Preliminary Study of Specific Symptoms Experienced by Individuals with Bipolar Disorder

Gail Reichman Mancini

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DEPARTMENT OF PSYCHOLOGY

Dissertation Approval

This is to certify that the thesis presented to us by Cail Rechmer Mariner on the 1 day of June, 2005, in partial fulfillment of the requirements for the degree of Doctor of Psychology, has been examined and is acceptable in both scholarship and literary quality.

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The present study attempted to empirically identify symptoms of bipolar disorder to define a more accurate clinical description. A group of 30 individuals with a formal diagnosis of bipolar disorder, who had joined a support group as outpatients, a comparison group of 30 individuals with unipolar depression from an outpatient support group, and 30 nonpatient adults were administered identical measures of symptoms. Results suggested that individuals with bipolar disorder endorsed symptoms correlated with paranoia to a greater degree than individuals with unipolar disorder or nonpatient adults. In addition, symptoms of hostility, interpersonal sensitivity, depression, anxiety, global severity and psychoticism, as defined by the SCL-90-R, were prominent features to a significant degree when compared with nonpatient adults. The implications and limitations of the findings are discussed.
ACKNOWLEDGEMENTS

This study would not have been possible without the guidance and support of my chairperson, Barbara Golden, Psy.D and Robert DiTomasso, Ph.D., ABPP, Chair, Department of Psychology. I extend my thanks to Arthur Freeman, Ed.D., who invited me as a student into the newly formed Department of Psychology at the Philadelphia College of Osteopathic Medicine. I am also particularly fortunate to have had a staunch ally and mentor, Rosette Biester, Ph.D., Director of Neuropsychology in Rehabilitation Medicine at the University of Pennsylvania, who provided me with the opportunity to study under her direction.

To all the participants in this study who have contributed their time and effort to advance research on the topic of bipolar disorder, I offer my sincere gratitude. This study rests on their contribution.

Most importantly, I would like to dedicate this work in memory of my father, mother and brother; Abraham, Rose and Joseph Reichman. They modeled for me infinite patience, kindness, a love of science and a thirst for knowledge. Finally to my sons, Michael and Daniel, I extend thanks and a hearty invitation to surpass me.
Table of Contents

List of Tables

CHAPTER

Introduction............................................................................................................ 1
Statement of the Problem..................................................................................... 1
Purpose of the Study.......................................................................................... 2
Rationale............................................................................................................. 2
Description........................................................................................................ 3
Related Research............................................................................................... 4
  Etiology............................................................................................................ 4
  Phenomenology............................................................................................... 6
  Stress Effects.................................................................................................. 9
  Current Treatments......................................................................................... 12
  Pharmacological Treatment Challenges and Paradigms.............................. 12
  Psychotherapeutic Treatment Challenges and Paradigms........................... 13
Research Questions........................................................................................... 24
Hypotheses......................................................................................................... 27

Method................................................................................................................... 30
  Participants....................................................................................................... 30
  Overview of the Research Design.................................................................... 30
  Criteria for inclusion in study.......................................................................... 31
  Measures.......................................................................................................... 31
  Procedures........................................................................................................ 34
Results .................................................................................................................. 36
  Plan for Statistical Analysis.............................................................................. 36

Results.................................................................................................................... 38
  Demographic Characteristics............................................................................ 38
  Age of Onset..................................................................................................... 39
  Dependent Measures......................................................................................... 41
    Beck Depression Inventory - II................................................................. 41
    The Mood Disorders Questionnaire........................................................... 44
    Symptom Checklist 90-R Dimensions.......................................................... 47
Analyses of Hypotheses......................................................................................... 50
  Hypothesis # 1............................................................................................... 50
  Hypothesis # 2............................................................................................... 53
  Hypothesis # 3............................................................................................... 56
  Hypothesis # 4............................................................................................... 59
  Hypothesis # 5............................................................................................... 62
  Hypothesis # 6............................................................................................... 65
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypothesis # 7</td>
<td>68</td>
</tr>
<tr>
<td>Discussion</td>
<td>71</td>
</tr>
<tr>
<td>Interpretation of Research Findings</td>
<td>72</td>
</tr>
<tr>
<td>Limitations of the Study</td>
<td>80</td>
</tr>
<tr>
<td>Implications for Clinical Practice</td>
<td>82</td>
</tr>
<tr>
<td>Recommendations for Future Research</td>
<td>84</td>
</tr>
<tr>
<td>References</td>
<td>87</td>
</tr>
<tr>
<td>Appendixes</td>
<td>95</td>
</tr>
<tr>
<td>A. Cover Letter</td>
<td>95</td>
</tr>
<tr>
<td>B. Volunteer Letter of Agreement to Participate in Study</td>
<td>96</td>
</tr>
<tr>
<td>C. Informed Consent</td>
<td>97</td>
</tr>
<tr>
<td>D. Confidential Information</td>
<td>101</td>
</tr>
</tbody>
</table>
## List of Tables

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Demographic Variables of Participants</td>
<td>40</td>
</tr>
<tr>
<td>2.</td>
<td>Means and Standard Deviations of Scores of the Beck Depression Inventory</td>
<td>42</td>
</tr>
<tr>
<td>3.</td>
<td>Games-Howell Post Hoc Analysis Test of the Beck Depression Inventory</td>
<td>43</td>
</tr>
<tr>
<td>4.</td>
<td>Means and Standard Deviations of Total Items Endorsed on the Mood Disorders Questionnaire</td>
<td>45</td>
</tr>
<tr>
<td>5.</td>
<td>Scheffe Post Hoc Analysis of the Mood Disorders Questionnaire</td>
<td>46</td>
</tr>
<tr>
<td>6.</td>
<td>Means and Standard Deviations of T score Comparisons of SCL-90-R Dimensions</td>
<td>48</td>
</tr>
<tr>
<td>7.</td>
<td>ANOVA of SCL-90-R Dimensions</td>
<td>49</td>
</tr>
<tr>
<td>8.</td>
<td>Games-Howell Post Hoc Tests of Hostility Dimension</td>
<td>52</td>
</tr>
<tr>
<td>9.</td>
<td>Games-Howell Post Hoc Tests of Paranoid Dimension</td>
<td>55</td>
</tr>
<tr>
<td>10.</td>
<td>Games-Howell Post Hoc Tests of Psychoticism Dimension</td>
<td>58</td>
</tr>
<tr>
<td>12.</td>
<td>Games-Howell Post Hoc Tests of Global Severity Dimension</td>
<td>64</td>
</tr>
<tr>
<td>14.</td>
<td>Games-Howell Post Hoc Tests of Depression Dimension</td>
<td>70</td>
</tr>
</tbody>
</table>
Bipolar disorder is a major mental disorder characterized by a variety of symptoms including severe mood changes. The essential feature of bipolar disorder is a clinical course that is characterized by the occurrence of manic or mixed episodes, with a shift of polarity from normal functioning. Manic episodes can be so severe that they cause significant impairment in social or occupational functioning, may require hospitalization and include psychotic features. Statistics indicate that between fifteen to nineteen percent of patients with bipolar disorder commit suicide, a considerably serious mortality figure (Goodwin & Jamison, 1990, Simpson & Jamison, 1999). The consideration of a psychiatric illness with classic presentations such as bipolar disorder is currently limited to therapeutic advances in treatment of the behavioral and emotional manifestation of the disorder. There is a possibility that specific symptoms exist but are not clearly defined or empirically validated. Rather than focusing solely on acute behavioral and emotional manifestations, identification may provide opportunities to minimize the destructive nature of the course of this illness through appropriate and effective interventions. Such an investigation appears to be a valid focus of consideration. The identification of a cluster of distinguishing symptoms could assist mental health professionals in designing treatments specifically conceptualized to address the more encompassing needs of individuals with bipolar disorder.
Purpose of the Study

The intent of this study was to begin to identify the salient and common symptoms of individuals with bipolar disorder. The main purpose of this study was to provide clarification of symptomatology, and thereby enhance understanding of this disorder. This effort was designed to identify those symptoms for the ultimate purpose of providing a paradigm from which those individuals, their families, and mental health professionals can work. Provision of guidelines stemming from such research can serve to offer appropriate support and plan proactive treatment strategies. A study which focuses on identifying symptoms and symptom clusters that unite and distinguish bipolar disorder can also serve to bring attention to the patient’s discomfort, one of the most important aspects of any mental disorder. This focus may help to circumvent the pitfalls to which identified individuals with serious mental health disorders succumb.

Rationale

Just as an elevated temperature in a youngster can alert a physician to numerous potential illnesses, particularly when clustered with additional abnormal physical complaints, significant emotional or behavioral symptoms may be only one part of a variety of potential syndromes. Viewing symptoms in a vacuum with only palliative treatment can reduce distressing symptoms temporarily, but may miss the larger and more serious illness. Additionally, treating any symptom presentation in isolation, and ignoring other indicators because they have not been identified as such, may in fact worsen the outcome for an individual both physically and emotionally.
Bipolar disorder can be currently distinguished as either Bipolar I or Bipolar II. A current consensus regarding the distinguishing characteristics of bipolar disorder has been agreed upon and published in the American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (2000). This publication is different than prior texts because diagnostic categories now point toward the longitudinal course of the illness rather than the presentation of behavioral manifestations.

The essential feature of Bipolar I is a clinical course that is characterized by the occurrence of one or more manic or mixed episodes, with a shift of polarity from normal functioning. A manic episode is diagnosed if a distinct period is experienced, during which there is an abnormally and persistently elevated, expansive or irritable mood for at least one week. Cassidy, Forest, Murry & Carroll (1998) reported that five independent factors can be manifested in mania. Those are a dysphoric mood, psychomotor pressure, psychosis, increased hedonic function, and irritable aggression. Additional symptoms cited in the DSM-IV-TR (2000) text revision can include inflated self-esteem, grandiosity, a decreased involvement in goal directed activities or psychomotor agitation, and excessive involvement in pleasurable activities despite a high potential for painful consequences. The episode must be sufficiently severe to cause significant impairment in social or occupational functioning or require hospitalization, or include psychotic features. A mixed episode includes the occurrence of daily manic and major depressive features.

Bipolar II disorder includes major depressive and hypomanic episodes. A
hypomanic episode is considered a distinct period of an abnormally and persistently elevated mood that is nondelusional or hallucinatory. Diagnosis requires a shift in polarity. In contrast to mania, hypomania is not severe enough to cause marked impairment or hospitalization. The mood can be described as euphoric.

Related Research

Etiology

The etiology of bipolar disorders remain the subject of research with continued interest. Genetic factors have long been implicated in the etiology of bipolar disorder, however, research has provided few answers regarding the mode of inheritance. Smith & Weissman (1992) speculate that many genes with small effects, as well as environmental factors, may be involved in the manifestation of this disorder. Prathikanti & McMahon (2001) cite the complexity of bipolar affective disorder as the impediment to interpreting genome-wide scans when searching for disease etiology. They report that few findings have reached the "suggestive" threshold, and fewer have reached a significant threshold.

Potash et al. (2001) state that studies have provided some evidence for overlapping genetic susceptibility in their research on the familial aggregation of psychotic affective disorders. They found that symptoms of hallucinations and delusions do show a familial aggregation in bipolar disorder pedigrees, lending support to the hypothesis that a vulnerability to this disorder may be genetic in origin. Dr. Arlen Price (1993), Director of the Genetics Program in the Department of Psychiatry at the University of Pennsylvania, views the research as indicating that mental illness comprises genetically distinct but clinically overlapping disorders. Following his theoretical view,
Bipolar II may not be a milder form of Bipolar I, but rather an entirely different disorder of the mood disorder spectrum.

Studies indicate that patterns and rates of bipolar disorder are significantly similar in diverse countries and cultures worldwide, according to Weissman, et al. (1996). The similarity of presentation of bipolar disorder between cultures appears to support a theoretical position of genotypy. Genetic mechanisms may be responsible for determining the distinctive forms of mental illness, however these disorders are difficult to trace because of their complexity. Thus, researchers have uncovered many markers which were believed to have a linkage with bipolar disorder, but none have proven to be reliably linked upon replication of studies. Specific candidate gene locations have been proposed, disconfirmed or withdrawn. For example, the catechol O-methyltransferase, an enzyme that inactivates catecholamines, was studied using biochemical methods by Guitierrez, et al. (1997) in 88 bipolar subjects and 113 healthy comparison subjects. No allelic or genotypic associations were observed. No single mechanism has been found to form the basis of bipolar disorder. Investigations continue to proceed searching for a link and some trait dependent variables appear to be promising.

The concordance rate among identical twins for bipolar disorder is 62%, with the remaining 38% not having this disorder, according to Price (1993). Although considered familial, bipolar disorder is not necessarily inherited. The heuristic question of why some individuals do experience severe pathology while others apparently do not has merit. The questions of which mechanisms mediate the outcome of severe psychopathology is the underlying motivation of research, attempting to prevent or minimize the occurrence of devastating mental illnesses.
Phenomenology

It is widely believed that bipolar disorder generally manifests during the second decade of life; however, age of onset is currently being disputed. Geller & Luby (1997) have found that prepubertal bipolar disorder can manifest itself, although not necessarily in the same form as in the adult presentation. The developmental characteristics which are typically associated with different age groups apply to childhood and adolescent bipolar disorder, as well. Pathological grandiosity and involvement in pleasurable activities specifically present differently than the adult version as a function of age.

Geller & DelBello (2003) have investigated the occurrence of bipolar disorder among even younger children and propose that the manifestations of childhood and adolescent mania and hypomania differ from those in adulthood in several ways as a function of age and developmental level. In their conceptualization based on the work of Biederman, Faraone, Hatch, Mennin, Taylor & George (1997), the juvenile presentation typically includes daily rapid cycling, comorbid attention-deficit/ hyperactivity, and conduct disorder. Prepubertal bipolar disorder, beginning at age ten, appears to differ from the adolescent presentation with such symptoms as dysphoric mania, irritability, or aggressiveness, without definitive cyclical episodes followed by moods that are more normal.

Geller & Luby (1997) also speculate that treatment of these children is provided to the most severely disturbed cases only. They believe this occurs for several reasons. An overly accepting parental attitude of developmental phases in childhood may preclude referral for diagnosis or treatment. Parents with bipolar disorder have a higher incidence of children with affective disorders may be undiagnosed themselves, and not alert to
symptoms in others.

