them more able to foster strong attachment relationships with their adolescent offspring.

Finally, research has also documented that more severe parental symptomatology may support an understanding of the parent as "ill" (Rutter, 1990). Offspring may be better able to understand and accept mood variability when it is pronounced. Similarly,

offspring may find less severe symptomatology more complicated and confusing. While some information was obtained on the nature of the illness and treatment, it is beyond the scope of this study to be able to paint a clear picture of whether the parent could be classified as severely affected.

Parental Attachment Bonds Predicting Adolescent Affective Psychopathology

The data did not support the key assumption for this study that parental attachment bonds would make significant and unique contributions to the prediction of adolescent affective psychopathology. This result is particularly surprising given the extent of empirical and theoretical support for a relationship between these variables (Allen, 1999; Armsden & Greenberg, 1987; Engels, Finkenauer, Meeus, & Dekovic, 2001; Papina & Roggmann, 1992). The present study was designed in accordance with longitudinal research which demonstrates that insecure attachment predicts psychopathology (Kenny et. al., 1998; Papini & Roggman, 1992). Research also suggests that insecure attachment can be interpreted as a *sequela* of more longstanding psychiatric problems (e.g., depression) (Allen, Hauser, & Borman-Spurell, 1996). In the present study, long-term psychiatric difficulties were not assessed. However, indexes of adolescent affective symptomatology and information on their psychiatric history were obtained. Interestingly, overall the participants had slightly lower levels of symptomatology than might be expected. It should be noted that a slightly restricted range was found among APS scores, making it more difficult to detect a statistically significant effect. Furthermore, to date, published IPPA-R scores for non-clinical samples of adolescents are not available. However, a comparison of how parental attachment scores from the current study compare to those from a non-clinical sample

could serve as a basis for developing more sophisticated research questions concerning the nature of the relationship between attachment and risk for psychopathology.

Another explanation for the unsubstantiated hypothesis regarding attachment bonds and APS scores is the idea that the conceptualization of the parent-child relationship may change with recovery for both the parent and the child (Cummings & Cicchetti, 1990). That is, perhaps the higher functioning sample represented here participated because they were able to do so – because they were "recovering." However, at this time it is unclear where study participants rank in terms of recovery.

The lack of a significant association between parental attachment bonds and APS scores may be a result of the study design. Initially, the three components of parental attachment bonds (e.g., trust, communication, and alienation) were aggregated to indicate the relative degree of attachment security with each parent. However, measuring a multidimensional construct in aggregate can mask important information about their unique contributions. Indeed, when the components of attachment were treated as focal in post hoc analyses, relationships with APS scores were found. Specifically, trust associated with the diagnosed parent predicted adolescent affective symptomatology, as did the interaction between alienation associated with the diagnosed parent and alienation associated with the non-diagnosed parent. These findings are consistent with research and theory that stresses the multidimensional character of attachment and those which emphasize the importance of mutual understanding and respect as well as feelings of anger and isolation (Armsden & Greenberg, 1987; Parkes & Stevenson-Hinde, 1982). However, the absence of a relationship between the communication subscale and affective symptomatology warrants comment. For the current study, communication and

trust scores were very highly correlated, which suggests that measurement errors may have occured. However, it is curious that when the relationship between communication and APS scores was tested after controlling for the effects of trust, no relationship emerged. Perhaps communication and trust both tap a construct unrelated to affective symptomatology. Furthermore, communication and APS scores may have a curvilinear relationship. Additional research may help clarify how quality of communication with parents – so often idiosyncratic during adolescence – impacts risk for offspring who manage a parent who vacillates between withdrawal and excessive, tangential, or unclear communication.

Lastly, while direct relationships between composite attachment scores and affective symptomatology were not found, findings did support the hypothesis that attachment to the non-diagnosed parent moderated the relationship between attachment with the diagnosed parent and APS scores. Interestingly, high levels of parental attachment with the diagnosed parent were associated with lower levels of symptomatology, and this relationship was found to be more pronounced when strong attachment bonds with the non-diagnosed parent also existed. This finding is in line with Bowlby's theory and the wide body of subsequent research that emphasizes the protective function of strong parental attachment bonds during adolescence.

