ATTACHMENT STYLE, PERCEIVED LIFE EVENTS, AND PSYCHOLOGICAL WELL-BEING IN ADULTS COPING WITH BIPOLAR DISORDER: A LONGITUDINAL STUDY

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ABSTRACT

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Evidence suggests the importance of healthy social relationships for adults coping with severe mental illness. Secure adult attachment has been linked with strong supportive relationships, yet it is estimated that approximately 11% to 22% of adults diagnosed with bipolar disorder are classified as having a secure attachment style. In comparison, approximately 60 to 80% of adults without psychiatric illness are classified as having a secure attachment style. Using a sample of 161 adults diagnosed with bipolar disorder, the present study examined the role of romantic attachment style and stressful life events in describing adults' reports of mood symptoms and psychosocial functioning. Based on adults' responses to self-report measures, results suggest that adults who reported more stressful life events or an insecure attachment style endorsed more symptoms of depression and worse psychosocial functioning. Conversely, individuals classified as securely attached generally report less depression and better psychosocial functioning than adults with insecure attachment styles. Implications of findings for working with adults diagnosed with bipolar disorder are discussed.

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INTRODUCTION

Bipolar disorder is a devastating psychiatric disability that affects approximately one percent of adults in the United States (Merikangasm et al., 2007). Adults diagnosed with bipolar disorder typically experience extreme mood swings that range from intoxicating euphoria and/or irritability in the manic or hypomanic phases to compromised energy, slowed cognition, lack of concentration, and reduced physical activity in the depressed phases of the illness (American Psychiatric Association, 2000). The diagnosis of bipolar disorder is often separated into two subtypes – bipolar I disorder and bipolar II disorder. Individuals with bipolar I disorder experience manic (and often hypomanic) episodes with or without depressive episodes. Bipolar II disorder is diagnosed when an individual experiences only the less extreme hypomanic episodes with depressive episodes (American Psychiatric Association, 2000).

Although some people are able to focus the increased energy and creative thinking involved in hypomanic episodes into positive outcomes, adults with bipolar disorder often engage in erratic and impulsive behaviors and activities which they later regret, including spending sprees and foolish business investments (Michalak, Yatham, Maxwell, Hale, & Lam, 2007). Individuals experiencing the symptoms of bipolar disorder must deal with the overt and covert debilitating consequences of a mental illness that typically impacts them socially, personally, and vocationally. Although researchers have examined a number of biological and psychosocial factors related to bipolar disorder (McInnis, Burmeister, & DePaulo, 2007), the current literature on the role of close relationships in understanding the course of bipolar disorder in adulthood remains relatively sparse.

Individuals with bipolar disorder often have trouble with relationships across their lifespan (Hirschfeld, Lewis, & Vornick, 2003). Disrupted life domains often include self-

expression/self-improvement, family and other social relationships and/or relationships with work associates (Robb, Cooke, Devins, Young, & Joffe, 1997). For example, Angst (1998) found that the divorce rate among a group of 73 people diagnosed with bipolar disorder was three to six times higher than that of a group of 245 adults without a mental illness. The impact of bipolar disorder on family members and caregivers is considerable and involves adverse effects on the household, and on the caregivers' work and leisure time (Ostacher et al., 2008). Shippee and associates (2011) found that when compared to a sample of 5,464 individuals diagnosed with major depression or 53,905 adults with no psychiatric diagnosis, a sample of 572 adults diagnosed with bipolar disorder were less affluent, had less formal education, were more likely to live alone, and were more likely to be either unemployed or to have more missed work days. The psychosocial disruption that individuals with bipolar disorder often experience may be accompanied by disruptive attachment relationships across the lifespan.

Attachment theory and research on attachment have grown in popularity over the past twenty years in a effort to describe how aspects of parent-child relationships shape individuals' social interactions across the life course. Attachment theory, as described by Bowlby (1988), posits that infants become securely attached to caregivers that consistently and predictably respond to their needs. According to attachment theory, secure children trust their caregivers and are able to use them both as a secure base as they explore the world and as a safe haven for comfort and regulation in times of distress. Bowlby theorized that the quality of relationship that a mother has with her child will reflect the quality of relationships that the child will have for the rest of his or her life (Bowlby, 1988). From this perspective, the attachment relationship between a mother and her infant is quite important.

A basic premise in Bowlby's theory of attachment is that secure attachment acts as a buffer to protect the child from life stresses. For the child, the role of the attachment figure is to promote a sense of wellbeing and security (Bowlby, 1988). Although infant attachment is no longer considered a stable reflection of the quality of relationships across the lifespan (Rutter, 1995), many of the general concepts of attachment theory have been accepted and it does seem that a secure attachment style in infancy is important. Longitudinal studies have shown that a secure attachment or a supportive parental relationship at infancy predicts favorable outcomes in adulthood (Sroufe, Carlson, Levy, & Egeland, 1999; Sroufe, Egeland, Carlson, & Collins, 2005; Waters, Merrick, Treboux, Crowell, & Albersheim, 2000). There is evidence to suggest that children who experience early attachment security have an increased sense of self-esteem and self-efficacy, and more trusting, well-regulated friendships with peers compared with children who had insecure early attachments. (Rosenblum, Dayton, & Muzik, 2009).

Researchers have extended Bowlby's theory to investigate attachment styles in adulthood and have linked different types of adult attachment styles to a variety of social and psychological outcomes (Hazan & Shaver, 1987). Attachment styles in adulthood also have been examined in studies of adults with a variety of psychiatric disorders, including schizophrenia (Breier & Strauss, 1984), depressive disorders (for a review see Wai Wan & Green, 2009), personality disorders (for a review of the attachment literature, see Agrawal, Gunderson, Holmes, & Lyons-Ruth, 2004), social anxiety disorder (Eng, Heimberg, Hart, Schneier, & Liebowitz, 2001), and general psychiatric symptomatology (Hipwell, Goossens, Melhuish, & Kumar, 2000; Shorey & Snyder, 2006). Yet as a whole, the current literature on attachment relationships in adults with bipolar disorder remains quite limited. Additional research on the topic of attachment is essential, given the interpersonal challenges often experienced by people coping with bipolar

disorder. It is also important to study attachment relationships in the context of bipolar disorder because a secure attachment relationship may also provide a buffering effect in regards to stress.

The present study describes adult attachment as experienced by individuals with bipolar disorder. The research seeks to explore whether attachment among adults with bipolar disorder is associated with individual factors, such as age, sex, or marital status, or illness characteristics such as number of years since diagnosis and the severity and course of the illness. The present study examines the degree to which attachment can act as a buffer in order to protect individuals from affective episode recurrence in the face of disruptive life events.

As a context for the present study, literature that describes basic adult attachment theory and assessment issues related to adult attachment will be reviewed. Literature that discusses attachment as a buffer against stress will be reviewed. Previous studies that have investigated adult attachment styles for individuals diagnosed with bipolar disorder will be discussed.

Adult Attachment Theory and Assessment Issues

Hazan and Shaver (1987) proposed the theory of adult attachment after noticing that aspects of the relationship between an adult and his or her romantic partner shared similarities to fundamental principles of Bowlby's theory of mother-child attachment. Similar to the classification categories of child attachment, adult romantic attachment is often described by four attachment categories: secure, anxious-preoccupied, dismissive-avoidant, and fearful-avoidant (Bartholomew & Horowitz, 1991). According to Bartholomew and Horowitz (1991), securely attached adults balance intimacy and independence in their relationship, and feel warm, positive, and responsive interactions with their partners. Adults who characterize as anxious-preoccupied seek high levels of approval and intimacy from their partners, but tend to doubt their worth as a partner. Adults who have dismissive-avoidant attachments tend to desire a high level of

independence, suppress or hide their feelings, and react to rejection by distancing themselves. Fearful-avoidant attachment patterns describe adults who desire emotional closeness, but have difficulty trusting partners.

Unlike classical attachment theory as it relates to infants, adult attachment theory lacks extensive empirical research that results in a unified theory. Instead, adult attachment can refer to many different relationships in an adult's life and is measured through several different assessments that can produce different results – some assessments measure the retrospective relationship between an adult participant and their parents while the participant was growing up, some measure romantic relationships, and some measure general relationships, including friendships. Most adult attachment assessments use semi-structured interviews or self report measures that are grounded in Bowlby's theory of attachment. Most interviews that measure adult attachment tend to measure an adult's attachment to his or her family of origin instead of adult romantic attachment (Jacobvitz, Curran, & Moller, 2002). There are several self-report measures designed to measure general adult attachment and can be adapted to measure specific or general relationships (Armsden & Greenberg, 1987; Bartholomew & Horowitz, 1991; Collins & Read, 1990). However, one popular self-report measure was designed specifically to measure romantic attachment, Experiences in Close Relationships (ECR) (Brennan, Clark, & Shaver, 1998).

Regardless of differences in assessments and differences in the specific relationship being measured, it seems that results are not fundamentally different. In other words, it seems that, similar to secure child attachment, secure attachment relationships are associated with positive outcomes, regardless of the specific attachment relationship in question (Brennan & Shaver, 1995). Adults in a romantic relationship that is characterized as secure typically express more

relationship satisfaction and have longer lasting relationships than adults characterized by any of the three insecure attachment styles (J. A. Feeney, 1994; Simpson, 1990). Adults in relationships characterized by an anxious-preoccupied attachment style tend to have lower relationship satisfaction, but long lasting relationships, perhaps because the fear of abandonment and feeling of unworthiness as a partner causes people who identify with this attachment style to remain in unhappy relationships (Davila & Bradbury, 2001).

Adult Attachment and Bipolar Disorder

Adult attachment has been described in various psychiatric populations with a clear and consistent conclusion that psychopathology is generally associated with insecure attachment. Examples of studies that describe psychiatric patients with insecure attachment include individuals with social anxiety (Eng, et al., 2001), depression (Bifulco, Moran, Ball, & Bernazzani, 2002; Murphy & Bates, 1997), paranoia (Pickering, Simpson, & Bentall, 2008), and hostility related to borderline personality disorder (Critchfield, Levy, Clarkin, & Kernberg, 2007). Yet as a whole, the current literature on bipolar disorder and attachment remains relatively sparse. This paucity of research on attachment and bipolar disorder represents an important gap in the literature. To date, four published studies were found that involve adults with bipolar disorder and various attachment relationships: two studies assessed friends and family (Morriss, van der Gucht, Lancaster, & Bentall, 2009; Rosenfarb, Becker, & Khan, 1994), one study evaluated romantic relationships (Marazziti et al., 2007), and one study examined general attachment to others (Kökçü & Kesebir, 2010).