Strober, Hanna, & McCracken (1989) found considerable overlap among the childhood externalizing disorders and mania. For example, adolescent mania is often misdiagnosed as Attention Deficit Hyperactivity Disorder or Conduct Disorder. That adolescents display less psychosis than adults is consistent with one hypothesis; differences between adolescent and adult mania may be due to adults having a more mature or advanced form of illness, and are more likely to become psychotic because they have been ill longer.

According to researchers such as Cannon, et al. (1977), impaired social functioning is also seen in the premorbid state. Additionally, these researchers have found that poor premorbid social adjustment is one manifestation of vulnerability to adult psychotic disorders, although more so with schizophrenia than with bipolar disorder.

Consistent with earlier research describing social functioning, Geller & DelBello (2003) described adolescents with subsyndromal bipolar disorder as exhibiting impairment in social, family and school functioning. They report that pathogenic processes may be neurodevelopmental in origin. Leading to psychosis in adulthood, these processes can predispose a person to attentional difficulties, distorted perceptions, unusual thought processes and decreased empathic ability in the premorbid phase.

With regard to epidemiology, Carlson & Kashani (1988) collected data which suggest that the prevalence of adolescent bipolar disorder is at least that of the adult population. McElroy, Strakowski, West, Keck and McConville (1997) concluded that adolescents are more likely to present with depression. This may be due to maturational factors which influence the expression of bipolar disorder. The initial presentation of
depression may be because of the degree of cortical synaptic density reduction, or synaptic pruning that occurs during adolescence. Classic mania may be dependent on the degree of central nervous system development required for its expression.

Roberts, Parker, Woogh, Cripps & Froese (2000) commented that a lack of consensus on the diagnostic criteria and prevalence of bipolar disorder in childhood and adolescence continues. They noted that bipolar disorder consistent with the adult phenotype is almost never seen in children or adolescents, and that diagnosis of childhood mania is controversial. They note that younger individuals do not typically demonstrate episodic mood cycles. They generally demonstrate a chronic presentation of rapid cycling, aggression, severe affective storms and impairment in psychosocial functioning, sometimes comorbid with Attention Deficit Hyperactivity Disorder and Conduct Disorder. To test their position, these researchers collected information using a database of the records of 1,697 children assessed and treated at the Child and Family Unit at Kingston General Hospital, Ontario, Canada. They compared those files with a psychiatric case register of adults receiving psychiatric services via the Kingston Psychiatric Record Linkage System. Their results indicated that none of the children diagnosed with Attention Deficit Hyperactivity Disorder were diagnosed with bipolar disorder as adults. Surprisingly, three of the non-Attention Deficit Hyperactivity Disordered individuals did receive a diagnosis of bipolar disorder. They concluded that it is preferable to err on the side of caution. Adherence to conservative diagnostic criteria for children and adolescents may be considered a more prudent course of action.

The evidence to date appears to raise more questions than definitive answers about the course of bipolar disorder. The presentation of bipolar disorder and its
diagnosis is controversial, except in the most serious or blatant examples of psychopathology. The task of creating a diagnostic tool which fully reflects the internal symptom clusters and their severity has not been developed to date. Clinicians and researchers cannot consistently or reliably identify bipolar disorder from its comorbid presentations. This dearth of knowledge underscores the need for more detailed and accurate information about this disorder, with a focus of providing treatment, which is empirically valid and efficacious.

**Stress Effects**

Of relevance to this discourse is the kindling paradigm, originally posited by Emil Kraepelin (1962), which describes an analogy between the episodic natures of mood disorders and the phenomena of kindling, or sensitization. Initial episodes in Bipolar I patients are significantly associated with the occurrence of major negative life events. As described in the kindling model of limbic hypersensitivity, key aspects of bipolar disorder include the onset of early episodes preceded by major stress, whereas later episodes seem to occur without provocation. Likewise, the untreated mood episodes worsen over time, and the intervals between episodes become shorter and shorter.

Post (1993) more recently speculated that recurrent episodes might contribute to persistent brain changes, in a kindling-behavioral sensitization model of recurrent affective disorders. He notes that the first episode of bipolar disorder is more likely to be associated with significant psychosocial stressors, while succeeding episodes are more likely to occur in the absence of a significant life event. He suggested that an analogous model exists between this phenomena and documented animal research of kindling-
behavioral sensitization. Evidence of neurophysiological change, specifically the progressive vulnerability to seizures, may be similar to the evolving course of bipolar disorder.

MacQueen, Young, Robb, Marriott, Cooke & Joffe (2000) extended the kindling theory. They found that the number of depressions becomes a significantly greater determinant of reduced functioning than the number of manias experienced. In addition, the episode, number and outcome are not linear in relationship. The first several episodes of depression appear to be the determining factor contributing to functional decline.

Most recently, consistent with this finding is the comprehensive review of research presented by McEwen (2003) at The University of Pennsylvania, Psychiatry Grand Rounds, titled “Does stress damage the mind? Implications for long-term anxiety related disorders.” McEwen described the pathophysiology of depression and resultant stress on the brain within the amygdala and hippocampus specifically. A review of research (Gould, McEwen, Tanapat, Galea & Fuchs, 1997; Mondlewicz & Klotz, 1981, Sheline, 2000) provided the basis for his emphasis that chronic depression or successive depressive episodes result in reduced hippocampal volume and cognitive impairment, as well as hypertrophy of the amygdala. He likened the damage of chronic stress to ischemia within the cardiovascular system. Additionally, McEwen described the process of brain neurogenesis, whereby cells regenerate within the dendate gyrus of mammals. Neurogenesis appears to be regulated and compromised by stressful experiences. McEwen noted that certain variables support neurogenesis, such as the hormone estrogen, the neurotransmitter serotonin, use of antidepressants, exercises, and trace conditioning.

Concerning stress reactivity, Hammen & Gitlin (1997) suggested that stressors
precipitate episodes of bipolar illness, particularly in patients who have experienced prior episodes. In their study, 52 patients with Bipolar I were followed longitudinally. Using a structured clinical interview conducted at three-month intervals during a two-year study, they evaluated the objective stressfulness of events. Using a five point scale of severity, it was found that patients who had episodes of illness during follow-up had experienced significantly more severe stressors than those without.

These findings underscore the significant role that stress plays in contributing to this disorder. Stressors may precipitate the initial episodes as well as contribute to relapses. Although considered familial, bipolar disorder is not necessarily inherited. This dichotomous phenomenon may be mediated by environment, both in utero or after birth, throughout childhood or during adolescence. Prima facie consideration leads to the proposition that contributing factors of bipolar disorders, if not exclusively genetic, must therefore include physical, social or psychological variables that may significantly impact on an individual. For example, just as an extremely hostile or threatening environment can create distress and secondary disorders which are sequelae to that distress, several investigators propose that environment may contribute to more severe forms of psychopathology. Bipolar disorder, via pathophysiological determinants as well as a wide array of external and internal variables, may also follow this pattern (Mazure, 1995).

A clear example of how environment can correlate with bipolar disorder was demonstrated in a study conducted by Brown, van Os, Driessens, Hoek, & Susser (2000). One result of the Dutch Hunger Winter of 1944-1945 was prenatal famine. If famine occurred in middle to late gestation periods, an association resulted between adults with
unipolar and bipolar disorders requiring hospitalization. Studying birth cohorts of individuals requiring hospitalization for major affective illness, siblings who did not suffer famine in utero during the middle to late gestation periods were not affected. The underlying mechanisms responsible for this outcome are not clearly delineated as nutritional deficiency alone, but may actually be any one or a combination of factors which correlate with famine.

Current Treatments
Pharmacological Treatment Challenges and Paradigms

Lithium treatment has provided a long track record of clear advantage, according to researchers (Shou, 1997; Rosenthal, 2001). For example, lithium's effect on preventing suicide is well established. It does not have a specific central nervous system depressant effect. However, lithium poses a neurotoxic potential, with a very small margin of safety. Lithium has a low therapeutic index, and such factors as a loss of fluids due to excessive sweating or by diuretics can cause plasma levels to exceed the safe range (Goldstein, 1998). Careful blood level monitoring is required to avoid a toxic accumulation of lithium. Lithium may not be sufficient in ameliorating symptoms, or be an optimum choice for some individuals in whom it is contraindicated. Goldberg (2003), in his review of the impact of different medications on cognition, states that lithium causes short and long term verbal memory deficits and executive dysfunction.

Pharmacological treatment options have expanded in recent decades effectively treating what was an intractable illness. Anticonvulsants and newer antipsychotic medications have most recently assumed a role in treatment. The initial studies of anticonvulsants focused on lithium-resistant patients, especially rapid-cyclers, and mixed
states of concurrent substance abuse. Within the new armamentarium of this class of
drugs, the advantages of mood stabilization occur along with unwelcome cognitive side
effects.

In refractory bipolar disorder, new treatment options may include three or more
medications provided in combination. The use of combination medications has achieved
success in otherwise refractory bipolar disorder. This protocol may lend support to the
theory that bipolar disorder, in its different manifestations may actually be several
different disorders with similar characteristics. However, Calabrese (2003) posits another
theory of why multiple medications are recommended. His theory supports the use of
combination pharmacological treatments because there are multiple fundamental
components underlying this disorder, such as; depression, anxiety, irritability, psychosis
or hyperactivity. Bipolar disorder can present as a multi-faceted illness with several
discrete manifestations. If addressing the specific symptoms of this disorder is a
necessary focus of treatment, then identifying those symptoms in an empirical manner
would appear to be a priority.

Psychotherapeutic Treatment Challenges and Paradigms

There are individuals with bipolar disorder who do not respond well to even the
most aggressive pharmacological interventions. Others may be unable to cope with the
recurrent nature of this disorder, or the narcissistic injury of having a serious mental
disorder. Although pharmacology is the bedrock of treatment, adjunctive psychotherapy
may be necessary and invaluable. Medication does not teach an individual how to
develop adaptive strategies for coping, or cognitive strategies to compensate for deficits.
Medication alone does not offer the psychoeducation necessary to understand and manage the associated problems of bipolar disorder. For these reasons, a number of psychotherapeutic approaches and foci have been developed.

Behavioral treatments may include interventions designed to circumvent controllable aspects of bipolar disorder, such as sleep dysregulation and insufficient exposure to broad spectrum light. Wehr (1993) has investigated causes of depression and mania and found that depression may be triggered by insufficient broad spectrum light. He theorizes that this phenomenon is applicable to bipolar depression. Animal research has also shown that serotonergic systems regulate numerous physiologically based behaviors such as appetite, circadian rhythm, and carbohydrate craving. Research has also shown that depression can be triggered by excessive sleep, and, conversely, mania can be triggered by sleep deprivation (Wehr, 1989). Therefore, individuals who experience vegetative symptoms such as excessive sleep may exacerbate their depression. While sleep provides mental and physical restoration and may interrupt a manic episode, excessive sleep may contribute to a prolonged depression. The imbalance of bipolar disorder may extend to imbalances in many physiological and behavioral systems. A remedy for those imbalances may best be served through interventions, which are cognitive and behavioral in orientation.

Psychotherapy as an adjunctive treatment offers patients a substantial benefit. For example, research on the effectiveness of lithium itself, or in conjunction with other pharmacological agents, has often been precluded from completion due to the patient's interruption of lithium prophylaxis on their own initiative. Guscott & Taylor (1994) suggested that diminished or poor compliance with lithium therapy may account for
discrepancies in determinations of lithium efficacy, noting that a majority of patients fall in the category of noncompliance. These researchers additionally postulate that noncompliance may be another manifestation of manic decompensation.

Information, support and supervision may be inadequate in counteracting the tendency of bipolar patients to discontinue their medications, according to Maj, Pirozzi, Magliano and Bartoli (1998). Salzman (1998) reports that convincing patients of the necessity of medication to stabilize this mood disorder can be formidable.

There are several challenges to adjunctive psychotherapy with bipolar disorder, which may not be unique, but do pose a particular threat to the outcome of treatment. Establishing a working alliance, one of the key components of psychotherapy which is generally agreed as necessary for a successful outcome, can be a difficult task with a patient with bipolar disorder. Gaston's (1990) multidimensional definition of the construct of the alliance includes: (a) the patient's capacity to work intentionally in therapy, (b) the affective bond with the therapist, (c) understanding and empathy by the therapist, and (d) the agreement goals and tasks of therapy. The working alliance is an ongoing interpersonal process, which appears to be a robust predictor of therapy outcome. The working alliance is mediated by each participant’s history, and his or her degree of trust and the collaboration developed between them. Salzman (1998) describes the difficulty presented when attempting to build an alliance with a bipolar patient during the manic phase in particular, when denial of illness in a patient can be greatest. During the manic phase patients frequently deny that they are ill, and possibly welcome symptoms. This early impediment to treatment can abort psychotherapy.

The management of bipolar disorder includes patient awareness of prodromal
symptoms, when possible. Lam & Wong (1997) investigated prodromal symptoms and reported that approximately one quarter of patients in a cross sectional study they conducted could not detect early warning signs of depression. Most subjects found it easier to detect the early prodromal signs of mania. This ability to detect early warning signs and employ successful coping strategies contributed significantly to the level of social functioning. Level of insight appeared to mediate incorporating spontaneous strategies. These authors suggested that finding ways of educating patients in self-monitoring moods, promoting insight, and incorporating good strategies was an area worthy of exploration.

The depression experienced as part of this disorder can include the risk of suicide to a greater degree that most other psychiatric populations (Lam, Jones, Hayward, & Bright, 1999). Statistics indicate that between fifteen to nineteen percent of patients with bipolar disorder commit suicide, a considerably serious mortality figure (Goodwin & Jamison, 1990, Simpson & Jamison, 1999). These researchers found that the suicide attempts may occur even more frequently, with estimates as high as fifty-six percent. Consideration of this potential risk to the individual highlights the need for comprehensive and efficacious treatment of this disorder, to alleviate symptomatology and help prevent this most serious outcome. Shifting and extreme moods additionally pose a threat. A psychotherapist can offer support during this turbulence, and provide a stable reference for patients during these affective shifts.

Judith Beck (1993) has presented her conceptualization of cognitive behavioral therapy as a necessary adjunctive treatment for patients with bipolar disorder. Therapy helps in many ways. Because medication compliance is a central issue for bipolar
patients, goals include increasing medication compliance. Patients are educated about
the illness itself and the medications prescribed. Therapy also focuses on solving
practical problems, identifying and responding to dysfunctional thoughts, reducing
stressors that can exacerbate mood or trigger cycling, and learning strategies to manage
the disorder. Due to the high risk of suicide, therapists respond to hopelessness and
suicidal ideation, and make suggestions regarding coping strategies such as increasing
activity level and assigning graded tasks. Solving problems related to this illness include
education about monitoring early warning signs, helping patients to regularize sleep and
eating, activity levels as well as coping with emotional mood swings and their
triggers.

