THE RELATIONSHIP BETWEEN BORDERLINE PERSONALITY DISORDER AND ACADEMIC AND INTERPERSONAL FUNCTIONING AMONG COLLEGE STUDENTS: DOES RELIGIOSITY MODERATE THE EFFECT?

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ABSTRACT

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The significantly negative effects of borderline personality disorder (BPD) are widely known among researchers and clinicians. Individuals with BPD struggle in many areas. College students with BPD have been found to particularly struggle in academic and interpersonal ways. Over the last two decades, religiosity has been examined as a moderator of the effects of Axis I psychopathology on multiple outcomes. The specific relationship of BPD and religiosity, however, had not yet been empirically examined.

The purpose of this study was to examine the relationship between BPD and academic and interpersonal outcomes in college students, to examine the general relationship between BPD and religiosity, and finally, to determine if religiosity moderated the effects of academic and interpersonal outcomes among college students. The study utilized a quantitative, cross-sectional design. An online survey comprised of several validated measures of BPD, normal personality, depression, anxiety, religiosity, interpersonal functioning, and academic functioning, was given to Michigan State University undergraduates ($N = 466$) in Fall, 2011.

Using ordinal logistic regression, BPD was found to be inversely related to an indicator of academic functioning, MSU GPA, after controlling for Axis I psychopathology and overall academic ability. BPD also strongly predicted interpersonal functioning problems within this population. Religiosity was defined as religious quest and religious engagement. Religious quest had a strong positive relationship with BPD. Finally, religiosity, after controlling for Axis I

psychopathology, was not found to moderate the negative effects of BPD upon interpersonal and academic outcomes.

The findings confirm the negative effects of the disorder, but also suggest a strong internal inclination toward religiosity among college students with BPD. Religiosity remains an important and minimally understood variable of interest, but apparently serves a different role than the one theorized in the study. Understanding and describing the particular role of religiosity and its potential in enhancing the lives of individuals with BPD is an important and worthwhile goal which will require further empirical examination.

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CHAPTER I

INTRODUCTION

Borderline personality disorder (BPD) is back in the forefront of discussions among practitioners and researchers as preparation for the fifth Diagnostic and Statistical Manual of Mental Disorders (DSM-5), scheduled for publication in 2013, is steadily underway. Although exact configurations of the DSM-5's definition of BPD are yet undetermined, exploration into aspects of the disorder including, among other things, its core constructs, interventions, etiology, mediating factors, and environmental influences are all timely and relevant.

Personality disorders, since their identification in pre-DSM models and their official axial delineation in the DSM-III (1980), have long been defined internally and externally: *internally* with respect to both an individual's core personality traits and symptoms and *externally* with respect to the way an individual relates to and interacts with others (Krueger, Skodol, Livesley, Shrout, & Huang, 2007). In some cases, notably with BPD, the diagnosis is actually made, at least in part, by an examination and evaluation of key relationships and the degree to which they function effectively. The DSM-5 proposal identifies the following working definition of personality disorders, "…impairments in personality (self and interpersonal) functioning and the presence of one or more pathological personality trait domains or trait facets. . . stable across time and consistent across situations . . . and not better understood as normative for the individual's developmental stage or socio-cultural environment" (American Psychiatric Association, 2011). The DSM-5 proposal further suggests that BPD includes impairments in self functioning as manifested by problems in identity or self-direction, impairments in interpersonal functioning as manifested by empathy and intimacy, and pathological personality traits in the following domains: negative affectivity, disinhibition, and antagonism (American Psychiatric

Association, 2011). This definition suggests that an emphasis on the interpersonal and identity components of the disorder remains salient to contemporary conceptualizations of the disorder.

Additionally, there has been considerable discussion in the past two decades about the empirical nature of personality disorders. One approach suggests that personality disorders should continue to be viewed as categorical or discrete phenomena, meaning determining whether an individual has the disorder through a categorical approach that analyzes or counts their symptoms and places them into binary groups. The alternate approach is dimensional or continuous, meaning that there is an all-encompassing continuum of normal personality traits with personality pathology simply constituting extreme levels or constellations of those traits. The categorical approach is based on the prevailing psychopathological approach while the dimension approach is fundamentally based on normal personality traits which have been identified throughout the population. A third approach to the dilemma of personality disorder categorization is the hybrid approach, one that accounts for both the psychopathological and normal aspects of personality pathology, acknowledging that, at least at this time, the two cannot be fully integrated (Hopwood, 2011). But regardless of how one summarizes the literature that has emerged in the last two decades related to personality disorders and BPD and where one falls in the lively categorical-dimensional debate, the proposed changes have created widespread interest in research and scholarly discussions relating to BPD.

A Risky Problem

Not only is exploration of BPD relevant and timely because of the forthcoming DSM-5, the disorder itself carries risks for affected individuals that span a wide and daunting variety of outcomes. In the psychological realm, BPD has been linked to major depression (Bockian, 2006;

Silk, 2010; Skodol, Gunderson, Shea, McGlashan, Morey, Sanislow et al., 2005) and suicide rates near 10% (Kjellander, Bongar, & King, 1998; Paris, 2002). Among quality of life outcomes, BPD has been correlated with poor well-being and life satisfaction rates (Chen, Cohen, Kasen, Johnson, Berenson, & Gordon, 2006; Winograd, Cohen, & Chen, 2008). Notably, Cramer and colleagues (2006) found that personality disorders were more important predictors of quality of life than sociodemographic variables, physical health, and the presence of an Axis I disorder (Axis I diagnoses meaning significant clinical disorders that include learning, substance use, adjustment, eating, dissociative, mood, and anxiety disorders) (American Psychiatric Association, 1994). BPD was further identified among the personality disorders as demonstrating the strongest negative impact upon quality of life.

Negative BPD outcomes are well-documented within college students, primarily in the areas of academic and interpersonal functioning. In a sample of college students, Winograd and colleagues (2008) found that BPD predicted lower academic achievement, more semesters on probation, higher levels of college or university expulsion, and the attainment of fewer adult developmental milestones. Other studies have similarly linked BPD in college students with lower academic achievement (Bagge, Nickell, Stepp, Durrett, Jackson, & Trull, 2004; Daley, Burge, & Hammen, 2000; Trull, 1995; Trull, Useda, Conforti, & Doan, 1997; Zwieg-Frank & Paris, 2002). Notably, measures of academic performance have been found to be important outcomes to study in college-aged individuals because of their relationship to subsequent occupational achievement and well-being (Kessler, Foster, Saunders, & Stang, 1995). Chen and colleagues (2006) also found that young adult personality disorders predicted later life effects that included higher negative affect, problems in social support and relationships, and fewer financial and health resources in adulthood.

The link between BPD and interpersonal functioning among college students is also empirically clear. A correlation between BPD and a poor overall quality of interpersonal relationships (both as reported by individuals with BPD and by others) has been well-established in the literature (Bagge, et al., 2004; Daley, Hammen, Davila, & Burge, 1998; Jorgensen, Kjolbye, Freund, Boye, Jordet, Andersen et al., 2009; Kerr & Muehlenkamp, 2010; Stepp, Hallquist, Morse, & Pilkonis, 2011; Taylor & Reeves, 2007; Zanarini, Frankenburg, Hennen, Reich, & Silk, 2006; Zweig-Frank & Paris, 2002). Impairment in romantic relationships (Daley, Burge, & Hammen, 2000), relationships with family members (Johnson, Chen, & Cohen, 2004), and friendships (Bagge et al., 2004; Carroll, Hoenigmann-Stovall, King, Wienhold, & Whitehead, 1998; King & Terrance, 2006) have also been documented among this population.

In summary, the negative effects of BPD during this developmental time period and the persistence of these effects into adulthood are key reasons to carefully consider this problem within this population. BPD in college students is commonly manifested in academic and social functioning, making these critical and meaningful study outcomes.

A Prevalent and Persistent Problem

Not only is BPD a timely topic with formidable outcomes, it is relatively prevalent within both clinical and nonclinical populations. Epidemiological studies indicate that individuals with BPD constitute approximately 15-20% in clinical samples (Skodol, Gunderson, Pfohl, Widiger, Livesley, & Siever, 2002; Zimmerman, Rothschild, & Chelminski, 2005) and approximately 1-2% of nonclinical samples (Lenzenweger, Lane, Loranger, & Kessler, 2007; Reeves & Taylor, 2007; Torgersen, Kringlen, & Cramer, 2001), a statistic consistent with nonclinical BPD numbers on college campuses (Trull, 1995/1997). It should be noted, however, that these prevalence rates have relied upon traditional, categorical means of identifying BPD and both the

clinical and nonclinical rates are expected to increase as broader, dimensional measures of BPD are introduced and incorporated into epidemiological studies. Three longitudinal studies of personality disorders, the Collaborative Longitudinal Personality Disorder Study (Skodol et al., 2005), the Children in Community Study (Skodol, Johnson, Cohen, Sneed, & Crawford, 2007) and The McLean Study of Adult Development (Zanarini, Frankenburg, Reich, Silk, Hudon, & McSweeney, 2007) have all studied the life course of BPD and suggested that while BPD seems to decrease in severity by mid-life, it is a relatively persistent and stable phenomenon that is fully detectable by the young adult years (Trull, 1995).

BPD has also been found to have high comorbidity with Axis I psychiatric disorders including anxiety and depression (Skodol, Gunderson, Pfohl, Widiger, Livesley, & Siever, 2002; Skodol et al., 2005). Several previous studies have found BPD to uniquely predict negative outcomes over and above the influence of Axis I psychopathology (particularly major depression), (Bagge et al., 2004; Daley et al., 2000; Skodol et al., 2002) making it important and valid to measure these forms of Axis I psychopathology as covariates in order to determine BPD specific effects.

In sum, BPD is a relatively prevalent problem with risky outcomes, particularly in young adults who potentially carry that risk forward into their adult lives. The conversation about BPD is timely and relevant as substantive changes regarding its constructs and diagnosis are underway. But there remain many unanswered questions about the disorder including the nature of particular phenomena that may effectively buffer individuals against the negative effects of the disorder. We turn now to religiosity, an important construct hypothesized in this study to have potential in improving the lives of young adults with BPD.

Religiosity and Personality Disorders: An Understudied Phenomenon

Not surprisingly, the lack of specificity in religiosity and mental health research, primarily because empirical research in this area is still developing, has left many unfilled gaps in the literature. To the researcher's knowledge, there are no available studies comparing main or moderating effects of religiosity on individuals with personality disorders or BPD and certainly none specific to college students and outcomes related to this population. But because religiosity has been found to moderate numerous negative outcomes through both the interpersonal and psychological resources it provides (Nooney, 2005), it is theorized that it will be highly beneficial to individuals with BPD, whose core pathology manifests itself in their relationships and their sense of identity. Therefore, this study builds upon current knowledge by both examining the main effect relationship between religiosity and BPD as well as the potential moderating effect. Further, there are valid theoretical reasons to infer that religiosity has much to specifically offer college students with BPD, both because of their specific developmental stage and their psychological predicament, but this hypothesis remains unexplored empirically. An overview then of the empirical knowledge regarding the relationship between religiosity and mental health is central to the premise of this study.

Religiosity and Mental Health: Emerging Potential

While religiosity is a complex and multidimensional construct, this study focuses on two core aspects of religiosity, uniquely termed in this study as religious engagement and religious quest. Religious engagement is defined in this study as behavioral manifestations that include activities such as attending religious services, praying, and engaging in spiritual reading. Religious quest is defined as an individual's internal process of searching for meaning and purpose in life through faith. Religious quest and religious engagement represent indices that

(although in some cases termed differently) have been widely used in previous empirical research to capture the behavioral and internal constructs of religiosity (Astin, Astin, & Lindholm, 2011; Blazer, 2009; Laurencelle, Abell, Schwartz, 2002; Plante et al., 2000). While, to the knowledge of the writer, the relationship between religious quest, religious engagement, and BPD has not been empirically examined, a compelling argument for combining and exploring the two can be inferred from the way that religion has been found to positively impact other psychological disorders.

A growing body of evidence has emerged in the last several decades supporting the positive implications of religiosity for mental health (Miller & Thoresen, 2003). This research stems from two large bodies of literature: sociology of religion and psychology of religion. Two cultural influences have triggered widespread interest in discovering the breadth and depth of religion's relationship to mental health. First, there has been a shift from a modernist perspective that marginalized, and even pathologized, religion to a postmodern paradigm that welcomes the exploration of religion, seeing it as potentially enhancing our understanding of human behavior (Seeman, Dubin, & Seeman, 2003). Interestingly, there was notable scholarship in this area in the early part of the 20th century, but relative silence from scholars until the 1990s (Watts, 2011). Second, psychoanalysis (and its accompanying view of religion as a manifestation of psychopathology) receded as the dominant psychological theory in the mid-20th century and theories more inclusive of religiosity gained popularity (Seeman et al., 2003), lending renewed credibility to this area of study.

Additionally, in the last twenty years, challenges within religiosity research have been discussed and resolved with some success, paving the way for studies like this proposed one. Difficulty defining religious constructs, which were often confined to religious behaviors and

insensitive to the more individual or internal aspects of religion, has decreased as more sensitive and sophisticated psychometric measures have been developed (Hackney & Sanders, 2003; Miller & Thoresen, 2003; Nooney, 2005). That said, some inherently subjective aspects of religiosity contribute to the reality that two individuals may each self-report as "highly religious" and yet are not objectively equal in terms of their religiosity. While contemporary measures have made significant gains in identifying underlying constructs of religiosity, challenges regarding measuring the latent aspects of this complex variable remain. Attention to the vast differences in religion in an increasingly pluralistic society, while a challenging and ongoing issue, has also led to the development of culturally sensitive measures that can reliably sample individuals from a wide range of religions (Blazer, 2009). Of direct relevance and benefit to this study are two large longitudinal studies, Spirituality in Higher Education at the University of California – Los Angeles (UCLA) (Astin, Astin, & Lindholm, 2011) and the National Study of Youth and Religion at Notre Dame (Smith, 2009), which have developed religiosity measures specifically designed for use within college student populations.

Two key aspects of religiosity have been documented in the literature and provide a foundation for this study. First, there is a generally positive relationship with a broad range of mental health conditions across a broad range of populations (George, Ellison, & Larson, 2002; George, Larson, Koenig, & McCullough, 2000; Koenig & Larson, 2001; Larson, Swyers, & McCullough, 1998; Levin, 1994; Seybold & Hill, 2001; McCullough, Hoyt, Larson, Koenig, & Thoresen, 2000). In studies of adolescents, for example, religiosity has been linked to lower adolescent delinquency, drug use, high risk behaviors (Regnerus, 2003), depression (Harker, 2001; Schapman & Inderbitzen-Nolan, 2002; Wright, Frost, & Wisecarver, 1993), and suicidal ideation (Miller & Gur, 2002; Mosher & Handal, 1997). Among an adult sample, higher

religious quest correlated with lower anxiety and depression, less tendency to exhibit signs of personality pathology, and higher ego strength scores (Laurencelle, Abell, & Schwartz, 2002).

Among college students, religious quest and engagement have been linked to lower psychological distress and higher psychological well-being (Pargament, 2002; Salsman, Brown, Brechting, & Carlson, 2005; Salsman & Carlson, 2005; Sandage & Jankowski, 2010; Vilchinsky & Kravetz, 2005), higher subjective well-being (Salsman et al., 2005), lower substance abuse (Koenig, 2009; Payne, Bergin, Bielema, & Jenkins, 1991), lower anxiety (Plante, Yancey, Sherman, & Guertin, 2000), and more negative attitudes toward suicide (Koenig, 2009; Payne et al., 1991). While to the knowledge of the writer, religiosity has not specifically been studied for its effects on academic or interpersonal outcomes in college students, it can be hypothesized from the current body of literature that religiosity may bolster these outcomes through the psychological and social resources it may provide.

A second key finding is that there are specific conditions under which religiosity has been found to be beneficial to mental health (Cole & Pargament, 1999; Crocker, Luhtanen, Cooper & Bouvrette, 2003; Elliason, Taylor, & Lloyd, 2005; Koenig, 2009; Pargament & Brant, 1998). While religiosity has generally been found to have positive effects on psychological health, the relationship is complex, in part based on how religiosity is measured. Allport and Ross (1967) first delineated religiosity as "extrinsic" and "intrinsic," with intrinsic referring to the internal, individualized aspects and practices of religion and extrinsic, referring to the external, behavioral aspects of religion, especially those carried out for one's own ends (for example, security, status, and self-justification) (Baetz & Toews, 2009). This way of measuring religiosity has dominated most of the research in this area over the past several decades. Expectedly, intrinsic religiosity has been strongly correlated with numerous outcomes including an increased ability to cope with

stress (Plante et al., 2000) and lower anxiety and depression (Laurencelle, Abell, Schwartz, 2002; Plante et al., 2000). Conversely, extrinsic religion has been associated with poorer outcomes such as higher anxiety (Hackney & Sanders, 2003; Koenig, 2009; Payne et al., 1991). The proposed study, consistent with the work of Astin and colleagues (2011), measures religiosity more neutrally by carefully defining religious quest and religious engagement, primarily in behavioral terms that do not assess the respondent's core motivations.