Rosenfarb, Becker, and Khan (1994) explored perceptions of attachment to parents and peers among women with mood disorders. Their sample included 51 adults with unipolar depression who had never been hospitalized, 55 participants with unipolar depression who

currently were or had been hospitalized, 25 individuals with bipolar disorder, and 25 people in a nondistressed comparison group. Attachment style was assessed for the individual's relationship with parents and peers with the self report measures, Inventory of Parent and Peer Attachment (Armsden & Greenberg, 1987) and Parent-Child Relations Questionnaire (Siegelman & Roe, 1979). Individuals with bipolar disorder reported significantly more prevalent insecure attachment than did the comparison group for both mothers and fathers, but the level of insecure attachment was not significantly different between the bipolar disorder group and the unipolar depression group with a history of hospitalization. This suggests that the difference in attachment styles between adults with bipolar disorder and adults without psychiatric illness may be explained by the presence of a psychiatric diagnosis in general and not specific to bipolar disorder.

Morriss and colleagues (2009) also evaluated attachment to family and friends among adults with bipolar I disorder and the ways that attachment is related to mood states. The study included 107 adults with bipolar disorder (34 in a manic episode, 30 in a depressive episode, and 43 in remission) and 41 individuals in a nondistressed comparison group. Attachment to family and friends was evaluated using the Bartholomew-Horowitz Relationship Questionnaire (Bartholomew & Horowitz, 1991), a four-item self-report measure in which the respondent reads a vignette that represents an attachment style and chooses which is most representative of how he or she experiences relationships in general, not a specific attachment figure (i.e., mother, father, or romantic partner). Most (78%) individuals with bipolar disorder reported an insecure attachment, as opposed to only 32% of participants without a psychiatric diagnosis. No statistically significant differences emerged in the scores for secure attachment between participants in a manic episode and participants in the nondistressed comparison group, but

participants in a depressive episode and euthymic participants reported more insecure attachment. This could indicate that participants who are under the euphoric influence of a manic episode may tend to inflate or overestimate the quality of their relationships such that they do not differ from that of a participant without a psychiatric history. Conversely, those in a depressive episode or who are not experiencing mood symptoms may tend to be pessimistic about their relationships.

Marazziti and colleagues (2007) compared romantic attachment styles among adults with different mood and anxiety disorders and participants in a nondistressed comparison group. Specifically, this study included 62 adults with bipolar disorder, 22 with major depressive disorder, 27 with panic disorder, 15 with obsessive-compulsive disorder, and 126 nondistressed participants. Attachment was assessed with the self-report measure, Experiences in Close Relationships – Revised (Brennan & Shaver, 1995). This measure was designed to assess romantic attachment, but the authors suggest that it can assess different attachment figures by altering the language of the measure. Results showed that the secure attachment style was reported significantly more frequently by participants in the non-distressed comparison group (60.6% reported secure attachment) than by participants with bipolar disorder (11.3%). There was a greater prevalence of a preoccupied attachment style among adults with a psychiatric disorder (55.6%) than among the non-distressed group (25.2%), but there were no significant differences in attachment style among the diagnostic categories. In other words, participants with psychiatric diagnoses reported equally insecure attachment styles, regardless of their diagnosis. The research found no relationship between attachment and gender or age. Additionally, there was no difference in attachment style between individuals with bipolar I disorder or bipolar II disorder.

Kökçü and Kesebir (2010) compared 36 euthymic adults with bipolar I disorder, 8 euthymic adults with bipolar II disorder, and 84 individuals in a nondistressed comparison group to examine the relationship between general attachment style and clinical features of bipolar disorder. General attachment style was assessed in this study using the Adult Attachment Schedule (Collins & Read, 1990) which is composed of two sections. The first section involves three statements about relationships and is used to classify attachment patterns as secure, anxious-ambivalent, or avoidant. The second section of the scale consists of 15 items that are scored on a Likert-type scale to evaluate attachment style. Individuals with bipolar disorder were significantly less likely to have a secure attachment (29.5%) than individuals in the nondistressed comparison group (82.1%). Adults with bipolar disorder were more likely than adults without bipolar disorder to have an insecure attachment if they had a history of physical or sexual abuse, severe manic or depressive episodes, a higher number of hospitalizations, alcohol or drug use, or comorbid psychiatric conditions. In fact, the presence of comorbid bipolar disorder and borderline personality disorder increased the risk of insecure attachment 33.2-fold compared to adults with bipolar disorder but without borderline personality disorder. In contrast with Marazziti and associates (2007), insecure attachment was more frequent among individuals with bipolar I disorder than those with bipolar II disorder, though this finding could be difficult to interpret due to the small sample size of the bipolar II group ($n = 8$). It is also noteworthy that the rate of insecure attachment found in this study was markedly lower than has been reported elsewhere in the literature – only 19.4% of participants with bipolar I disorder were classified as having an insecure attachment. Additionally, the small sample size could have contributed to the differences found in this study compared to other findings, with only 44 participants with bipolar disorder included in the analysis. The study found no difference between attachment types as a

function of participants' gender, employment status, or socioeconomic level. Only two studies (Kökçü & Kesebir, 2010; Marazziti, et al., 2007) reported data on individual factors and attachment, and with little overlap. This is an area that should be explored further in order to better understand the possible relationship between individual factors and attachment in bipolar disorder, given that it has largely been ignored in the literature.

Adult Attachment and Stress

Bowlby discussed the importance of a secure attachment in infancy in the context of acting as a buffer to protect the child from life stresses. In securely attached infants, the attachment figure provides a sense of wellbeing and security (Bowlby, 1988). Adult attachment theory merely extends child attachment theory throughout the lifespan and elucidates the importance of supportive relationships in coping with stress (Hazan & Shaver, 1994).

Research has shown the importance of the role of attachment in coping with stress for the promotion of mental health. In a study of 35 college aged women involved in a serious romantic relationship, those women who were involved in secure romantic attachment relationships reported lower levels of psychophysiological stress as opposed to women who reported involvement in an avoidant or an anxious attachment relationship (B. C. Feeney & Kirkpatrick, 1996). Similarly, of 6,895 men who worked as civil servants in the United Kingdom, those who were classified with a secure attachment style were more likely to be resilient in the face of educational disadvantage in regards to professional achievement (Bartley, Head, & Stansfeld, 2007). As stress is seen as an inevitable aspect of modern life, it is particularly important to explore whether attachment relationships provide protection against life stress when there is an additional stressor of a chronic disease. A study that involved 147 participants who were HIV-positive found that levels of perceived stress were lower in participants with a secure attachment

style than those who approached relationships with a less secure or more anxious style (Koopman et al., 2000).

Although it is clear that secure attachments can provide a buffer against life stress and can promote mental health in general populations, relatively little is known about the role of attachment in coping with stress for individuals diagnosed with psychiatric disorders. Stress is an important consideration in bipolar disorder, specifically, because of its possible role in the recurrence of affective episodes. The relationship between life stress, especially severe negative life events, and bipolar disorder has been well documented. For example, a study that examined 69 records in a Lithium Clinic after a stressful life event (i.e. a hurricane) found ten individuals who relapsed two weeks after the event, compared to only four clients who had been in treatment for a relapse prior to the hurricane (Aronson & Shukla, 1987). The adults who relapsed had a significantly lower duration of stability compared to the adults who did not relapse, suggesting that recently stabilized individuals may be more vulnerable to the effects of stressful life events than those who have been stable for a long time. However, this study involved only one specific event that most likely affected people differently and is difficult to generalize to the population.

In another example, a two year prospective study of 61 people with bipolar disorder found a significant relationship between stressful life events and recurrence of affective episodes (Ellicott, Hammen, Gitlin, & Brown, 1990). Those who experienced severe negative life events over the two year period were four times more likely to experience a relapse than those who did not experience a severe negative life event. Additionally, a study of 61 individuals with bipolar disorder found that those who had experienced negative life events took three times longer to recover from an episode than those who had not experienced an event (Johnson & Miller, 1997).

Research described above indicates that a secure attachment style may buffer the effects of life stress and promote general mental health. The literature also indicates that, for people with bipolar disorder, stress may cause symptoms to appear or to worsen. In addition, when relationships are discussed in the literature in the context of bipolar disorder, it is typical for the discussion to be focused on the negative aspects of relationships, or how stressful relationships can lead to stressful outcomes. The present study aims to explore whether attachment relationships can be positive assets for people with bipolar disorder. Research has yet to explore whether a secure attachment style can buffer the effects of life stress in adults with bipolar disorder. The present study seeks to further explore a possible buffering effect of attachment on stress and the role of stress in episode recurrence to see if secure attachment provides a buffer against affective symptoms in the face of disruptive life events.

Summary

The few existing studies of adult attachment for people with psychiatric disabilities suggest that adults with bipolar disorder report having predominantly insecure attachments. However, it is not clear if individuals' reports of attachment with different types of significant relationships (such as romantic attachment versus parental attachment) have different associations with self-reported symptoms over time for adults diagnosed with bipolar disorder. Studies on the general population have found that secure attachment relationships in adulthood have a protective effect against life stress. Studies generally also have found associations between bipolar disorder, traumatic life events, and illness relapse. It is unclear based on the current literature if secure attachment would buffer the effects of life stress for people with bipolar disorder to prevent illness relapse. More basic research is needed to describe the role of

attachment status, perceived life events, and symptom stability for adults coping with bipolar disorder.

THE PRESENT STUDY

The present study examines the role of perceived attachment relationships and stressful life events in understanding self-reported symptoms and psychosocial functioning for adults diagnosed with bipolar disorder. These present study uses both cross-sectional and longitudinal data over the course of two and four months to examine individual characteristics, perceived attachment styles, and stressful life events in accounting for variation in self-reported clinical outcomes.

In an effort to replicate previous research, the present study will examine the frequency of different types of attachment styles reported by a sample of adults diagnosed with bipolar disorder. Based on previous studies, it is expected that a majority of participants will be classified as having insecure attachment styles based on their self-report of relationships with parents. Additionally, the present research will examine differences in self-reported attachment classification as a function of type of relationship with parent (retrospective account) or romantic partner (current account). It is expected that the classification of attachment style will not significantly differ as a function of parent or romantic partner relationship.

The present study seeks to extend previous findings by examining the role of perceived stressful life events as a moderator of the relationship between attachment style and psychological well-being (i.e. psychosocial functioning, manic and depressive symptoms) at baseline assessment. Specifically, it is expected that self-reported stressful life events will moderate the relationship between self-reported attachment style and psychosocial functioning at work and at home. Perceived stressful life events are also expected to moderate the relationship between self-reported severity of depressive and manic symptoms. The role of both negative and

positive self-reported life events as moderators of attachment style and psychological well-being will be examined.

To extend previous research, the present study will use longitudinal data to examine the relative contribution of individual characteristics, initial illness severity, life events, and attachment in accounting for variation in perceived psychosocial functioning and perceived symptoms of depression and mania over a two month and four month period. Specifically, it is expected that perceived attachment style will significantly add to the ability to predict psychosocial functioning and symptoms over time, after controlling for individual characteristics, illness severity, and stressful life events.

METHOD

Participants

The present research used data collected from a sample of 161 participants from the Longitudinal Study of Bipolar Disorder conducted at the University of Michigan Depression Center from August 2004 to December 2010. To be eligible for the study, participants needed to be 18 years of age or older and carry a diagnosis of bipolar I or II disorder. Diagnosis was established by means of a semi-structured interview (see below) that utilizes the diagnostic criteria of the Diagnostic and Statistical Manual of Mental Disorders – Fourth Edition, Text Revision DSM-IV-TR.