Parental Attachment Bonds Predicting Social Support Competency

Overall, attachment bonds with the diagnosed parent were stronger predictors of social support competence than were attachment bonds with the non-diagnosed parent in this study. Attachment bonds with the diagnosed parent predicted perceived social support and social self-efficacy as expected, but did not predict fear of negative

evaluation. Surprisingly, attachment bonds with the non-diagnosed parent did not predict any measure of social support competency.

In a closely related study, the mediational role of social skills and relational competence on the relationship between parental attachment and adolescent's emotional adjustment was tested (Engels et. al., 2001). In that study, 12-14 year old participants were analyzed separately from 15-18 year old participants. For the 12-14 year old age group, no effects of parental attachment on social skills and relational competence emerged. However, in the 15-18 year old age group, parental attachment was moderately related to social skills and this, in turn, affected non-familial relational competence. These findings suggest that knowledge of the underlying developmental processes is critical to understanding risk for the development of psychopathology in offspring. In the current study, age differentiations were not made, which may partially explain why some of the expected relationships among parental attachment bonds and social competency measures were not found.

Moreover, while attachment bonds and social competency are linked empirically and theoretically as reviewed earlier, findings from the current study are also in line with those which emphasize the multidimensional nature of the social competency construct; this study was likely affected by the measurement challenges this construct presents (Engels et. al., 2001; Sarason & Sarason, 1985).

Social Support Competency Predicting Adolescent Affective Psychopathology

As expected, perceived social support, social self-efficacy, and fear of negative evaluation all predicted adolescent affective symptomatology in this study. These findings are consistent with previous research demonstrating that higher levels of social

competency may reduce risk for affective psychopathology (Stefos, Bauwens, Staner, Pardoen, & Mendlewics, 1996; Johnson, Winett, Beyer, Greenhouse, & Miller, 1999). Findings are compatible with the notion that "competency" refers to both a set of interpersonal relationship skills and experiences and the beliefs [about the self and others] that prompt one to employ those skills to recruit social support. Furthermore, these findings specify elements of social support competence that guide the adolescent to organize his or her social world in such a way that risk for affective disturbance. It is noteworthy that FNE scores predicted symptomatology but were surprisingly unrelated to parental attachment bonds in this study. This finding is in line with the developmental notion that peer relationships become increasingly influential during adolescence, and their influence, relative to that of parents, may fluctuate according to developmental transitions. For the adolescent offspring of a bipolar parent, his/her perception of the negative evaluations of others may impact their affective state, but it may be that their primary sense of how others are negatively evaluating them is linked more directly to peer attachment bonds than parental attachment bonds.

Data also lend support to conclusions drawn in the single study reviewed earlier that directly assessed personal and social resources among offspring of bipolar parents (Pellegrini et. al., 1986). Findings from that study linked psychiatric well-being with a high quality of social resources, sense of control, and high self-esteem. While the social competency construct measured in that study was operationalized differently than in the present study, conclusions about the importance of social support both within and beyond the family environment for children affected by parental BPD are analogous.

Implications for Intervention and Prevention

Clinical and preventive approaches that target offspring of parents with bipolar disorder have been slow to develop relative to advancements in the understanding of risk. While programs exist for offspring who present for psychiatric treatment, preventive interventions implemented prior to the onset of offspring illness are rare. Nevertheless, there are indications that interventions designed to reduce risk prior to the onset of symptoms are effective (Beardslee, Versage, Velde, Swatling, & Hoke, 2002; Rutter, 1990). Such interventions largely rely upon family-based psychoeducational strategies to modify risk factors and promote offspring resiliency. Risk factors targeted include dysfunctional parenting practices, family communication problems, misunderstanding about the illness, and self-blame and guilt (Beardslee et. al., 1997; Chang & Steiner, 2003). There are indications that programs aimed at developing the adolescents' skill at accessing and utilizing social support (Beardslee et. al., 1997; Garmezy & Masten, 1990) promote resiliency.