There are additional nuances regarding the nature of the religion itself that should also be noted. Two demographic variables are important to consider in this area, gender and race (McCullough & Larson, 1998). Functions of religiosity have been found to vary by gender with women showing higher levels of religious activity, particularly attendance at religious events (Krause, Ellison, & Marcum, 2002; Miller & Stark, 2002; Murphy, Ciarrocchi, Piedmont, Cheston, Peyrot, & Fitchett, 2000). Race is also an important variable to consider in historically disenfranchised and disempowered groups such as African-Americans who demonstrate higher levels of reliance upon religion (Pargament, 2002; Pargament, 1997; Pollner, 1989). Additionally, it is clear that both religion and mental health manifest themselves differently by specific ethnic groups, necessitating the examination of race in research (Benson, Masters, & Larson, 1997).

But while there are many positive effects related to religiosity, the literature also highlights some potentially negative effects. A consistent finding is that religious groups characterized by authoritarianism, dogmatism, and rigidity inversely impact the role of religion upon mental health (Brownell, 2010; Gartner, 1996). This negative effect is particularly found between conservative, fundamentalist religiosity and gay, lesbian, bisexual, and transgendered (GLBT) individuals (Yakushko, 2005). Not surprisingly, conservative religious groups that

demonstrate hostility toward individuals of a particular sexual orientation have contributed to damaging psychological effects in GLBT persons including lower self-esteem, depression, higher levels of shame and guilt, and a lower quality of spiritual life (Hancock, 2000; Lease, Horne, Noffsinger-Frazier, 2005; Schuck & Liddle, 2001;Yakushko, 2005).

Therefore, it is important that current studies in this area go beyond simply documenting a positive relationship and instead explore the particulars of the relationship such as how specific aspects of religiosity uniquely relate to various kinds of mental health problems as well as academic and interpersonal outcomes. Additionally, understanding the negative ways religiosity may affect individuals with BPD is critical to a complete understanding of the relationship. Studying specific types of psychological disorders, considering demographic variables, and contextualizing outcomes to particular populations, as proposed in this study, will significantly contribute to a large gap in the existing religiosity and mental health research.

College Students: Developmental Intersections

But why study college students? What is unique to this period of development that makes the intersection of BPD and religiosity particularly salient? There are logical reasons to study BPD and religiosity within this population. First, the negative life trajectory of BPD that has already been stated suggests that intervening relatively early in an individual's life can have positive implications for their future. It could be argued that an individual is still somewhat malleable developmentally and psychologically before they have made major life choices regarding marriage, childbearing, and vocation. The potential for hopelessness regarding interpersonal relationships may also be lower at this stage of life, before individuals potentially engage a series of unsatisfying or unsuccessful relationships that only increase relational

pessimism. This stage of life also is a time of heightened religious interest, when individuals are often open to discussing religion and exploring its role in their lives (Smith, 2009).

As will be explored in the study, religion is theorized to hold significant value for individuals with BPD because of its associated interpersonal and psychological gains. College is a time of heightened social activity and relationships, providing an ideal context for looking at the interpersonal effects of religiosity. Additionally, forming a solid identity is a core developmental "task" of young adults and is concurrently a place of core struggle for individuals with BPD (Wilkinson-Ryan & Westen, 2000).

BPD, Religiosity, and College Students: Theoretical Possibilities

Interestingly, BPD and religiosity share some core interpersonal and psychological components: They both have an internal (which includes the unique individual experience) and an external (includes behaviors and relationships) structure (Clarkin, Hull, & Hurt, 1993; Koenig, 2009; Miller & Thoresen, 2003; Seeman et al., 2003). Because religiosity has been found to moderate numerous outcomes through both the interpersonal and psychological resources it provides (Nooney, 2005), it is theorized that it will be highly beneficial to individuals whose core pathology relates to their relationships and their sense of identity. Based on this theory, individuals with BPD, in their identity diffusion, may move toward religiosity as a means of finding or strengthening their core identity. This also fits well with the population of interest, college students, as they represent a group that is actively exploring issues of identity (Erikson, 1968) and actively engaged in religious searching (Astin et al., 2011; Smith, 2009).

Specifically, the theoretical streams supporting this study come from two primary directions: social and religious identity theories. Understanding identity-related issues is relevant to this study because, per social identity theory (Tajfel & Turner, 1979), identity difficulties can

interfere with the ability to attain an appropriate level of intimacy in interpersonal relationships. And an inability to achieve relational intimacy can then negatively impact an individual's ability to achieve healthy, age-appropriate outcomes. Those outcomes certainly include interpersonal functioning and, in college students, academic functioning can be directly impacted by the health and cohesiveness of an individual's identity. So it is important to briefly explore the tenets of these theories in order to make the links between religious quest, religious engagement, BPD, and the outcomes of interest.

Social identity theory, which developed in Europe as a part of social psychology after the World War II, attempts to understand in-group and out-group privilege and its impact upon individual identity (Cross, 1971; Evans, Forney, Guido, Patton, & Renn, 2010). In other words, social identity theory postulates that an individual's sense of identity is largely determined by their social constructions of which they are a part. Different social contexts may lead an individual to think, feel and act differently, depending on the particular "level of self." Social constructions can represent conscious choice, such as participation in religious institutions, or can be completely independent of personal choice, such as one's race or gender (Hogg, 2003). Of particular relevance to this study is the premise of social identity theory that suggests that individuals with especially weak core individual identities are more affected than those with stronger core identities, both positively and negatively, by the social groupings in their lives, religion providing an excellent example (Wenger, 1998). Social identity theory suggests that one of religiosity's (especially religious engagement) most important contributions to an individual may be its social networks and their potential for providing a sense of belonging and social support. Based on this theory, the social gains provided by religiosity may contribute to lower levels or less severe forms of BPD.

Psychosocial identity theory, developed by Erik Erikson (1968), provides another important theoretical base for this study because it has much to say about the population of interest and because it forms the basis of subsequently developed religious identity theories that help to explain the relationship of religion and identity. Erikson's theory partially illuminates the way in which young adults, struggling with the identity versus identity diffusion stage, develop a core identity which ultimately facilitates their ability to engage in healthy interpersonal relationships. Because individuals with BPD struggle with a cohesive identity, Erikson's theory illuminates an aspect of a core problem within BPD by suggesting that individuals with BPD never resolve or proceed through this developmental stage, subsequently inhibiting their ability to develop intimate relationships.

Building upon Erikson's (1968) theoretical concepts and other theorists including Piaget's (1928) cognitive development, Kohlberg's (1969) moral development, Selman's (1976) investigations of social perspective taking, Kegan's (1982) exploration of self and others in relationship, and Gilligan's (1982) studies of female development, religious theorists developed stages specific to faith development. The important work of developmental psychologist, Sharon Daloz Parks (1986/2000), has the most relevance to this study. She suggested that religious development follows a pattern where individuals potentially move from an essentially compartmentalized approach to faith to a more mature religiosity that is well integrated into their cognition, behavior, and moral choices. Her theory further suggests that religiosity contributes to one form of identity that, along with other forms, influences the way individuals view and define themselves. Beyond that, one's religious identity is theorized to bolster one's overall identity through the process of identity integration. By providing a structure for cognition, emotional regulation, and worldview, religiosity is theorized to strengthen identity by supporting its gradual

development into a more cohesive whole. Therefore, both social and religious identity theory suggest an individual's core identity is strengthened and bolstered through meaningful interpersonal relationships, social networks, and the meaning and internal direction provided by religiosity.

Because the main effect relationship between religiosity and BPD has not been studied, there are several plausible outcomes. It may be that certain facets of religiosity such as its social networks or its support for identity have particular benefit or association for individuals with particular aspects of BPD. It may also be that associations vary across different kinds of people with some individuals with BPD getting relief from religiosity and some drawn to religiosity because of their struggle with BPD. Subscales of religiosity will be closely examined for their relationship with the four subscales of BPD measured in this study. Therefore, it is important to study religiosity both in its main effect relationship with BPD and to extend knowledge by examining it as a possible moderator of the effect of BPD on interpersonal and academic functioning.

Summary

This study builds upon the important work of Trull (1995/1997) and Bagge and colleagues (2004) who each studied BPD within college samples, finding a significant negative impact upon academic and interpersonal outcomes, over and above that of various Axis I psychopathology (Bagge et al., 2004; Trull, 1995/1997) and other forms of Axis II psychopathology (Bagge et al., 2004). This study proposes the same measure of BPD used in both studies. Measures for anxiety, depression, and interpersonal functioning will all be updated in this work. But the most significant extension of these studies is the addition of religiosity as a

moderating variable in the present work. Table 1 summarizes the variables being examined in this study.

Table 1

Study Variables

Independent Variable:
- Borderline Personality Disorder

Dependent Variables:
- Academic Functioning
- Interpersonal Functioning

Moderator Variables:
- Religious Quest
- Religious Engagement

Covariates:
- Depression
- Anxiety
- Age
- Gender

BPD is a topic of great current interest because of the forthcoming changes in the DSM-5, not to mention its notable prevalence and significant impact upon individuals, their families, and society as a whole. The intersections of religiosity and BPD have never been studied, much less in the college context. So at this point, it is safe to assume that the theoretical evidence, the current gaps in the literature, and the potential for good in the lives of individuals with BPD all underscore the validity and importance of the proposed study.

CHAPTER II

LITERATURE REVIEW

The literature that undergirds and supports this study follows three primary directions: (1) the social and religious identity theories that help us understand how BPD might shape identity development and how religious quest and religious engagement could be useful in this process (2) the nature of BPD, including its history and core constructs, and (3) the relationship of religiosity (specifically religious quest and engagement), mental health, and a variety of outcomes including academic and interpersonal outcomes, the focus of the proposed study. Exploring this relationship will entail looking at a brief history, interactions with depression and anxiety, and diversity by age and race. An exploration and summary of current empirically-based and scholarly knowledge related to each of these areas will be summarized below. Before proceeding, however, an understanding of how this study defines BPD and religiosity is necessary.

BPD Defined

The current psychological manual, the DSM-IV's (1994) definition of BPD reads as follows:

"A pervasive pattern of instability of interpersonal relationships, self-image, and affects, and marked impulsivity beginning by early adulthood and present in a variety of contexts, as indicated by five (or more) of the following:

1) frantic efforts to avoid real or imagined abandonment
2) a pattern of unstable and intense interpersonal relationships characterized by alternating between extremes of idealization and devaluation
3) identity disturbance markedly and persistently unstable self-image or sense of self
4) impulsivity in at least two areas that are potentially self-damaging
5) recurrent suicidal behavior, gestures, or threats or self-mutilating behavior
6) affective instability due to a marked reactivity of mood
7) chronic feelings of emptiness

8) inappropriate, intense anger or difficulty controlling anger
9) transient, stress-related paranoid ideation or severe dissociative symptoms (p. 280)."

As indicated in the definition, the DSM-IV definition suggests two core factors: instability and impulsivity. But more recent research using principal components analysis has suggested that defining BPD may not be that simple. Blais and colleagues (1997) found three core components: the first including fear of abandonment, unstable relationships, identity disturbance, affective instability, and emptiness; the second including affective instability, intense anger, and stress-related paranoia; and the third including unstable relationships, identity disturbance, impulsivity, self-injurious behavior, and affective instability. Benazzi (2006) found two primary components; the first including unstable relationships, identity disturbance, affective instability, emptiness, and intense anger; and the second including abandonment fear, impulsivity, self-injurious behavior, and stress-related paranoia.

Dimensional models of normal personality including: the interpersonal circumplex which organizes personality according to the two dimensions of control and affiliation (Leary, 1957; Wiggins, 1982), the three-factor (Eysenck & Eysenck, 1975), the four-factor (Livesley, Jackson, & Schroeder, 1992; Livesley, Jang, & Vernon, 1998), and a seven-factor version (Cloninger, Svrakic, & Przybeck, 1993), have significantly transformed the way that BPD is currently viewed and defined. Empirical support for a dimensional or trait model has additionally come from the heavily-researched personality model, the Five Factor Model (FFM) (Costa & McCrae, 1996), which has been shown to have significant correlation with current personality disorder groupings (Bagby et al., 2005; Clark, 1995; Hopwood, 2011). The FFM organizes normal and pathological personality according to five dimensions: extroversion, openness to experience, conscientiousness, neuroticism, and agreeableness (Costa & McCrae, 1996). More recently, researchers have sought to clarify the debate by integrating the various dimensional models by

identifying a common hierarchical structure (Markon, Krueger, & Watson, 2005; Widiger & Simonsen, 2005).

Psychometric advances in diagnosing BPD provide further assistance in defining the disorder. Among others, the widely used Borderline Features Scale of the Personality Assessment Inventory (PAI-BOR) (Morey, 1991) identifies four subscales: affective instability, identity problems, negative relationships, and self-harm. The PAI-BOR provides an excellent definition and overview of core BPD factors that will be adopted for this study. It is well-suited for this use because of its emphasis on both identity and relationships, key factors of interest in this study.

Religiosity Defined

Scholars agree that defining the various constructs within religiosity has been historically problematic (George, Ellison, & Larson, 2002; Miller & Thoresen, 2003; Seeman et al., 2003) and poorly-defined constructs have contributed to misconceptions, both in over and under estimating the role of religiosity (Koenig, 2009). The National Institute on Aging/Fetzer Institute Working Group (2009) provides a helpful delineation of four key dimensions of religiosity: public participation (e.g., attendance at religious services or activities), religious affiliation (with major religious groups and/or specific denominations), private religious practices (e.g., prayer and/or meditation), and religious coping (the extent to which individuals turn to religion as a resource for coping with difficulties), that have formed the basis of a significant amount of subsequent religious research (George, Ellison & Larson, 2002).

Broadly speaking, there are two conceptual approaches to religiosity that guide the definitions adopted in this research. The first encompasses the Fetzer Institute's "public participation" and "religious affiliation" and the second encompasses "private religious

practices." The first approach (termed in this study as "religious engagement") assesses religion through its observable behaviors. It views religion as a set of beliefs and practices which influence individual and group behaviors (Fontana, 2003). The second approach (termed in this study as "religious quest") seeks to explore the nature of the religious experience by exploring the individual's subjective experience and beliefs. This perspective emphasizes the way that religious beliefs and values are uniquely realized within a specific individual (Fontana, 2003). Frederick (2008) similarly defines religiosity in this two-fold manner, describing both the "highly subjective inner experience of concern for self-transcendence fostered by the individual's search for meaning and purpose in life and the externalization [of religiosity] through the means of specific beliefs, values, and practices (p.554)."

Conceptualizing and defining religiosity in this two-fold manner (although the specific terms often differ in the literature) is consistent with the approach within a large amount of empirical research with young adults (Astin, Astin, & Lindholm, 2011; Carothers, Borkowski, Lefever, & Whitman, 2005; Salsman, Brown, Brechting, & Carlson, 2005; Salsman & Carlson, 2005; Schapman & Inderbitzen-Nolan, 2002). Although the Fetzer Institute also identifies "religious coping," this study takes an exploratory approach that does not claim to provide an all-encompassing examination of religiosity. Additionally, religious coping is a unique dimension that has primarily been studied for its relationship to trauma and physical health (Crocker, Luhtanen, Cooper, & Bouvrette, 2003; Pargament, 2002).

Theoretical Foundations

A central question underlying this study is: What is the relationship between BPD and religiosity? As will be seen, religiosity provides interpersonal and psychological resources, the precise areas of struggle for individuals with BPD. BPD is centrally defined by its pathological

presentation within the individual and its manifestation in interpersonal relationships. It is theorized then that religion, through its ability to bolster and strengthen interpersonal relationships and an individual's identity, has much to offer individuals with BPD.