The Longitudinal Study of Bipolar Disorder is a large-scale, long-term study that collects a variety of data at baseline including diagnosis from a semi-structured interview, neuropsychological testing, personality assessment, DNA and biomarker collection, and various self report measures. Participants in the research are followed prospectively every two months to collect data using self-report questionnaires and are seen in person in the research clinic once per year with a repeat of the baseline procedures. The present study utilized the semi-structured interview that was completed at the participants' baseline study visit and select self report questionnaires given at baseline, two months, and four months. The Human Subjects Review Board (HSRB) at Bowling Green State University ruled that University of Michigan institutional review was sufficient for use in the present study of this archival dataset. All identifying information for participants in the dataset was removed by University of Michigan researchers prior to obtaining the archival data.

Sample Characteristics

The present sample consists of 161 participants (119 women and 42 men), 126 adults with bipolar I disorder and 35 adults with bipolar II disorder. Longitudinal data exists for 149 participants at a two month follow up and 103 participants at a four month follow up, indicating a 7% and 36% attrition rate for two and four months, respectively. The sample consists of adults across the United States, but predominantly in the area of Ann Arbor, Michigan. Descriptive statistics about the sample are presented in Table 1.

The average age for the participants in this study was 41.3 years (*SD* = 12.7). Most of the sample identified as Caucasian (87.4%). The majority of the adults in this study are highly educated; over half of the adults included in the sample (55.3%) hold a Bachelors degree or higher. Over half of the participants (50.6%) reported being employed full or part time and 70.8% reported living alone or with their partner and/or children. The majority of the sample identified as Protestant (39.7%) or Catholic (34%) and reported being currently married (42.2%) or never having been married (34.8%). The adults in this study reported having an average of one child (*M* = 1.1, *SD* = 1.3). At baseline, the majority of participants (51.6%) were in a euthymic state. 26.1% were in a depressive episode, 15.5% were in a manic or hypomanic episode, and 6.2% were in a mixed episode.

Measures

Individual Characteristics and Initial Illness Severity

Diagnostic Interview for Genetic Studies (DIGS)

The Diagnostic Interview for Genetic Studies (DIGS) (Nurnberger et al., 1994) was used as a part of the diagnostic process and to extract specific clinical data points. The DIGS is a semi-structured clinical interview commonly used for the assessment of major mood and psychotic disorders and provides for detailed assessment of symptoms in several DSM-IV-TR

diagnoses, which allows for the reliable differential diagnosis of related disorders. In addition, the interview includes self-reported demographic and medical history data. Specific data points provided by the DIGS that are utilized in this study include individual characteristics (age, gender, years of education) and illness severity (number of psychiatric hospitalizations, age at onset of first episode, summation of number of depressive and manic episodes, presence/chronicity of psychosis, chronicity of affective symptoms, general impact of illness on functioning, and mean number of episodes per year the individual was ill).

Attachment

Experiences in Close Relationships – Revised (ECR-R)

Attachment to the participant's mother, father, and romantic partners were measured with Experiences in Close Relationships – Revised (ECR-R) (Fraley, Waller, & Brennan, 2000), a widely used 36-item self-report measure of insecure-anxious and insecure-avoidant attachment. Though the measure was designed to assess romantic attachment, the word "partner" can be substituted for "mother" or "father" to retrospectively assess attachment to parents when the respondent was a child (Fraley, et al., 2000). Items composing the insecure-anxiety scale refer to the fear of rejection and emotional dependency (e.g. "I often worry that my partner doesn't really love me"). The insecure-avoidance scale contains statements regarding problems with emotional closeness (e.g. "I get uncomfortable when a romantic partner wants to be very close"). The participants indicate their agreement to the statements on a 7-point Likert scale; low scores indicate securely attached individuals, while high scores describe insecure-anxious or insecure-avoidant attachment, depending on the domain. In the present study, internal consistency for the ECR-R was high for all three targets: partner ($\alpha = .95$), mother ($\alpha = .95$), and father ($\alpha = .95$).

Perceived Stressful Life Events

Life Events Checklist

The Life Events Checklist (Kennedy, Thompson, Stancer, Roy, & Persad) (Gray, Litz, Hsu, & Lombardo, 2004) is a self report measure consisting of 17 items that screen for potentially traumatic events. The questionnaire evaluates whether the respondent personally experienced the event, witnessed the event, learned about the event, is not sure if the event applies to them, or the event does not apply. The total tally of events that the respondent has personally experienced is summed to create a total trauma score. Higher total trauma scores indicate that the respondent has experienced more traumatic life events; lower total trauma scores indicate fewer traumatic life events. The LEC has demonstrated convergent validity with other measures that assess exposure to traumatic life events (Gray, et al., 2004). The internal consistency coefficient in the present sample was high ($\alpha = .83$).

Symptom Severity

Patient Health Questionnaire (PHQ9)

Depressive symptoms at time points 0 months, 2 months, and 4 months were measured by the Patient Health Questionnaire (PHQ9) (Kroenke, Spitzer, & Williams, 2001), a nine item scale of depression based directly on the diagnostic criteria for major depressive disorder in the DSM-IV. The PHQ9 is commonly used in both research and clinical settings as a tool to screen and manage patients with depression. The PHQ9 is scored by summing each of the items. A score of ten or greater (out of a maximum of 27) has been shown to correlate with the diagnosis of major depression, with a sensitivity of 88%. The PHQ9 can be used either as a continuous variable or as a categorical variable according to depression severity in which scores less than five are considered not depressed, scores five to nine are mild depression, scores ten to fourteen

are moderate depression, scores fifteen to nineteen are moderately severe depression, and scores twenty to twenty seven are severe depression. The present study uses the PHQ9 score as a continuous variable. The internal consistency coefficient for the PHQ9 in the present sample was high ($\alpha = .90$).

Altman Self-Report Mania Scale (ASRM)

Symptoms of mania at time points 0 months, 2 months, and 4 months were measured by the Altman Self-Report Mania Scale (ASRM) (Altman, Hedeker, Peterson, & Davis, 1997), a five-item self-report questionnaire that is commonly used in both research and clinical practice to assess the presence and/or severity of manic symptoms. The items on the ASRM are based directly off of the diagnostic criteria for manic episode in the DSM-IV and may be used in combination with the PHQ9 to assess mixed states of mania and depression. The ASRM is scored by summing each of the responses. Cutoff scores of six or higher indicates a high probability of a manic or hypomanic episode, with a sensitivity of 85.5%. The ASRM can be used either as a continuous variable or as a categorical variable in which scores below six are considered not manic/hypomanic and scores six or higher are considered manic/hypomanic. The present study uses the ASRM as a continuous variable. The internal consistency reliability coefficient in the present sample was high ($\alpha = .84$).

Perceived Psychosocial Functioning

Life Functioning Questionnaire (LFQ)

The Life Functioning Questionnaire (LFQ) (Altshuler, Mintz, & Leight, 2002) was administered to measure quality of functioning at time points 0 months, 2 months, and 4 months. The LFQ is a self-report questionnaire consisting of 14 items that assess satisfaction with time, conflict, enjoyment, and performance in four domains: friends, family, duties at home, and the

workplace. If a domain does not apply to a respondent (e.g., if they do not have a job or have no family), they are instructed to skip that domain. The LFQ provides a gender-neutral, reliable, and valid assessment of function at work and at home. Scoring of the LFQ involves computing the mean for each of the four domains. Higher scores on the LFQ indicate more problems with functioning; lower scores indicate better functioning. In the present study, each of the four domains were highly correlated (mean r = .54), so the domains were averaged to create a singular score to represent overall functioning. The internal consistency coefficient in the present sample was high (α = .91).

RESULTS

Attachment Style Classification

Scores on the Experiences in Close Relationships – Revised measure were used to form four attachment categories (i.e., secure, anxious-preoccupied, dismissing-avoidant, or fearful-avoidant) through a replication of the categorization process used by Marazziti et al. (2007). Through this process, separate attachment style categories were formed for each of the three targets: attachment with romantic partner, mother, and father. Anxious and avoidant subscale scores were tallied and compared to the norms published by Brennan, Clark, and Shaver (1998). Participants scoring above one standard deviation from the norm on the avoidance subscale were classified as dismissing-avoidant. Those scoring above one standard deviation from the norm on the anxiety subscale were classified as anxious-preoccupied. Those individuals scoring above one standard deviation from the norm on both subscales were classified as fearful-avoidant. All others were classified as secure.

Frequencies of attachment classifications for each of the three targets are shown in Table 2. The majority of participants were classified as having a secure attachment with romantic partners (50.3%) with their mothers (57.3%) and with their fathers (46.8%). In subsequent analyses, dismissive-avoidant and fearful-avoidant classifications were combined into the singular classification of "avoidant" due to the small number of participants who were categorized as having a dismissive-avoidant attachment style.

Cohen's kappa was calculated to examine the level of agreement among the three attachment classifications (secure, anxious-preoccupied, avoidant) across the three targets (mother, father, romantic partner). This statistic was used because the data was categorical and involved repeated measures (i.e., the same participants completed all three measures of

attachment style). Cohen's kappa generally ranges from 0 to 1.0, with larger numbers indicating better agreement. Thus, significant agreement would indicate a consistency of attachment style across targets. In general, kappa values above 0.6 are considered as "good" agreement. Kappa values above 0.2 are considered as "fair" agreement. Agreements across all of the relationships were statistically significant (partner and mother $k = .18$, $p < .01$; partner and father $k = .15$, $p < .01$; mother and father $k = .26$, $p < .01$). However, according to traditional interpretations of the kappa statistics, only the agreement between mother and father ($k = .26$) was strong enough to be considered a fair agreement. Although attachment classifications across the three targets showed statistically significant agreement, the level of participant agreement between their reports of attachment style for romantic partner, mother, and father was not sufficiently strong to rule out meaningful differences, since kappa statistics ranged from agreement slight to fair.

It was decided that participants' reports of attachment style for romantic partner and mother will be examined in subsequent analyses. The decision to focus on attachment styles for romantic partner and mother only was also based on existing literature on adult attachment and bipolar disorder has examined romantic partner attachment and because classical attachment literature on adults with other psychiatric disorders and children has focused on mother attachment. Additionally, Cohen's kappa indicated that level of overall agreement between participants' reports of attachment styles for mother and father were the strongest. Separate analyses were conducted for both romantic partner attachment style and for maternal attachment style, and results were not fundamentally different in interpretation for the two attachment styles. Therefore, reports for romantic partner will be reported in the present manuscript for the sake of clarity.