An International Conference in 1999 was conducted by Aaron Beck concerning
the cognitive therapy of bipolar disorder. Beck presented a comprehensive approach via
a cognitive theory of bipolar disorder, which addressed many of the tasks of therapy in
treating bipolar disorder patients. The general principles of cognitive therapy were
modified to incorporate the mood dysfunctions of this disorder. The general principles
include establishing a collaborative relationship, understanding the patient's perspective,
behavioral activation during depression or deactivation during mania, educating the
patient about the cognitive approach and shifting the patient into the questioning mode.
During the manic phase specifically, demobilization included a cost/benefit analysis,
evaluation of grandiosity through the downward arrow technique, evaluating evidence for
patient’s interpretations and offering alternative explanations to counter irrational
thoughts. Beck also developed a plan for evaluating and treating suicidal impulses.
Exploration of the causes of past and current reasons for an impulse or attempt include
making a determination of whether the prior attempt was a critical incident or the culmination of depressive thinking. He recommended using coping cards for each patient, individually and collaboratively developed, for the patient to carry with written coping strategies. Addressing hopelessness, reviewing the reasons for living/dying and cognitive rehearsal was included in treating suicidality.

The competent and compassionate treatment of bipolar illness is predicated on a solid knowledge of the disorder. A solid knowledge of bipolar illness encompasses familiarity with the phenomenology, the natural history of the illness, its recurrent nature, the individual personality of a patient, and the specific symptoms which create distress and maintain its destructive course. Management additionally includes knowledge and a general understanding of the biological aspects of the disorder, such as pharmacological titration protocols and expected side effects. Therapists with a scientific grasp of psychological and biological phenomenology can be more assured of the delivery of appropriate interventions. While advances have been made in management, a solid understanding of the specific symptoms experienced by the patient, and how those symptoms manifest and maintain behaviors has not been identified.

Appropriate interventions have the potential to mediate the long-term outcome of numerous pathological processes. However, many patients may receive ineffective or inappropriate treatment for several reasons, allowing emotional scars to accumulate and irrational thoughts to germinate. The following examples of research are presented to illuminate this point.

Joyce (1984) reviewed the self reports and conducted personal interviews of 200 hospitalized patients at the Sunnyside Hospital in Chrischurch, New Zealand. From
this work, he found that "the median age for first affective syndrome was 23 years
(26 years for first hospitalization), and the most common age of onset was 15-19 years." (p.145). He added that 20% to 40% of adults reported that their onset of symptoms was during childhood. Citing Kraepelin's work in 1921 as a foundation for his findings, Joyce reiterated that Kraepelin found the commonest age of onset to be between 15 and 20 years of age.

Lish, Dime-Meenan, Whybrow, Price & Hirschfeld (1994) conducted the first large-scale self-survey of members of the National Depressive and Manic-Depressive Association (NDMDA). These researchers used a survey questionnaire to interpret their data and reported that a majority of respondents experienced their first symptoms during childhood or adolescence. In their view, individuals do not receive prompt or effective treatment for many reasons. Either the individuals fails to seek care, or professionals make inaccurate diagnoses, or there is a lack of long-term follow up care. An empirically supported identification of symptom clusters and their severity may promote more accurate diagnoses and treatment interventions.

Evans (2000) reiterated the findings of Lish, et al., and stated that a diagnosis of bipolar disorder may go undetected or undiagnosed for many years, with patients reporting a mean latency of illness and initiation of treatment to be a minimum of five years. In his view, the reasons for the discrepancy between age of onset and first treatment is that bipolar disorder is not recognized as such by the individuals, families or their health care providers. Evans postulates that the primary basis for this is the way in which symptoms overlap with other disorders. For example, substance abuse or alcoholism is frequently comorbid. Bipolar disorder can be confused with
secondary mania to several other conditions.

Bolton and Gunderson (1996) also reported that a differential diagnosis of bipolar disorder can be confounded by comorbid disorders masking the underlying difficulties experienced by the individual. Their case illustration describes a patient with volatile moods and impulsivity. The patient was treated for borderline personality disorder rather than bipolar disorder because the two having similar presentations.

Post and Weiss (1995) postulate that bipolar disorder can be differentiated from borderline personality disorder by more intractable and extreme mood swings over time. They also propose that a lack of expedient and appropriate care can lead to a more virulent form of the disorder.

Bipolar illness can affect every aspect of social functioning, including the additional impact of low self-esteem and self-efficacy. The unique viewpoint of an individual, or the subjective interpretation of events, is not necessarily a linear and connected process. With individuals who have bipolar disorder, developing an accurate perspective of the world is fraught with and tempered by periods of euphoric interpretation, and then episodes of switching to a viewpoint clouded by depression. The goals of a bipolar patient are equally disrupted, with cognitive load increasing during psychotic periods. The euthymic phase, which can occur between episodes of depression and mania, may be the only period when judgment and insight are realistic. Executing a rational and consistent plan of action may be an impossibility with repeated bipolar mood swings. A good mood can cause one to be less accurate in appraising the environment and forming judgments. Bipolar disorder exacerbates that lack of accuracy to an extreme form.
Expectations of acceptable behavior circumscribe how one should behave within the social mores of a society. The nature of support of family members, friends and professionals in any lifelong, chronic illness can be critical. Bipolar disorder drives behaviors which are typically unacceptable, and without intervention can become self-destructive. During depression, feelings of guilt over behaviors committed during mania can be a great source of disparagement. Self-enhancing coping strategies which are more readily available to someone not suffering with a severe mood disorder may become obscure. Cognitive dissonance over one's inconsistent attitudes, beliefs and behaviors is magnified when those variables change due to uncontrollable mood swings. Many outcome studies find marked impairment with pharmacological intervention, despite overt symptomatic improvement. Data support what experienced clinicians already know: combined psychotherapy and pharmacological strategies are more effective than medication alone, especially in improving function.

The consideration of a psychiatric illness with classical and normative characteristics such as bipolar disorder is currently limited to therapeutic advances in treatment of the acute and chronic behavioral manifestations of the disorder. The possibility that identifiable, common and salient symptoms exist which provide opportunities for appropriate and effective interventions, to minimize the destructive nature of the course of this illness, appears to be a valid focus of consideration. The identification of a cluster of those symptoms could alert mental health professionals to employ treatments specifically designed to address the more encompassing needs of an individual with bipolar disorder.

Wells, Kataoka & Asarnow (2001) have noted that approximately one in five
young people in the United States experience a depressive episode by eighteen years of age. However, less than half of those affected received any mental health services. This is due to a variety of factors such as a lack of identification by pediatricians, brief medical visits which preclude comprehensive evaluation, and limited or lacking medical coverage. The knowledge that this disorder can be considered a major risk factor for suicide underscores how effective treatments may ultimately be precluded, if the illness is not treated appropriately in a timely fashion.

This study can potentially provide mental health professionals with a powerful tool; the ability to identify significant symptoms of bipolar disorder. This knowledge could be used to intervene appropriately and effectively with a truly vulnerable population, which is frequently misdiagnosed and therefore underserved. Individuals experiencing only the internal symptoms of bipolar disorder may be dealing with severe mental illness, ineffective treatment, the loneliness and despair of being misdiagnosed, and contraindicated medications. The focus of this investigation was to identify common, salient and significant symptoms of bipolar disorder. The ultimate purpose of this study was to advance effective treatment strategies that provide these individuals with the support they so desperately need to deal with such a significant mental illness.

The fundamental principle forwarded in this statement is that a simplistic approach to treating severe behavioral manifestations of bipolar disorder in isolation may actually create iatrogenic illness. Currently, individuals who display behavioral dyscontrol, hyperactivity, or any number of distressing problems may receive palliative interventions designed to treat the specific or blatant symptom in isolation. For example, adolescents who appear to be dysmorphic may be prescribed antidepressants, which may
in turn precipitate an initial manic event.

This paper proposes a paradigm shift in the treatment of behavioral or emotional symptoms. Just as a high fever may signify a much more serious illness, dysphoria or hyperactivity may be only one symptom in a cluster of signifying bipolar disorder. Stimulant medication may suffice to eliminate the behavioral manifestations of hyperactivity. However, if hyperactivity is one symptom within a specific cluster, which points towards pathological processes leading to severe mental illness, is that treatment a judicious or prudent one? To treat any significant and chronic symptom in a preemptory fashion suggests that these symptoms are not part of a complex human being, with an interconnected and evolving physiology.

Consistent with the objective of identifying salient and empirically based symptom clusters is a consideration promulgated by Beutler & Malik (2003). State of the art differential diagnostic decisions are predicated on what many clinicians recognize as vaguely defined or poorly related presentations in the DSM-IV-TR (2000) text revision. The need for more accuracy and specificity in describing bipolar disorder, based on empirical data, is congruent with this current trend.

The DSM-IV-TR (2000) taxonomy classifies psychopathology within a disease or illness model. This model affords a heuristic shortcut for identifying disorders and points toward a medical model of treatments. This macro approach to disorders can divert attention away from distressing symptoms or the needs of the individual who experiences them. In addition, this model tends to limit the defining criteria and treatment of disorders to their behavioral or overt manifestations. This approach may be insufficient in accurately evaluating a disorder, leading to treatments which do not fully address the
needs of the individual.

The DSM-IV-TR (2000) text revision states that persistent symptoms of the mood disturbance of bipolar disorder include an inflated self-esteem or grandiosity, being more talkative than usual, distractibility, or excessive involvement in pleasurable activities that have a high potential for painful consequences, to a significant degree. The authors do not explain what their criteria are for defining such descriptors, so that subjective clinical judgment is necessary to make a determination on each level every time with every patient. Data regarding the extent to which the diagnostic symptoms outlined correspond to individuals with bipolar disorder is also not available.

Although the focus of this research proposal is to identify the specific symptoms of bipolar disorder, a comparison group of unipolar participants may provide information regarding a differential cluster of symptoms. It is therefore proposed that any information gleaned during this project, which offers insight, and can contribute to the enhanced treatment of individuals with mental illness will be garnished and presented.

Research Questions

This investigation proposed to answer several questions, which are currently undefined, or have not been fully addressed in the literature. The following information was pursued:

1. What are the distinguishing and common symptom clusters of bipolar disorder which, when identified, could alert professionals in the field to view those symptoms within a larger perspective?

2. What are the specifically distinguishing symptoms of individuals who have bipolar disorder or unipolar depression, and how are they expressed differently from
individuals who do not have severe affective disorders?

Markers

Geller & Luby (1997) have found that prepubertal bipolar disorder does manifest with several problematic symptoms. As they state, it is a “nonepisodic, chronic, rapid-disorder (ADHD) and CD or have features of ADHD and/or CD as initial manifestations.” p.1169. Geller & Luby also add that "across the life span, grandiose delusions must be judged by failure to follow the laws of logic and by a firm belief ".

Popper, C. (1996) has suggested viewing the degree and quality of characteristics presented as a way to determine a differential diagnosis between ADHD and bipolar disorder in children. The characteristics he notes for bipolar disorder are: (a) intentional destructiveness; (b) a longer duration of angry outbursts lasting up to several hours; (c) tantrums triggered by parental limit setting; (d) irritability in the morning on arousal; (e) motivational problems and; (f) misbehavior with intent rather than by accident.

Biederman, Wozniak, Kiely, Ablon, Faraone, Mick and Kraus (1995) found one premorbid symptom of bipolar disorder in childhood to be hyperactivity. This disorder does appear to correlate somewhat with later onset of bipolar disorder, as well as hyperactivity continuing to be a pathological, comorbid symptom of mania, as well. Geller & Luby (1997) also found conduct disorder to be an initial manifestation of prepubertal onset bipolar disorder, perhaps relating to poor judgment and grandiosity.

The classic symptoms which differentiate bipolar disorder should bear the scrutiny pertaining to issues of face validity. Manic symptomatology can include dysphoric mood, psychomotor pressure, psychosis, increased hedonic function, and
irritable aggression. Additional symptoms cited in the DSM-IV-TR (2000) text revision can include inflated self-esteem, grandiosity, a decreased involvement in goal directed activities or psychomotor agitation. Also listed is an excessive involvement in pleasurable activities with a high potential for painful consequences.

Egeland, Hostettere, Pauls & Sussex (2000) conducted a retrospective study searching for early predictors of bipolar illness among an Amish population. They reviewed and systematically coded a sample of 58 adult medical records of patients from the social history at first admission and subsequently diagnosed with bipolar disorder to identify prodromal features and possible patterns of symptoms. Their method was to use three raters who independently abstracted information for all possible prodromal or antecedent features from social histories at first admission. Using a semi structured "Log" designed to note the following: (1) any mention of mood; (2) any "objective" symptoms (e.g. appetite, sleep, behavior); and (3) any "subjective" symptoms (e.g. cognition, feelings)." (p.1245). Family members were asked to report the developmental stage and/or age at which entries were coded. The analyses were then subjected to SPSS (Version 9.0, 1998). The symptoms/behaviors these researchers found with the highest frequency were "depressed mood...increased energy...decreased energy/tired...anger/dyscontrol and/or quick temper and argumentative, ...and irritable mood....commonly reported included bold/intrusive behaviors, excessive behaviors, and conduct problems;...decreased sleep and cried;... and overly sensitive." (p.1245). Findings revealed that symptoms of episodic mood changes, as well as energy plus anger dyscontrol, appeared nine to twelve years before the onset of documented bipolar disorder.
Egeland et al (2000) also found that the highest frequency of symptoms or behaviors in their study were depressed mood, increased energy, decreased energy, anger dyscontrol/quick temper and argumentativeness, and irritable mood. Less common symptoms included bold/intrusive behaviors, excessive behaviors, conduct problems, decreased sleep and being overly sensitive. These researchers report that most symptoms were episodic.