As emphasized in a considerable amount of contemporary literature, individuals, including college students, share "multiple identities" and it is not sufficient to understand their meaning-making without exploring the many identities they assume, including gender, sexual orientation, race, ethnicity, class, and religion (Evans et al., 2010). This study takes one of those identities, religiosity, and focuses on its intersection with BPD within college students. There is sufficient theory to make these connections. College students are in a critical stage developmentally. They are changing and growing affectively, intellectually, and socially (Astin, Astin, & Lindholm, 2011; Smith, 2009). Like other identities, understanding the role of religiosity is a key aspect of understanding their overall development. Its role in understanding young adults cannot continue to be ignored or devalued. Young adults are exploring and wrestling with ideas, a "crisis" which is frequently initiated by independence from parents and the belief system and context of their childhood. Additionally, social identity, a core component within religiosity, is a fundamental means by which young adults define and identity themselves. In order to better understand these linkages, theories emerging from sociology, developmental psychology, and religious sociology and psychology will be explored. The two main theoretical directions that underscore this study are social identity theory and religious identity theory.

Social identity theory. The discipline of sociology provides a helpful theoretical understanding of the intersection of culture, environment and/or communities upon an individual's identity (Wenger, 1998). Referred to as the fathers of American social identity theory in the 1970s, Tajfel and Turner (1979) described social identity as an "individual's

knowledge s/he belongs to certain social groups together with some emotional and value significance to him/her of the group membership" (p. 292). Bennett and Sani (2004) broadly describe social identity as the analysis between the collective self, group membership, group processes, and intergroup relationships. Originally developed in Europe as part of World War II European social psychology, social identity theory was framed and influenced by nonreductionist European metatheory (Bennett & Sani, 2004). While social identity has numerous facets and constructs including race and gender, religious institutions and practices are routinely included among the social spheres that are referenced and studied (Hogg, 2003).

Brewer and Gardner (1996) distinguish three aspects of the self: the individual self (defined by individual traits that differentiate one from others), the relational self (defined by dyadic relationships that assimilate an individual to others), and the collective self (defined by group membership). Hogg (2003) suggests that a person's sense of individual and relational self is primarily gained within the boundaries of the collective self. That is to say, group membership cannot be underestimated for its formative role in individual identity. Group memberships provide the underlying context, a background of sorts, for the development of individual identity, an internal sense of understanding of who one is (Nasir & Hand, 2006).

Another theory that directly relates to social identity theory is foundational belongingness theory which states that belonging is a fundamental human need, without which adverse reactions (including psychopathology) can occur (Baumeister & Leary, 1995). This theory and the wealth of evidence regarding the importance of social support in the lives of mentally ill people (Corrigan & Phelan, 2004; Rogers, Anthony, & Lyass: 2004) suggest that among the most significant contributions of religious engagement are its social networks. Religious social networks have potential for the sense of belonging they inherently provide and the practical and

emotional support they can offer participants. The research supports this theory with evidence that religious (versus non-religious) participants have been shown to have larger social networks, more frequent social contacts, and a higher perception of support from their relationships as a whole, a finding that interestingly persisted even when an individual's level of "extroversion" was controlled (Bradley, 1995).

George and colleagues (2000) go as far as describing social support and a shared worldview as the primary benefits of religious engagement. Predictably, characteristics of the support network including network size, the amount of time spent with the group, tasks performed for the person by the group, and the individual's subjective sense of satisfaction with the amount and quality of the support have all been found to be relevant to the amount of benefit received (George et al., 2002). But the socially advantageous aspect of religious participation has been consistently reported and highlighted by sociologists of religion (George et al., 2000; Idler & George, 1998; Juola, 2002).

While social identity theory has more frequently been used to explain negative, divisive aspects of group membership such as oppression and privilege (i.e., white, social class, gender, heterosexual, and able) (Evans et al., 2010), core elements of the theory have relevance both to this discussion and this research. The sociological theory of identity suggests that individual identity, particularly under conditions when either that identity is threatened by circumstances in the environment or it is qualitatively weak, is strengthened when an individual becomes an increasingly involved in a community of religious practice (Wenger, 1998). In other words, religious engagement (assuming here a supportive community) is beneficial, but may be particularly beneficial for people who come to that community with an incohesive or weak identity (Smith, 2009). Joubert (2010) describes religious engagement as an interactive process

where grappling with religious issues and/or a higher power forces an individual to clarify their own beliefs systems, ultimately strengthening their own identity in the process.

A secondary aspect of social identity theory, now its own separate theory, is self categorization: the cognitive segmentation of the social environment into different categories (Bennett & Sani, 2004). That is, when a group of people shares a social identity or categorize themselves as members of a group, a core process referred to as depersonalization takes place. When collective identification is present and prevalent, individuals "tend to define themselves less as differing individual people and more as the interchangeable representatives of some shared social category membership" (Turner & Marino, 1994, p. 455). The theory suggests that there is a subtle, but important, shift from emphasizing one's personal identity to emphasizing one's social identity. Social identity in this case does not *replace* personal identity, but is actually believed to expand and even bolster it. An important study supporting this theory found that the sense of self or self-esteem in public and privately religious participants was higher because of the sense of "we-ness" they experienced, a collective identity that seemed to trump a solely individualistic perspective (Templeton & Eccles, 2005).

Benefits of social identity for individual identity are many. For example, when one assumes a social identity, one is forced to grow cognitively and behaviorally (Welch et al., 2006). The theory contributes the core idea that people can think and behave at the group level as well as the individual level (Nasir & Kirshner, 2003). Cognitively, membership in the group "allows" the individual to use the established beliefs and narratives of the group as a means of putting their own life narrative into context, a cognitive practice that has been shown to improve hope and purpose for the future (Mariano & Damon, 2008). Juola (2002) indicates that when people unify with others as part of a religious community, the sharing of values and goals lends a

unique sense of support, direction, and grounding. James and Wells (2003) report that religious engagement provides a schema that not only guides the appraisal of events, but assists individuals in cognitive self-regulation or processing events more analytically and systematically (they add that it reduces the dominant influence of affect) (Baetz & Toews, 2009).

Greenfield and Marks, (2009) drawing upon social identity theory and using an adult sample, tested the variable of more frequent RE (in this case at a church, synagogue, or mosque) as a mediator between religiosity and higher psychological well-being. They found that more frequent formal religious participation was linked to higher psychological well-being. They also measured the strength of religious social identity, finding that it mediated the association between more frequent formal religious participation and higher levels of psychological well-being. Their work empirically supports the application of this theory to aspects of religious participation.

Other sociological research into the impact of religion on social deviance has supported the behavioral impact of religion by finding that religious quest and engagement generates internalized commitments to norms that can effectively threaten sanctions against violations of those norms. Religious people were found to have higher levels of self-control, theorized to be generated by not only the rules of the religious community, but the expectations of fellow religious believers and the fear of jeopardizing the presence or quality of those relationships (Welch et al., 2006). Cook (2000) found that religious support networks deterred deviant behavior in inner city adolescents through the provision of role models and mentors, the fostering of identity development, assistance with self-regulatory abilities, and the care and concern of nonfamilial adults (which has been found to be a key component of adolescent development—Search Institute, 2011).

The Search Institute (Scales & Leffert, 2004), in their longitudinal research into the critical developmental assets of adolescents, has consistently found that religious engagement, both institutionally and individually, has been associated with an increased sense of well-being, increased self-esteem, and increased life satisfaction. They identify several factors related to these outcomes including the opportunity to develop prosocial values and to gain self-insight that facilitates identity growth. Williamson, Sandage, and Lee (2007) found that socially connected individuals are better at differentiating themselves. Socially disconnected individuals have difficulty resolving interpersonal problems because natural and everyday conflicts have the potential to overwhelm them emotionally, creating (or adding to) a general sense of powerlessness or hopelessness regarding their interpersonal lives. It stands to reason then that active social participation, particularly in a community committed to the well-being of each individual, potentially provides a solid context for working through interpersonal problems and ultimately increasing interpersonal functioning.

Particularly interesting are the findings by Kirkpatrick (1993) who reported that support received from a religious group predicted coping with mental illness *above and beyond* the effects of general measures of social support. About this finding, Pargament and Brant (1998) write, "what is it that religion is adding? . . . solutions may come in the form of religious support when other sources of support are lacking, explanations when no other explanations seem convincing, and a sense of control through the sacred when life seems out of control" (p. 125).

In summary, social identity theory supports the reality that active social participation in a community (including a religious one) has the potential for changing individuals in an external and internal fashion, by both bolstering and facilitating growth in an individual's sense of identity and by supplying a stable social network wherein interpersonal skills can be developed

and strengthened. In a college student population, strengthening these factors will expectedly lead to higher levels of interpersonal and academic functioning. Trull (1995/1997) and Bagge and colleagues (2004) have already demonstrated that college students with BPD have more negative academic and interpersonal outcomes. So, based on social identity theory, it is logical to assume that if students with BPD have their identity and social relationships strengthened (i.e., through religious quest and engagement), they will demonstrate higher levels of overall functioning, notably in academic and interpersonal outcomes.

Religious identity theory. A brief delineation of Erikson's theory of identity development is necessary as it forms the basis of the religious identity theory that supports this research. Well known to social workers, educators, and developmental psychologists, Erikson developed nine stages spanning from childhood through adulthood, with particular attention to the identity development which begins in adolescence (Erikson, 1968). Stage five, identity vs. identity diffusion is referred to as the "watershed stage" (Evans et al., 2010, p. 50) and represents the stage in adolescence when individuals are forced to begin defining their core sense of self, including their values, beliefs, and goals.

The work of Marcia (1980) to operationalize the theory, now known as the identity status model, created a theoretical basis for empirical testing. Marcia (1980) specifically added to Erikson's *stage five*, indicating that young adults must evaluate their parents' or primary caregiver's beliefs through a process of exploration that entails both crisis and commitment. Religion was a key conceptual construct underlying the development of Marcia's identity status model. Marcia's (1980) categories have formed the basis for the description of the various ways in which individuals adopt and experience faith (Griffith & Griggs, 2001). Religious identity theory, in its attempt to integrate religion into existing developmental theories, has additionally

borrowed heavily from other theories including Piaget's (1928) cognitive development, Kohlberg's (1969) moral development, Selman's (1976) investigations of social perspective taking, Kegan's (1982) exploration of self and others in relationship, and Gilligan's (1982) studies of female development (Evans et al., 2010; Payne et al., 1991).

In essence, religious identity theory suggests that higher religious quest ironically spurs both greater self-confidence *and* a more realistic sense of one's fragility and need for others. Religious identity theory also suggests that religious quest, particularly when it is cognitively and affectively integrated, has the potential for bolstering an individual's overall sense of identity. Religious identity, like other identities, does not fully comprise an individual's identity, but it may work to bolster the weak or incohesive identity which is manifested in individuals with BPD. Erikson originally suggested that the integration of identity is critical to the eventual achievement of interpersonal intimacy, an indicator that one has successfully moved through this stage and into adulthood. Therefore, if religious quest and engagement can assist the young adult with BPD through identity integration and strengthening, religious identity theory suggests that maturation in interpersonal relationships should become evident. Looking at the health and strength of interpersonal relationships as an outcome variable, then, is consistent with the underlying tenets of religious identity theory.

The link between religious identity and overall identity has been minimally explored in empirical studies. Watson and Morris (2005) did find an association between more religiously mature individuals, defined as those demonstrating higher religious quest, and decreased overall identity diffusion. However, their measure of overall identity seems to reflect an individual's confidence in their values (e.g., "I have a definite set of values that I use in order to make personal decisions") rather than a measure of identity cohesion as it is viewed in discussions of

BPD. A construct related to identity and conceptualized by Murray Bowen (Kerr & Bowen, 1988), differentiation of self, has both intrapersonal and interpersonal dimensions. The intrapersonal dimension includes the ability to lesson one's emotional reactivity (a core problem in BPD). Sandage and Jankowski (2010) tested this aspect of the construct and found that increased differentiation of self was associated with decreased mental health symptoms and better psychological well-being among a sample of undergraduates within a Protestant university. It is expected that these constructs will begin to be explored empirically in the future, but specific linkages between these theories have been untested at this time.

Borderline Personality Disorder

Evolution of the diagnosis. A brief history of the evolution of the diagnosis is necessary to understanding current knowledge about BPD. "Borderline" as a term was first coined by psychoanalyst Adolph Stern in 1938 to describe a distinct group of patients who fell between the then widely used categories of neurosis (indicating minor psychological problems) and psychosis (indicating major problems with reality testing—Kernberg, 1975). Stern first described core BPD characteristics as including the persistence of a primitive, weak ego (which he believed contributed to poor impulse control) and the separation of parental images into good and bad objects (which he termed primitive idealization). Drawing upon the symptom criteria laid out by Stern (1938) and the central role of the ego in personality development posited by Knight (1953), theorist Otto Kernberg constructed a multilevel and multidimensional nosology based on psychoanalytic metapsychology which was referred to as the "borderline personality organization" (Gunderson, 2008).

In an attempt to be atheoretical in nature (David & Millon, 1995; Lenzenweger, 2010), researchers focused primarily on identifying symptoms/features and any meaningful subtypes of

BPD. Through the use of exploratory factor analysis, three underlying dimensions to BPD were identified: affective disturbance, identity disturbance, and impulse dyscontrol (Clarkin, Hull, & Hurt, 1993). But it was a continued struggle with personality disorder heterogeneity that ultimately contributed to a desire to further differentiate both the etiology and structure of BPD. Contemporary research has significantly extended knowledge about BPD and has been focused in several different ways. The development of valid assessment measures has been a priority and has yielded some strong and reliable instruments in detecting BPD. The research corpus has also looked carefully at comorbidity of BPD and numerous Axis I disorders (Clarkin & Kernberg, 1993; Gunderson, Zanarini, & Kisiel, 1995; Lenzewegger & Cicchetti, 2005; Lenzewegger & Clarkin, 1996; Paris, 2009).

It is additionally important to note the research regarding variations in BPD by gender. While BPD is known to be more often diagnosed in women, with some estimates suggesting that two-thirds of those diagnosed are women (Johnson, Shea, Yen, Battle, Zlotnick, Sanislow et al., 2003), national epistemological studies examining symptomology suggest that there appear to be no appreciable sex differences in the rate of BPD in the general population (Johnson et al., 2003; Lenzenweger et al., 2007). Regarding the ways BPD may differ according to gender, the Collaborative Longitudinal Personality Study (Gunderson, Shea, Skodol, McGlashan, Morey, Stout et al., 2000) found that, at the criterion level, women were only more likely to display identity disturbances than men. They write, "generally speaking, women and men with BPD were more similar than different" (p. 493).

Important Constructs: Identity and Interpersonal Relationships

Broken identity. The primary theorist associated with identity is Erik Erikson (1968) who first identified the term in his writing about the psychosocial crisis that occurs during

adolescence. He described identity as including a sense of sameness over time and across situations, a sense of inner agency, role commitments, and an understanding of the views of oneself by members of one's community. Erikson (1968) described the opposite of identity as identity confusion or diffusion which indicates a "subjective lack of incoherence" (Wilkinson-Ryan & Westen, 2000, p. 529), difficulty committing to roles and relationships, and a strong tendency to overidentify with another person's feelings and roles in relationships, thus creating a strong fear of losing one's personal identity if the relationship ends. Westen (1985/1992) summarized the major components of healthy identity as consisting of a sense of continuity over time, an emotional commitment to a set of self-defining representations of self, role, relationships and core values/standards, an acceptance of a worldview that provides meaning to life, and a recognition of one's place in the world that is partially formed and held by significant others.

Several clinical theorists have attempted to identify the specific nature of identity disturbance in BPD. Kernberg (1975/1984) describes the identity problem in BPD as the inability to integrate positive and negative representations of the self, resulting in a rapidly changing sense of one's self. He emphasized the way in which primitive defenses (especially splitting and idealization/devaluation) actually perpetuate this inconsistency by inhibiting the capacity for form a coherent view of self. Westen and Cohen (1993) summarize the literature about identity disturbance in BPD by including the following features: lack of consistently invested goals, values, ideals and relationships; a tendency to make hyperinvestments in roles, values, and relationships that eventually break down and lead to a sense of emptiness; gross inconsistencies in behavior over time that confirm the perception of self as lacking coherence; lack of a coherent

life narrative; and lack of continuity in relationships that, over time, leaves significant parts of one's self "deposited" with persons who are no longer a part of one's life.

In a study that looked specifically at identity disturbance in individuals with BPD, Wilkinson-Ryan and Westen (2000) found four specific factors: role absorption (overidentification with a specific role), painful incoherence (the individual's subjective sense of their distress about a lack of a coherent sense of self), inconsistency, and lack of commitment (especially to goals or values). Interestingly, individuals with BPD scored significantly higher in measures of identity disturbances than individuals with all other personality disorders and all other nonpsychotic psychiatric disorders. Also interesting is their finding that a client's own subjective sense of distress was most strongly related to BPD, suggesting that clients are fully aware of their identity disturbance and are additionally troubled by it.