Demographics and Illness Severity

Three one-way ANOVAs were conducted to examine differences in romantic attachment classification as a function of age, years of education, or number of times married. No significant differences were found for either age $F(2, 147) = 1.74$, $p < .18$, years of education $F(2, 147) = .85$ $p < .43$. There was a statistically significant difference in the number of times married $F(2, 114) = 3.79$, $p < .03$ in that those with secure attachments were married fewer times ($M = 1.02$) than those with either anxious-preoccupied or fearful attachments ($M = 1.41$ and 1.56, respectively). Chi square analyses explored additional demographic variables in terms of attachment classification. No significant differences were found for participant gender $X^2 (2, N = 149) = .19$, $p < .91$, race $X^2 (4, N = 149) = 1.31$, $p < .86$, marital status $X^2 (8, N = 149) = 11.26$, $p < .19$, or employment status $X^2 (6, N = 148) = 7.32$, $p < .29$.

Additionally, four one-way ANOVAs explored differences in attachment as a function of variables that have been associated with illness severity. No significant differences were found in attachment classification as a function of age at onset of mania $F(2, 145) = 2.98$, $p < .05$, age of onset of depression $F(2, 146) = .30$, $p < .74$, number of manic episodes $F(2, 145) = .77$, $p < .46$, or number of depressive episodes $F(2, 146) = 2.02$, $p < .14$. Chi square analyses examined differences in attachment classification as a function of other markers of illness severity including history of psychosis (i.e., yes/no/uncertain), history of rapid cycling (i.e., yes/no/uncertain), history of suicidal thought/behavior (i.e., never/thought/acted/uncertain), history of mixed episodes (i.e., never/overlapping symptoms/definite mixed episodes/uncertain), chronicity of affective disorder (i.e., remissions longer than episodes/episodes longer than remissions/uncertain), and general impact of illness on life functioning (i.e., no loss of status/loss of status but not disabled/disabled).

Chi square analyses were significant for history of rapid cycling such that participants without a history of rapid cycling were more likely than expected by chance to be classified as secure and less likely to be classified as avoidant compared to participants with a definite history of rapid cycling X^2 (4, N = 149) = 10.38, $p < .04$. Additionally, those without a history of mixed episodes were more often than expected by chance to be categorized as secure and less likely to be classified as anxious-preoccupied. This can be compared with those participants who endorsed a history of rapid fluctuations or a definite history of mixed episodes, who were less likely to be categorized as securely attached and more likely to be classified as anxious-preoccupied. Additionally, those with a definite history of mixed episodes were more likely to be categorized as avoidant than would be expected by chance X^2 (6, N = 147) = 12.99, $p < .04$. No significant differences for found for history of psychosis X^2 (4, N = 149) = 7.282, $p < .12$, history of suicidal thought/behavior X^2 (6, N = 148) = 9.99, $p < .13$, chronicity of affective disorder X^2 (4, N = 147) = 7.13, $p < .13$, or general impact of illness on life functioning X^2 (4, N = 149) = 2.46, $p < .65$.

Life Events, Attachment Style, and Psychosocial Functioning

Three one-way ANOVAs were run to examine the effects of life events and attachment style on participants' reports of depression, mania/hypomania, and psychosocial functioning. In these analyses, the Life Events Checklist scores were split into three groups: adults who reported 0 or 1 life event (n = 43), adults with 2 to 4 life events (n = 59), and adults with 5 or more life events (n = 49). Attachment style had a significant effect on depression F(2, 140) = 9.33, $p <$ 0.01 such that participants with a secure attachment style generally reported significantly lower depression scores (M = 5.48) than participants with anxious-preoccupied (M = 8.47, $p < .01$) and avoidant attachments (M = 10.97, $p <$.01). There was no significant difference in depression

between participants with anxious-preoccupied or with avoidant attachment styles ($p < .10$). Additionally there was no main effect of traumatic life events on depression ($p < .39$). There was no significant interaction between attachment style and life events for depression $F(4, 140) = .46$, $p < .77$.

Attachment style also had a significant effect on psychosocial functioning $F(2, 140) = 10.55$, $p < .01$. Participants with a secure attachment style reported significantly better functioning ($M = 1.33$) than participants with anxious-preoccupied attachments ($M = 1.62$, $p < .01$) or participants with avoidant attachments ($M = 1.91$, $p < .01$). Additionally, those participants with anxious-preoccupied attachment styles reported significantly better functioning than participants with avoidant attachment styles ($p < .04$). There was also a statistically significant difference in participants reports of psychosocial functioning based on number of traumatic life events $F(2, 140) = 3.45$, $p < .03$ such that people who reported 0 – 1 traumatic life events ($M = 1.42$) generally had better functioning than people with 2 – 4 life events ($M = 1.77$, $p < .01$). No differences were found in functioning between people with 0 – 1 life events and people with 5 or more life events ($M = 1.67$, $p < .07$) or between people with 2 – 4 events and people with 5 or more events ($p < .35$). There was no significant interaction between attachment style and life events for psychosocial functioning $F(4, 140) = .36$, $p < .84$

There was no significant effect of attachment style on participants' reports of mania ($p < .13$). Additionally, no differences were found in regards to number of traumatic life events for mania ($p < .13$). However, there was a significant interaction between attachment style and life events for mania $F(4, 140) = 4.51$, $p < .01$. Individuals with secure attachment styles and five or more life events reported higher levels of mania/hypomania ($M = 6.33$) than individuals with five or more life events and anxious-preoccupied ($M = 2.82$) or avoidant attachment styles ($M = 3$).

Additionally, those adults with secure attachment styles reported more mania/hypomania when they experienced five or more life events ($M = 6.33$) as compared to those with two to four life events ($M = 2.22$) or those with zero or one life events ($M = 1.93$). Participants with anxious-preoccupied attachment styles and zero or one life events reported higher levels of mania/hypomania ($M = 5.3$) than those with no life events and secure attachment ($M = 1.93$) or anxious attachment styles ($M = 2$). Additionally, individuals with an anxious-preoccupied attachment style reported more symptoms of mania when they had zero or one life events ($M = 5.3$) than when they had two to four life events ($M = 3.52$) or five or more life events ($M = 2.82$).

Relative Contribution of Life Events and Attachment in Accounting for Variation in Well-Being

Depression. Hierarchical multiple regression techniques were used to examine the relative contribution of individual characteristics (age, gender, years of education), number of traumatic life events, and attachment style on depression (Table 3). After controlling for individual characteristics, number of traumatic life events and attachment style statistically predicted depression $F(6, 152) = 6.1$, $p < .01$, $R^2 = .11$. The number of traumatic life events contributed to the equation ($p < .05$) such that adults with more traumatic life events reported higher levels of depression ($\beta = .19$). Additionally, attachment style contributed to the equation ($p < .01$) such that people with insecure attachment styles reported higher levels of depression as compared to people with secure attachment styles ($\beta = -.41$).

Three hierarchical multiple regressions explored the effects of traumatic life events and attachment style over the time points of two months and four months later. After controlling for variance in individual characteristics and the severity of depression at the previous time point, depression was not significantly predicted by number of traumatic life events at two months F(5,

141) = 1.09, $p < .30$, $R^2 = .004$ or at four months $F(5, 95) = .18$, $p < .67$, $R^2 = .001$. After controlling for variance in individual characteristics, severity of depression at the previous time points, and number of traumatic life events, depression was not significantly predicted by attachment style at two months $F(7, 139) = .457$, $p < .63$, $R^2 = .004$ or at four months $F(7, 93) = 8.76$, $p < .22$, $R^2 = .02$. Instead, the variance in reports of depression was consistently significantly predicted by depression at the previous time point after controlling for the variance in individual characteristics at both two months $F(4, 142) = 99.31$, $p < .01$, $R^2 = .40$ and at four months $F(4, 96) = 47.54$, $p < .01$, $R^2 = .31$.

Psychosocial Functioning. Hierarchical multiple regression techniques were used to examine the relative contribution of individual characteristics (age, gender, years of education), number of traumatic life events, and attachment style on psychosocial functioning (Table 4). After controlling for individual characteristics, number of traumatic life events and attachment style statistically predicted psychosocial functioning $F(6, 152) = 8.4$, $p < .01$, $R^2 = .16$. Number of traumatic life events contributed to the equation ($p < .05$) such that adults with more traumatic life events reported worse psychosocial functioning than adults with fewer traumatic life events ($r = .26$). Additionally, attachment style contributed to the equation ($p < .01$) such that people with insecure attachment styles reported worse psychosocial functioning as compared to people with secure attachment styles ($r = -.38$).

Three hierarchical multiple regressions were conducted to explore the effects of traumatic life events and attachment style on depression over the time points of two months and four months post base line. After controlling for variance in individual characteristics and psychosocial functioning at the previous time points, psychosocial functioning was not significantly predicted by number of traumatic life events at two months $F(5, 142) = 1.32$, $p <$

.25, $R^2 = .01$ or at four months $F(5, 93) = .001$, $p < .97$, $R^2 = .001$. After controlling for variance in individual characteristics, psychosocial functioning at the previous time points, and number of traumatic life events, psychosocial functioning was not significantly predicted by attachment style at two months $F(7, 140) = .56$, $p < .57$, $R^2 = .01$ or at four months $F(7, 91) = 1.33$, $p < .27$, $R^2 = .02$. Rather, the variance in reports of psychosocial functioning was consistently significantly predicted by psychosocial functioning at the previous time point after controlling for the variance in individual characteristics at both two months $F(4, 143) = 91.95$, $p < .01$, $R^2 = .38$ and at four months $F(4, 94) = 56.19$, $p < .01$, $R^2 = .35$.

Mania. Hierarchical multiple regression techniques were used to examine the relative contribution of individual characteristics (age, gender, years of education), number of traumatic life events, and attachment style on mania (Table 5). Mania was not significantly predicted by individual characteristics, number of traumatic life events, or attachment style. Three hierarchical multiple regressions explored these effects over the time points of two months and four months later. After controlling for variance in individual characteristics and the severity of mania at the previous time points, mania was not significantly predicted by number of traumatic life events at two months $F(5, 141) = .001$, $p < .97$, $R^2 = .001$. After controlling for variance in individual characteristics, severity of mania at the previous time points, and number of traumatic life events, mania was not significantly predicted by attachment style at two months $F(7, 139) = .25$, $p < .78$, $R^2 = .003$. Rather, the variance in reports of mania was consistently significantly predicted by mania at the previous time point after controlling for the variance in individual characteristics at both two months $F(4, 142) = 36.15$, $p < .01$, $R^2 = .20$. Similarly, at four months, reports of mania were consistently significantly predicted by mania at the previous time point after controlling for the variance in individual characteristics $F(4, 96) = 26.10$, $p < .01$, $R^2 = .21$.

In other words, the variance in reports of mania at two and four months was explained by the previous time point's report of mania, which suggesting that reports of mania were stable over this time period. However, after controlling for variance in individual characteristics and the severity of mania at two months, mania was significantly predicted by number of traumatic life events at four months $F(5, 95) = .5.07$, $p < .03$, $R^2 = .04$ such that adults with higher numbers of traumatic life events reported higher levels of mania ($\beta = .20$). After controlling for variance in individual characteristics, severity of mania at the previous time points, and number of traumatic life events, mania was not significantly predicted by attachment style at four months $F(7, 93) = .47$, $p < .63$ $R^2 = .01$.