Hypotheses

Bipolar disorder is currently diagnosed according to the expression of symptoms delineated in the DSM-IV-TR (2000) text revision. Currently, definitions of this illness have not included the degree of the common, distinguishing, and empirically based symptoms of individuals with bipolar disorder. This paper generally proposed that individuals with bipolar disorder have overt symptoms as well as those experienced internally, which specifically correlate with bipolar disorder, and can be identified by an examination of data as endorsed and reported by those individuals. Those symptoms may include both the obvious depression and mania, but also symptoms found by Egeland et al (2000), as well as Hirschfield et al (2000). It was hypothesized that several symptoms would become empirically supported markers of this disorder. It was generally hypothesized that individuals with bipolar disorder would endorse symptoms and symptom clusters that unite and distinguish bipolar disorder.

Hypothesis #1

The Hostility dimension (Derogatis, 1994), which measures qualities such as rage, aggression, irritability, and resentment, will be greater for individuals with BPD than
either UD or control participants.

Hypothesis #2
The Paranoid Ideation dimension measures projective thought, hostility, suspiciousness, grandiosity, centrality, fear of loss of autonomy, and delusions as reported by Swanson, Bohnert, & Smith (1970). This measure will be greater for BPD than for UD or control participants.

Hypotheses #3
The Psychoticism dimension (Derogatis, 1994) measures constructs such as isolation, schizoid thinking, hallucinations and thought control. This measure will be greater for BPD than for UD or control participants.

Hypothesis #4
The Interpersonal Sensitivity dimension (Derogatis, 1994) includes statements reflecting inadequacy, inferiority, self-deprecation, self-doubt, acute self-consciousness and marked discomfort in interpersonal interactions with negative expectations of those interactions. This measure will be equally greater for BPD and UD, and lower for control participants.

Hypothesis #5
The Global Severity Index, which is reported to be the best single indicator of the degree of a disorder, will be equally greater for BPD and UD, and lower for control participants.

Hypothesis #6
The Anxiety dimension (Derogatis, 1994) measures signs such as nervousness, tension, trembling, panic attacks and dread. This measure will be greatest for UD, less so for BPD, and even lower for control participants.

Hypothesis #7
The Depression (Derogatis, 1997) dimension represents symptoms of dysphoria, withdrawal, lack of motivation or interest, loss of energy, hopelessness, suicidality and somatic correlates. This measure will be equally greater for BPD and UD, and lower for control participants.
Participants

The data used to conduct this study was garnished from 30 individuals with a formal diagnosis of bipolar disorder, who had joined a support group as outpatients. A comparison group of 30 participants with unipolar depression was proposed, matching for age, sex, and educational level. Those participants were garnished in a likewise fashion from an outpatient support group. A matched group of 30 nonpatient adults was selected from a pool. Administration of the identical measures with standardized instructions was given for the purpose of providing a comparison of the rates, patterns and severity of symptomatology of the three groups.

Recruitment of these participants occurred through a direct request for participation at support group meetings for individuals with bipolar or unipolar disorders. Recruitment of nonpatient adults was made through appeals to the PCOM graduate student body for participation in a research study, with no financial reimbursement. From those respondents and their willingness to participate, a matched sample was gleaned of individuals who met the criteria outlined.

Prior to data collection, standard informed consent was distributed for information purposes only, without a request for identifying signatures, to protect the anonymity of the participants.

Overview of the Research Design

An attempt was made to methodically investigate the symptoms of bipolar disorder precisely. This included their common occurrence and the degree to which these
symptoms typically occur in a systematic way which allows for harvesting pertinent data for analysis.

Criteria for inclusion in study

The independent variables consisted of the group of individuals with bipolar disorder, those with unipolar disorder, and the nonpatient adult matched sample. All participants with BPD and UD would be asked to provide a formal diagnosis as determined by psychiatric evaluation. A formal psychiatric diagnosis would be a criterion of participation of individuals with bipolar or unipolar disorder in this investigation.

Corroboration of a formal diagnosis would be ascertained by the standardized administration of two self-report inventories. All participants would be asked to complete the Beck Depression Inventory - II (Beck, 1996) and the Mood Disorders Questionnaire (Hirschfield et al, 2000). The expectation was that individuals with unipolar depression would endorse items generally associated with major depression, but not mania or hypomania. Individuals with bipolar disorder were expected to endorse both affective states.

Measures

The Beck Depression Inventory - II (Beck, 1996) is a self-report designed to assess depression, using 21 questions in a Likert scale format. This inventory has been designed to more closely correlate with criteria listed in the DSM - IV-TR (2000) text revision. This inventory has proven to have clinical sensitivity and reliability in measuring depression for ages 13 through 80, and was useful in screening for individuals
with unipolar depression in this research design.

Hirschfield et al (2000) have developed and investigated a questionnaire for the purpose of screening individuals with bipolar I and II in the community. The Mood Disorder Questionnaire poses three general questions and asks for the degree that the symptoms caused a problem. Specifically focusing on a cluster of symptoms typically associated with mania, the following symptoms were surveyed: (1) feeling hyper; (2) irritable; (3) more self-confident; (4) requiring much less sleep; (5) much more talkative; (6) easily distracted and trouble concentrating; (7) much more energy; (8) much more active; (9) much more social; (10) much more interested in sex; (11) excessive, foolish or risky behavior; (12) and spending money which created trouble. In trials, this questionnaire has yielded good results regarding both sensitivity and specificity. The authors have therefore concluded that it is a useful screening instrument for bipolar I and II. As a measure of mania or hypomania, the Mood Disorders Questionnaire would also be administered to all participants to corroborate a diagnosis of Bipolar Disorder.

The symptoms listed in the SCL-90-R were considered to be dependent variables. This dissertation proposed to use a subject selection design, exploring the relationship between reported behavioral and affective symptoms and the three groups of participants. These symptoms are included because of their face validity.

Use of a normed symptom checklist, the Symptom Checklist -90-Revised, was proposed to discover symptoms which may prove to be of significance to this study. The use of this checklist was based upon its comprehensive nature as a broad-spectrum instrument that contains 90 endorsable items, which screen for psychopathological processes and distress.
An item analysis was planned, along with an analysis of the nine “Primary Symptom Dimensions”. The nine Primary Symptom Dimensions are: (1) somatization; (2) obsessive-compulsive; (3) interpersonal sensitivity; (4) depression; (5) anxiety; (6) hostility; (7) phobic anxiety; (8) paranoid ideation; and (9) psychoticism. The three "Global Indices" include: a “Global Severity Index”, a “Positive Symptom Total” and a “Positive Symptom Distress Index”. These offer perspectives regarding the level of the individual’s distress. The “Global Severity Index” is reported to be the best single indicator of the severity of a disorder measured by the SCL-90-R (Derogatis).

Internal consistency reliability, or the homogeneity of items selected to represent each symptom construct of the SCL-90-R has been reported to be satisfactory. Specific coefficients ranged from a low of .77 for the Psychoticism Index to .90 for the Depression Index (Derogatis, Rickels, & Rock, 1976). Test-retest reliability has also been reported with a one-week interval for a sample of heterogeneous psychiatric outpatients by Derogatis, et al., to be .80 to .90. Test-retest reliability was further supported with a ten-week interval to be .68 for the Somatization to .83 for the Paranoid Ideation Index by Horowitz.

Construct validity, or the degree to which there is a relationship between the items of the SCL-90-R and the purported theoretical constructs which they represent, has been reported by Derogatis & Cleary (1977). Examining the internal structure of the SCL-90-R, the researchers reported that the empirical-theoretical match was confirmed. Factorial invariance, or the degree of constancy when using a measure with various groups of individuals comprised according to characteristics such as sex or age, has also been reported. Acceptable levels of invariance for all nine-symptom dimensions were
found across the parameter of gender.

Convergent-discriminant validity or the correlation of one measure of interest with another measure, has been reported by Derogatis, Rickels & Rock (1976). The SCL-90-R has been found to be highly correlated with the Minnesota Multiphasic Personality Inventory constructs with one exception. The Obsessive-Compulsive Index had no directly comparable scale on the MMPI.

The SCL-90-R was chosen as a vehicle for a preliminary study of the identification of symptoms of bipolar disorder for several reasons. Based on the validity and reliability estimates presented, as well as the broad based nature of the items presented in the SCL-90-R, it appears as though most characteristics typically associated with bipolar disorder will be represented in this self-report measure.

Procedures

The use of a standardized, structured scale, The Symptom Checklist-90-R (Derogatis, 1994) was proposed to collect information from all participants. The choice of this checklist was made because it is an extensively tested inventory which screens for a broad array of symptoms and allows an individual to report the intensity of those symptoms experienced.

The specific procedures planned were to collect data about significant symptoms or clusters of symptoms those individuals with bipolar disorder experience. One investigator, a Psy.D. Candidate, certified as a School Psychologist in Pennsylvania and New Jersey, was responsible for collecting generic information, distributing the Informed Consent, administration of the SCL-90-R, the Beck Depression Inventory - II, the Mood
Disorders Questionnaire, hand scoring the checklist, and entering the data for analysis. Endorsement of those symptoms was collected using the three measures, with standardized instructions as outlined in the respective manuals. A control group of unipolars were treated in an identical fashion simultaneously, as well as a randomized matched sample from a pool of nonpatient adults. All groups additionally completed a questionnaire of generic information.

Measures were reviewed immediately after completion by participants, to determine if items were endorsed which indicated potential suicidality. Should any participants have positively endorsed key items in the BDI or SCL-90-R, item numbers two and 15 respectively, which reflected that potential, they would have been asked to privately meet with the researcher to evaluate the possible risk. A decision would then have been made of appropriate steps needed to protect the participant from harm. The least intrusive process would have taken place that insured the safety of every participant.

To protect the confidentiality of every participant, one cover sheet of identifying information was distributed along with the three protocols. That cover sheet was then torn and discarded, after reviewing the respective protocols and insuring that they were completely endorsed, and that risk suicidality was not present.

Results

Plan for Statistical Analysis

A statistical analysis of the results was planned to determine if a relationship exists between each reported symptom and its degree of severity with bipolar disorder. A multivariate analysis of variance (MANOVA) was planned as a procedure for testing the equality of mean vectors of the three groups. The groups were compared on the multiple
response variables simultaneously. F-tests were used in this case to assess the seven hypotheses under consideration to determine the significant differences among these groups. The F-tests did provide significant differences, and a multiple comparison analysis was conducted to determine where the specific differences occur.

Plan for Statistical Analysis

The results may be a beginning step in attempting to conceptualize a collection of distinguishing symptoms and their severity, which contribute in identifying bipolar disorder with specificity. It was anticipated that the preliminary data would demonstrate an effect size which is significant and substantiates the seven hypotheses outlined.

This preliminary study could have revealed that the characteristics are not a manifestation of disorder in particular, or merely anecdotal but not significant. In either case, this study hoped to add information to the scientific literature, which was not available to date.
CHAPTER 3

Results

All variables were coded and processed by use of the computer program version of SPSS Version 10.0, the Statistical Package for the Social Sciences. A Chi Square was employed as the test of significance between groups. A multivariate analysis of variance (MANOVA) with group membership serving as the levels of the independent variable and factor scores of symptom dimensions serving as dependent variables was calculated. This section includes the following: demographic and clinical variables of the participants in this study, a statistical analysis of each dimension examined, and the results of each hypothesis.

Demographic Characteristics

A total of 90 individuals participated in the study: 30 individuals were diagnosed with bipolar disorder, 30 individuals with unipolar depression and 30 nonpatient adults. The mean age of the group was 40.72 years ($SD = 13.556$), ranging in age from 18 to 68. The majority of the sample was female (72%) and the primary language of all participants was English. Approximately one third of the participants were married (35.6%), another third were single (33.3%), and the remainder was divorced/separated (31.1%). Many participants had a college degree (30%), most had a high school degree/GED (41.1%), several had a graduate degree (18.9%), some had technical training (7.8%), and two participants had an associate degree (2.2%). The majority of participants were employed (61%). The remainder were students (15%), unemployed (8%), disabled (5%) or retired (2%).
A Chi-Square was completed to confirm that the control and clinical groups were equivalent with regard to the variable of gender ($\chi^2 = 4.127$, df = 2, p = .127). Results indicated that there were no differences between the groups with regard to age ($F(2, 8) = 53.378$, p = .753).

_Age of Onset_

Clinical groups were compared regarding the age of onset for the primary diagnosis. The reported mean age of onset of bipolar disorder was 18.51. The reported mean age of onset of unipolar disorder was 22.56. Table 1 presents demographic information including the variables with categorical responses of individuals with bipolar disorder (BD), unipolar disorder (UD), and nonpatient adults for comparison.
Table 1  
*Demographic Variables of Participants*

<table>
<thead>
<tr>
<th>Variable Category</th>
<th>Bipolar Disorder</th>
<th>Unipolar Disorder</th>
<th>Nonpatient Adults</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent</td>
<td>Frequency</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>8</td>
<td>26.6</td>
<td>10</td>
</tr>
<tr>
<td>Female</td>
<td>22</td>
<td>73.3</td>
<td>20</td>
</tr>
<tr>
<td><strong>Marital status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>14</td>
<td>46.6</td>
<td>9</td>
</tr>
<tr>
<td>Married</td>
<td>6</td>
<td>20</td>
<td>9</td>
</tr>
<tr>
<td>Separated/Divorced</td>
<td>10</td>
<td>33.4</td>
<td>12</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High School/GED</td>
<td>14</td>
<td>46.7</td>
<td>13</td>
</tr>
<tr>
<td>Technical School</td>
<td>2</td>
<td>6.7</td>
<td>4</td>
</tr>
<tr>
<td>A.A.</td>
<td>2</td>
<td>6.7</td>
<td>0</td>
</tr>
<tr>
<td>B.A.</td>
<td>11</td>
<td>37</td>
<td>8</td>
</tr>
<tr>
<td>M.A.</td>
<td>1</td>
<td>3</td>
<td>5</td>
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<tr>
<td><strong>Employment</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Unemployed</td>
<td>2</td>
<td>6.7</td>
<td>6</td>
</tr>
<tr>
<td>Student</td>
<td>2</td>
<td>6.7</td>
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</tr>
<tr>
<td>Disabled</td>
<td>4</td>
<td>13.3</td>
<td>1</td>
</tr>
<tr>
<td>Employed</td>
<td>21</td>
<td>70</td>
<td>18</td>
</tr>
<tr>
<td>Retired</td>
<td>1</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>
Confirmatory Measures of Diagnoses

Beck Depression Inventory - II

Data were analyzed to determine if a significant difference existed between groups based on the Beck Depression Inventory-II. A significant difference was found, $F(2,78)=33.17, \ p=.001$.