Some theorists have postulated the idea that Erikson's identity diffusion stage shares characteristics with personality disorders, particularly BPD, and that it may describe an overlapping phenomenon (Clonginger et al., 1993; Kernberg, 1975; Taylor & Goritsas, 1994). Clinical theorists, including those from psychoanalytic theory (such as Kernberg, 1984), self-psychological theory (Kohut, 1977) and attachment theory (Winnicott, 1965), have proposed that an unintegrated identity is indeed a core aspect of personality disorders (Crawford, Cohen, Johnson, Sneed, & Brook, 2004). Testing this theory empirically, Crawford and colleagues (2004) found evidence that higher personality disorder symptoms were negatively associated with well-being and intimacy, markers associated with Erikson's identity consolidation. Johnson (1993) similarly found that the negative resolution of Stages 1-5 of Erikson's theory predicted the presence of personality disorder symptomology in undergraduate students. Although the findings were inconsistent across the five stages, the earlier stages have more predictive power.

Based on current research, it is difficult to tell is there is a causative relationship; that is, if BPD delays the consolidation of identity or if identity disturbances contribute to the emergence of personality disorders in late adolescence and simply persists into adulthood. It seems safe to assume, however, that identity problems are a core aspect of BPD. And it is logical to assume that adding phenomena (religious quest and engagement) that have been shown to bolster identity may benefit individuals with core identity disturbances. This positive effect should then manifest itself in measurable outcomes, operationalized in this study as academic performance and problems with interpersonal relationships.

Broken relationships. Revisiting the aforementioned key constructs of BPD highlights the relational struggles that are endemic to the disorder. Gunderson (2007) argues that interpersonal problems may constitute a third sector of psychopathology that goes beyond learned behaviors and reflects, rather, a third major phenotype underlying the disorder (in addition to affective instability and impulsivity). He argues that viewing interpersonal problems as a constitutionally ingrained phenomenon creates "a conceptualization from which families, lovers, and treaters can learn less provocative, more palliative ways of responding" (p. 1637). He further argues that the efficacy of psychosocial treatment interventions for BPD supports the centricity of the interpersonal dimension.

Studies examine this aspect from numerous angles including marital status, friendship quality, and romantic relationships. Bouchard and colleagues (2009) report that couples with a BPD member showed lower marital satisfaction, higher attachment insecurity, more communication problems, and higher levels of violence. South and colleagues (2008) found a correlation between personality pathology and dysfunction in marriage. Paris and Braverman (1995) review outcome research and document a negative correlation between BPD and marital

satisfaction, nuanced by the severity of the BPD and the psychological health of the partner. Using the Five Factor Model, Gattis and colleagues (2004) found that higher neuroticism, lower agreeableness, lower conscientiousness, and less positive expressivity were negatively linked to marital satisfaction. Individuals with BPD were more often found to be separated if married and were more often divorced (Zimmerman & Coryell, 1989). Jorgensen and colleagues (2009), in a study among BPD inpatients, found that the BPD group had lower levels of functioning that included interpersonal functioning as well as underachievement in education and employment.

In summary, the interpersonal dimension constitutes an important area of study and exploration in BPD individuals. Relationships are clearly impacted by the presence of BPD and measuring their quality provides useful information regarding the nature of the BPD and any moderating factors.

BPD in college students. Several studies have explored the intersections of normative development and BPD in college students. Known to be a time of significant psychosocial development, the way that BPD may impede or interact with this stage of development has been a topic of some interest. BPD symptoms are clearly detectable by the time individuals are in college. Examining Linehan's biosocial theory among a female college student sample, researchers found clear indication of BPD symptoms including emotional vulnerability and emotional dysregulation (Reeves, James, Pizzarello, & Taylor, 2010). Examining BPD etiology among a college student sample, Trull (2001) found a group exhibiting significant BPD features.

In studying normal personality traits among this population, Donnellan and Robins (2010) identified three replicable personality types: resilient, overcontrolled, and undercontrolled. They identified resilient people as those characterized by self-confidence, emotional stability, and a positive orientation toward others. Overcontrolled individuals were

emotionally brittle, introverted, and tense. And undercontrolled people were disagreeable and lacked self-control. Clearly, although college students continue to develop and change in numerous ways, it is important to study BPD as well as personality traits among this population.

Regarding persistence, Al-Alem and Omar (2008) found that although BPD is not often diagnosed until age 18, there is clear epidemiological evidence that supports the construct in childhood and its persistence from adolescence into adulthood. Johnson and colleagues (2000) found relative stability in personality disorder symptoms from late adolescence to early adulthood, describing the level of stability as similar to that found in adults over the same period of time. Reeves and Taylor (2007), however, report evidence that while personality disorder symptoms are generally present by early adulthood, they may have a more gradual onset where some symptoms of personality disorders are present before a person meets the criteria for a full diagnosis. The connection between young adult BPD and later life effects have additionally been studied. Chen and colleagues (2006) found that adolescent personality disorders predicted elevated negative affect, problems in social support and relationships, and poorer residential, mobility, and financial and health resources in adulthood. Winograd and colleagues (2008) found that BPD in young adulthood eventually predicted lower occupational attainment and the attainment of fewer adult developmental milestones.

Regarding BPD outcomes in college-aged individuals, Winograd and colleagues (2008) found that BPD during this age range predicted lower academic achievement, relationship dysfunction, more semesters on probation, and higher levels of expulsion. Similar findings related to lower academic achievement and increased interpersonal problems were reported by two other studies with college students (Bagge, Nickell, Stepp, Durrett, Jackson, & Trull, 2004; Trull, Useda, Conforti, & Doan, 1997). Two interesting studies of academic performance in

college students that included all of the personality disorders found that every personality disorder correlated with academic impairment (excluding compulsive personality traits) (King, 2000; King, 1998). Further, BPD has been included in the list of psychiatric disabilities that require legal accommodations on college campuses (Souma, Rickerson, & Burgstahler, 2002). It is also important to note that educational attainment in college students has been found to be an important outcome variable to study because of its subsequent relationship to occupational achievement and well-being (Kessler, Foster, Saunders, & Stang, 1995).

BPD has also been strongly linked to difficulties in interpersonal functioning among college students. Carroll and colleagues (1998) found that, compared with narcissistic personality disordered students and regardless of gender, BPD students perceived their interpersonal relationships as more insecure, unstable, unpredictable, aggressive, and less powerful. Tolpin and colleagues (2004) found that BPD college students identified more daily interpersonal stressors and higher self-esteem reactivity to those stressors. Daley and colleagues (2000) found that BPD symptoms predicted four-year romantic dysfunction in a community sample of late adolescent females. Regarding BPD friendships, King and Terrance (2006) found that BPD features were closely associated with friendship insecurity among both male and female college students. Additionally, Johnson and colleagues (2004) studied early adults with personality disorders and their relationships with family members, finding higher levels of emotionally intense and conflictual relationships. Levels of conflict were particularly high in personality disordered young adults who maintained frequent contact with their family members.

From college clinicians and others working in higher education, there are data to suggest that not only is BPD present on college campuses, it is not going away. The interesting research of Sagun (2007) who compared college counseling records and scores on the Personality

Assessment Inventory—Borderline scale (Morey, 1991) by students during the 1997-1998 academic years to those taken during 2004-2005 found that there was no change over time, indicating that BPD is a persistent phenomenon among college students. Additionally, many in higher educational clinical practice have testified to the difficulty of providing services to students who require a significant and costly level of treatment at a time when the budgets of most colleges and universities necessitate, and in some cases mandate, a short-term treatment model (Tryon, DeVito, Halligan, Kane, & Shea, 1988; Whitaker, 1996).

Critique of the literature. The bulk of recent empirical literature related to BPD seems to be focused in two areas: (1) the dimensionality versus categorical debate, and (2) treatment outcome studies. While these are laudable places for research, there is considerable need and room for research that bridges this gap by exploring phenomenon that may moderate the disorder's largely negative effects on key outcomes within an important population. As indicated, there is no current research looking at the relationship of BPD and religious quest and engagement. Conducting this exploratory research then has the potential for further research with the potential of informing practice in clinical, higher educational, and religious settings.

It also appears, from the nature of the current research corpus, that personality disorders will continue to move in the direction of being viewed dimensionally. While this may not be fully incorporated into the DSM-5, dimensional philosophy appears to be here to stay and will likely also have far-reaching impact on the way Axis I disorders are viewed. This perspective may not only better identify constellations and gradations of personality disorders that will facilitate improved and individualized clinical treatment, it will better reflect the variation of personality pathology regularly observed by this and other practitioners.

Religiosity: Quest and Engagement

Religiosity and mental health. Does religiosity matter when it comes to mental health? The short answer to such a question can be rightly summarized as "yes," but a far more accurate one is "it depends." Interestingly, while the origins of major world religions far precede the formalized study of psychology, psychiatry, or social work, rigorous study of the intersection of religion and mental health has only begun in the last two decades (Miller & Thoresen, 2003). In the 1990s, this nascent area of research gained the attention of researchers as it became clear that not only had religiosity, an incredibly wide-reaching construct, been ignored, but its positive relationship with various psychological disorders sparked the interest of professionals across a wide variety of disciplines (George, Larson, Koenig & McCullough, 2000; Miller & Thoersen, 2003; Pargament & Brant, 1998). During the last two decades, the knowledge base in this area has rapidly expanded and deepened through increases in formal hypothesis testing and the use of validated religious measures and it seems safe to predict that this trend will only continue (Eurelings-Bontekoe & Schaap-Jonker, 2010). Because there is currently very little empirical literature in the area of BPD and religiosity, a broader review of the empirical literature underscoring the relationship between religiosity and depression and anxiety will be covered here. Drawing implications from this broader body of literature is reasonable in light of the ways in which depression, anxiety, and BPD often co-occur.

History of the relationship. Before further exploring religiosity and mental health, however, a brief digression into the history of the relationship is useful in placing the current research interest into context. The intersection of psychology and religion (and the foundations of a psychology of religion) started robustly in the late 19th and early decades of the 20th century. But despite its solid start, the advancement of the psychology of religion was largely abandoned

by scholars until the 1990s. The long-term neglect of religion by American psychology and social work, which additionally have their origins during this time period, can only be understood by viewing the historical backdrop at the time.

The psychology of religion developed directly in response to several historical phenomena. First, the introduction of scientific method into psychology through the influence, among others, of Wilhelm Wundt (1832-1920) created potential for the operationalization of religious constructs (Byrnes, 1984; Crapps, 1986). Previously seen as a construct derived from an individual's "association with a transcendent dimension or reality that, although palpably real to many religious devotees, seemed strictly illusory" (Wulff, 1995, p. 43), the gradual introduction of scientific method facilitated the potential for quantifying religiosity (Byrnes, 1984; Wulff, 1995).

Second, there was a general societal and scholarly openness to the discussion of the role of religion because it was seen as having significant potential for both individual and societal good. Koenig (2009) interestingly suggests that a general "trust" and acceptance of religion during this time period was the direct result of the tangible contributions of the Social Gospel movement of the period. Members of this movement, many of them social workers, including Dorothea Dix, were largely motivated by religious commitment which fueled their desire for social justice (Fontana, 2003). American psychologist, Williams James, gave a classic series of lectures in Edinburgh in 1902, "The Varieties of Religious Experience" (James, 1961) that are frequently referred to as the point of origin of the study of religion and mental health (Masters & Bergin, 1992; Miller & Thoersen, 2003; Seeman, Dubin & Seeman, 2003). James had been influenced by the work of French sociologist, Emile Durkheim, (Seeman et al., 2003) who

identified religious affiliation as an important factor in preventing suicide, forming an intellectual basis for viewing religion as an "asset" (Wulff, 1995, p. 52).

While the adoption of the scientific method influenced philosophy across a wide variety of disciplines, it eventually contributed, however, to the displacement of religion in scholarly study (Hiltner, 1959; Wulff, 1995/1997). Under a new materialist-reductionist philosophy, religion, viewed as difficult to scientifically quantify and measure, was often completely separated from the rigors of psychological science (Byrnes, 1984; Masters & Bergin, 1992; Wulff, 1995/1997). Parallel to the negative contribution of modernist empiricism to the study of religion was the influence of psychoanalytic theorists, specifically Sigmund Freud, who theorized religion as an infantile wish fulfillment that represented collective neurosis (Batson, Schoenrade & Ventis, 1993; Belzen, 1992; Byrnes, 1984; Masters & Bergin, 1992; Welch, Tittle & Grasmick, 2006). From a psychoanalytic perspective, religion was no longer viewed as an asset, but as a psychological defense, and this perspective spread throughout the academic community (Masters & Bergin, 1992; Miller & Thoresen, 2003).

However, the last several decades' proliferation of knowledge in the neurosciences and psychopharmacology has pushed the negative assumptions of psychoanalysis regarding religiosity to the margins. The introduction of postmodernism philosophy in the early 1990s has additionally contributed to bringing the psychology of religion full circle (Seeman et al., 2003). The philosophy of religion has further been buoyed by growing empirical evidence from psychology, social work, medicine, and sociology that religion has powerful potential for positively influencing physical and mental health, leading Blazer (2009) to conclude that religion is far too important a topic to continue to be ignored in practice or research.

After consideration of the broader context of mental health and religiosity outcomes, however, it is necessary to narrow the focus on outcomes specific to religiosity and personality disorders. Somewhat surprising, given the amount of literature underlying religion and mental health, there is a dearth of empirical studies that specifically look at personality disordered individuals and what they have to gain or lose from religiosity. A few descriptive studies shed some light on this area, however, finding: (1) that religious engagement is associated with a lower prevalence of personality disorders in studies of the general population (Cloninger, Svrakic, & Svrakic, 1997; Eurelings-Bontekoe & Schaap-Jonker, 2010), but (2) that personality disordered individuals experience higher levels of religious struggle (Eurelings-Bontekoe & Schaap-Jonker, 2010) and more frequent feelings of abandonment by their higher power (Eurelings-Bontekoe, Hekman-VanSteeg, Verschurr, 2005).

The literature does provide some information pertaining to the *clinical* experience of combining religiosity and personality disorders. Juola (2002) writes that some personality disordered individuals may experience difficulty with religiosity because closeness with a higher power and/or others in the religious community may be thwarted by personal hurts, disappointments, or difficulty in forming and maintaining intimate relationships. She suggests that resolving this obstacle requires the adoption of cognitive strategies, including believing that the higher power is not responsible for one's pain and that his/her intentions are positive, a potentially challenging emotional and intellectual task if an individual has an ingrained distrust of others.

Cloninger (2011), in a chapter entitled, "Religious and spiritual issues in personality disorders," writes that "the most effective treatments of personality disorders ultimately involve methods of expanding a person's self-awareness so they can function with deeper insight and

flexible judgment" (p. 154). Lukoff and colleagues (2010) believe that religiosity assists the personality disordered individual by strengthening their self-awareness, an area of consistent struggle within this population (Linehan, 1993). Seeing themselves as parts of a whole (a perspective gained through religion) helps them to rise above egocentrism or the sense that they are fundamentally alone and separate. Related to self-awareness, the use of meditation, a core practice in some religions, has been a primary element of Linehan's Dialectical Behavior Therapy (1993) and has been shown to increase mindfulness (and thereby improve emotional regulation) in individuals with BPD (Cloninger, 2006).

Axis I psychopathology: depression and anxiety. Religiosity has been studied in various populations for its effect on both depression and anxiety. Two meta-analyses of the relationship of religiosity to depression indicate some compelling results. Koenig (2009) writes that prior to 2000, over 100 quantitative studies had examined this relationship. Among the 93 observational studies, two-thirds found significantly lower rates of depression among the religious engaged groups. Among 22 longitudinal studies, 15 found that greater religious quest and engagement at baseline predicted lesser depressive symptoms at follow-up. Of the 34 studies that did not find a statistically significant relationship, only four found that religious quest and engagement had a positive correlation with depression. Smith and colleagues (2003) conducted a meta-analysis with over 147 studies which included 100,000 subjects. They found an average inverse correlation between religious quest and engagement and depression of -.10, a relatively small, but nonetheless consistent, finding. In general, the higher the level of depression, the more that religiosity seems to be positively influential (Ellison, Boardman, Williams, & Jackson, 2001; Koenig, 2009; Pargament & Brant, 1998).