DISCUSSION

The present research investigated the role of perceived attachment relationships and stressful life events in understanding self-reported symptoms and psychosocial functioning for adults diagnosed with bipolar disorder. Specifically, this research used both cross-sectional and longitudinal data over the course of a two and four month period to examine individual characteristics, perceived attachment styles, and stressful life events in accounting for variation in self-reported clinical outcomes. Main research questions included 1) the relative frequency of attachment styles and the consistency of attachment style across three targets, 2) the role of perceived stressful life events as a moderator of the relationship between attachment style and psychological well-being, and 3) the relative contribution of individual characteristics, initial illness severity, life events, and attachment in accounting for variation in perceived psychosocial functioning and perceived symptoms of depression and mania over a two month and four month period.

Frequency of Attachment Styles and Comparison across Targets

Based on evidence from previous research, it was expected that the majority of adults with bipolar disorder in the present research would be classified as having insecure attachment styles based on their self-report of relationships with parents or their self-report of relationships with romantic partners. However, the majority of participants in this sample had secure attachment styles (as compared with anxious or avoidant attachment styles) with romantic partners, mothers, and fathers. Present findings are in contrast to previous studies which suggests that adults with bipolar disorder have predominantly insecure attachment styles when assessing romantic relationships (Marazziti, et al., 2007) or when assessing relationships with parents (Rosenfarb, et al., 1994), or in general (Kökçü & Kesebir, 2010; Morriss, et al., 2009).

The present results should be interpreted with caution, given that the studied population overrepresented Caucasian and well educated adults. Due to this, it may be difficult to generalize the results to the entire population of adults with bipolar disorder. Frequencies of attachment styles should be explored in future research involving more ethnically and educationally diverse adults.

When comparing attachment styles across the three targets (romantic partner, mother, and father), only the agreement between maternal and paternal attachment was strong enough to be considered a fair agreement, given traditional interpretations of kappa statistics. This led us to run analyses separately for all three targets. However, when comparing results between targets, no differences in results emerged; the results for all three targets were not fundamentally different. It is possible that the fundamental similarity of the results was not reflected in the statistical analyses due to a lack of power resulting from a relatively small sample size. As a result, a decision was made only to report results for romantic attachments. The decision to report analyses only for romantic attachment was made because this target was measured presently, as opposed to retrospectively, which provides a more methodologically sound construct. Findings regarding mother and father attachments must be interpreted with caution given that the measure was given as a retrospective account of attachment (i.e., “when you were growing up”). In this regard it is unsurprising that findings would be similar for the retrospective targets (mother and father) and less similar for targets assessing different time points (romantic relationships now versus mother and father in the past). Romantic attachment was also chosen to be the target about which results would be reported because the current literature often, but certainly not always, discusses adult attachment in light of romantic attachment (as opposed to attachment to parents).

Stressful Life Events as a Moderator between Attachment and Well-Being

Based on evidence from previous research, the number of stressful life events was expected to moderate the relationship between attachment style and psychosocial well-being such that adults with secure attachments and few life events would report similar overall well-being as adults with insecure attachments and few life events, but that adults with secure attachments and many life events would report better overall well-being compared to adults with insecure attachments and many life events. This was expected to hold true regardless of which well-being outcome was being measured (i.e. psychosocial functioning, depressive symptoms, or manic symptoms).

Depression. In assessing the effect of attachment and stressful life events on depression, only a main effect of attachment on depression was found in the present study. Specifically, adults with secure attachment styles reported lower levels of depression than adults with insecure attachment styles. There was no difference in levels of depression between the insecure attachment styles – adults who had anxious-preoccupied and adults who had avoidant attachment styles reported similar levels of depression. No moderator effect of life events on the relationship between attachment and depression was found. It is possible that once adults are equipped with a protective secure attachment style, they fare better in regards to depression compared to adults with insecure attachment styles, even in the absence of stressful life events. A similar study by Aneshensel and Stone (1982) that examined social support as a moderator of stress (i.e. life event losses and perceived strain) and depression in a large (N = 1000) community sample found similar results. This study found only main effects of social support and stress on depression, and failed to find an interaction effect. The authors suggested that this may mean that social support may itself be important in recovering against symptoms of depression. Given that the

present study found only main effects, it is possible that adults with bipolar disorder fare better overall if they have positive, supportive relationships. The present findings fit into the buffering hypothesis for stress, social support, and depression suggested by Cohen and Wills (1985), which posits that a buffering model is found when measures assess the perceived availability of interpersonal resources, and that a main effect model is found when measures inquire about integration into a social network.

Psychosocial Functioning. Similar to the findings regarding depression, only main effects for the outcome of psychosocial functioning were found in the present study. There was a main effect of attachment on psychosocial functioning such that people with secure attachment styles reported better psychosocial functioning than people with insecure attachment styles. Additionally, among adults with insecure attachment styles, those with anxious-preoccupied attachments reported better psychosocial functioning than adults with avoidant attachments. Another main effect of number of stressful life events on psychosocial functioning was found. Participants with none or one stressful life event reported significantly better psychosocial functioning than did participants with two to four stressful life events. There was no significant difference between participants who reported 0-1 stressful life events compared to participants who reported 5 or more stressful life events. It is possible that no differences were found due to of lack of power as a result of a relatively small overall sample size. Similarly to the results found regarding depression, no moderator effect of life events on the relationship between attachment and psychosocial functioning was found. It is possible that adults with secure attachment styles have an advantage in regards to both depression and psychosocial functioning compared to adults with insecure attachment styles.

Mania. No main effects were found regarding mania and attachment or stressful life events in the present study, however, two significant and unexpected interactions were found. There was a significant interaction between attachment style and stressful life events such that adults with secure attachment styles and five or more stressful life events reported higher levels of mania compared to adults with insecure attachment styles or adults with fewer than five stressful life events. In addition, there was a significant interaction between attachment and stressful life events such that adults with anxious-preoccupied attachments styles and 0-1 stressful life events reported higher levels of mania compared to adults with secure or avoidant attachment styles or adults with more than one stressful life event. Both interactions that were found were significant in a different direction as was expected from the literature, that is, that adults in this study with high levels of mania reported secure attachment styles and many negative life events, or anxious-preoccupied attachment styles and very few negative life events. However, these results should be interpreted with caution. To our knowledge, no study has studied mania in the context of attachment and negative life events. Our expectation that adults who reported secure attachment styles and few negative life events would report fewer symptoms of mania was extrapolated from literature that reported on depression or mood in general. It is possible that depression and mania present as different enough constructs, not just polar ends of a spectrum of mood, that similar results will not be found in a study that treats them similarly. More research should be done to assess mania separately in the context of attachment and negative life events. In addition, the self report nature of the measures assessing mania, life events, and attachments could have implications for validity, especially when a participant could be influenced by their mood. It is possible that a participant who is experiencing the euphoric effects of mania may, unintentionally, inaccurately report on their relationships or their life

events. Additionally, the relatively small numbers of adults in this sample who endorsed manic symptoms may indicate that these results may be artifacts of sampling error.

Longitudinal Variation in Psychosocial Well-Being

The present study examined the relative contribution of individual characteristics, initial illness severity, and stressful life events in accounting for variation in scores on measures of depression, mania, and psychosocial functioning over three time points. Specifically, it was expected that attachment style would be significant in predicting all three outcome variables: depressive symptoms, manic symptoms, and psychosocial functioning. It was also expected that attachment style would be a significant predictor at all three time points: baseline, two months out, and four months out.

Depression. Similar results were found through this analysis to the main effects reported previously that examined the effects of life events and attachment on depression. Specifically, stressful life events significantly predicted depression; adults who reported more stressful life events also reported higher levels of depression. This result was only significant for the baseline time period. Additionally, attachment style significantly added to the ability to predict depression at baseline, even after the variance for individual characteristics and stressful life events was accounted for such that adults who reported insecure attachment styles also reported more depressive symptoms. This is consistent with the results reported by Morriss et al. (2009), which found that adults with depression were more likely to report insecure attachment styles. However, when these variables were used to examine depression two months and four months later, neither life events nor attachment style significantly contributed to the equation. Instead, the variance for the longitudinal time points was accounted for the previous time point's report of depression. In other words, adults reports of depression over the four month time period was

very stable. However, given the findings of Johnson and Miller (1997), which suggest that adults with bipolar disorder take longer to recover from negative life events in respect to mood symptoms compared to adults who did not experience negative life events, it is possible that the current study did not assess the course of depression long enough for significant results to emerge.

Psychosocial Functioning. Similar to the results found regarding depression, adults who reported more stressful life events also reported worse psychosocial functioning at baseline assessment. Additionally, attachment style significantly added to the ability to predict psychosocial functioning at baseline, even after the variance for individual characteristics and stressful life events was accounted for. Specifically, adults who reported insecure attachment styles also generally reported worse psychosocial functioning. This is consistent with the findings of Wallander and Varni (1989), which examined social support and adjustment in 153 children with chronic illnesses. Wallander and Varni found that children with high support from both their family and friends, which indicates strong and secure relationships overall, had significantly better functioning than children who did not receive such high support. Those children who did not receive high support from both family and friends were reported as having more behavior problems than children in general. However, when these variables in the present study were used to examine psychosocial functioning two months and four months later, neither life events nor attachment style significantly contributed to the equation. Instead, the variance of psychosocial functioning at two and four months was accounted for by the previous time point's report of psychosocial functioning. In other words, adults' reports of psychosocial functioning over the four month time period was very stable. This may indicate that the time period in which

both depression and psychosocial functioning was assessed was too short to find significant results.

Mania. No significant results were found regarding mania at baseline time point in the present study. Longitudinally, no significant results emerged at the two month time point. However, after the variance from individual characteristics and the variance from mania reported at two months were accounted for, stressful life events significantly added to the ability to predict depression at four months out. Specifically, adults who reported more stressful life events also reported higher levels of mania at four months. This result may indicate that adults who have experienced stressful life events may experience manic mood "swings" such that their perceived mania cannot be explained by their perceived mania two months prior. In other words, adults who have had more stressful life events may not have manic symptoms that are stable for at least two months. The effects of stress on mania in the extant literature seem similarly erratic (A. N. Cohen, Hammen, Henry, & Daley, 2004; Johnson et al., 2008). It is likely that mania does not follow a predictable pattern over the relatively short time spans that have been measured in this study and in previous studies. Although this finding is consistent with what was expected from the literature, this result should be interpreted with caution given the relatively few numbers of adults who reported symptoms of mania. Future research should investigate this further by assessing mania more frequently and for a longer time span.