Data from the current study may inform clinicians and researchers involved in intervention and prevention programs in two main ways. First, the unanticipated finding that adolescents were more closely attached to the diagnosed parent than to the non-diagnosed parent has implications for family-based interventions. Clinicians should be cautious of making assumptions that diagnostic classification alone implies dysfunctional attachment. Rather, clinicians and researchers should closely examine the specific qualities of the parent-child relationships within the family (e.g., degree of mutual understanding and respect, interpersonal connectedness) that may serve to buffer the

negative effects of the illness. This finding, coupled with the finding that a high level of attachment with each parent is associated with lower levels of symptomatology supports the notion that family interventions aimed at strengthening parent-child and marital relationships are worthwhile. Failure to take into account the potentially protective function of these relationships and incorporate this knowledge into treatment and preventive interventions would hinder progress in this area.

Second, findings that link social competency to affective symptomatology provide useful information on the specific qualities that clinicians and other professionals could target when designing psychosocial interventions. That is, results suggest that it would be beneficial to focus on the adolescent's ability to accurately perceive support when it is available, to effectively utilize relational support, and to develop optimistic attitudes and realistic appraisals of other's opinions about the self.

It is noteworthy that the number of individual counseling sessions the adolescent reported in this study was significantly and negatively associated with adolescent affective symptomatology. Participation in sixteen or more individual counseling sessions was associated with lower symptomatology than participation in five or fewer sessions. A literature review revealed no studies that address the role that length of counseling involvement plays for this specific population. Thus, it appears that data from this study may provide a starting point for future investigations of the benefit of long-term counseling versus more short-term participation for offspring of affectively-diagnosed parents.

Lastly, the children in the current study appear to represent a healthier subset of at-risk offspring than was expected given statistics on the prevalence of disturbance

among offspring of affectively disordered parents. It has been noted that recognizing resilient qualities may serve as one fruitful model for the development of preventive-intervention programs (Beardslee & Wheelock, 1991). Data from the current study could be used to inform such future research.

Limitations

This study contains several noteworthy limitations. First, interpretations are limited because of the current impossibility of statistically controlling for genetic heritability; in this study risk was assumed because the child is both biologically related to the diagnosed parent and grew up in an environment where parental BPD existed. At this time there is no known way of establishing whether an offspring carries a specific genetic predisposition (e.g., carries a gene) for affective disturbance. Research is underway to isolate genetic material; until such evidence becomes available, current researchers in this area emphasize psychosocial factors when establishing risk (Hodgins, Faucher, Zarac, & Ellenbogen, 2002). Similarly, factors related to parental BPD, such as the timing and severity of episodes, treatment success, and life events undoubtedly impact the effect of the illness on offspring, as do numerous offspring characteristics like temperament, negative life events, and personality variables.

Sample and instrument problems exist as well. Findings are based upon self-report instruments, as has most of the research of this type. Assessments of how people see themselves may not be as beneficial as methodologies without self-interpretation (e.g., experimental models, objective accounts). However, regarding the assessment of parental attachment bonds, it has also been noted that the use of a self-report instrument, rather than an observational procedure, could tap not only behavioral elements of

adolescents' support seeking, but also the cognitive expectations of attachment figures (Bretherton, 1985). The use of self-report in the current study reflects the view that attachment represents aspects of a relationship from the point of view of one person in the dyad, in this case, the adolescent (Hinde, 1982).

There could also be respondent bias in terms of those who choose to participate in the study and those who returned questionnaires. For example, depressed persons have a lack of energy and often avoid social contact, which may make them less likely respondents. Thus, the sample may be biased with an overrepresentation of individuals who experience fewer depressive symptoms. Further, it has been established that during periods of mania, in contrast to periods of depression, individuals exhibit less insight into their own behaviors. Hence, interpretations of results do not preclude the possibility that some of the responses to questionnaires may have been a consequence of the adolescent's psychopathology.