Results of the Beck Depression Inventory - II (Beck, 1996) indicated that the group with bipolar disorder yielded a total score $M = 23.93, SD = 14.096$. The group with unipolar disorder yielded a total score $M = 24.14, SD = 11.819$. The group of nonpatient adults yielded a total score $M = 3.27, SD = 3.424$, as shown in Table 2.

A post hoc analysis was completed to determine which of the between group differences of the two clinical groups and control group were significant. Results of the Games-Howell Analysis indicated that both clinical groups did not differ and were significantly higher than the control group as shown in Table 3.
Table 2

*Means and Standard Deviations of Scores of the Beck Depression Inventory*

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Bipolar Disorder</th>
<th>Unipolar Disorder</th>
<th>Nonpatient Adults</th>
</tr>
</thead>
</table>

*Note.* Participants with bipolar disorder (BPD), participants with unipolar disorder (UD).

Results of the Games-Howell Analysis of the Beck Depression Inventory revealed that the group with bipolar disorder did not differ from the group with unipolar disorder. This analysis also revealed that both groups of individuals with bipolar or unipolar disorder endorsed symptoms of depression to a significantly greater degree than nonpatient adults.
Table 3

*Games-Howell Post Hoc Analysis Test of the Beck Depression Inventory*

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>1 = bpd</th>
<th>2 = ud</th>
<th>Mean Difference</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>-.22</td>
<td>.998</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>20.66*</td>
<td>.000</td>
<td></td>
</tr>
</tbody>
</table>

| Beck Depression    | 2      | 1     | .22            | .99         |
|                    | 3      | 20.87*| .000           |             |

|                    | 3      | 1     | -20.66*        | .000        |
|                    | 2      | -20.87*| .000           |             |

*Note.* Participants with bipolar disorder (BPD), participants with unipolar disorder (UD).
The Mood Disorders Questionnaire

Data were analyzed to determine if a significant difference existed between groups based on the Mood Disorders Questionnaire. A significant difference was found, $F(2,78)=58.676, p=.001$.

Results of the The Mood Disorders Questionnaire (Hirschfield, 2000) indicated that the group with bipolar disorder endorsed items which yielded a total score $M = 9.93$, $SD = 2.960$. The group with unipolar disorder endorsed items which yielded a total score $M = 3.89$, $SD = 2.936$. The group of non patient adults endorsed items which yielded a total score $M = 2.08$, $SD = 2.365$ as shown in Table 4.

A post hoc analysis was completed to determine which of the between group differences impacted Mood Disorder Questionnaire results. The Scheffe Post Hoc Test was used because there were no significant differences in the variances of the groups on this measure. Results of the Scheffe Post Hoc Test indicated that the bipolar group was significantly higher than both the unipolar and control group and no significant difference was found between the unipolar group and the control group as shown in Table 5.
Table 4

*Means and Standard Deviations of Total Items Endorsed on the Mood Disorders Questionnaire*

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Bipolar Disorder</th>
<th>Unipolar Disorder</th>
<th>Nonpatient Adults</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><em>M</em></td>
<td><em>SD</em></td>
<td><em>M</em></td>
</tr>
<tr>
<td>Mood Disorders Questionnaire</td>
<td>9.93</td>
<td>2.960</td>
<td>3.89</td>
</tr>
</tbody>
</table>

n = 30 for each group.
Table 5

*Scheffe Post Hoc Analysis Test of the Mood Disorders Questionnaire*

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>1 = bpd</th>
<th>2 = ud</th>
<th>Mean Difference</th>
<th>Significance</th>
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<tr>
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<tr>
<td>Questionnaire</td>
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<td>-6.03*</td>
<td>.000</td>
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<tr>
<td></td>
<td></td>
<td>3</td>
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</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>-6.03*</td>
<td>.000</td>
</tr>
</tbody>
</table>

*Note.* Participants with bipolar disorder (BPD), participants with unipolar disorder (UD).

Results of the Scheffe Post Hoc Analysis of the Mood Disorders Questionnaire revealed that the group with bipolar disorder did significantly differ from the group with unipolar disorder and from the group of nonpatient adults.
Symptom Checklist 90-R Dimensions.

Derogatis (1977) presented a concept of caseness, as defined with regard to the SCL-90-R. A dimension T score of 63 corresponds to the 90th percentile of the normative population which can serve as a positive diagnostic indicator. A T score analysis of the symptom dimensions was conducted. On each dimension, it was found that participants with bipolar disorder generally endorsed items that were reflected in T scores nearly two standard deviations above the normed mean. In comparison, participants with unipolar disorder endorsed items that were reflected in T scores generally more than one standard deviation above the normed mean. Finally, nonpatient adults were found to endorse items within the mean. These results suggested that individuals with bipolar disorder generally experience greater levels of pathognomic symptoms than those experienced by individuals with unipolar disorder.

A multivariate analysis of variance (MANOVA) with group membership serving as the levels of the independent variable and factor scores of symptom dimensions serving as dependent variables was calculated. An overall Wilks' Lambda (Wilks = F=13.37, df=14,162, p<.000) revealed a significant difference across groups on the levels of the independent variable. The Games-Howell Post Hoc Test yielded multiple supportive results. All three levels of the independent variable were found to affect the degree of symptomatology and symptom cluster aggregation.

Subsequently, post hoc analyses of variance (ANOVA's) were conducted on each of the dependent variables with group membership as the independent variable. F-tests were used to assess the seven hypotheses to determine the significant differences among
the three groups of participants. A multiple comparison analysis was then conducted.

Significant results were discovered for all dimensions as shown in Table 7.
<table>
<thead>
<tr>
<th>Dimension</th>
<th>Bipolar Disorder</th>
<th>Unipolar Disorder</th>
<th>Nonpatient Adults</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$SD$</td>
<td>$M$</td>
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<tr>
<td>Hostility</td>
<td>69.13</td>
<td>9.519</td>
<td>63.53</td>
</tr>
<tr>
<td>Paranoid</td>
<td>69.43</td>
<td>9.088</td>
<td>63.53</td>
</tr>
<tr>
<td>Psychoticism</td>
<td>73.10</td>
<td>8.168</td>
<td>68.53</td>
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<tr>
<td>Interpersonal Sensitivity</td>
<td>72.50</td>
<td>7.123</td>
<td>67.97</td>
</tr>
<tr>
<td>Global Severity Index</td>
<td>73.03</td>
<td>6.557</td>
<td>69.13</td>
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<tr>
<td>Depression</td>
<td>71.90</td>
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<tr>
<td>Anxiety</td>
<td>70.83</td>
<td>8.363</td>
<td>66.20</td>
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Table 7

ANOVA of SCL-90R Dimensions

<table>
<thead>
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<th>Dimension</th>
<th>df</th>
<th>F</th>
<th>$\eta$</th>
<th>p</th>
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</thead>
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<td>Paranoid</td>
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<td>Global Severity Index</td>
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<td>Anxiety</td>
<td>2,78</td>
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<td>90</td>
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</table>
Analyses of Hypotheses

Hypothesis # 1.

The Hostility dimension of the SCL-90-R (Derogatis, 1994) measures qualities such as rage, aggression, irritability, and resentment. It was predicted that hostility would be greater for individuals with bipolar disorder and lower for individuals with unipolar disorder or control participants. Support for the first hypothesis indicated a trend. Both clinical groups met the criterion of clinically significant levels on the Hostility dimension. Hostility was significantly greater for the clinical groups and lower for the control group.

The Hostility dimension revealed the following scores for each level of the independent variable. Results of the Hostility dimension analysis demonstrated that the group with bipolar disorder endorsed items which were reflected in $T$ scores nearly two standard deviations above the normed mean ($M = 69.13, SD = 9.519$). These scores for bipolar subjects indicated a positive clinically significant level as measured by the Hostility dimension. The bipolar subjects do experience clinical levels of symptoms such as rage, aggression, irritability, and resentment to a significantly greater degree than nonpatient adults.

The group with unipolar disorder endorsed items on the Hostility dimension which were reflected in $T$ scores more than one standard deviation above the normed mean ($M = 63.53, SD = 10.405$). These scores for unipolar subjects indicated a positive clinically significant level as measured by the Hostility dimension. These scores indicated that the unipolar subjects also experience clinical levels of symptoms such as
rage, aggression, irritability, and resentment to a significantly greater degree than nonpatient adults.

The group of nonpatient adults endorsed items on the Hostility dimension which were reflected in T scores within the mean range (M = 46.50, SD = 5.776). These scores for control subjects indicated that a positive relationship on the Hostility dimension was not found. These scores indicated that the nonpatient adult subjects do not experience clinical levels of symptoms such as rage, aggression, irritability, and resentment to a significantly greater degree when compared with population norms.

The Games-Howell Post Hoc Test was used to determine where the specific differences occurred between groups on the Hostility Dimension because the variances of the three groups were unequal, due to the nature of the clinical and nonpatient groups which were compared.

The Hostility dimension revealed that participants with bipolar disorder did not score significantly higher than participants with unipolar (M Difference = 5.60, SE = 2.575, p<.084) but were significantly higher than nonpatient adults (M Difference = 22.63, SE = 2.033, p<.000). Participants with unipolar disorder did score significantly higher than nonpatient adults (M Difference, 17.03, SE = 2.173, p<.000), see Table 8.
### Table 8

*Games-Howell Post Hoc Tests of Hostility Dimension*

<table>
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<tr>
<th>Dependent Variable</th>
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<th>2 = ud</th>
<th>Difference</th>
<th>SE</th>
<th>Significance</th>
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<td>2.033</td>
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<td>Hostility</td>
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<td>2.575</td>
<td>.084</td>
</tr>
<tr>
<td></td>
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<td>.000</td>
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<td>2.173</td>
<td>.000</td>
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</table>

*Note.* Participants with bipolar disorder (BPD), participants with unipolar disorder (UD).

* The mean difference is significant at the .05 level.
Hypothesis # 2.

The Paranoid Ideation dimension of the SCL-90-R measures projective thought, hostility, suspiciousness, grandiosity, centrality, fear of loss of autonomy, and delusions as reported by Swanson, Bohnert, & Smith (1970). It was predicted that this score would be greater for bipolar disorder than for unipolar disorder or control participants. The second hypothesis was supported. While both clinical groups met the criterion of clinically significant levels on the Paranoid dimension, the Paranoid dimension was significantly greater for the bipolar group and lower for the unipolar and control groups ($M$ Difference = 20.6, $SE = 2.395$, $p < .044$).

The Paranoid dimension revealed the following scores for each level of the independent variable. Results of the analysis demonstrated that the group with bipolar disorder endorsed items on the SCL-90-R which were reflected in $T$ scores near two standard deviations above the mean. These scores for bipolar subjects ($M = 69.43$, $SD = 9.088$) indicated a positive clinically significant level as measured by the Paranoid dimension over nonpatient adults. The interpretation of these scores revealed that the bipolar subjects do experience clinical levels of symptoms such as projective thought, hostility, suspiciousness, grandiosity, centrality, fear of loss of autonomy, and delusions to a significantly greater degree than nonpatient adults.

The group with unipolar disorder endorsed items on the Paranoid dimension which were reflected in $T$ scores more than one standard deviation above the mean ($M = 63.53$, $SD = 9.457$). These scores for unipolar subjects indicated a positive clinically significant level as measured by the Paranoid dimension. These scores suggested that the unipolar subjects also experience clinical levels of symptoms such as projective thought,
hostility, suspiciousness, grandiosity, centrality, fear of loss of autonomy, and delusions to a significantly greater degree than nonpatient adults.

The group of nonpatient adults endorsed items on the Paranoid dimension which were reflected in T scores within the mean range ($M = 48.77, SD = 7.281$). These scores for nonpatient adults indicated that a positive clinically significant level as measured by the Paranoid dimension was not found. These scores suggested that the nonpatient adult subjects do not experience symptoms of projective thought, hostility, suspiciousness, grandiosity, centrality, fear of loss of autonomy, and delusions to a significantly greater degree when compared with population norms.

The Games-Howell Post Hoc Test was used to determine where the specific differences occurred between groups on the Paranoid dimension. The post hoc analysis was conducted because the variances of the three groups were unequal, due to the nature of the clinical and nonpatient groups which were compared.

The Games-Howell Post Hoc Test comparisons demonstrated the following on the Paranoid dimension: bipolar disorder did score significantly greater than unipolar disorder participants ($M$ Difference $= 5.90$, $SE = 2.395$, $p<.044$); and were significantly higher than nonpatient adults ($M$ Difference $= 20.67$, $SE = 2.126$, $p<.000$). The Games-Howell Post Hoc Test comparisons also revealed that participants with unipolar disorder did score significantly higher than nonpatient adults ($M$ Difference $= 14.77$, $SE = 2.179$, $p<.000$), as shown in Table 9.
### Games-Howell Post Hoc Tests of Paranoid Dimension

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>1 = bpd</th>
<th>2 = ud</th>
<th>3 = controls</th>
<th>Mean Difference</th>
<th>SE</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
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<td>2.395</td>
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<td>2.126</td>
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<td>2.395</td>
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<td>3</td>
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<td>2.179</td>
<td>.000</td>
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<td>3</td>
<td>1</td>
<td></td>
<td>-20.67*</td>
<td>2.126</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td>-14.77*</td>
<td>2.179</td>
<td>.000</td>
</tr>
</tbody>
</table>

*Note.* Participants with bipolar disorder (BPD), participants with unipolar disorder (UD).
Hypothesis #3.

The Psychoticism dimension (Derogatis, 1994) measures constructs such as isolation, schizoid thinking, hallucinations and thought control. It was predicted that this measure would be greater for bipolar disorder than for unipolar disorder or control participants. Support for the third hypothesis approached significance. A Games-Howell Post Hoc Test analysis indicated that both clinical groups met the criterion of clinically significant levels on the Psychoticism dimension when compared to nonpatient adults. The bipolar and unipolar groups did not differ. The Psychoticism dimension was significantly lower for the control group.

The Psychoticism dimension revealed the following scores for each level of the independent variable. Results of the Psychoticism dimension analysis demonstrated that the group with bipolar disorder endorsed items on the SCL-90-R which were reflected in T scores more than two standard deviations above the mean ($M = 73.10, SD = 8.168$). These scores for bipolar subjects indicated a positive clinically significant level on the Psychoticism dimension. The interpretation of these scores suggested that the bipolar subjects do experience clinical levels of constructs such as isolation, schizoid thinking, hallucinations and thought control to a significantly greater degree than nonpatient adults.