The relationship of religious quest and engagement to anxiety is a more nuanced one. Koenig and colleagues (2001) reviewed 76 studies (69 were observational and 7 randomly controlled trials) and reported that 35 found significantly less anxiety among the higher religious quest and engagement groups, 24 found no association, and 10 reported higher anxiety among the higher religiously quest and engagement groups. The longitudinal studies may be most compelling here, however, because studying anxiety in a cross-sectional way will likely yield highly varying results (as anxiety levels may be labile and high anxiety levels may increase an individual's reliance upon religion). Among the seven randomly controlled trials studied, the researchers did find that religion was inversely related to anxiety. Similar findings about depression and anxiety have been reported in specific populations including adolescents (Schapman & Inderbitzen-Nolan, 2002), adolescent mothers (Carothers, Borkowski, Lefever, & Whitman, 2005), and college students (Plante, Yancey, Sherman & Guertin, 2000). In summary, religious quest and engagement appears to have a significantly inverse relationship with depression, but its impact of anxiety appears mixed, depending both on the level of one's religiosity and the level of anxiety in the test subject.

Diversity by age and type of religious group. While a large body of research in this country has specifically focused on Protestantism, widespread attempts have been made to find valid and reliable measures that appropriately account for the differences among religious practices, institutional practices, and the potential influence of culture across different major religions (Hill & Hood, 1999). In addition to considering the different religions, specific denominations within major religions have been found to considerably affect findings (Pargament, 2002). The tremendous diversity within religious traditions can be illustrated by simply looking at one example, the Protestant Christian faith, where under one umbrella there is

a wide theological continuum containing fundamentalist, evangelical, Orthodox, or liberal traditions, each of which may display striking qualitative differences (Malony, 1998).

Age is another important variable to consider as religious commitment may be sensitive to development and may change throughout the lifespan (Smith, 2009). Eliassen and colleagues (2005) suggest that college is an excellent time to sample individuals regarding religiosity as they continue to be influenced by the religion of their upbringing, but they are open to exploring religion in a more substantive way. They further suggest that measuring at this age allows for the assessment of correlates of early religious exposure without the effects of later life experiences.

Notre Dame professor and sociologist, Christian Smith (2009), in a longitudinal study of youth and religion, describes the demographics of religious affiliations in college-aged adults with the following categories and percentages: Protestant (46%), Catholic (18%), Mormon (2.8%), Jewish (1.1%), Jehovah's Witness (.6%), Buddhist (.4%), Eastern Orthodox (.4%), Pagan or Wiccan (.3%), Muslim (.2%), Hindu (.1%), Unitarian Universalist (.1%), Native American (.1%), Miscellaneous/others (1.8%), don't know/refused (1.1%) and not religious (27%). He also cites another commonly-used sociological means of grouping religions (Steensland, Park, Regnerus, Robinson, Wilcox, & Woodberry, 2000) that splits Protestants into the three major types of conservative, mainline, and black and groups all non-Mormon and non-Jewish minority religions into one category: "other religion." Grouped this way, the following percentages emerge: conservative Protestants (27.6%), mainline Protestants (10.8%), black Protestant (7.2%), Catholic (19.5%), Jewish (1.1%), Mormon (3%), not religious (24.1%), other religion (2.6%), and indeterminate (4.1%).

Smith (2009) suggests that both upward and downward directions are present during the traditional college years. Religious beliefs are abandoned by some and yet religious conversions

are at their highest point. He found that emerging adults retain most of their previously held religious beliefs, although they may be compartmentalized more than they were in earlier years. Smith found that in situations where parent-child relationships were good, parents with the highest levels of religiosity produced children with high levels of religious quest and engagement. But when the parent-child relationships were poor, the emerging adult, in attempt to be different or to distance ideologically from the parent(s), either became much more religious or much less religious, depending on the stance of the parent. The majority of emerging adults (66%), however, identified their religious beliefs as similar to those of their parents.

Also important to note from Smith's (2009) research are the changes in religiosity during the college years. While the subjective importance of religion to young adults does not appear to change, most of them see religion as a highly important topic that they are remarkably comfortable discussing, attendance at religious services shows a marked decline from earlier adolescence across all religious groups. Young adults were not found to necessarily change or reduce their subjective adherence to religion, nor their inward religious practices such as prayer and meditation, but outward markers of religiosity were found to decrease.

Smith is clear to point out that emerging adult religion—"whatever its depth, character, and substance—correlates significantly with, and we think actually often acts as a causal influence in producing, what most consider to be more positive outcomes in life for emerging adults" (p. 297). Among the positive outcomes identified in his research are relationships with parents, volunteerism, decreased substance abuse and risky behaviors, moral compassion, physical health, self-image, emotional health, locus of control, life satisfaction and purpose, educational achievement, resistance to consumerism, pornography use, and risky sexual activity.

Another important assessment of religiosity in college students comes from the extensive research of Astin and colleagues (2011) at the UCLA in the Spirituality in Higher Education project. They report that "most students still maintain a strong interest in spiritual and religious matters" (p. 3) with 80% reporting they "have an interest in spirituality," 75% reporting they believe in God and endorsing the feeling that a "sense of connection with God/Higher Power transcends my personal self." Entering college is also reported to be a time of high spiritual expectation. Eighty percent of students surveyed identify "finding a purpose in life" as an important reason for attending college.

The literature also highlights potentially negative impacts of religiosity. A consistent finding is that religious groups characterized by authoritarianism, dogmatism, and rigidity are found to inversely impact the role of religion upon mental health (Gartner, 1996; Brownell, 2010). The way that theology is presented or emphasized within specific religions is also highly relevant in discussions about mental health. For example, institutions that "continually remind members of their shortcomings" (Juola, 2002, p. 11) or go as far as to suggest that their mental illness is the result of their own shortcomings or sin can provide a "set-up" for individuals with low self-control who will inevitably fail to meet the religious code (George et al., 2002), a reality that has been found to be particularly true for individuals with a high level of emotional need (Juola, 2002).

Aspects of the group's social qualities have also been found to matter. As might be expected, belonging to a religious group that provides high levels of social support positively impacts mental health (Pargament, 2002; Pargament & Brant, 1998). Those who benefit most from religiosity are part of a larger social context that supports their faith and openly and honestly embraces individual struggles to integrate religious teachings into daily life (Pargament,

2002). Juola (2002) raises the important point, however, that RE, even within a highly supportive religious group, can create problems for the participant with those outside of the group (particularly if the outsiders include family members). And participation in a social group, particularly at high levels of involvement, creates the obvious potential for within-group conflict or differences that can negatively contribute to the participant's mental health.

Religiosity, mental health, and key outcomes. The level of an individual's religious quest and engagement has been found to correlate with various outcomes. Plante and colleagues (2000) found that, among a college student sample, the stronger one's RE, the better their ability to cope with stress, optimism, and lower anxiety. Laurencelle and colleagues (2002) similarly found that among an adult sample, higher religious quest correlated with lower anxiety and depression, less tendency to exhibit signs of personality pathology, and higher ego strength scores. Religious quest and engagement has additionally been shown to impact an individual's ability to cope with stress by offering the ability to find meaning in life's events and by providing a model for suffering (Koenig, 2009). Some scholars have noted the ability of religious quest and engagement to shore up the cognitive ability to assess life and its events as well as to provide the emotional stability needed to make sense of those events (Peres, Moreira-Almeida, Nasello, & Koenig, 2007). Religious quest also importantly provides social support during times of difficulty (Cole & Pargament, 1999; George et al., 2002; Juola, 2002; Kirkpatrick, 1993; Pargament, 2002).

Regarding the relationships of religiosity and academics, there is considerable evidence that religiosity may lead to better academic performance. Johnson and colleagues (2003) found a significant correlation between religious quest and engagement and academic performance among a college student sample. Other studies by Keller (2001), and Mooney (2005) have found

that higher religious quest and engagement was related to higher GPAs among college students. The Spirituality in Higher Education (Astin et al, 2011) specifically linked higher religious quest with higher GPAs. This finding was replicated among African-American college students by Walker and Dixon (2002) who found higher GPAs and academic honors among students with higher religious quest and engagement. Studies that have interviewed college students with higher religious quest and engagement have found that students specifically identify the support and encouragement they receive from their religious communities as motivating them to both stay in and succeed in school (Constantine, Miville, Warren, & Gainor, 2006; Donahoo & Caffey, 2010; Lee, 2002; Walker & Dixon, 2002). In further explaining this relationship, Keller (2001) suggests that higher religious quest may give college students a sense of inner control over their lives which leads to faster adjustment to college and ultimately to better academic achievement.

Religious quest and engagement have also been linked to stronger interpersonal relationships among college students. Smith (2009), on findings from the National Study of Youth and Religion, reports that young adults with higher religious quest and engagement have more positive relationships with both parents and more positive attitudes toward themselves. The Spirituality Higher Education study (Astin et al., 2011) also found that students with higher religious quest not only had more interpersonal connections with others, but that they self-rated those connections as qualitatively more meaningful than their non-religious peers. As indicated previously, students with higher religious quest and engagement have been shown to have larger social networks, more frequent social contacts, and a higher perception of support from their relationships as a whole, a finding that interestingly persisted in one study even when the respondent's level of extroversion was controlled (Bradley, 1995).

Critique of the literature. As mentioned before, the relatively strong correlation between religion and mental health has created interest in the last two decades in understanding the breadth and depth of this connection (Koenig, 2009). Eliassen and colleagues (2005) comments summarize this relationship well: "the balance of evidence points to the salutary influences of religion" (p. 187). Viewed collectively, the empirical evidence is clear that religion has something to offer individuals in terms of mental health, although this naturally depends on the level and nature of the individual's religion, the ways religiosity and mental health constructs are defined, and the nature of the research (cross-sectional vs. longitudinal). However, it is encouraging and compelling to note that even in studies where psychosocial factors strongly known to be related to mental health, including demographic factors and socioeconomic status, are carefully measured and controlled, the relationship between religion and mental health remains robust (George et al., 2002; George et al., 2000; Koenig & Larson, 2001; Larson, Swyers, & McCullough, 1998; Levin, 1994; Seybold & Hill, 2001; McCullough, Hoyt, Larson, Koenig, & Thoresen, 2000).

The literature, however, is highly unspecific when it comes to religiosity and particular diagnoses and populations. Researchers are forced to make inferences based on main effect relationships. And as indicated before, it is critical to the field to measure the role of religiosity in a neutral way that emphasizes the concrete, behavioral aspects, rather than relying on the earlier approach of Allport and Ross (1967). This study contributes to filling this gap by exploring this relationship more specifically and thereby paving the way for research with greater specificity. This study also contributes to existing religiosity research by moving beyond outdated versions of defining religious constructs and utilizing measures that better capture a multidimensional construct within a diverse population.

The Study

BPD is a topic of great current interest because of the forthcoming changes in the DSM-5, not to mention its notable prevalence and significant impact upon individuals, their families, and society as a whole. Core aspects of BPD have also been found to be relatively stable by emerging adulthood. Intervening during this important developmental stage has the potential to positively impact the trajectory and to offset the potentially damaging effects of BPD. Further, examining the relationship between BPD and academic and interpersonal outcomes, both critical developmental areas for college students, is an important issue to study. Beyond that, this study mirrors and extends the foundational work of Trull (1995/1997) and Bagge and colleagues (2004) who have already established the significantly negative impact of BPD upon interpersonal and academic functioning in college studies.

The intersections of religiosity and BPD have never been studied, much less in the college context. There is sufficient theoretical and empirical basis to support the focus of this study and the contribution it potentially makes to the literature regarding religiosity, borderline personality disorder, and college students. Thus, it is safe to assume that the theoretical evidence, the current gaps in the literature, and the potential for good in the lives of individuals with BPD all underscored the timeliness and importance of this work.

This study specifically explored the intersections of religiosity, college students, BPD, and academic and interpersonal outcomes through the following research questions:

1) After controlling for Axis I disorders (anxiety and depression) and academic ability, are borderline personality disorder features inversely associated with academic and interpersonal functioning within a sample of college students?
2) How is religiosity related to different features of BPD?

3) Does religiosity significantly moderate the effect of borderline personality disorder features on academic and/or interpersonal outcomes?

Chapter III

METHOD

Participants

The study's participants included 466 undergraduate students enrolled at Michigan State University (MSU) during the Fall, 2011 semester. The participants were each enrolled in an undergraduate Psychology course and self-selected to participate in this project. Sampling at MSU, a large, public university was deemed appropriate for this study because all major religious orientations have been found among similar samples (Smith, 2009). Further, the level of BPD in university samples has been found to be consistent with BPD rates in the general population (Lenzenweger, et al., 2007; Reeves & Taylor, 2007; Torgersen, et al., 2001).

MSU has a diverse student body, including individuals from all fifty states and over 80 foreign countries. Using Fall, 2011 enrollment data (http://www.reg.msu.edu/RoInfo/EnrTermEndRpts.asp), MSU reported 79.8% of its undergraduate students as under age 24 and 20.2% over age 24. Out of 35,939 total undergraduate students, 18,426 were female (51%) and 17,513 were male (49%). White (non-Hispanic) students comprised 69.5% of the undergraduate population, followed by international (12.3%), black or African American (6.5%), Asian (non-Hispanic) (4.3), Hispanic (3.3%), two or more races (non-Hispanic) (1.8%), not reported (1.8%), American Indian (.4%), and Hawaiian/Pacific Islander (.1%).

This study's convenience sample (see Table 2) was disproportionately female with 313 female respondents (67%) and 153 males (33%). The sample also had a small percentage of respondents over age 24 (2%). Because of the small numbers of respondents over age 24 (n = 10) and their potential differences from the traditionally college-aged participants in terms of the

primary variables of interest, they were eliminated from the sample. The distribution of participants between ages 18-24 was slightly skewed toward younger students between with a mean age of 19.9 (*SD* 1.29). Related to age, the sample was also disproportionately high in freshmen at 44.6% and low in seniors at 6.2%. For comparison, MSU reports 27% freshman, 23% sophomores, 24% juniors, and 26% seniors.

The racial make-up of the sample is reported in Table 2. Compared to the general population at MSU, the sample overrepresented White students and slightly underrepresented African American and Hispanic students. The other area of significant difference related to international students. MSU has a significant percentage of international students (12.3%). But because of the low prevalence of international students (n = 13, 3%), the use of measures that have been normed on U.S. students, the potential differences between non-U.S. born and U.S. born students in terms of the primary variables, and the specific goals of the study, the decision was made to eliminate international students from the sample.

Table 2

Demographic Characteristics of Participants (N=466)

Characteristic	*n*	%	*M*	*SD*
Sex				
Male	153	33		
Female	313	67		
Age			19.9	1.29
18-19	191	41		
20-21	228	49		
22-24	57	10		

Table 2 (cont'd)

Undergraduate Status		
Freshman	208	44.60
Sophomore	99	21.24
Junior	130	27.89
Senior	29	6.22
Race		
White	386	82.8
African American/Black	25	5.4
Asian American	19	4.1
Latino	10	2.1
Other	26	5.5

Religious affiliations within the sample are reported in Table 3. As compared with a recent nationally representative study of college students (Smith, 2009), the present sample was slightly less Protestant at 39.2% versus 46% and slightly more Roman Catholic at 26.4% versus 18%, but other categories were relatively consistent, including the "no religion" group at 23.6% in this sample and 27% in Smith's (2009) study. Also noteworthy was the absence of any LDS (Mormon) respondents in this sample, a group who comprised 2.8% of Smith's (2009) sample.

Table 3

Religious Affiliations of Sample (N=466)

	n	%
Roman Catholic	123	26.4
Other Christian	55	11.8

Table 3 (cont'd)

Church of Christ	33	7.1
Lutheran	25	5.4
Methodist	24	5.2
Baptist	21	4.5
Presbyterian	13	2.8
Jewish	13	2.8
United Church of Christ/Congregational	7	1.5
Eastern Orthodox	4	.9
Episcopalian	4	.9
Hindu	4	.9
Islamic	4	.9
Unitarian/Universalist	3	.6
Buddhist	2	.4
Other Religion	21	4.5
None	110	23.6

Before collecting data, a power analysis related to the size of the sample was conducted. Using a power calculation with a desirable power level of at least 0.8 and 0.05 level tests, a sample size of 466, even after factoring in unusable random response surveys, was more than sufficient for determining small, medium, and large main effects as well as the ability to compare among groups (Moore & McCabe, 2006). Finally, because BPD has a relatively low prevalence in community samples (Lenzenweger, et al., 2007; Torgersen, et al., 2001; Reeves & Taylor, 2007), it was deemed important in this study to have a relatively large sample in order to have adequate BPD variance and representation in order to achieve the goals of this study.