Study Limitations

Generalizability of the present findings is unclear because the study used a relatively small, predominantly Caucasian, high functioning, well educated sample of adults with bipolar disorder that may not be representative of all adults with bipolar disorder. This may be reflected in the frequency of secure attachments in this sample, which is much higher than has been

reported in other research that explores attachment in adults with bipolar disorder or other psychiatric illnesses. Additionally, a limitation of this study is that adult attachment relationships acted as a proxy to measure social relationships as a whole. The literature differs on the classification and the implications of adult attachment relationships, and it is unclear how well romantic attachments represent social relationships in general.

An additional limitation is that the study used fixed-choice self-report measures, which may have implications for validity. For example, participants responding to a fixed-choice measure may wish to choose an option that is not one of the listed choices. The use of fixed-choice self-report measures may be an issue in the present findings given that adults may have been influenced by their mood when responding to items. In addition, there was a relatively short follow-up time period. This may be an issue because mood episodes, especially depressive episodes, may last longer than the two month intervals between measurements or the four month time period in general. It may be relevant for future research to collect data for a longer time period so the data more closely reflects the patterns of a typical mood episode.

Implications for Future Research and Practice

Future research should strive for a large sample size that is diverse in terms of ethnicity, race, level of functioning, and years of education. Researchers should use a longitudinal research design for a longer time period than the one used in the present study to allow for the examination of variations in mood, in addition to the effects of stressful life events and attachment relationships across the lifespan. Future researchers should consider using clinician administered measures, such as the Adult Attachment Interview to measure attachment.

Although more research is needed, the present study appears to have implications for the treatment of adults with bipolar disorder. This seems especially true for those adults who have

persistent depression or are low in psychosocial functioning, given the finding that adults with insecure attachment styles fare worse on measures of depression or psychosocial functioning than adults with secure attachment styles. Specifically, clinicians should assess traumatic experiences and quality of relationships when working with adults with bipolar disorder, given their apparent effects on depression and psychosocial functioning. Clinicians may consider recommending couples counseling, improving the quality of social relationships, or trauma-focused therapy. Social skills training has been found to improve cognition about the self, which in turn changes perceived social support (Brand, Lakey, & Berman, 1995). It is possible that adults with bipolar disorder who report predominantly insecure attachment styles may benefit from social skills training. In addition, the present study used primarily a group of adults who are highly educated, have a high socioeconomic status (SES), and are highly functioning and thus may not generalize to adults with bipolar disorder in general. Despite this limitation, the present study found that even adults who have protective factors such as a high level of education, a higher than average SES, and high functioning report more depression and worse psychosocial functioning when they are faced with an insecure attachment style.

Although more research that includes a diverse group of adults is needed, it is expected that the adults who are not highly educated, have a low SES, or are lower in functioning would report more depression and worse psychosocial functioning when they are faced with an insecure attachment style. For example, similar results to the present study were found in a study of pregnant adolescent couples who were primarily ethnic minorities and had low SES – better relationship adjustment was related to better physical and mental well-being (Kershaw et al., 2013). The present study indicates that attachment style may be important to consider when working with adults with bipolar disorder, and that it is possible that attachment style may also

be important, if not more so, when working with adults whose circumstances are not as favorable as those included in the present study.

CONCLUSIONS

A systematic examination of the effects of stressful life events and adult attachment style on the psychosocial well-being of adults with bipolar disorder has thus far been a gap in the literature. The present research indicates that a history of stressful life events and an insecure attachment style may have a negative effect for adults with bipolar disorder, specifically regarding depression and psychosocial functioning. That is, adults who reported more stressful life events or an insecure attachment style reported more symptoms of depression and worse psychosocial functioning. Conversely, the study suggests that adults who are classified with a secure attachment style fare better in terms of depression and psychosocial functioning. Adults who have secure attachment relationships appear to be protected from the effects of stressful life events and report fewer symptoms of depression. Although more research is needed, the impact of stressful life events and having an insecure attachment relationship style on a person's psychosocial well-being appears to have clinical implications for improving the well-being of people who live with bipolar disorder.

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Table 1

Sample Demographic Characteristics

N = 161	Number (%)		Mean (SD)
Gender		Age*	41.3 (12.7)
Female	119 (73.9)		
Male	42 (21.6)	Years of Education	15.8 (2.7)
Race*			
African-American	5 (3.14)	Times Legally Married*	1.2 (.9)
Caucasian	139 (87.42)		
Hispanic	5 (3.14)	Number of Children*	1.1 (1.3)
Asian	2 (1.26)		
More than one race	8 (5.03)		
Marital Status		Age at Onset of Mania*	20.2 (13.7)
Never Married	56 (34.8)	Number of Manic Episodes*	14.8 (82)
Married	68 (42.2)		
Divorced	32 (19.9)	Age at Onset of Depression	18.9 (9.4)
Separated	4 (2.5)		
Widowed	1 (0.6)		
Education		Number of Depressive Episodes	47.7 (143.2)
High School Diploma/GED	15 (9.3)		
Some College/Voc School	57 (35.4)		
Four Year College Degree	36 (22.4)		
Some Graduate School	12 (7.5)		
Master's Degree	33 (20.5)		
Doctorate	8 (5)		
Childhood Religious Affiliation*			
Catholic	53 (34)		
Protestant	62 (39.7)		
Jewish	5 (3.2)		
Moslem	1 (0.6)		
Not Affiliated	21 (13)		
Other	14 (9)		
Employment Status*			
Employed	81 (50.6)		
Unemployed	19 (11.9)		
Disabled	35 (21.9)		
Homemaker/Student/Retired	25 (15.6)		
Living Situation			
Alone			
With partner/spouse			
In home of parents/children			
In home of other family/friends			
In Residential Facility			
Other			
Diagnosis			

Bipolar I	
Bipolar II	

Note. * Indicates missing data for one or more individuals.

Table 2

Frequencies of Attachment Classification, by Target

Target	Number (%)
Romantic Partner (n = 149)	
Secure	75 (50.3)
Anxious-Preoccupied	50 (33.6)
Dismissive-Avoidant	5 (3.4)
Fearful-Avoidant	19 (12.8)
Mother (n = 157)	
Secure	90 (57.3)
Anxious-Preoccupied	23 (14.6
Dismissive-Avoidant	10 (6.4)
Fearful-Avoidant	34 (21.7)
Father (n = 156)	
Secure	73 (46.8)
Anxious-Preoccupied	26 (16.7)
Dismissive-Avoidant	14 (9)
Fearful-Avoidant	43 (27.6

Table 3

Hierarchical Regression of Depression

Criterion Variable	Predictor variables	R^2 *Chg*	B Step 1	B Step 2	B Step 3	B Step 4	R^2	Adj R^2	R
Depression Time 1	1. Gender,	.03	-.10	-.06	-.09	N/A	.03	.01	.15
	Age,		.07	.02	.01				
	Years of Education		-.12	-.07	-.06				
	2. Stressful Life Events	.06**		.27**	.19**		.09	.07	.30
	3. Attachment style	.11**					.19	.16	.44
	a. secure vs. insecure				-41**				
	b. anxious vs. other				-18**				
Depression Time 2	1. Gender,	.03	-.11	-.04	-.03	-.03	.03	.01	.17
	Age,		.05	.00	-.01	-.01			
	Years of Education		-.12	-.03	-.02	-.03			
	2. Time 1 Depression	.40**		.64**	.63**	.62**	.43	.41	.65
	3. Stressful Life Events	.00			.07	.06	.43	.41	.66
	4. Attachment style	.00					.44	.41	.66
	a. secure vs. insecure					-.01			
	b. anxious vs. other					.06			
Depression Time 3	1. Gender,	.07	-.20	-.10	-.10	-.10	.07	.04	
	Age,		.19	.17	.18	.19			.26
	Years of Education		.01	.06	.05	.03			
	2. Time 2 Depression	.31**		.57**	.58**	.59**	.38	.35	.61
	3. Stressful Life Events	.00			-.04	-.04	.38	.35	.61
	4. Attachment style	.02					.40	.35	.63
	a. secure vs. insecure					.16			
	b. anxious vs. other					.17			

Note. * $p \leq .05$, ** $p < .01$.

Table 4

Hierarchical Regression of Psychosocial Functioning

Criterion Variable	Predictor variables	R^2 *Chg*	B				R^2	*Adj* R^2	*R*
			Step 1	Step 2	Step 3	Step 4			
Psychosocial Functioning Time 1	1. Gender,	.04	.05	.09	.05	N/A	.04	.02	.19
	Age,		.11	.07	.06				
	Years of Education		-.15	-.11	-.09				
	2. Stressful Life Events	.06**		.24**	.17**		.09	.07	.30
	3. Attachment style	.16**					.25	.22	.50
	a. secure vs. insecure				-52**				
	b. anxious vs. other				-28**				
Psychosocial Functioning Time 2	1. Gender,	.02	-.10	-.12	-.10	-.10	.02	.00	.15
	Age,		.06	-.02	-.03	-.03			
	Years of Education		-.11	.00	.02	.01			
	2. Time 1 Functioning	.38**		.63**	.62**	.64*	.41	.39	.64
	3. Stressful Life Events	.01			.08	*.08	.41	.39	.64
	4. Attachment style	.01					.42	.39	.65
	a. secure vs. insecure					.10			
	b. anxious vs. other					.08			
Psychosocial Functioning Time 3	1. Gender,	.06	-.16	-.08	-.08	-.08	.06	.03	.25
	Age,		.20	.16	.16	.17			
	Years of Education		.05	.07	.07	.04			
	2. Time 2 Functioning	.35**		.60**	.60**	.60**	.41	.39	.64
	3. Stressful Life Events	.00			-.00	-.01	.41	.38	.64
	4. Attachment style	.02					.43	.39	.66
	a. secure vs. insecure					.10			
	b. anxious vs. other					.17			

Note. * $p \leq .05$, ** $p < .01$.

Table 5

Hierarchical Regression of Mania

Criterion Variable	Predictor variables	R^2 *Chg*	B				R^2	*Adj* R^2	*R*
			Step 1	Step 2	Step 3	Step 4			
Mania Time 1	1. Gender,	.03	-.07	-.05	-.04	N/A	.03	.01	.16
	Age,		.15	.14	.14				
	Years of Education		.00	-.02	.01				
	2. Stressful Life Events	.01		.10	.11		.04	.01	.19
	3. Attachment style	.01					.05	.01	.22
	a. secure vs. insecure				.13				
	b. anxious vs. other				.14				
Mania Time 2	1. Gender,	.02	-.05	-.01	-.01	-.02	.02	-.00	.14
	Age,		.13	.07	.07	.08			
	Years of Education		-.06	-.06	-.06	-.05			
	2. Time 1 Mania	.20**		.45**	.45**	.45*	.22	.20	.47
	3. Stressful Life Events	.00			-.00	*.01	.22	.19	.47
	4. Attachment style	.00					.22	.18	.47
	a. secure vs. insecure					.00			
	b. anxious vs. other					-.05			
Mania Time 3	1. Gender,	.00	-.03	.00	.03	.02	.00	-.03	.06
	Age,		.00	-.10	-.13	-.14			
	Years of Education		-.05	-.06	-.01	-.02			
	2. Time 2 Mania	.21**		.47**	.44**	.45**	.22	.18	.47
	3. Stressful Life Events	.04*			.21*	.20*	.26	.22	.51
	4. Attachment style	.01					.26	.21	.51
	a. secure vs. insecure					-.09			
	b. anxious vs. other					-.01			

Note. * $p \leq .05$, ** $p < .01$.