The group with unipolar disorder endorsed items on the Psychoticism dimension which were reflected in T scores more than one standard deviation above the mean ($M = 68.53, SD = 8.858$). These scores for unipolar subjects indicated a positive clinically significant level as measured by the Psychoticism dimension. These scores suggested that the unipolar subjects also experience clinical levels of constructs such as isolation,
schizoid thinking, hallucinations and thought control to a significantly greater degree than nonpatient adults.

The group of nonpatient adults endorsed items on the Psychoticism dimension which were reflected in T scores within the mean range ($M = 46.70, SD = 5.873$). These scores for nonpatient adult subjects indicated that a clinically significant level on the Psychoticism dimension was not found. These scores suggested that the nonpatient adult subjects do not experience clinical levels of constructs such as isolation, schizoid thinking, hallucinations and thought control to a significantly greater degree when compared with population norms.

The Games-Howell Post Hoc Test was used to determine where the specific differences occurred between groups on the Psychoticism dimension because the variances of the three groups were unequal, due to the nature of the clinical and nonpatient groups which were compared.

The Psychoticism dimension revealed that participants with bipolar disorder did not score significantly higher than participants with unipolar disorder ($M$ Difference = 4.57, $SE = 2.20, p<.104$) but were significantly higher than nonpatient adults ($M$ Difference = 26.40, $SE = 1.83, p<.000$). Participants with unipolar disorder did score significantly higher than nonpatient adults ($M$ Difference = 21.83, $SE = 1.940, p<.000$), as shown in Table 10.
Table 10

*Games-Howell Post Hoc Tests of the Psychoticism Dimension*

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Mean Difference</th>
<th>SE</th>
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<td>.104</td>
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<tr>
<td>1 3 2 3</td>
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<td>1.837</td>
<td>.000</td>
</tr>
<tr>
<td>1 -4.57</td>
<td>2.200</td>
<td>.104</td>
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<tr>
<td>3 2 -26.40</td>
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<td></td>
</tr>
<tr>
<td>3 -21.83</td>
<td>1.940</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>2 1 -21.83</td>
<td>1.940</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>2 -21.83</td>
<td>1.940</td>
<td>.000</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Participants with bipolar disorder (BPD), participants with unipolar disorder (UD).
Hypothesis #4.

The Interpersonal Sensitivity dimension (Derogatis, 1994) includes statements reflecting inadequacy, inferiority, self-deprecation, self-doubt, acute self-consciousness and marked discomfort in interpersonal interactions with negative expectations of those interactions. It was predicted that this measure would not differ for both bipolar disorder and unipolar disorder, and that Interpersonal Sensitivity would differ and be lower for control participants. The Games-Howell Post Hoc Test supported the fourth hypothesis that both clinical groups were significantly greater and differed from the control group on Interpersonal Sensitivity dimension.

The Interpersonal Sensitivity dimension offered the following scores for each level of the independent variable. Results of the Interpersonal Sensitivity dimension analysis demonstrated that the group with bipolar disorder endorsed items on the SCL-90-R which were reflected in $T$ scores more than two standard deviations above the mean ($M = 72.50, SD = 7.123$). These scores for bipolar subjects indicated a positive clinically significant level on the Interpersonal Sensitivity dimension. These scores indicated that the bipolar subjects do experience clinical levels of feelings of inadequacy, inferiority, self-deprecation, self-doubt, acute self-consciousness and marked discomfort in interpersonal interactions with negative expectations of those interactions, to a significantly greater degree than nonpatient adults.

The group with unipolar disorder endorsed items on the Interpersonal Sensitivity dimension which were reflected in $T$ scores more than one standard deviation above the mean ($M = 67.97, SD = 10.424$). These scores for unipolar subjects indicated that there is a clinically significant level on the Interpersonal Sensitivity dimension. These scores
indicated that unipolar subjects also experience clinical levels of feelings of inadequacy, inferiority, self-deprecation, self-doubt, acute self-consciousness and marked discomfort in interpersonal interactions with negative expectations of those interactions, to a significantly greater degree than nonpatient adults.

The group of nonpatient adults endorsed items on the Interpersonal Sensitivity dimension which were reflected in $T$ scores within the mean range ($M = 48.33, SD = 7.331$). These scores for nonpatient adult subjects indicated that a positive clinically significant level on the Global Severity Index was not found. These scores suggested that the nonpatient adult subjects do not experience clinical levels of feelings of inadequacy, inferiority, self-deprecation, self-doubt, acute self-consciousness and marked discomfort in interpersonal interactions with negative expectations of those interactions, to a significantly greater degree when compared with population norms.

The Games-Howell Post Hoc Test was used to determine where the specific differences occurred between groups on the Interpersonal Sensitivity dimension because the variances of the three groups were unequal, due to the nature of the clinical and nonpatient groups which were compared.

The Interpersonal Sensitivity dimension revealed that participants with bipolar disorder did not score significantly higher than unipolar disorder participants ($M$ Difference = 4.53, $SE = 2.305$, $p<.131$) but were significantly higher than nonpatient adults ($M$ Difference = 24.17, $SE = 1.866$, $p<.000$). Participants with unipolar disorder did score significantly higher than nonpatient adults ($M$ Difference = 19.63, $SE = 2.327$, $p<.000$) as shown in Table 11.
Table 11

*Games-Howell Post Hoc Tests of Interpersonal Sensitivity Dimension*

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>1 = bpd</th>
<th>2 = ud</th>
<th>3 = controls</th>
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<th>SE</th>
<th>Significance</th>
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<td>Sensitivity</td>
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<td></td>
<td>-19.63</td>
<td>2.327</td>
<td>.001</td>
</tr>
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</table>

*Note.* Participants with bipolar disorder (BPD), participants with unipolar disorder (UD).
Hypothesis #5.

The Global Severity Index (Derogatis, 1994) represents clinical levels of the intensity of perceived distress, or the depth of a disorder. It was predicted that this measure would not differ for both bipolar disorder and unipolar disorder, and that the Global Severity Index would differ from and be lower for control participants. The fifth hypothesis was supported. The bipolar group and the unipolar group did not differ on the Global Severity Index however both the bipolar and unipolar groups were significantly greater than the control group.

The Global Severity Index revealed the following scores for each level of the independent variable. Results of the Global Severity Index analysis demonstrated that the group with bipolar disorder endorsed items on the SCL-90-R which were reflected in $T$ scores more than two standard deviations above the mean ($M = 73.03, SD = 6.557$). These scores for bipolar subjects indicated a positive clinically significant level as measured by the Global Severity Index. These scores indicated that the bipolar subjects do experience clinical levels of the intensity of perceived distress, or the depth of disorder, to a significantly greater degree than nonpatient adults.

The group with unipolar disorder endorsed items on the Global Severity Index which were reflected in $T$ scores more than one standard deviation above the mean ($M = 63.19, SD = 8.959$). These scores for unipolar subjects indicated a positive clinically significant level as measured by the Global Severity Index. The interpretation of these scores suggested that unipolar subjects do experience the intensity of perceived distress, or the depth of disorder, to a significantly greater degree than nonpatient adults.
The group of nonpatient adults endorsed items on the Global Severity Index which were reflected in $T$ scores which were within the mean range ($M = 46.47$, $SD = 6.862$). These scores for nonpatient adult subjects indicated that a positive clinically significant level as measured by the Global Severity Index was not found. These scores also indicated that nonpatient adult subjects do not experience the intensity of perceived distress, or the depth of disorder, to a significantly greater degree when compared with population norms.

The Games-Howell Post Hoc Test was used to determine where the specific differences occurred between groups on the Global Severity Index. The post hoc analysis was conducted because the variances of the three groups were unequal, due to the nature of the clinical and nonpatient groups which were compared.

The Global Severity Index revealed that participants with bipolar disorder did not score significantly higher than unipolar disorder participants ($M$ Difference = 3.90, $SE = 2.027$, $p<.142$) but were significantly higher than nonpatient adults ($M$ Difference = 26.57, $SE = 1.733$, $p<.000$). Participants with unipolar disorder did score significantly higher than nonpatient adults ($M$ Difference = 22.67, $SE = 2.026$, $p<.000$), see Table 11.
Table 11

*Games-Howell Post Hoc Tests of Global Severity Index*

<table>
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<tr>
<th>Dependent Variable</th>
<th>1 = bpd</th>
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<th>Significance</th>
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Global Severity Index

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<td>2.060</td>
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</table>

*Note.* Participants with bipolar disorder (BPD), participants with unipolar disorder (UD).
Hypothesis #6.

The Anxiety dimension (Derogatis, 1994) measures signs such as nervousness, tension, trembling, panic attacks and dread. It was predicted that the Anxiety dimension would be greatest for unipolar disorder, less so for bipolar disorder, and even lower for control participants. The sixth hypothesis was not supported. Bipolar and unipolar groups did not differ on the Anxiety dimension; however both groups differed from and were significantly greater than the control group.

The Anxiety Dimension revealed the following scores for each level of the independent variable. Results of the Anxiety Dimension analysis demonstrated that the group with bipolar disorder endorsed items on the SCL-90-R which were reflected in $T$ scores more than two standard deviations above the mean ($M = 73.83, SD = 8.363$). These scores for bipolar subjects indicated a positive clinically significant level as measured by the Anxiety dimension. The interpretation of these scores indicated that the bipolar subjects experience clinical levels of anxiety such as nervousness, tension, trembling, panic attacks and dread, to a significantly greater degree than nonpatient adults.

The group with unipolar disorder endorsed items on the Anxiety dimension which were reflected in $T$ scores more than one standard deviation above the mean ($M = 66.20, SD = 10.196$). These scores for unipolar subjects indicated a positive clinically significant level as measured by the Anxiety dimension. These scores indicated that unipolar subjects experience clinical levels of anxiety with symptoms such as nervousness, tension, trembling, panic attacks and dread, to a significantly greater degree than nonpatient adults.
The group of nonpatient adults endorsed items on the Anxiety dimension which were reflected in $T$ scores within the mean range ($M = 44.00$, $SD = 6.592$). These scores for nonpatient adult subjects indicated that a positive clinically significant level as measured by the Anxiety dimension was not found. These scores indicated that nonpatient adult subjects do not experience clinical levels of signs such as nervousness, tension, trembling, panic attacks and dread to a significantly greater degree when compared with population norms.

The Games-Howell Post Hoc Test was used to determine where the specific differences occurred between groups on the Anxiety dimension. The post hoc analysis was conducted because the variances of the three groups were unequal, due to the nature of the clinical and nonpatient groups which were compared.

The Anxiety dimension revealed that participants with bipolar disorder did not score significantly higher than unipolar disorder participants ($M$ Difference $= 4.63$, $SE = 2.408$, $p<.141$) but were significantly higher than nonpatient adults ($M$ Difference $= 26.83$, $SE = 1.944$, $p<.000$). Participants with unipolar disorder did score significantly higher than nonpatient adults ($M$ Difference $= 22.20$, $SE = 2.217$, $p<.000$), see Table 12.
Table 12

*Games-Howell Post Hoc Tests of Anxiety Dimension*

<table>
<thead>
<tr>
<th>Dependent Variable</th>
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*Note.* Participants with bipolar disorder (BPD), participants with unipolar disorder (UD).
Hypothesis #7.

The Depression (Derogatis, 1994) dimension represents symptoms of dysphoria, withdrawal, lack of motivation or interest, loss of energy, hopelessness, suicidality and somatic correlates. It was predicted that this measure would not differ for both bipolar disorder and unipolar disorder, and that the Depression dimension would differ and be lower for control participants. The Games-Howell Post Hoc analysis provided statistical support for the seventh hypothesis. The bipolar and unipolar group did not differ on the Depression dimension; however both groups were significantly greater and differed from the control group.

The Depression dimension revealed the following scores for each level of the independent variable. Results of the Depression Dimension analysis demonstrated that the group with bipolar disorder endorsed items on the SCL-90-R which were reflected in $T$ scores more than two standard deviations above the mean ($M = 71.90$, $SD = 7.279$). These scores for bipolar subjects indicated a positive clinically significant level as measured by the Depression dimension. These scores indicated that the bipolar subjects do experience clinical levels of symptoms of dysphoria, withdrawal, lack of motivation or interest, loss of energy, hopelessness, suicidality and somatic correlates, to a significantly greater degree than nonpatient adults.

The group with unipolar disorder endorsed items on the Depression dimension which were reflected in $T$ scores more than two standard deviations above the mean ($M = 70.60$, $SD = 9.511$). These scores for unipolar subjects indicated a positive clinically significant level as measured by the Depression dimension. These scores indicated that unipolar subjects do experience clinical levels of symptoms of dysphoria, withdrawal,
lack of motivation or interest, loss of energy, hopelessness, suicidality and somatic correlates, to a significantly greater degree than nonpatient adults.

The group of nonpatient adults endorsed items on the Depression dimension which were reflected in T scores within the mean range ($M = 46.67, SD = 6.504$). These scores for nonpatient adult subjects indicated a positive clinically significant level as measured by the Depression dimension was not found. These scores indicated that the nonpatient adult subjects do not experience clinical levels of symptoms of dysphoria, withdrawal, lack of motivation or interest, loss of energy, hopelessness, suicidality and somatic correlates to a significantly greater degree when compared with population norms.

The Games-Howell Post Hoc Test was used to determine where the specific differences occurred between groups on the Depression dimension. The post hoc analysis was conducted because the variances of the three groups were unequal, due to the nature of the clinical and nonpatient groups which were compared.

The Depression dimension revealed that participants with bipolar disorder did not score significantly higher than unipolar disorder participants ($M$ Difference = 1.30, $SE = 2.187$, $p<.824$) but were significantly higher than nonpatient adults ($M$ Difference = 25.23, $SE = 1.782$, $p<.001$). Participants with unipolar disorder did score significantly higher than nonpatient adults ($M$ Difference = 23.93, $SE = 2.104$, $p<.000$), see Table 13.
Table 13

Games-Howell Post Hoc Tests of Depression Dimension

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Mean Difference</th>
<th>SE</th>
<th>Significance</th>
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<tr>
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<tr>
<td>3 = controls</td>
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</table>

Note. Participants with bipolar disorder (BPD), participants with unipolar disorder (UD).
The focus of this investigation was to identify common, salient and significant symptoms of bipolar disorder. As Goodwin & Jamison (1990) note, "Surprisingly little has been done to describe quantitatively the clinical features of bipolar depression per se." (p.42).