Procedure

MSU's Institutional Review Board (IRB) approval was obtained prior to data collection (Appendix A). Students enrolled in undergraduate psychology courses self-selected to participate in this 220-item online survey (see Appendix B). The study was administered through MSU's Humans Participating in Research (HPR) program, housed within the Department of Psychology. At a rate of 100 participant responses per week (the maximum number of surveys that the HPR system permits per study per week), the survey was open for a total of five weeks during November and December, 2011 in order to reach the target sample size of approximately 500. Within the HPR system, the study was labeled very generally as "Personality and Religiosity." While the system required a study title, the researcher acknowledges that identifying the study in such a manner may have created a preponderance of religious students participating. Students were provided and asked to agree to a consent form that informed them about the project, conveyed that participation was voluntary, underscored the confidential of the survey, and explained the risks and benefits of their participation (see Appendix C). Contact information was provided following the survey in a debriefing form (also see Appendix C). Students were compensated for their participation by receiving one hour of research participation credit. Participants were informed of and recruited for the study through their professors in the MSU Psychology department. After logging in to the HPR system, students selected among several active surveys being conducted within the Psychology department. The survey for this study was designed to take approximately one hour to complete. It was comprised primarily of multiple-choice items with only three completion items that required typing an answer. Brief instructions related to each section (and specific measure) were also included within the survey.

Measures. The **Personality Assessment Inventory—Borderline (PAI-BOR)** (Morey, 1991/2007) was used as a continuous variable to determine the level of BPD within the sample. The 24-items are rated on a 4-point scale (0 = *false,* 1 = *slightly true,* 2 = *mainly true,* 3 = *very true*). The entire PAI (which contains 11 clinical scales, one of which measures BPD) has been normed on college students and within nonclinical and clinical populations (Morey, 1991). Recently, the measure was found to be valid in a large, community sample of both men and woman of varying ages (DeMoor, Distel, Trull, & Boomsma, 2009) and has been found to be valid and reliable when tested against two other measures of BPD (Gardner, & Qualter, 2009). The test also identifies four BPD subscales: affective instability, identity problems, negative relationships, and self-harm/impulsivity. PAI-BOR test-retest reliability, measured across three samples, was .83 (Morey, 1991/2007). In this study, the PAI-BOR's internal reliability was excellent (α = .833). The PAI additionally contains four internal validity scales, one of which was included in this study for data integrity, the PAI-INF (which identifies random responding). Respondents who scored above a threshold according to this validity scale were excluded from the analysis. Missing data in the PAI-BOR were minimal, under 1.2% on each of the items.

Patient-Reported Outcomes Measurement Information System (PROMIS) Depression Scale. The PROMIS scales are the result of a large-scale effort of the National Institute of Health (NIH) to form easy to administer measures of common mental health constructs. The NIH utilized item response theory to formulate a bank of items which were eventually calibrated on a sample of 15,000 respondents (Pilkonis, Choi, Reise, Stover, Riley, & Cella, 2011). The 8-item self-report survey of symptoms over the previous seven days has demonstrated excellent reliability and validity on samples including both genders and adults of all ages. Participants rate various depressive symptoms on a scale from 1 (*never*) to 5 (*always*).

Sample questions include, “In the past 7 days, I felt hopeless” and “In the past 7 days, I felt that I had nothing to look forward to.” Within this sample, the PROMIS depression scale demonstrated excellent internal reliability ($\alpha = .941$) and missing data were below 1.8% for each item. The questions were clearly and simply written and appeared to provide minimal difficulty for respondents within this sample.

Patient-Reported Outcomes Measurement Information System (PROMIS) Anxiety Scale. The PROMIS anxiety scale contains eight items which are answered based on the individual’s experience during the previous seven days. The anxiety scale has similarly demonstrated excellent reliability and validity on several samples of both genders and adults of all ages. Similar to the PROMIS depression scale, sample questions include, “In the past 7 days, my worries overwhelmed me” and “In the past 7 days, I felt nervous.” Within this sample, the PROMIS anxiety scale demonstrated excellent internal reliability ($\alpha = .915$) and missing data were also low (under 1.8%) on the PROMIS anxiety scale.

Religious quest (RQ) and Religious engagement (RE). As indicated in the literature review, researchers at UCLA’s Higher Education Research Institute, in response the dearth of information on religion in college students and institutions of higher education, developed a multi-wave research program in 2002 entitled, “Spirituality in Higher Education” (Astin, Astin, & Lindholm, 2011). Their efforts led to the development of a pilot survey in 2003, the College Students’ Beliefs and Values Survey (CSBV) which was slightly revised and distributed to the same group of students in 2004 and 2007. The survey was well-suited for this project as the researchers carefully sought to differentiate the multifaceted concepts of religiosity within a college student population, resulting in the development of ten separate scales (five for “religion” and five for “spirituality”).

In light of the goals of this project, specifically to explore the two primary constructs of religion (as defined in the introduction and literature review), two scales were selected for inclusion in this project's survey: religious engagement ($\alpha = .87$) and religious quest ($\alpha = .83$). A brief description of each of these 20-item scales underscores their relevance to this study. Religious engagement is a key construct which "represents the behavioral counterpart to religious commitment, such as attending religious services, praying, religious singing/chanting, and reading sacred texts (Astin et al., 2011). A sample question from the religious engagement scale is, "Since entering college, how often have you attended a religious service?" Respondents responded from 1 (*not at all*) to 3 (*frequently*). Religious quest measures "the degree to which the student is actively searching for meaning and purpose and life, becoming a more self-aware person, and finding answers to life's 'big questions'" (Astin et al., 2011, p. 14). A sample question from the religious quest scale is, "I gain spiritual strength by trusting in a Higher Power." Respondents rated their response to this question from 1 (*disagree strongly*) to 4 (*agree strongly*). This project additionally included one demographic question from the CSBV that asked students to indicate their "current religious preference," followed by a list of religion denominations (including an option for "no religion").

This measure proved to be an excellent match for this study as it was developed and normed within public and private colleges and universities with the inclusion of individuals from a wide variety of religions. The survey was developed with the express goals of being able to measure religious constructs across a wide variety of religious manifestations. Missing data were below 1.4% on both the religious quest and religious engagement scales. One question from the religious quest scale was eliminated in the analysis as it represented a completely different format from the rest of the questions; internal reliability was improved by its removal.

Fundamentalism. As discussed in the literature review, a highly rigid, fundamentalist religious tradition can potentially lead to negative outcomes, particularly among individuals who may be vulnerable to controlling or oppressive systems. Previously developed measures of fundamentalism have been solely related to Protestant traditions, therefore it was necessary to create original questions with applicability across the full range of religious traditions. Fundamentalism was operationalized in this study as the level of perceived rigidity within an individual's religious tradition. Fundamentalism here is an adjective, not a noun. That is to say, the term in this study does not refer to a specific group of people with particular religious doctrines and beliefs (e.g., biblical literalism). It refers to an individual's sense of their own religious tradition's level of rigidity. Based on previous measures of fundamentalism, asking specifically how an individual self-identifies their tradition (Kellstedt & Smidt, 1991) and asking about their perception of the number of "rules" within a religious system are reliable ways to assess this construct (Brownell, 2010; Gartner, 1996). Finally, because beliefs regarding eventual punishment or negative consequences by God or a Higher Power are associated with more rigid religious belief systems (Brownell, 2010), a question related to this construct was also included. Including a question about punishment is consistent with other measures of religious fundamentalism (Kellstedt & Smidt, 1991). In order to capture fundamentalism, three questions were developed. Respondents were asked to identify their religious tradition as "*fundamentalist, conservative, liberal,* or *nonexistent*." Those answering "*nonexistent*" to this question were separated and coded as a "non-applicable" group in the subsequent analysis of the other two fundamentalist questions. In those questions, respondents were asked to rate the level of their agreement with the following statements: "People who don't believe in God or a Higher Power will eventually be punished," and "My religious tradition has many rules about how to live life."

Respondents rated their level of agreement as 4 = *disagree strongly,* 3 = *disagree somewhat*, 2 = *agree somewhat*, 1 = *agree strongly,* 99 = *non-applicable.* Items responses were then reverse-coded so that higher means scores indicated higher fundamentalism levels. Finally, a summed score from the two continuous fundamentalism items was created. Missing data were only present in one item at a rate of .6%.

Academic functioning. Similar to the work of Trull (1995/1997/2001) and Bagge and colleagues (2004), academic functioning was measured through the respondent's current MSU GPA (a categorical variable) with ACT composite score (a continuous variable) and high school GPA (a categorical variable) serving as covariates. MSU GPA was categorized as A (3.75 – 4.0), A-/B+ (3.25 – 3.74), B (2.75 – 3.24), B-/C+ (2.25 – 2.74), C (1.75 – 2.24). HS GPA was categorized as A (3.75-4.0), A-/B+ (3.25 – 3.74), B and below (2.75 – 2.24). In preparation for ordinal logistic regression analysis, the categories were recoded with the lowest GPA category coded as "1" and continuing in ascending order. Because performance in high school and on the ACT are likely indicators of an individual's overall academic functioning (Trull, 1997), it was deemed important to measure and control for this potentially confounding factor.

Interpersonal functioning problems. The **Inventory of Interpersonal Problems-Short Circumplex (IIP-SC)** (Soldz, Budman, Demby, & Merry, 1995) is a 32-item survey measure in which respondents rate statements according to five answers: 0 = *not at all*, 1 = *somewhat*, 2 = *moderately*, 3 = *very*, and 4 = *extremely*. Higher scores on the IIP-SC, therefore, indicate higher levels of interpersonal functioning difficulty. The reliability, structural validity, and concurrent validity of the IIP-SC have all been demonstrated in two samples of undergraduate college students (Hopwood, Pincus, DeMoor, & Koonce, 2008). The measure, based on the interpersonal circumplex model, and related to the Five Factor Model of normative personality, provides a

robust and versatile measure of interpersonal functioning which was well-suited for this study. Because Hopwood and colleagues (2008) have previously normed the IIP-SC on college students, values from their work were used to standardize the IIP-SC values within the current sample. The IIP-SC had strong internal reliability ($\alpha = .915$) and very low missing data, less than 1.2%, within this sample.

Data Screening

Following data collection, the data was cleaned by eliminating both cases with multiple non-responses and random responses as measured by the PAI-INF. Out of an original 512 cases, 11 (2%) were eliminated due to multiple non-responses, 13 (2.5%) cases were eliminated due to random responses, and 22 (4%) were eliminated as they did not meet the study's inclusion criterion related to age and U.S. citizenship, leaving a final sample of $N = 466$. Continuous variable missing data was imputed by using estimation-maximization (EM) algorithm. The EM algorithm imputes missing values through an iterative process which alternates between computing the expectation (E) of the log-likelihood using the present parameters and a maximization step which computes parameters based on the E value (Schafer & Graham, 2002). Categorical missing data were addressed using mode replacement. Missing data rates were low with no variable exceeding 1.4% missing values and most variables under 1%. There were few categorical questions in this survey and the missing value rates for these variables were also below 1%.

An exception relates to questions regarding SAT critical reading and math scores and a question regarding the respondent's high school class rank. Because only 9% of the respondents had taken the SAT instead of the ACT, the SAT scores were converted into an equivalent ACT score for greater ease and uniformity in analysis. One percent of individuals did not answer

either question about ACT or SAT scores, presumably either because they did not recall their score or because they missed this question at will or at random, as taking at least one of these exams is a requirement for MSU admission. Individuals were queried regarding their class rank and responses were valid in only 36% of the cases. Despite instructions, there were many errors in the format in which "class rank" answers given. Students were asked to write the rank and the number of students in the class (e.g., 15/125), but often only provided one number, making it impossible to compute a valid percentage for analysis. Because of these measurement problems, class rank was excluded from the analysis.

Nearly half of the respondents reported a high school GPA in the A (3.75 – 4.0) category with most of the remaining students selecting the A-/B+ (3.25 – 3.74) category. A small number of students reported a high school GPA at or below the B (2.75-3.24) level (n = 33). Therefore, the decision was made to collapse the original six categories into three categories for analysis. MSU GPA was more normally distributed, however the number of respondents in the C- or below (below 1.74 GPA) category was very low (n = 3), requiring collapsing six categories into five.

Also prior to analyses, all raw scores in the data set were standardized in order to identify univariate outliers (i.e., cases deviating two *SD* from the mean) (Pallant, 2005). Scatterplots were additionally examined for each variable under study. The skewness and kurtosis statistics for all continuous variables of interest were examined to address whether the variables were approximately normally distributed. A Mahalnobis distance statistic was also calculated for each case in order to identify multivariate outliers. No other cases with extreme univariate or multivariate values were found. The presence of multicollinearity in the variables was also

examined with no independent variables exceeding a tolerance value of less than .10 and a variance inflation factor (VIF) value of above 10 (Pallant, 2005).

Chapter IV

RESULTS

SPSS, the Statistical Package for the Social Sciences, software was used to conduct all statistical analyses. Pearson correlations, simple linear regression, hierarchical multiple regression, ordinal logistic regression, and one-way ANOVA were used to examine the relationships between the variables under study.

Descriptive Statistics

This study utilized a quantitative, cross-sectional research design with data collected in the form of an online survey comprised of several, validated measures. The descriptive statistics of each measure are reported in Table 4.

Table 4

Assessment Measures

	M	*SD*	Min	Max	α
PAI-BOR	24.8	11.26	4	65	.833
Affective Instability	6.19	3.63	0	18	.768
Interpersonal prob.	7.44	3.52	0	18	.704
Neg. Relationships	6.78	3.46	0	18	.708
Self-Harm	4.45	3.16	0	18	.748
RE	35.2	7.31	20	63	.920
RQ	51.63	7.59	20	66	.919
Fundamentalism	3.84	1.51	0	8	.681
PROMIS Depression	15.85	7.35	8	40	.941
PROMIS Anxiety	15.63	6.44	8	40	.915

Table 4 (cont'd)

IIP-SC	33.11	17.37	0	128	.915
Domineering	3.84	2.25	0	16	.715
Vindictive	2.57	2.26	0	16	.630
Cold	3.12	2.93	0	16	.788
Socially Avoidant	3.55	3.34	0	16	.854
Nonassertive	4.98	3.40	0	16	.776
Exploitable	4.66	3.15	0	16	.683
Overly Nurturant	5.66	3.16	0	16	.702
Intrusive	4.49	2.90	0	16	.774

Note. PAI-BOR = Personality Assessment Inventory – Borderline Scale, Interpersonal probs.= interpersonal problems, Neg. relationships= negative relationships, RE = religious engagement, RQ = religious quest, PROMIS = Patient-Reported Outcomes Measurement Information System, IIP-SC = Inventory of Interpersonal Problems – Short Circumplex

It was important to examine means found in this sample with those reported in other studies utilizing similar samples. Means by gender and age on the PAI-BOR were comparable with those reported by Trull (1995). As indicated previously, means on the IIP-SC obtained in this study were standardized to the means published by Hopwood and colleagues (2008) in their study of the psychometric properties of the IIP-SC in college students. Because the religious quest and religious engagement scales were adapted for this study, it was not possible to compare them to other studies involving university students. And while there are a growing number of published articles using the PROMIS anxiety and depression scales, none specific to this population and/or which used the short versus the long form of this measure were identified for the sake of comparison.

BPD. Although this study viewed BPD, measured through the PAI-BOR, as a continuous variable, a philosophical view that is consistent with current personality literature (DeCoster, Iselin, & Gallucci, 2009; Markon, Chmielewski, & Miller, 2011), it is useful to briefly view the diagnosis categorically for the purpose of comparing and verifying the levels of BPD within this sample. Morey (1991/2007) reports a clinically significant threshold for BPD as a > = 38 raw score on the PAI-BOR. Using these criterion within a similar nonclinical sample of university students, Trull (1995/1997) reports 14.8% of his sample as scoring above this threshold on the PAI-BOR. In this study, a comparable 15.4% of students scored at or above the clinically significant threshold for BPD (see Figure 1). The reader should note that not all of the above-threshold group would translate into a BPD diagnosis per the current DSM-IV diagnostic criterion. The above threshold group includes both individuals who fully meet the DSM-IV BPD criterion and those who may exhibit significant BPD features, but are subsyndromal in that they do not meet all five DSM-IV criteria (Trull, 1995/1997). What this finding does indicate, however, is that the amount of BPD represented within this sample is comparable with that of a similar sample.