APPENDIX A

Experiences in Close Relationships – Revised (ECR-R) - Mother

The statements below concern how you felt, **when you were younger**, in your relationship with **your mother** or someone that you perceive as a mother figure for you.

Respond to each statement by writing the number that most reflects your own beliefs. Please respond using the following 7 point scale:

1----------2----------3----------4----------5----------6----------7
Strongly Disagree — Neutral — Strongly Agree

1	I often worry that my mother doesn't really love me	_____
2	I worry that my mother doesn't care about me as much as I care about her	_____
3	I am nervous when my mother gets too close to my space	_____
4	I often wish that my mother's feelings for me were as strong as my feelings for her	_____
5	When my mother is out of sight, I worry that she might forget about what I need	_____
6	I prefer not to show my mother how I feel deep down	_____
7	I feel comfortable sharing my private thoughts and feelings with my mother	_____
8	When I show my feelings for my mother, I'm afraid she will not feel the same about me	_____
9	I do not often worry about being abandoned	_____
10	It's not difficult for me to get close to my mother	_____
11	I find that my mother doesn't want to get as close as I would like	_____
12	I find it easy to depend on my mother	_____
13	It's easy for me to be affectionate with my mother	_____
14	Sometimes my mother changes her feelings about me for no apparent reason	_____
15	My desire to be very close sometimes drives my mother away	_____
16	I don't feel comfortable opening up to my mother	_____
17	I prefer not to be too close to my mother	_____
18	I'm afraid that once my mother gets to know me, she won't like who I really am	_____
19	I feel comfortable depending on my mother	_____

20	I worry that I won't measure up to my mother	_____
21	My mother only seems to notice me when I'm angry	_____
22	I find it difficult to allow myself to depend on my mother	_____
23	I am very comfortable being close to my mother	_____
24	I rarely worry about my mother leaving me	_____
25	My mother makes me doubt myself	_____
26	I get uncomfortable when my mother wants to be very close	_____
27	I worry a lot about my relationship with my mother	_____
28	I find it relatively easy to get close to my mother	_____
29	I usually discuss my problems and concerns with my mother	_____
30	It makes me mad that I don't get the affection and support I need from my mother	_____
31	It helps to turn to my mother in times of need	_____
32	I tell my mother just about everything	_____
33	I'm afraid that I will lose my mother's love	_____
34	I often worry that my mother will not want to be with me	_____
35	I talk things over with my mother	_____
36	My mother really understands me and my needs	_____

APPENDIX B

Experiences in Close Relationships – Revised (ECR-R) - Father

The statements below concern how you felt, **when you were younger**, in your relationship with **your father** or someone that you perceive as a father figure for you.

Respond to each statement by writing the number that most reflects your own beliefs. Please respond using the following 7 point scale:

1----------2----------3----------4----------5----------6----------7
Strongly Disagree — Neutral — Strongly Agree

1	I often worry that my father doesn't really love me	_____
2	I worry that my father doesn't care about me as much as I care about him	_____
3	I am nervous when my father gets too close to my space	_____
4	I often wish that my father's feelings for me were as strong as my feelings for him	_____
5	When my father is out of sight, I worry that he might forget about what I need	_____
6	I prefer not to show my father how I feel deep down	_____
7	I feel comfortable sharing my private thoughts and feelings with my father	_____
8	When I show my feelings for my father, I'm afraid he will not feel the same about me	_____
9	I do not often worry about being abandoned	_____
10	It's not difficult for me to get close to my father	_____
11	I find that my father doesn't want to get as close as I would like	_____
12	I find it easy to depend on my father	_____
13	It's easy for me to be affectionate with my father	_____
14	Sometimes my father changes his feelings about me for no apparent reason	_____
15	My desire to be very close sometimes drives my father away	_____
16	I don't feel comfortable opening up to my father	_____
17	I prefer not to be too close to my father	_____
18	I'm afraid that once my father gets to know me, he won't like who I really am	_____
19	I feel comfortable depending on my father	_____
20	I worry that I won't measure up to my father	_____
21	My father only seems to notice me when I'm angry	_____
22	I find it difficult to allow myself to depend on my father	_____
23	I am very comfortable being close to my father	_____
24	I rarely worry about my father leaving me	_____
25	My father makes me doubt myself	_____
26	I get uncomfortable when my father wants to be very close	_____

27	I worry a lot about my relationship with my father	_____
28	I find it relatively easy to get close to my father	_____
29	I usually discuss my problems and concerns with my father	_____
30	It makes me mad that I don't get the affection and support I need from my father	_____
31	It helps to turn to my father in times of need	_____
32	I tell my father just about everything	_____
33	I'm afraid that I will lose my father's love	_____
34	I often worry that my father will not want to be with me	_____
35	I talk things over with my father	_____
36	My father really understands me and my needs	_____

APPENDIX C

Experiences in Close Relationships Questionnaire-Revised (ECR-R) – Romantic Partner

Instructions: The statements below concern how you feel in emotionally intimate relationships. We are interested in how you generally experience relationships, not just in what is happening in a current relationship. Respond to each statement by indicating how much you agree or disagree with it. Write the number in the space provided using the following rating scale:

Disagree Strongly			Neutral/Mixed			Agree Strongly
1	2	3	4	5	6	7

1. I'm afraid that I will lose my partner's love.	1 2 3 4 5 6 7
2. I often worry that my partner will not want to stay with me.	1 2 3 4 5 6 7
3. I often worry that my partner doesn't really love me.	1 2 3 4 5 6 7
4. I worry that romantic partners won't care about me as much as I care about them	1 2 3 4 5 6 7
5. I often wish that my partner's feelings for me were as strong as my feelings for him/her.	1 2 3 4 5 6 7
6. I worry a lot about my relationships.	1 2 3 4 5 6 7
7. When my partner is out of sight, I worry that s/he will become interested in someone else.	1 2 3 4 5 6 7
8. When I show my feelings for romantic partners, I'm afraid they will not feel the same about me.	1 2 3 4 5 6 7
9. I rarely worry about my partner leaving me.	1 2 3 4 5 6 7
10. My romantic partner makes me doubt myself.	1 2 3 4 5 6 7
11. I do not often worry about being abandoned.	1 2 3 4 5 6 7
12. I find that my partner(s) don't want to get as close as I would like.	1 2 3 4 5 6 7
13. Sometimes romantic partners change their feelings about me for no apparent reason	1 2 3 4 5 6 7
14. My desire to be very close sometimes scares people away.	1 2 3 4 5 6 7
15. I'm afraid that once a romantic partner gets to know me, he or she won't like who I really am.	1 2 3 4 5 6 7
16. It makes me mad that I don't get the affection and support I need from my partner.	1 2 3 4 5 6 7
17. I worry that I won't measure up to other people.	1 2 3 4 5 6 7
18. My partner only seems to notice me when I'm angry.	1 2 3 4 5 6 7
19. I prefer not to show a partner how I feel deep down.	1 2 3 4 5 6 7
20. I feel comfortable sharing my private thoughts and feelings with my partner.	1 2 3 4 5 6 7
21. I find it difficult to allow myself to depend on romantic partners.	1 2 3 4 5 6 7
22. I am very comfortable being close to romantic partners.	1 2 3 4 5 6 7
23. I don't feel comfortable opening up to romantic partners.	1 2 3 4 5 6 7
24. I prefer not to be too close to romantic partners.	1 2 3 4 5 6 7
25. I get uncomfortable when a romantic partner wants	1 2 3 4 5 6 7

to be very close.

26. I find it relatively easy to get close to my partner.	1 2 3 4 5 6 7
27. It's not difficult for me to get close to my partner.	1 2 3 4 5 6 7
28. I usually discuss my problems and concerns with my partner.	1 2 3 4 5 6 7
29. It helps to turn to my romantic partner in times of need.	1 2 3 4 5 6 7
30. I tell my partner just about everything.	1 2 3 4 5 6 7
31. I talk things over with my partner.	1 2 3 4 5 6 7
32. I am nervous when partners get too close to me.	1 2 3 4 5 6 7
33. I feel comfortable depending on romantic partners.	1 2 3 4 5 6 7
34. I find it easy to depend on romantic partners.	1 2 3 4 5 6 7
35. It's easy for me to be affectionate with my partner.	1 2 3 4 5 6 7
36. My partner really understands me and my needs.	1 2 3 4 5 6 7

APPENDIX D

Life Events Checklist

Listed below are a number of difficult or stressful things that sometimes happen to people. For each event, check one or more of the boxes to the right to indicate that: (a) It *happened to you* personally, (b) you *witnessed it* happen to someone else, (c) you *learned about it* happening to someone close to you, (d) you're *not sure* if it applies to you, or (e) it *doesn't apply* to you. Mark *only one* item for any single stressful event you have experienced. For events that might fit more than one item description, choose the one that fits best.
Be sure to consider your *entire life* (growing up, as well as adulthood) as you go through the list of events.

Event	Happened to me	Witnessed it	Learned about it	Not Sure	Doesn't apply
1. Natural disaster (for example, flood,hurricane, tornado, earthquake)					
2. Fire or explosion					
3. Transportation accident (for example, car accident, boat accident, train wreck, plane crash)					
4. Serious accident at work, home, or during recreational activity					
5. Exposure to toxic substance (for example, dangerous chemicals, radiation)					
6. Physical assault (for example, being attacked, hit, slapped, kicked, beaten up)					
7. Assault with a weapon (for example, being shot, stabbed, threatened with a knife, gun, bomb)					
8. Sexual assault (rape, attempted rape, made to perform any type of sexual act through force or threat of harm)					
9. Other unwanted or uncomfortable sexual experience					

10. Combat or exposure to a war-zone (in the military or as a civilian)					
11. Captivity (for example, being kidnapped, abducted, held hostage, prisoner of war)					
12. Life-threatening illness or injury					
13. Severe human suffering					
14. Sudden, violent death (for example, homicide, suicide)	N/A				
15. Sudden, unexpected death of someone close to you	N/A				
16. Serious injury, harm, or death you caused to someone else	(Check here if you were directly involved)				
17. Any other stressful event or experience					

APPENDIX E

Patient Health Questionnaire (PHQ9)

1. Over the last 2 weeks, how often have you been bothered by any of the following problems?

	Not at all 0	Several days 1	More than half the days 2	Nearly every day 3
a. Little interest or pleasure in doing things	❑	❑	❑	❑
b. Feeling down, depressed, or hopeless	❑	❑	❑	❑
c. Trouble falling or staying asleep or sleeping too much	❑	❑	❑	❑
d. Feeling tired or having little energy	❑	❑	❑	❑
e. Poor appetite or overeating	❑	❑	❑	❑
f. Feeling bad about yourself – or that you are a failure or have let yourself or your family down	❑	❑	❑	❑
g. Trouble concentrating on things, such as reading the newspaper or watching television	❑	❑	❑	❑
h. Moving or speaking so slowly that other people could have noticed. Or the opposite – being so fidgety or restless that you have been moving around a lot more than usual	❑	❑	❑	❑
i. Thoughts that you would be better off dead or of hurting yourself in some way	❑	❑	❑	❑

2. If you checked off any problem on this questionnaire so far, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

Not Difficult at all	Somewhat Difficult	Very Difficult	Extremely Difficult
❑	❑	❑	❑

Adherence

3. How many days did you take your psychiatric medication(s) over the past 2 months? Enter number of days (0-60). 0, if not prescribed meds. _____

4. Are you having any side effects from your psychiatric medication?

0-not applicable or just starting treatment
1-no side effects
2-mild or trivial side effects
3-bothersome, but tolerable side effects
4-very bothersome side effects, thinking about stopping medication
5-severe enough side effects that I did stop taking the medication

5. Which of the following best describes your current employment status?

1. Employed full or part-time
2. Unemployed
3. Fully disabled or unable to work
4. Homemaker or student or retired

Please only answer the following two questions if you are employed full or part time. Otherwise, skip to the next section.