Research also suggests that certain qualities of the parent's disorder impact offspring risk (e.g., age of onset and diagnosis, required hospitalizations, medication) by way of their effect on parenting (Sameroff, 1987). Contradictory evidence suggests that clinical variables do not necessarily significantly predict outcomes for the diagnosed parent or offspring (Stefos, Staner, Pardoen, & Mendlewicz, 1996), and by extension, parenting. Findings from the present study are more in line with the latter argument. That is, clinical variables associated with the parent's illness were not associated with adolescent affective symptoms. However, the effect of these illness characteristics on attachment relationships with either parent is unclear in the current study. For example, while parents reported information on the amount of medication they received, the scope

of this study does not allow for a determination of the effect of that medication on the illness or on the quality of the parent-child attachment relationship.

Additionally, there are indications that when a family is selected for inclusion in a research study of this kind where one parent has an affective disorder, there are likely to be other disorders that will have an impact on the child and on family functioning (Beardslee & Wheelock, 1997). Factors such as comorbid disorders in the diagnosed parent, marital discord, or disorders in the non-diagnosed parent were not controlled for and could have affected results in this study.

Recommendations for Future Research

The findings of unexpected relationships in this study and the design limitations noted that may explain these findings provide direction for future research. That is, while the need for process-oriented models that elucidate mechanisms of risk for offspring remains strong, the complexity of factors influencing offspring risk makes testing such path models difficult at this time. Simplified models that investigate dyadic mechanisms that reduce or elevate risk would be beneficial in the effort to develop more elaborate path models. Nevertheless, findings from the current study do provide some specific direction for research on this topic.

The finding that attachment bonds with the diagnosed parent were stronger than those with the non-diagnosed parent warrants additional study. Specifically, determining the prevalence of attachment classifications (e.g., secure versus insecure) among these groups would enable researchers to use established attachment theory principles to interpret the underlying processes at work. Classifications would also permit comparisons among data and would further equip clinicians to develop theoretically and

empirically-based interventions given significant advances made recently in the application of attachment theory principles (Cassidy & Shaver, 1999; Kobak, 1999; Liddle & Schwartz, 2002). Furthermore, Bowlby's idea that securely attached individuals are more likely to offer support when they sense the attachment figure needs it could be tested and applied to preventive-interventions if attachment classifications were available.

Indexes of parental attachment bonds and adolescent symptomatology in the current study indicate that researchers should examine the extent to which or level at which a diagnosed parent engages in the negative risk behavior thought to characterize risk and not merely whether the parent is depressed or manic. Findings from the current study are in line with those which advocate for multidimensional indicators of risk (Goodman & Gotlib, 1999; Rutter, 1987; Sameroff et al., 1987).

Findings from the current study also suggest that longitudinal, developmentally informed studies are needed. The current study grouped together children whose ages vary widely which likely masked important developmental influences on the relationships tested. Conclusions drawn from studies of children in one developmental stage cannot be presumed to generalize to another period in children's lives. Findings from the current study should alert researchers to the importance of attending to the developmental issues of various ages and avoid grouping children or adolescents in this way.

The design of the current study did allow for various levels of symptomatology among the adolescents to be represented. This design was motivated by the fact that a significant number of children manifest resiliency in the face of the stress of having a parent diagnosed with bipolar disorder. These offspring provide examples of how to

survive stressful relational circumstances. It is as important to be able to understand and recognize risk and resiliency as it is to recognize pathology. This idea is in line with researchers who argue that it is important to understand that non-ill, resilient children exist in samples of high-risk children and to be able to characterize and understand their resiliency is as important as it is to recognize impairment (Richmond & Beardslee, 1988).

Finally, although path-analytic techniques cannot rule out alternative causal explanations or reciprocal effects, testing mediating effects offers potential for elucidating important information about links between the model variables. Research aimed at elucidating the adaptive function of attachment bonds as a means of facilitating the development of social competence and preventing affective psychopathology are crucial to diminishing offspring risk.