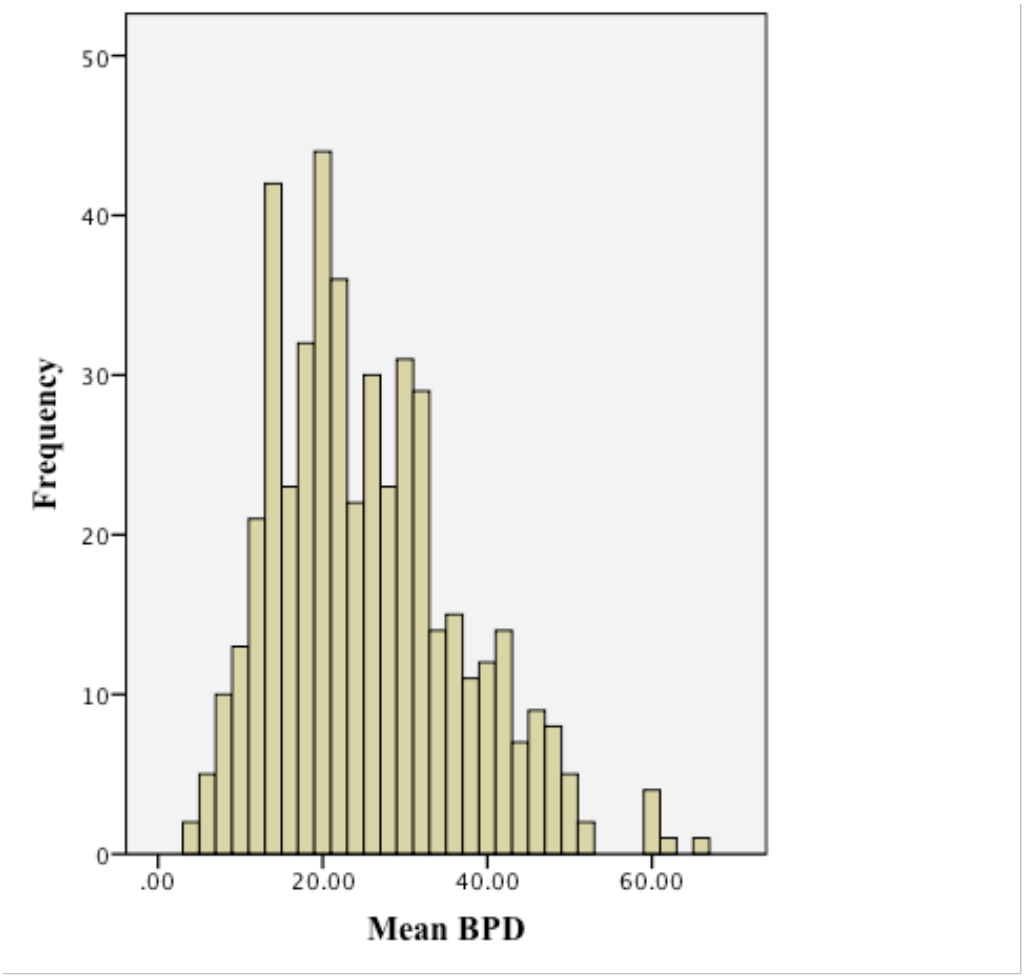

Figure 1: Mean PAI-BOR Scores

Also interesting to note in the histogram of BPD levels (Figure 1) was the relatively normal distribution around the mean (with a slight right skew). This sample's distribution supports the concept of dimensionality in personality pathology, as a clear continuum of BPD was represented. Despite the normal distribution, the histogram also illustrates that a small portion of the sample demonstrate high levels of BPD. This may represent the small portion of the sample that has traditionally been identified as BPD per the current DSM-IV criterion.

Fundamentalism. The descriptive statistics of the fundamentalism variable are reported in Table 5.

Table 5

Descriptive Statistics of the Fundamentalism Variable (N = 466)

Survey question	*n*	%	*M*	*SD*
My religious tradition is best described as:				
Fundamentalist	23	4.9		
Conservative	186	39.9		
Liberal	136	29.2		
Nonexistent	121	26.0		
My religious tradition has many rules about how to live life.			2.22	1.48
Agree Strongly	97	20.8		
Agree Somewhat	159	34.1		
Disagree Somewhat	81	17.4		
Disagree Strongly	8	1.7		
Not Applicable	121	26.0		
People who don't believe in God or a Higher Power will eventually be punished.			1.62	1.32
Agree Strongly	53	11.4		
Agree Somewhat	72	15.5		
Disagree Somewhat	107	23.0		
Disagree Strongly	113	24.2		
Not Applicable	121	26.0		

Academic Functioning. The descriptive statistics of the measures of academic functioning are reported in Table 6.

Table 6

Descriptive Statistics of the Academic Variables (N = 466)

Survey question	*n*	%	*M*	*SD*	*Min*	*Max*
Michigan State University GPA						
A (3.75-4.0)	67	14.4				
A-/B+ (3.25-3.74)	208	44.6				
B (2.75-3.24)	130	27.9				
B-/C+ (2.25-2.74)	38	8.2				
C (1.75-2.24)	23	4.9				
High School GPA						
A (3.75-4.0)	220	47.2				
A-/B+ (3.25-3.74)	213	45.7				
B and below (2.75-2.24)	33	7.1				
ACT Composite Score			25.3	3.66	0	36

Note. GPA = grade point average, ACT = American College Test

As indicated previously, very few respondents indicated a high school GPA below the B range, requiring a collapsing of its categories. MSU reports that the middle 50% of its students had a high school GPA between 3.4 and 3.8 (www.msu.edu/about/thisismsu/facts.html). MSU also reports that the 50% of its students had an ACT composite score between 23-28. In this sample, 61% of students reported an ACT score between 23-28, supporting the strong high school GPA reporting and suggesting the sample represents slightly higher academically functioning students than the entire MSU population.

Interpersonal Functioning. Descriptive statistics of the IIP-SC and its eight subscales are reported in Table 4.

Bivariate relationships

In order to determine whether specific demographic groups impacted scores on the variables of interest, bivariate relationships between all of the study variables were examined. As indicated in the literature review, BPD levels can vary by gender and age, and religious quest, religious engagement, and fundamentalism may vary by religious denomination. Even though age was restricted in this study (between 18-24), it was deemed important to ensure no specific variation by age. Therefore, the relationships between gender and BPD, interpersonal problems, academic functioning, anxiety, and depression were first examined. The relationships between age and BPD, interpersonal problems, academic functioning, anxiety, and depression were also examined. Finally, the relationships between religious denominational affiliation and religious quest, religious engagement, and fundamentalism were examined.

Gender. To test mean differences between gender and each of the continuous variables (fundamentalism, anxiety, depression, BPD, ACT, religious quest, religious engagement, and interpersonal problems), MANOVA was used. The multivariate test of differences between groups using the Wilks' Lambda criterion revealed no statistically significant differences in the means for any of the dependent variables by gender, Wilks' Lambda = .986, F (7, 412) = .80, p = .589. A chi-square analysis with the two categorical variables revealed that neither MSU GPA, χ^2 (4, N = 466) = 3.226, p = .521 nor high school GPA differed by gender, χ^2 (4, N = 466) = 2.82, p = .589. These results indicate no statistically significant differences according to the study variables by gender, suggesting that it is not imperative to control for specific effects by gender in this study.

Age. To assess potential differences by age, bivariate correlations were analyzed and are reported in Table 7. As expected, age was not found to be significantly correlated with any of the variables.

Table 7

Bivariate Correlations between Study Variables and Age (N = 466)

Variable	MSU	HS	ACT	BPD	ANX	DEP	IF	RQ	RE
Age	.065	.046	.021	.045	.001	.061	.005	.028	.031

Note. $p < .01$. MSU = Michigan State University grade point average, HS = high school grade point average, ACT = American College Test, BPD = borderline personality disorder, ANX = Anxiety, DEP = Depression, IF = interpersonal functioning, RQ = religious quest, RE = religious engagement

Religious denomination. Because religious quest, religious engagement, and fundamentalism can vary greatly by religious group affiliation or denomination (Smith, 2009), these variables were also examined. As expected, there were differences across denomination in terms of religious quest, religious engagement, and fundamentalism, though the descriptives for several of the denominational categories should be interpreted with caution due to the low numbers of participants (e.g., four Episcopalians, two Buddhists, and so on). For example regarding religious engagement, Table 8 indicates that the Baptist, Church of Christ, Hindu, and Other Christian groups had the highest mean levels and Episcopalian, Other Religion and No Religion had the lowest mean levels. Regarding religious quest, Table 8 illustrates the highest mean levels among the Hindu, Other Religion, and No Religion groups and the lowest mean levels among the Baptist and Other Christian groups. The fundamentalism mean scores are also

reported in Table 8. Regarding fundamentalism, the highest means levels of fundamentalism reported were among the Methodist, Hindu, and Buddhist groups. The lowest mean levels of fundamentalism were identified among the Other Religion and Unitarian/Universalist groups. These findings demonstrate considerable variation by denomination, particularly among the Other Christian, Other Religion, and No Religion groups, which has relevance for discussions of religious quest, religious engagement, and fundamentalism.

Table 8

Religious Engagement, Religious Quest, and Fundamentalism by Religious Denomination (N = 466)

		RE		RQ		FUND	
Denomination	*n*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Roman Catholic	123	35.77	5.96	49.65	6.82	3.81	1.62
Other Christian	55	41.27	9.11	46.24	6.13	3.09	1.83
Church of Christ	33	38.55	8.32	48.06	6.64	4.27	1.20
Lutheran	25	35.12	4.57	49.30	7.39	4.36	1.46
Methodist	24	33.92	4.53	49.33	5.96	5.00	1.38
Baptist	21	41.60	9.55	47.52	5.38	4.19	1.37
Presbyterian	13	35.77	5.96	52.54	6.50	4.92	1.25
Jewish	13	36.30	5.02	55.07	8.24	4.15	1.21
UCC/Congregational	7	38.42	9.71	48.28	3.30	2.28	1.25
Eastern Orthodox	4	33.50	4.51	49.25	3.59	4.25	1.26
Episcopalian	4	31.50	5.07	52.25	1.70	3.25	.50
Hindu	4	38.75	9.53	57.75	7.54	5.00	.81
Islamic	4	37.16	8.65	51.66	3.56	4.00	.81
Unit/Universalist	3	34.33	2.08	49.56	6.25	2.28	1.25
Buddhist	2	35.25	5.73	52.00	6.37	5.00	.00
Other Religion	21	31.00	4.03	55.95	6.30	2.14	1.49
No Religion	110	30.30	4.03	58.21	5.72	NA	NA

Note. RE = religious engagement, RQ = religious quest, FUND = fundamentalism, Unit = Unitarian, UCC = United Church of Christ

Intercorrelations of Measures

Intercorrelations among the primary variables are reported in Table 9. Relatively strong positive correlations were noted between the PAI-BOR and the anxiety (r = .613) and depression (r = .696) scales. The IIP-SC correlated moderately positively with the depression (r = .524) and anxiety (r = .504) scales. Also, the anxiety and depression scales demonstrated a strong positive correlation (r = .748). The religious engagement and religious quest scales demonstrated a significantly negative correlation with each other (r = -.414).

Table 9

Intercorrelations of Variables

Measure	1	2	3	4	5	6	7	8	9	10
1. PAI-BOR	---									
2. PAI-BOR AI	.864**	---								
3. PAI-BOR IP	.854**	.665**	---							
4. PAI-BOR NR	.858**	.690**	.679**	---						
5. PAI-BOR SH	.678**	.431**	.419**	.414**	---					
6. RQ	.178**	.201**	.174**	.117**	.113*	---				
7. RE	-.027	-.060	-.070	.016	.034	-.414**	---			
8. ANX	.613**	.514**	.578**	.520**	.378**	.124**	-.001	---		
9. DEP	.696**	.605**	.687**	.592**	.369**	.146**	-.040	.748**	---	
10. IIP-SC	.538**	.390**	.522**	.465**	.375**	.085	.030	.504**	.524**	---

Note. ** = p < .001, PAI-BOR = Personality Assessment Inventory-Borderline scale, AI = affective instability, IP = identity problems, NR = negative relationships, SH = self harm/impulsivity, RQ = religious quest, RE = religious engagement, ANX = anxiety, DEP = depression, IIP-SC = Inventory of Interpersonal Problems-Short Circumplex

RQ 1

After controlling for Axis I disorders (anxiety and depression) and academic ability, are BPD features inversely associated with academic and interpersonal functioning within a sample of college students?

Academic Functioning. While BPD has previously been found to predict negative outcomes in university students (Bagge, 2004; Trull, 1995/1997), it was necessary to establish this main effect relationship before exploring the moderating hypothesis involving religiosity proposed by this study. Because overall academic ability may be directly related to MSU GPA, indicators of academic ability, high school GPA and ACT scores, were intended as covariates. However, high school GPA and ACT scores were found to be highly correlated ($r = .76$), therefore high school GPA was eliminated from the analysis in order to avoid multicollinearity in the regression analysis (Heppner & Heppner, 2004). Depression and anxiety were also planned as covariates, but their correlation was determined to be high ($r = .744$), therefore depression was also eliminated throughout the analysis in order to avoid multicollinearity.

To test whether BPD was more associated with negative academic outcomes, MSU GPA was regressed on BPD using ordinal logistic regression. Ordinal logistic regression assumes proportional odds. A test of the proportional odds assumption yielded $\chi^2_9 = 11.845$, $p = .222$, therefore there was no evidence this assumption was not met. BPD *was* found to inversely predict MSU GPA. The analysis using a Wald test ($\chi^2 = 24.023$, $p < .000$) indicated that for every one unit increase in BPD, there was a .049 expected increase in the log odds of reporting a lower GPA after adjusting for ACT and anxiety.

Interpersonal Problems. The IIP-SC was used to measure interpersonal functioning problems in the study. It additionally provided more specific information through the delineation

of eight subscales. Consistent with the work of Trull (1995/1997), it was useful to briefly examine the relationships between subscales of the two measures to gain more specific information about the ways that BPD intersects with personality traits, particularly traits known to negatively impact interpersonal functioning. BPD had a highly significant relationship with interpersonal problems. The PAI-BOR correlated with total interpersonal problems at $r = .538$, $p < .000$. The eight IIP-SC subscales each also had statistically significant relationships with BPD (see Table 10). Particularly strong correlations were noted between the total PAI-BOR and the Domineering, Vindictive, Cold, and Intrusive IIP-SC subscales. Total PAI-BOR and total IIP-SC showed especially strong correlation with the Identity Problems and Negative Relationships subscales. The only relationship that lacked statistical correlation was that of Nonassertiveness and Self-Harm.

Table 10

Summary of Pearson's Correlation Coefficients between the PAI-BOR and Subscales and the IIP-SC and Subscales

	PAI-BOR	AI	IP	NR	SH
IIP-SC	.538**	.406**	.520**	.471**	.363**
DOM	.486**	.405**	.265**	.366**	.394**
VIND	.493**	.400**	.380**	.439**	.363**
COLD	.450**	.354**	.331**	.390**	.294**
SOCV	.333**	.286**	.342**	.245**	.108**
NONA	.262**	.158**	.341**	.193**	.061
EXPL	.372**	.249**	.370**	.243**	.171**
OVNR	.315**	.221**	.357**	.218**	.134**
INTR	.420**	.294**	.316**	.336**	.334**

Note: $^{**}p < .001$, BPD = borderline personality disorder, PAI=BOR = Personality Assessment Inventory – Borderline Scale, IIP-SC = Inventory of Interpersonal Problems – Short Circumplex, AI = affective instability, IP = identity problems, NR = negative relationships, SH = self-harm, IF = interpersonal functioning, DOM = domineering, VIND = vindictive, SOCV = socially

Table 10 (cont'd)
avoidant, NONA = non-assertive, EXPL = exploitive, OVNR = overly nurturant, INTR = intrusive

A strong relationship was found between BPD and interpersonal problems. Turning then to anxiety as a covariate, its relationship with interpersonal problems was first examined. Anxiety (r = .504) and depression (r = .524), although the latter was eliminated from the analysis, had expectedly significant correlation with interpersonal problems. Anxiety explained a significant amount of the variance in interpersonal problems (26.1%). But even after anxiety was added into the hierarchical regression model, however, BPD continued to have a significant relationship with the dependent variable and explained 4.3% additional variance in the model (see Table 11). The relationship was highly significant across the IIP-SC and its subscales. This relationship remained statistically significant after anxiety was controlled.

Table 11

Hierarchical Regression Analysis of Interpersonal Functioning Problems on Anxiety and BPD (N = 466)

	Interpersonal Functioning Problems					
Variables	B	SE B	β	*R*	ΔR^2	*F* of change
Step 1				.511	.261	147.68**
Anxiety	.536**	.044	.511			
Step 2				.585	.043	51.45**
BPD	.219**	.030	.363			

Note. ** = $p < .001$. BPD = borderline personality disorder

RQ 2

How does religiosity relate to different features of BPD?

The relationship between religious quest, religious engagement, and the four subscales of the PAI-BOR were examined and Pearson's correlation coefficients are reported in Table 12.