Productivity

6. Because of the way you felt, or any health problems, how many days of work did you miss in the last month? _____# days

7. Now think about your productivity in the last 2 months when you were at work, what percentage were you able to perform your daily activities effectively, where 100 is your best and 0 is not being able to do anything? _____

Utilization

8. In the past 60 days, have you made any attempts to harm yourself? Yes / No

9. How many visits to the Emergency Room and/or nights in the hospital have you had, for any psychiatric reason, in the last 60 days? _____ total # of visits
_____total # of nights

10. To what extent has your psychiatric treatment met your needs?

1. Almost all of my needs have been met
2. Most of my needs have been met
3. Some of my needs have been met
4. Only a few of my needs have been met
5. None of my needs have been met

Having depression or bipolar disorder often means doing different tasks and activities to manage your symptoms and prevent relapse, such as, taking medications regularly, monitoring your moods, maintaining good sleep and exercise habits and decreasing stress as well as other activities that have been identified as important for you individually.

Additional Questions

11. How confident are you that you can do the things necessary to manage your emotional health on a regular basis?
1-not confident
2-somewhat confident
3-very confident

APPENDIX F

Altman Self-Report Mania Scale (ASRM)

Instructions
On this questionnaire are groups of 5 statements; read each group of statements carefully.
2. Choose the one statement in each group that best describes the way you have been feeling for the past week.
3. Circle the number next to the statement you picked.
4. Please note: The word "occasionally" when used here means once or twice; "often" means several times or more; "frequently" means most of the time.

---

1) 0 I do not feel happier or more cheerful than usual.
   1 I occasionally feel happier or more cheerful than usual.
   2 I often feel happier or more cheerful than usual.
   3 I feel happier or more cheerful than-usual most of the time.
   4 I feel happier or more cheerful than usual all of the time.

2) 0 I do not feel more self-confident than usual.
   1 I occasionally feel more self-confident than usual.
   2 I often feel more self-confident than usual.
   3 I feel more self-confident than usual most of the time.
   4 I feel extremely self-confident all of the time.

3) 0 I do not need less sleep than usual.
   1 I occasionally need less sleep than usual.
   2 I often need less sleep than usual.
   3 I frequently need less sleep than usual.
   4 I can go all day or night without any sleep and still not feel tired.

4) 0 I do not talk more than usual.
   1 I occasionally talk more than usual.
   2 I often talk more than usual.
   3 I frequently talk more than usual.
   4 I talk constantly and cannot be interrupted.

5) 0 I have not been more active (either socially, sexually, at work, home or school) than usual.
   1 I have occasionally been more active than usual.
   2 I have often been more active than usual.
   3 I have frequently been more active than usual.
   4 I am constantly active or on the go all the time.

APPENDIX G

Life Functioning Questionnaire (LFQ)

Part I
How much difficulty have you had in the following areas over the past month? (*Please indicate by marking the box that best describes your degree of difficulty, if any, over the past month).*

LEISURE TIME

Leisure time with friends (If you never spend time with your friends, or if you have no friends, indicate by placing a checkmark in this box □ , and go to "B")

DEGREE OF DIFFICULTY FUNCTIONING

	No problems (1)	Mild (2)	Moderate (3)	Severe (4)
Time: amount of time spent with friends	□	□	□	□
Conflict: getting along with friends	□	□	□	□
Enjoyment: enjoying time spent together	□	□	□	□

If you are having ANY difficulty, what do you think is the cause?

_____

Leisure activities with family (If you never spend time with your family, or if you have no family, indicate by placing a checkmark in this box □ , and go to "C")

DEGREE OF DIFFICULTY FUNCTIONING

	No problems (1)	Mild (2)	Moderate (3)	Severe (4)
Time: amount of time spent with family	□	□	□	□
Conflict: getting along with family	□	□	□	□
Enjoyment: enjoying and having an interest in family	□	□	□	□

If you are having ANY difficulty, what do you think is the cause?

_____

DUTIES/RESPONSIBILITIES

Duties at home (e.g. housework, paying pills, grocery shopping, mowing lawn, childcare tasks, car repairs) (If you have no duties at home, or are homeless, indicate this by placing a checkmark in this box □ , and go to "D")

DEGREE OF DIFFICULTY FUNCTIONING

	No problems (1)	Mild (2)	Moderate (3)	Severe (4)
Time: amount of time spent performing	□	□	□	□
Conflict: can you perform these duties without undue friction with others?	□	□	□	□
Enjoyment: enjoying and having an interest in home duties	□	□	□	□
Performance: quality of work (doing a good job;	□	□	□	□

getting the job done)

If you are having ANY difficulty, what do you think is the cause?

_____

Duties at work, school, or activity center (If you are not working or not in school, indicate this by placing a checkmark in this box □ , and go to the next page)

DEGREE OF DIFFICULTY FUNCTIONING

	No problems (1)	Mild (2)	Moderate (3)	Severe (4)
Time: amount of time spent at work, school, etc	□	□	□	□
Conflict: getting along with co-workers and supervisors	□	□	□	□
Enjoyment: enjoyment/satisfaction and interest from work	□	□	□	□
Performance: quality of work	□	□	□	□

If you are having ANY difficulty, what do you think is the cause?

_____

How many days did you miss over this last month at work or school due to your mental illness?

A. Work	B. School
□ 1. Not applicable	□ 1. Not applicable
□ 2. 0-5 days	□ 2. 0-5 days
□ 3. 6-10 days	□ 3. 6-10 days
□ 4. 11-20 days	□ 4. 11-20 days
□ 5. Over 20 days	□ 5. Over 20 days

Reasons causing difficulties in Role Functioning

Did any of the factors below cause you difficulties at work this month, or cause you to work less than full-time, or not at all? *(Please mark all that apply for this month.)*

□ 1. Too depressed most the time
□ 2. Too manic most of the time
□ 3. Couldn't get my mood stable long enough to work – too up and down
□ 4. Afraid to work at usual level because afraid of precipitating another episode
□ 5. Wanted to work but the kind of job that I could get due to my broken resume (i.e. gaps in work history) was too demeaning for my educational level
□ 6. Mood OK and wanted to work but couldn't get a job due to my broken resume (i.e. gaps in work history)
□ 7. Couldn't get along with others
□ 8. Wanted my old job but couldn't get it
□ 9. Could get my old job but felt embarrassed to go back
□ 10. Disability check was greater than could have made otherwise
□ 11. Didn't have a job for a long time prior to this most recent episode

□ 12. Physical symptoms (e.g. difficulty concentrating, blurred vision, fatigue/sedation) interfered with my functioning
□ 13. Didn't need to work (retired, supported by someone else, etc), but I could if need be
□ 14. Medication side effects with functioning
□ 15. Other (Please explain)

_____

Please mark the box of the answer(s) which best describes your situation:

Work situation this month: (Please mark only those boxes that apply in the last 30 days)

Competitive Job
- □ Full-time at same or higher job level than that held prior to most recent episode
- □ Part-time at same or higher job level than that held prior to most recent episode
- □ Full-time at lower job level than that held prior to most recent episode
- □ Part-time at lower job level than that held prior to most recent episode

Transitional Job
- □ Full-time
- □ Part-time

Work Training
- □ Work training

Sheltered Workshop
- □ Sheltered workshop

Volunteer
- □ Full-time
- □ Part-time

Student
- □ Full-time
- □ Part-time

Housewife/husband
- □ As full-time job
- □ As part-time job

Not working in job, school, or home
- □ Not working in job, school, or home

Other
- □ Other (please explain) _____

How many <u>DAYS</u> per week are you scheduled to attend:

1. _____ Work 2. _____ School 3. _____ Day Hospital 4. _____ Activity Center

Living situation over last six months (Please mark all that apply)
- □ 1. Hospital
- □ 2. Skilled nurse facility – 24-hour nursing service
- □ 3. Intermediate care facility – less than 24-hour nursing care facility
- □ 4. Supervised group living (long-term)
- □ 5. Transitional group home (halfway or quarterway house)

- □ 6. Family foster care
- □ 7. Cooperative apartment, supervised (staff on premises)
- □ 8. Cooperative apartment, unsupervised (staff not on premises)
- □ 9. Board and care home (private proprietary home for adults, with program and supervision)
- □ 10. Boarding house (includes meals, no program or supervision)
- □ 11. Rooming or boarding house or hotel (includes single room occupancy, no meals are provided, cooking facilities may be available)
- □ 12. Private house or apartment
- □ 13. Shelter
- □ 14. Jail
- □ 15. No residence (that is, you often need to live/sleep on the streets, or other areas not generally intended for residence)

Financial situation over last six months (Please mark all that apply):

- □ 1. Received no pay (fully supported by someone else; e.g. parents, spouse, etc.)
- □ 2. Received wages for work performed
- □ 3. Received SSI (Supplemental Security Income) or SSD (Social Security Disability)
- □ 4. Retirement Benefits
- □ 5. Other (Please specify)

A. When did you last work full-time? (Please mark only ONE box)

- □ 1. I work full-time now (SKIP TO THE END)
- □ 2. I have never worked full-time
- □ 3. Within last 2 years
- □ 4. 2-5 years ago
- □ 5. 5-10 years ago
- □ 6. Over 10 years ago

B. How long were you working full-time the last time you worked full-time? (Please mark only ONE box):

- □ 1. Less than 1 month
- □ 2. Less than 6 months
- □ 3. Less than 1 year
- □ 4. 1 year or more

C. Why did you stop working full-time? (If more than one reason, please rank in order of importance: 1 = most important, 2 = next important, etc.)

- _____1. Mental illness
- _____2. Physical illness
- _____3. Children
- _____4. Couldn't find job after leaving/being laid off from previous job
- _____5. Retired
- _____6. Other (please explain)_____