Bipolar disorder is currently diagnosed according to the expression of symptoms delineated in the DSM-IV-TR (2000) text revision. State of the art differential diagnostic decisions are predicated on what many clinicians recognize as vaguely defined or poorly related presentations in the DSM-IV-TR (2000) text revision. Belmaker (2004) wrote the following regarding current diagnostic information about bipolar disorder:

"Surprisingly, studies have not identified a clear personality trait specific to patients with bipolar manic-depressive illness. Intuition may suggest that patients are labile, unstable, or perhaps seekers of novelty even when they are not manic or depressed. However, there is little evidence of specific personality characteristics." pg. 476.

The present study attempted to empirically identify symptoms to help define a more accurate clinical description of bipolar disorder. This study was designed to incorporate the results of current research into the preexisting pool of knowledge. An analysis of the current results indicated that the hypotheses were largely supported. A
greater number of participants in this study could have established symptoms with more
certainty. The following discussion presents findings and their implications.

Interpretation of Research Findings

The DSM-IV-TR (2000) includes a statement that psychotic disorders "may share
a number of presenting symptoms (e.g., grandiose and persecutory delusions, irritability,
agitation, and catatonic symptoms)" (p.387). Persecutory delusions describe thoughts or
beliefs that contain the two central elements of harm occurring, and that others have the
intention to cause harm. This research has found that the participants with bipolar
disorder, who were not actively psychotic, maintained what can be described as a
paranoid set. This response set is illustrated by the number of participants who endorsed
the descriptors "quite a bit" or "extremely" in the protocol of the SCL-90-R with regard to
"Feeling that you are watched or talked about by others" or "Feelings that people will
take advantage of you if you let them." (Derogatis, 1994, p. 32). The results of this
research found that individuals with bipolar disorder significantly endorse global self
statements of paranoid ideation when compared with individuals with unipolar disorder
or nonpatient adults.

Analysis of the data indicated that individuals with bipolar disorder endorsed
items on the dimension of Hostility indicating a trend when compared with individuals
having unipolar depression. This response set is illustrated by the large number of
participants who endorsed the descriptors "quite a bit" or "extremely" in the protocol of
the SCL-90-R with regard to the self statement of "Getting into frequent arguments, or
temper outburst that you could not control"(Derogatis, 1994, p. 32). Consistent with the
hypothesis that hostility is a symptom of bipolar and unipolar disorder is the work of Michaelis, Goldberg, Davis, Singer, et al. (2004). These researchers found that an association between lifetime suicide attempts and overall hostility were significant among individuals with bipolar disorder.

Analysis of the data appeared to indicate that individuals with bipolar disorder endorsed items on the dimension of Psychoticism indicating a trend when compared with individuals having unipolar depression. Individuals with bipolar disorder experience clinical levels of constructs such as isolation, schizoid thinking, hallucinations and thought control to a significantly greater degree than nonpatient adults. This finding was consistent with the American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (2000), which incorporates specifiers of diagnostic features such as psychotic features, to describe a Manic, Mixed or Major Depressive Episode.

Individuals with bipolar disorder also endorsed items which indicated clinical levels of symptoms when measured by the Interpersonal Sensitivity dimension. This response set was illustrated by participants who endorsed the descriptors of "quite a bit" or "extremely" in the protocol of the SCL-90-R with regard to "Feeling shy or uneasy with the opposite sex" or "Feeling inferior to others." (Derogatis, 1994, p. 31). Cannon, et al. (1977), found that impaired social functioning is also seen in the premorbid state. Additionally, these researchers have found that poor premorbid social adjustment is one manifestation of vulnerability to adult psychotic disorders, although more so with schizophrenia than with bipolar disorder.

Bipolar illness can affect every aspect of social functioning, including the
additional impact of low self-esteem and self-efficacy. The unique viewpoint of an individual, or the subjective interpretation of events, is not necessarily a linear and connected process. With individuals who have bipolar disorder, developing an accurate perspective of the world is fraught with and tempered by periods of euphoric interpretation, and then episodes of switching to a viewpoint clouded by depression.

Individuals with bipolar disorder also endorsed items which indicated clinical levels as measured by the Global Severity Index. That index includes clinical levels of the intensity of perceived distress, or the depth of disorder. Prima facie consideration leads to the proposition that individuals who experience a mental health disorder of this magnitude would consider the distress of the depth of their disorder to be severe.

Individuals with bipolar disorder endorsed items which indicated clinical levels on the Depression dimension when compared with nonpatient adults. This finding was movingly underscored by Jamison (1995):

"Profound melancholia is a day-in, day-out, night-in, night-out, almost arterial level of agony. It is a pitiless unrelenting pain that affords no window of hope, no alternative to a grim and brackish existence, and no respite from the cold undercurrents of thought and feeling that dominate the horribly restless nights of despair’ (p. 144).

Individuals with bipolar disorder also endorsed items which indicated clinical levels on the Anxiety dimension when compared with nonpatient adults. An example of this elevated anxiety is illustrated by participants who endorsed the descriptors "Quite a bit" or "extremely" with regard to "Nervousness or shakiness inside" or "Suddenly scared for no reason" (Derogatis, 1994, p. 31). Support was found for this hypothesis in the
work of McElroy et al. (2001) in assessing comorbid lifetime and current axis I disorders in 288 patients with bipolar disorder. One conclusion drawn was that patients with bipolar disorder often have comorbid anxiety, substance use, and, to a lesser extent, eating disorders.

Based on this study, participants with unipolar disorder were found to endorse items which also indicated clinical levels of symptoms on dimensions of the Symptom Checklist -90-Revised not typically associated with unipolar disorder. Of interest is the result found that individuals with unipolar disorder elected responses which were significantly greater on the Hostility and Paranoia dimensions when compared with nonpatient adults. These results are consistent with those of Pasquini et al. (2004) who proposed that:

"In depressive disorders, there are psychopathological dimensions other than depressed mood and anxiety that deserve greater clinical recognition and research. Our study suggests that one of these symptom clusters includes anger, irritability, aggressiveness, and hostility. The relevance of this dimension was not related to concurrent pharmacological treatment. Misdiagnosis of bipolar II disorder is also unlikely to explain our findings. Possibly, personality factors might at least partly explain the occurrence of anger and aggressiveness in several depressed patients. Attachment theory suggests that anger might also be conceived as part of the protest-despair-detachment reaction to a loss, either actual or symbolic." (p.155).

Based on the outcome of these measures, a conclusion is forwarded that individuals with bipolar disorder do endorse symptoms correlated with paranoia to a
greater degree than individuals with unipolar disorder or nonpatient adults. In addition, symptoms correlated with the dimensions of Hostility and Psychoticism did approach significance for the bipolar population when compared with unipolar participants. Furthermore, several symptoms have also proven to be quite stable and endorsed to a greater degree by participants with bipolar disorder than with nonpatient adults. Those symptoms include hostility, psychoticism, interpersonal sensitivity, anxiety and depression, as measured by the SCL-90-R.

This investigation proposed to answer several questions regarding the symptomatology of bipolar disorder which had not been fully addressed in the literature. In discussing which common symptoms of bipolar disorder could alert professionals in the field, the symptom of paranoia was found to be significant. Despite the interventions of diagnosis, pharmacological treatment and membership in a support group, participants with bipolar disorder continued to experience and endorse this symptom to a clinically significant degree. This outcome points to the strength and endurance of this symptom experienced by individuals with bipolar disorder. Furthermore, several symptoms have also proven to be quite stable and endorsed to a greater degree by participants with unipolar disorder than with nonpatient adults. Those symptoms include hostility, paranoia, psychoticism, interpersonal sensitivity, anxiety and depression as measured by the SCL-90-R.

Together, these symptoms begin to form a cluster of focal points within bipolar disorder. It appears as though paranoia differentiates bipolar from unipolar disorder. If this finding is replicated or corroborated by other investigators, it could prove to be a useful indicator of early bipolar disorder, prior to manic or hypomanic events. As
McElroy, Strakowski, West, Keck and McConville (1997) concluded, adolescents are more likely to initially present with depression. Prior to manic or hypomanic events, it is difficult to diagnose incipient bipolar disorder. Depression experienced as part of bipolar disorder can include the risk of suicide to a greater degree that most other psychiatric populations (Lam, Jones, Hayward, & Bright, 1999). Statistics indicate that between fifteen to nineteen percent of patients with bipolar disorder commit suicide, a serious mortality figure (Goodwin & Jamison, 1990, Simpson & Jamison, 1999). These researchers found that the suicide attempts may occur even more frequently, with estimates as high as fifty-six percent. A diagnostic tool used to measure symptoms such as paranoia primarily, along with the accompanying symptoms which were found to be present in this sample, could help to identify bipolar disorder earlier and more efficiently and possibly reduce this mortality rate.

Collateral symptoms of anxiety, interpersonal sensitivity, depression and the severity of the degree of symptomatology for participants with bipolar disorder appear to form a specific cluster. As noted previously, Egeland, Hostettere, Pauls & Sussex (2000) conducted a retrospective study searching for early predictors of bipolar illness among an Amish population. Egeland et al (2000) found that the highest frequency of symptoms or behaviors in their study were depressed mood, increased energy, decreased energy, anger dyscontrol/quick temper and argumentativeness, and irritable mood. Less common symptoms included bold/intrusive behaviors, excessive behaviors, conduct problems, decreased sleep and being overly sensitive. In view of the findings of this study, symptoms identified by England et al (2000) appear to correlate with the symptoms of hostility, interpersonal sensitivity, and depression found to be endorsed by participants.
A discussion of the symptoms endorsed by participants with unipolar disorder appears to be a worthwhile endeavor in light of the findings of this investigation. The same symptoms endorsed by participants with bipolar disorder were also largely endorsed by participants with unipolar disorder. It appears as though a relationship also exists between the independent variables of hostility, paranoia, psychoticism, interpersonal sensitivity, global severity, depression and anxiety, and the dependent variable of unipolar disorder. Despite the interventions of diagnosis, pharmacological treatment and membership in a support group, participants with unipolar disorder continued to experience and endorse these symptoms to a significantly greater degree when compared with nonpatient adults. This outcome points to the strength and endurance of these symptoms which are experienced by individuals with unipolar disorder. Of interest may be the identification of the symptoms of hostility, paranoia, and psychoticism in connection with unipolar disorder, which are generally not considered to be associated with unipolar disorder. Theoretically, individuals with unipolar disorder may experience these symptoms, but the symptoms may not be acknowledged, observable or directly expressed.

The overall results of this investigation point to the similarity of responses between participants with bipolar disorder and unipolar disorder. One possibility may be that chronic unipolar disorder and bipolar disorder share most characteristics, with the exception of mood swings and hypomania/mania. As opposed to being an entirely distinct disorder, the presentation of these characteristics appears to suggest that unipolar disorder
incorporates the symptoms of bipolar disorder, without the additional symptoms of hypomania/mania.

This sample of individuals with unipolar disorder did report that their illness was of a prolonged and chronic nature, despite psychiatric interventions and other adjunctive treatment modalities. This sample may represent a small percentage of individuals who experience lifelong unipolar depression which is uninterrupted. Perhaps psychiatric interventions allow these individuals to function in the community, but do not provide sufficient relief to fully ameliorate unrelenting symptoms.

As stated previously, Beutler & Malik (2003) report that state of the art differential diagnostic decisions are predicated on what many clinicians recognize as vaguely defined or poorly related presentations in the DSM-IV-TR (2000). The need for more accuracy and specificity in describing both bipolar disorder and unipolar disorder, based on empirical data, is congruent with this current trend. The DSM-IV-TR (2000) taxonomy classifies psychopathology within a disease or illness model. This model affords a heuristic shortcut for identifying disorders and points toward a medical model of treatment. This macro approach to disorders can divert attention away from distressing symptoms or the emotional needs of the individual who experiences them. In addition, this model tends to limit the defining criteria and treatment of disorders to their behavioral or overt manifestations. This approach may be insufficient in accurately evaluating a disorder, leading to treatments which do not fully address the needs of the individual.

The DSM-IV-TR (2000) describes persistent symptoms of the mood disturbance of bipolar disorder. The authors do not explain what their criteria are for defining such
descriptors, so that subjective clinical judgment is necessary to make a determination on each level with every patient. Data regarding the extent to which the diagnostic symptoms outlined correspond to individuals with bipolar disorder is also not available.

Based on the literature review cited earlier, a paradigm shift was proposed in the treatment of behavioral or emotional symptoms for individuals with bipolar disorder. Rather than treatment of a blatant symptom of bipolar disorder such as mania or rage, other significant and chronic symptoms which are part of a complex human being, with an interconnected and evolving physiology, warrant consideration. The treatment of symptoms which were found to be embedded within bipolar disorder may offer a substantial benefit to those individuals, as well as provide mental health professionals opportunity to develop for more efficacious treatment regimens.

Implications for Clinical Practice

The general theme and purpose of this research was to identify the various core symptoms of bipolar disorder and thereby broaden an understanding of the dynamics involved within the individual with bipolar disorder. In the present diagnostic system, chronic unipolar and bipolar disorders are classified on the basis of overt symptoms as distinct psychiatric disorders: an individual either has the illness or does not. Viewing bipolar and unipolar disorder in this way suggests that emphasis on a few defining symptoms may be misleading. Depression, for example, occurs in many disorders and can often be treated with medications, regardless of etiology. While some overt symptoms may be necessary for a diagnosis, such as the hallmark mania of Bipolar I, these overt symptoms are not sufficient in describing or treating individuals. Viewing individuals with unipolar or bipolar disorder in a distinct categorical rather than a
dimensional way can be a reductionistic approach which does not promote a comprehensive therapeutic model.

One interesting finding of this research study was the lack of a significant difference between bipolar and unipolar disorder on the Hostility dimension. While it was predicted that hostility would be greater for individuals with bipolar disorder and lower for individuals with unipolar disorder or control participants, a significant difference between unipolar and bipolar disorder was not found. This finding is interpreted to mean that individuals with chronic unipolar disorder may experience the same feelings of hostility that individuals with bipolar disorder experience and exhibit. However, they do not necessarily acknowledge those feelings, or act upon them. These feelings may not manifest in behaviors which define unipolar disorder, however, they appear to exist when measured by the SCL-90-R. When mental health clinicians do not test or filter for this or any other important symptom or maladaptive cognitive process because of preconceived decisions regarding the generally accepted view of a mental health disorder, a risk is taken.