APPENDIX A
RECRUITING NOTIFICATION

CALL FOR RESEARCH PARTICIPANTS

Description of the study: This study investigates resiliency in adolescent offspring of parents diagnosed with bipolar disorder.

Participants needed: Parents and their adolescent(s)

Requirements for participation:

1) You must be the biological parent of an adolescent (age 12-17) and you must have been diagnosed with bipolar disorder at some time during the adolescent's lifetime,

OR

2) You must be the spouse of a parent who has been diagnosed with bipolar disorder and you must have lived with the adolescent for the majority of the adolescent's lifetime. (The diagnosed parent must be the biological parent of the adolescent.)

If you would like more information on this study or you might be interested in participating, please contact the principal investigator, Tracy Simko, at 773-665-0003 or by email at tracys@ix.netcom.com.

APPENDIX B
REMINDER CARD FOR MATERIALS NOT RECEIVED

Date _____

Dear Research Participant,

Several weeks ago you consented to participate in a research study on parental bipolar disorder. Your materials have not yet been received. If you have already returned the materials, please disregard this notice. If you have not yet returned the materials and would like assistance or more time to complete them, please contact the principal investigator, Tracy Simko, at 773-665-0003. Your participation in the study is valuable; it will contribute to the understanding of bipolar disorder and positive parent-child relationships. Thank you very much for your time.

Tracy Simko, M.A.
Principal Investigator
773-665-0003
2123 N. Magnolia Ave.
Chicago, IL 60614
tracys@ix.netcom.com

APPENDIX C
PARENT DEMOGRAPHIC QUESTIONNAIRE

Code _____

Was the adolescent adopted? Yes No

What is your relationship to the adolescent? _____

Annual household income (optional): < $20,000

$20,000 – $40,000

$40,000 - $60,000

$60,000 - $80,000

$80,000 – $100, 000

100,000 +

How many others in the adolescent's family (immediate or extended) have been *diagnosed* with an affective disorder (e.g., depression, bipolar disorder)? _____

The following questions refer to the diagnosed parent:

Date of birth _____

Highest level of education received: _____

Diagnostic/treatment history:

Age of onset _____

Age of diagnosis _____

Approximate number of affective episodes in lifetime _____

Treatment history:

Number of hospitalizations

0 _____

1-3 _____

4 + _____

Medication

Have you taken medication for bipolar disorder? Y

N

If yes,

Antidepressant ___
Dates _____
Antianxiety ___
Dates _____
Antipsychotic ___
Dates _____

Adolescent diagnostic/treatment history:

Age of onset _____

Age of diagnosis _____

Approximate number of affective episodes in lifetime _____

Treatment history:

Number of hospitalizations

0 _____

1-3 _____

4 + _____

Medication

My child has taken medication for an affective disorder ___

Antidepressant ___
Dates _____
Antianxiety ___
Dates _____
Antipsychotic ___
Dates _____

My child has not taken medication for an affective disorder ___

APPENDIX D
ADOLESCENT DEMOGRAPHIC QUESTIONNAIRE

Code _____

Date of Birth: _____ Sex: Male Female

Current Grade Level: _____

Ethnicity:
African-American
American Indian
Asian
Caucasian
Hispanic
Other, please specific _____

Have you ever received any of the following counseling services?

Individual Yes No

If Yes, approximately how many?
1-5 6-15 16-30 30+

Group Yes No

If Yes, approximately how many?
1-5 6-15 16-30 30+

Family Yes No

If Yes, approximately how many?
1-5 6-15 16-30 30+

Have you ever been hospitalized for psychiatric/psychological services? Yes No

If Yes, approximately how many times?
1-2 3-10 10+

Have you ever taken psychotropic medication? Yes No

If Yes,

Antidepressant ___
Dates _____

Antianxiety ___
Dates _____

Antipsychotic ___
Dates _____

Have you been arrested for a misdemeanor crime?	Yes	No
Have you been arrested for a felony crime?	Yes	No
Have you used illicit drugs?	Yes	No

Parent Demographic

Parent Demographic Page 2

Adol Demographic

PSS

SSE

FNE

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