Likewise, another interesting finding of this research study was the response pattern of individuals with bipolar and unipolar disorder on the Paranoid dimension. While both groups met the criterion of clinically significant levels on the Paranoid dimension, the Paranoid dimension was significantly greater for the bipolar group. It appears as though paranoid ideation as measured by the SCL-90-R is a distinguishing characteristic among the dimensions which were tested in generating a diagnosis of bipolar disorder. This understanding of bipolar disorder may help to form a differential diagnosis earlier in the onset of this illness, before the manifestation of mania, when an
initial episode is limited to depression. As noted earlier, adolescents are more likely to present with depression. If paranoia is a true expression of bipolar disorder, then this marker could potentially be used to differentiate a major depressive episode from incipient bipolar disorder.

Appropriate interventions have the potential to mediate the long-term outcome of numerous pathological processes. However, many patients may receive ineffective or inappropriate treatment for several reasons, allowing emotional scars to accumulate and irrational thoughts to germinate. The illumination of salient and common symptoms of bipolar disorder, which are embedded within the more pressing manifestation of mania, hypomania or depression, offer the opportunity to address those symptoms specifically with the intent of impacting favorably upon the individual in treatment.

Limitations of the Study

One potential limitation of the present study involved the particular characteristics of the sample. This sample was comprised of groups of volunteers, who may by nature differ from the general population. In addition, the clinical samples were obtained from a support group setting. The individuals who attend support group settings may also differ from the general population in their need or ambition to find support in such a group setting.

This research design attempted to control for several characteristics. Participation excluded subjects who were hospitalized during the prior year. This exclusion was used to reduce the possibility that a participant had been recently actively psychotic. All participants were required to have a diagnosis by a psychiatrist, and list their psychiatrist of
record, to corroborate their stated mental health disorder. All participants were 18 years or older.

Within a group of individuals with bipolar disorder or unipolar depression, numerous idiosyncratic characteristics may or may not have affected the individual performance of each participant. The nature of bipolar disorder stipulates a change in mood from one state to another on a cyclical basis. The cyclical nature of bipolar disorder can mediate behavior, thoughts, feelings and response sets at given points in time. The responses of the participants may in fact vary a great deal within the paradigm of mood shifts. However, all bipolar disorder participants were considered to be stable and placed on an appropriate regimen of medications to minimize mood disturbance.

Medications and other treatments may also affect variables which were considered. To offset this potential, participants were chosen from a large support group. Membership in the group provided an indication that members were functioning within the larger community with support and attending such activities independently. Participants were in treatment by mental health professionals who could determine if their state of mental health was compromised by bipolar disorder or unipolar depression. Although this particular sample may have differed from the general population, their responses are considered to reflect their adequate cognitive ability to take tests such as the SCL-90 and accurately report their symptomatology.

A weakness of this study involved the interpretability and generalizability of the results. Although a large sample size is favorable in a study of this type, this was a relatively small sample size. The relatively small sample size may have presented results which are skewed. However, this was a preliminary study conducted with the intent to
discriminate salient symptoms from those which are relatively infrequent or do not impact upon the participants to a significant degree.

A potential threat to the validity of this study was the reactivity of an assessment. Participants were aware that they were being assessed and in fact endorsed a letter of solicitation stipulating the parameters of the study. Therefore, that awareness may have led them to respond differently than they would have under other conditions. The measures were therefore considered to be reactive.

Potential threats also included the reactivity of an experimental arrangement. The participants may have had a desire to please the experimenter, or participants may have elected responses which appeared to be prosocial or considered more common among individuals without a mental health diagnosis. To help control for this threat, introductory remarks regarding the purpose of this study included the provision that all protocols would be entirely confidential and anonymous and used for scientific purposes only.

Recommendations for Future Research

This investigation focused upon the symptoms contained within the SCL-90-Revised measure. Future studies are needed to examine the full spectrum of significant symptoms experienced by individuals with bipolar disorder.

The overall results of this investigation point to the similarity of responses between participants with bipolar disorder and unipolar disorder. One possibility may be that unipolar disorder and bipolar disorder share most characteristics, with the exception of mood swings and hypomania/mania. A future study with a larger sample size could
delineate the specific symptoms which differentiate bipolar disorder from unipolar disorder with greater certainty.

Further investigation is indicated to explore the relationships between unipolar disorder and the symptoms coincidentally identified. For example, the finding in this study of hostility, which measures qualities such as rage, aggression, irritability, and resentment, was not significantly greater for individuals with bipolar disorder than individuals with unipolar disorder. An investigation focused upon elucidating the nuances of unipolar disorder and enhancing understanding of this disorder could impact favorably upon treatment outcomes.

Several characteristics have been enumerated in the literature as descriptors of bipolar disorder. The verity of every descriptor has not been empirically investigated. Although they may be observable patterns of behavior, the underlying symptoms remain unclear. The question of what psychologically pathognomic symptoms perpetuate the cyclical nature of bipolar disorder is still unanswered.

This was a preliminary study designed to begin to establish the salient and common symptoms of bipolar disorder. An extension of this work could help to formulate more definitive diagnostic criteria and provide more efficacious treatment paradigms for individuals with bipolar disorder.

Finally, much interest has been generated about bipolar disorder in children and adolescents. As presented earlier, Geller & Luby (1997) have found that prepubertal bipolar disorder does manifest with several problematic symptoms. An empirical investigation of the common and salient symptoms of bipolar disorder within these lower age groups would appear to offer greater insight regarding diagnoses and therapeutic
interventions designed to specially address those symptoms.

This study can potentially provide mental health professionals with a powerful tool; the ability to identify significant symptoms of bipolar disorder. This knowledge could be used to intervene appropriately and effectively with a truly vulnerable population, which is frequently misdiagnosed and therefore underserved. Individuals experiencing only the internal symptoms of bipolar disorder may be dealing with severe mental illness, ineffective treatment, the loneliness and despair of being misdiagnosed and contraindicated medications. The focus of this investigation was to identify common, salient and significant symptoms of bipolar disorder. The ultimate purpose of this study was to advance a focus for effective treatment strategies that provide these individuals with the support they so desperately need to deal with such a significant mental illness.


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Appendix A

Copy of Cover Letter

Dear Participant,

Your participation in this study is strictly confidential. The purpose of this study is to investigate the specific symptoms of bipolar or unipolar depression. Hopefully, this research will provide new information which is helpful in diagnosing and treating individuals with these disorders. Your signature at the bottom will be used during this session only for the temporary purpose of keeping track of who is completing which form and screening for symptoms of risk or harm. During this meeting, you will be asked to fill in three surveys and one page of general information about you. Afterward, all of these materials will be reviewed by the investigator. If you present with risks of harm, such as suicidal thinking, you will be asked to meet with the investigator to review and assess those symptoms. At that time, appropriate interventions will take place to insure your safety, such as a referral to a mental health professional. After you hand in the attached materials, the investigator will review the information. Upon review of all materials, this letter will be destroyed to protect your anonymity.

I thank you for your contribution to this research project.

Please sign_________________________________________________________________
Appendix B

Copy of Volunteer Letter of Agreement to Participate in Study

Dear Volunteers,

The purpose of this research project is to find the important and common symptoms of individuals with bipolar disorder, and how this may differ from individuals with unipolar depression or from the general population. You are being asked to be in this research study because you have been diagnosed with Bipolar I, Bipolar II, Unipolar Depression, or are a nonpatient adult (to compare symptoms). The title of this study is:

A PRELIMINARY STUDY OF SPECIFIC SYMPTOMS EXPERIENCED BY INDIVIDUALS WITH BIPOLAR DISORDER

The investigators of this study are:
Barbara Golden, Psy.D. Assistant Professor (Principal Investigator)
Philadelphia College of Osteopathic Medicine
4190 City Avenue
Philadelphia, PA 19131

Gail Reichman Mancini, M.A., M.S. (Responsible-Investigator)
Philadelphia College of Osteopathic Medicine
4190 City Avenue
Philadelphia, PA 19131

If you have any questions about this research, you can call Dr. Golden at (215) 871-6495. If you have any questions or problems during the study, you can ask Dr. Golden, who will be available during the entire study. If you want to know more about Dr. Golden's background, or the rights of research subjects, you can call Dr. John Simelaro, Chairperson, PCOM Institutional Review Board at (215) 871-6337.

You will be given a packet which contains a cover letter, one page asking for general information about you, and three different surveys about your thoughts, feelings or behavior. The entire time needed to complete these items should be about 30 minutes. When you are through, the investigator will collect your materials. If there are any questions about your information, such as forgetting to fill in information in some places, the investigator will meet with you. If you have any questions or need any help, please feel free to ask. If you have been psychiatrically hospitalized during the past six months, you are intoxicated or under the influence of drugs not prescribed by your physician, or are having severe difficulty in answering questions, you can not be in this study. If at any time you indicate a desire to harm others or yourself, your confidentiality will not be maintained. The investigator will follow the necessary ethical and legal procedures to ensure your safety and the safety of others.

The benefits of participating in such a study include the opportunity to participate in research aimed at increasing knowledge about bipolar disorder. You may not benefit from being in this study. Other people in the future may benefit from what the researchers learn from the study. There are no known risks or discomforts from being in the study, and you do have the choice of not being in this study. You will not receive any financial reimbursement for being in this study.
All information and medical records relating to your participation will be kept in a locked file. Only the doctors, members of the Institutional Review Board, and the U.S. Food and Drug Administration will be able to look at these records. If the results of this study are published, no names or other identifying information will be used.

There are no known risks to participating in such a study. However, some people may experience discomfort by participating in a research project which deals with the potentially delicate issues of distress related to your illness. It is expected that this discomfort will be minimal and temporary, such as evoking a sad mood. The potential benefits of participating include being part of a beginning step in recognizing the distinguishing symptoms and their severity, which contribute to identifying bipolar disorder. This study hopes to add information to the scientific literature, which is not available to date. The knowledge gained from this study may help individuals with bipolar disorder become identified earlier and with greater accuracy. That can lead to better and earlier treatments for individuals. You may also gain additional insight and self knowledge. Therefore, the benefits will be long lived and cumulative by contributing to the literature base.

If you have any questions or problems during the study, you can ask Dr. Golden, who will be available during the entire study. You may refuse to be in this study and may leave this study at any time.

Thank you again for your help in this study, which is very much appreciated.

Sincerely,

Gail Reichman Mancini, M.A., M.S. Barbara Golden, Psy.D. 
Psy.D. Candidate
INFORMED CONSENT FORM

TITLE OF STUDY
A PRELIMINARY STUDY OF SPECIFIC SYMPTOMS EXPERIENCED BY INDIVIDUALS WITH BIPOLAR DISORDER

PURPOSE
The purpose of this research is to find out what specific symptoms people with bipolar disorder experience. You are being asked to be in this research study because you have been diagnosed with Bipolar I or Bipolar II or depression.

INVESTIGATOR(S)
Name: Barbara Golden, PhD
Department: Psychology
Address: **
Phone: (215) 861-6442

The doctors and scientists at Philadelphia College of Osteopathic Medicine (PCOM) do research on diseases and new treatments. The procedure you are being asked to volunteer for is part of a research project. If you have any questions about this research, you can call Dr. Golden at (215) 871-6495.

If you have any questions or problems during the study, you can ask Dr. Golden, who will be available during the entire study. If you want to know more about Dr. Golden's background, or the rights of research subjects, you can call Dr. John Simelaro, Chairperson, PCOM Institutional Review Board at (215) 871-6337.

DESCRIPTION OF THE PROCEDURES
You will be asked to fill out the following questionnaires, which include many different symptoms. The time needed to fill these forms out will be about 25 minutes. Afterward, people will be randomly selected for a few minutes to discuss this project. If you have any questions, you may ask the researchers at any time for help.

POTENTIAL BENEFITS
You may not benefit from being in this study. Other people in the future may benefit from what the researchers learn from the study.
RISKS AND DISCOMFORTS

There are no known risks or discomforts from being in the study.

ALTERNATIVES

It is entirely your choice if you decide to participate in this study.

PAYMENT

You will not receive any payment for being in this study.

CONFIDENTIALITY

All information and medical records relating to your participation will be kept in a locked file. Only the researchers or members of the Institutional Review Board will be able to look at these records. If the results of this study are published, no names or other identifying information will be used.

NEW FINDINGS

If any new information develops that may affect your willingness to stay in this study, you will be told about it.

INJURY

If you are injured as a result of this research study, you will be provided with immediate necessary medical care. However, you will not be reimbursed for medical care or receive other payment. PCOM will not be responsible for any of your bills, including any routine medical care under this program or reimbursement for any side effects that may occur as a result of this program.

If you believe that you have suffered injury or illness in the course of this research, you should notify John Simelaro, D.O., Chairperson, PCOM Institutional Review Board at (215) 871-6337. A review by a committee will be arranged to determine if your injury or illness is a result of your being in this research. You should also contact Dr. Simelaro if you think that you have not been told enough about the risks, benefits, or other options, or that you are being pressured to stay in this study against your wishes.

VOLUNTARY PARTICIPATION

You may refuse to be in this study
You may leave this study at any time
You also understand that if you drop out of this study, there will be no penalty or loss of benefits to which you are entitled.
I have had adequate time to read this form and I understand its contents. I have been given a copy for my personal records.

I agree to be in this research study.

Signature of Subject:_____________________________________________

Date: _____/_____/______
CONFIDENTIAL INFORMATION FOR RESEARCH PURPOSES ONLY

Dear Participant,

Please include all information that you may feel is helpful in this research project. Thank you for your help, which is very much appreciated.

Participant # ________________________________________________
Date of Birth_________________________________________________
Age: ______________________________________________________
Ethnicity: Caucasian African-American Hispanic Other
Marital Status: Married Single Divorced Separated
Education: GED High School Technical School B.A. M.A.
M.S. Ph.D/Psy.D. M.D. J.D.
Sex (circle one): M F
Employment: Unemployed Student Employed Full Time
Part Time Disabled
Your Diagnosis: Bipolar I Bipolar II Depression No Diagnosis
Initial diagnosis you were given when you began having problems and your age at that time:____________________________________________
Your age at the beginning your symptoms/illness:_____________________
What were those initial symptoms?_________________________________

Year you were accurately diagnosed:________________________________
Who accurately diagnosed you? ____________________________________
All additional diagnoses you were given before you were diagnosed correctly, your age and by whom:__________________________________

All current medications:__________________________________________

Current mental health treatment: psychiatrist psychologist support group
Name and telephone #___________________________________________
Have you been treated as an inpatient within the last year? Yes No