Table 12

Summary of Pearson's Correlation between BPD and Religious Quest and Religious Engagement (N = 466)

	Religious Quest	Religious Engagement
1. BPD Overall	.188**	-.027
2. BPD-AI	.201**	-.060
3. BPD-IP	.147**	-.070
4. BPD-NR	.117**	.016
5. BPD-SH	.113**	.034

Note. **$p < .005$. BPD = borderline personality disorder, AI = affective instability, IP = identity problems, NR = negative relationships, SH = self-harm/impulsivity

Noteworthy is the nearly complete absence of a significant relationship between BPD and religious engagement. Religious quest presented a different story, however. BPD correlated significantly with religious quest ($r = .188$, $p < .000$). Each of the PAI-BOR subscales had a significant positive relationship with religious quest. Affective Instability demonstrated the strongest relationship ($r = .201$, $p < .000$), followed in descending order by Identity Problems, Negative Relationships, and Self-Harm.

As indicated previously, the level of fundamentalism in an individual's religion may positively or negatively impact their religious engagement or religious quest. Therefore, bivariate

relationships between fundamentalism and religious quest and engagement were also examined. Fundamentalism and religious engagement had a positive relationship (r = .180, p = .005), but fundamentalism and religious quest had a *negative* relationship (r = -.127, p = .04).

Because a relationship was identified between and BPD and religious quest and because fundamentalism may be a significant component in either deterring or enhancing religious quest, it was entered as a control variable in a partial correlation analysis between BPD and religious quest. When fundamentalism was controlled, BPD and religious quest continued to have a significant relationship, (r = .185, p < .000).

One-way ANOVA was also utilized to explore the relationship between the categorical fundamentalism question which asked respondents to rate their religious tradition as "*fundamentalist*, *conservative, liberal*, and *nonexistent*" and BPD. A significant relationship was found between the groups identified by this question and BPD, F (3, 462) = 5.02, p = .002. Tukey's post hoc analysis indicated significant mean BPD differences between the conservative group (M = 22.48) and the fundamentalist group (M = 28.04). A cross-tab analysis also indicates that viewing BPD categorically (i.e., in terms of the B+ and B- groups) along with this (categorical) fundamentalism question resulted in 24% of those within the B+ (i.e., high BPD) group identifying their tradition as conservative, 22% as fundamentalist, 21% as liberal, and 32% as nonexistent. For comparison, within the B- (i.e., low BPD) group, 36% identified their religious tradition as conservative, 21% as fundamentalist, 17% as liberal, and 25% as nonexistent.

Because the preliminary analysis found religious quest to vary by religious denomination, these relationships were also reviewed under this research question (see Table 8). While the reader should carefully note the wide variance in sample sizes, the following differences were

noted. The highest mean religious quest scores were found among the No Religion (n = 110, M = 58.21), Hindu (n = 4, M = 57.75) and Other Religion (n = 21, M = 55.95) groups. The lowest mean religious quest was found among the Other Christian group (n = 55, M = 46.24).

RQ 3

Does religiosity significantly moderate the effect of BPD features on academic and/or interpersonal outcomes? If yes, what is the nature of the moderation effect(s)?

To answer this question, the role of religious quest as a moderator of the effects of BPD on the significant outcomes, MSU GPA and interpersonal problems, was analyzed. Because religious engagement was not found to be related to either of the dependent variables, it was eliminated from consideration as a moderator variable. To assess academic functioning, ordinal logistic regression was used to assess the main effect versus the interaction model. To assess interpersonal problems, anxiety, BPD, and religious quest were each entered into a hierarchical regression model, followed by the interaction term of BPD and religious quest. The change in R^2 was assessed with each block entered to determine if BPD and the interaction term were significant predictors of interpersonal problems and to examine to what extent the overall model explained the variance the dependent variable.

Academic functioning. As indicated in research question one, BPD was found to inversely predict MSU GPA. For every one unit increase in BPD, an .049 expected increase in the log odds of reporting a lower MSU GPA after adjusting for ACT and anxiety was found using a Wald test (χ^2 = 24.023, p < .000). In order to test if religious quest had a moderating effect on the impact of BPD on MSU GPA, a main effect for religious quest and religious quest

by BPD interaction term were added to the ordinal logistic regression model that included BPD, ACT, and anxiety as predictors. The religious quest by BPD interaction was not significant using a Wald test ($\chi^2 = .062$, $p = .803$). Thus, the interaction term was dropped from the model and a main effects only model with BPD, ACT, anxiety, and religious quest was fit. In the main effect only model, religious quest was also not significant at the 0.05 level using the Wald test ($\chi^2 = 3.428$, $p = .064$). Furthermore, inclusion of the religious quest term yielded very little change in the estimated parameter for BPD (log odds = .052). Thus, there was no evidence in the data to indicate a moderating effect of religious quest on academic functioning.

Interpersonal problems. Table 13 illustrates the hierarchical regression model statistics. As indicated previously, anxiety initially accounted for a significant amount of the variance in interpersonal problems, explaining over 26% of the variance in the model. With the addition of BPD, over 8% of additional variance was explained in the model and BPD was found to positively predict problems in interpersonal functioning. The amount of variance explained did not, however, increase with the addition of religious quest as an independent or moderating variable ($\Delta R^2 = .001$) and the interaction term was not found to moderate the positive effect of BPD on interpersonal problems.

Table 13

Summary of Hierarchical Regression Analysis of Interpersonal Functioning Problems on BPD with Religious Quest as a Moderator Variable (N = 466)

		Interpersonal Functioning Problems				
Step and predictor variable	B	*SE* B	β	R^2	ΔR^2	F of change
Step 1				.261	.261	147.68**
Anxiety	.536**	.044	.511			

Table 13 (cont'd)

Step 2				.342	.081	25.69**
BPD	.220**	.031	.364			
RQ	-.009	.037	-.010			
Step 3				.343	.001	.253
BPD * RQ	.002	.003	.05			

Note. ** $p < .001$, BPD = Borderline personality disorder, RQ = religious quest

In summarizing Research Question Three, religiosity did not moderate the effect of BPD upon interpersonal or academic functioning. BPD continues, however, to explain a significant portion of the variance in interpersonal and academic functioning, remaining a construct worthy of further empirical consideration.

CHAPTER V

DISCUSSION

The final chapter will provide an overview of the study, highlight its findings, provide recommendations for practice and research, and identify the study's limitations.

Overview

The study had three primary purposes: (1) to explore the relationship between BPD and interpersonal and academic outcomes; (2) to examine the relationship between religiosity and BPD; and (3) to determine if religiosity, in some manner, moderated the negative effects of BPD upon interpersonal and academic functioning. The study's theoretical basis grew from a relatively broad body of literature which indicates that religiosity, through its ability to bolster individual identity and its provision of social networks, aids individuals with mental health problems. Much of the current literature in this area, however, pertains solely to individuals with Axis I psychopathology such as depression and anxiety. This study extended this literature by applying theories and findings regarding religiosity to Axis II psychopathology, and more specifically, to individuals with BPD.

The researcher's own interest in the topic combines many years of clinical work in both religious and secular agencies with individuals with BPD. A front seat view of the negative outcomes, not to mention the everyday struggles, of BPD raised questions about mechanisms that may soften the effects of a personality structure that goes deep into the core of an individual's way of being. Further, seeing the important role that religion plays in many individual's lives as well as its potential in enhancing mental health status and functioning led to the questions that underlie this work.

The author's original plan was to extend the work of Trull (1995/1997), who found that BPD negatively impacted interpersonal and academic functioning of college students, an effect that persisted over two years, by replicating his original study, adding religiosity as a moderator variable. However, a thorough review of the literature indicated a dearth of information about the *main effect* relationship between BPD and religiosity. Therefore, the study ultimately adopted both of these questions, seeking answers through a cross-sectional, quantitative research design and utilizing an extensive online survey (see Appendix A) distributed to 466 Michigan State University undergraduate students. Several validated measures were included in the survey. BPD was specifically measured through the PAI-BOR (Morey, 1991/2007). Religiosity was measured through religious quest and religious engagement scales (Astin, Astin, & Lindholm, 2011), interpersonal problems through the IIP-SC (Soldz, Budman, Demby, & Merry, 1995), depression through the PROMIS depression scale (Pilkonis, Choi, Reise, Stover, Riley, & Cella, 2011), anxiety through the PROMIS anxiety scale (Pilkonis, et al., 2011), and academic functioning through MSU GPA, high school GPA, and ACT composite scores. Interestingly, the study's greatest contribution may not be in the author's original plan (studying religiosity for its moderating effects), but in the area into which the study ultimately morphed, looking at the general relationship between religiosity and BPD.

BPD. First, it is useful to make some general observations about individuals with BPD as delineated by this study. BPD prevalence in this study was highly comparable with the levels reported within similar samples (Bagge, et al., 2004; Trull, 1995/1997). As indicated earlier, Trull (1995/1997) reported 14.8% of his sample as scoring above a clinically significant (raw score ≥ 38) threshold on the PAI-BOR. In this study, a comparable 15.4% of students scored at or above the same threshold for BPD. A fairly normal distribution of BPD across the sample,

with a small portion of the sample reporting a high level of the disorder, supports the current understanding of BPD on a continuum and a rating of the severity or amount of BPD present as important.

As reported in previous works (Bagge, et al., 2004; Skodol, et al., 2005; Skodol, et al., 2002; Torgersen, et al., 2001; Trull, 1995/1997), individuals with BPD in this study also struggled with depression and anxiety. As expected, these relationships were strong, supporting the direction of the proposed DSM-5 which includes "anxiousness" and "depressivity" as specific characteristics of "negative affectivity," one of three personality traits in the manual's BPD definition (www.dsm5.org). A slightly stronger relationship between depression and BPD than anxiety and BPD found in this work also supports the same finding in other studies (Daley, et al., 2000; Skodol, et al., 2002; Skodol, et al., 2005). But the important point to highlight here pertains to the reality of living with BPD. On their own, anxiety and depression are significant problems that, to varying degrees, impact individual functioning and quality of life. But the reader must appreciate the complex and multi-faceted psychological struggle of individuals with high levels of BPD, one that includes, but arguably extends beyond, that of depression and/or anxiety.

Another general observation is that individuals with BPD did not vary significantly across gender in this study. The pathology was equally present in men and women, supporting previous literature that indicates an equal representation of BPD by gender (Lenzenweger et al., 2007; Johnson et al., 2003; Gunderson, et al., 2000). BPD pathology, then, is not limited by gender nor is it a predominantly female phenomenon, findings supported by this study. Although the sample was purposefully restricted by age, including only individuals between ages 18 and 23, BPD did not vary across this age group, a finding that is also consistent with previous studies

(Bagge, et al., 2004). This finding suggests that BPD is in place by age 18 and does not seem to sensitive to significant increases or declines during the traditional college years.

It is also helpful to comment on the BPD-specific measure. Within the BPD structure as measured by the PAI-BOR, there was slightly more internal consistency among the Affective Instability, Identity Problems, and Negative Relationships subscales than the Self-Harm/Impulsivity subscale. The other three subscales additionally shared a stronger correlation with the depression and anxiety measures. This suggests the last subscale either simply measures something distinctive from the first three or something with slightly less relevance within BPD. Based on the strong internal validity of the PAI-BOR, the first explanation seems most plausible. Self-Harm/Impulsivity seems to capture something behavioral, the self-destructive behaviors that frequently accompany BPD. These behaviors are likely maladaptive responses to the other three subscales, affective instability, identity problems, and relational problems. As such, self-destructiveness is indeed a core component of BPD, but it may also be that individuals vary in terms of where they direct their hostility. Some may direct it externally upon others and some internally upon themselves.

To summarize, the findings of this study suggest that the PAI-BOR's focus on measuring hostility in terms of destructiveness toward the self may be an overly specific way of capturing the toxic combination of impulsivity and hostility that plague individuals with BPD. Under the Self-Harm/Impulsivity subscale, already-existing questions related to impulsivity may better capture the construct. The DSM-5 proposal (www.dsm5.org) additionally defines BPD in more general terms, highlighting the negative traits of disinhibition (characterized by impulsivity and risk-taking) and antagonism (characterized by hostility). Measuring these traits versus specifically self-harmful behaviors may be more judicious and in line with contemporary views.

Related to BPD measurement, as mentioned before, anxiety and depression were highly correlated with BPD in this study and others. These aspects are also highlighted in the forthcoming DSM-5 definition. Therefore, it seems important, going forward, to develop measures with the ability to account for core BPD characteristics as well as the traits of depressivity and anxiousness.

Academic functioning. The first research question explored the main effect relationship between BPD and academic functioning after controlling for anxiety. This study found that having BPD negatively impacted academic functioning. It stands to reason that the emotional dysregulation and psychological turmoil within an individual with high levels of BPD may make it difficult to focus externally for sustained periods as required by academic tasks at the college level. This is likely compounded by the interpersonal problems that accompany the disorder. The internal and external distress likely make it difficult for individuals to embrace tasks related to academic success. Interestingly, the regression coefficient for BPD in this study was similar to that of anxiety. As indicated before, anxiety is a related, but different problem. However, it likely contributes to a similar predicament when it comes to academic performance, that of slowing down the internal (racing, catastrophizing, or obsessive thoughts in the case of anxiety) enough to adequately focus on the external.

Interpersonal problems. The relationship between BPD and interpersonal functioning problems was a strong one. BPD was clearly found to predict interpersonal problems after controlling for anxiety and depression. It is important to note, however, that anxiety (depression was eliminated due to strong correlation with anxiety) explained a large portion of the variance in interpersonal problems, larger than that of BPD. BPD significantly predicted problems in interpersonal problems over and above anxiety, but again the psychological complexity for

individuals with BPD must be noted. They not only struggle with the core constructs of BPD, but frequently also with depression and anxiety. The Axis I psychopathology, on its own, could contribute greatly to interpersonal problems, but the reader must appreciate the additional psychological weight of BPD. These findings highlight again the complexity of the psychological picture for individuals with BPD.

Turning to the interpersonal problems measure itself, the particularly high correlation of BPD with the Domineering, Vindictive, Cold, and Intrusive subscales of the IIP-SC deserves further delineation. More specifically, the PAI-BOR Self-Harm/Impulsivity and Negative Relationships subscales shared a very strong relationship with the IIP-SC Domineering, Vindictive, Cold, and Intrusive subscales. The PAI-BOR Identity Problems and Affective Instability subscales had little relationship with the aforementioned IIP-SC subscales. At face value, it is not surprising that being domineering, vindictive, cold, and intrusive relates to negative relationships. These are obviously not characteristics that facilitate healthy and functional relationships. But it is interesting to consider how these dynamics share an externalizing component that may contribute to their connection with one another. In other words, individuals with BPD both punish themselves and those close to them. In their attempts to "do" relationships while simultaneously regulating their own emotional selves, individuals with BPD adopt strong external means of controlling the behavior of others (e.g., through domination). These methods frequently fail, however, leading to more desperate means of intrapersonal control (i.e., punishment through coldness, intrusiveness, or vindictiveness). Sadly, the individual with BPD ultimately may look to self-harm in their desperation to achieve emotional homeostasis. Thus, these results support the core BPD need to both punish others and to punish one's self as a means of dealing with emotional instability. An instinctual need to

control or punish others as a way of regaining internal control additionally comes through in the specific relationships highlighted by these subscales.

The researcher looked to identity theory, including religious identity theory, in hypothesizing that the identities of individuals, especially those with broken identities, could particularly be aided through the gains of religiosity. The reader will recall that Erikson's theory (1968) suggests that identity diffusion inhibits the level of intimacy required by many close interpersonal relationships, leaving an individual without the capacity to create and maintain close interpersonal ties. However, this study's findings regarding the greater importance of self harm to negative interpersonal functioning (not the PAI-BOR Identity Problems scale) suggests that a slightly different mechanism may be in place. The individual with BPD may cause more harm to interpersonal relationships through their destructive tendencies toward others and themselves than anything else. One could easily make the argument that identity problems underlie the tendency toward destructiveness, but these findings suggest a more clear relationship between self harm and interpersonal problems, specifically those related to highly controlling and vindictive behaviors.

Religiosity. The second research question looked at the relationship between BPD and religiosity as measured by religious quest and religious engagement. Somewhat surprisingly, individuals both with and without BPD reported low religious engagement. The reader will recall that religious engagement measured the external, behavioral manifestations of religiosity such as religious service attendance and religious quest measured the internal quest and inclination toward spirituality and religion. Therefore, having BPD clearly does not make an individual more inclined toward the behavioral aspects of religion. However, in light of other findings regarding the general decline of religious engagement within this population (Smith, 2009), the

decline or near absence of religious engagement seems consistent across all college students. That is to say, religious engagement was absent in this study both among individuals with and without BPD.

In light of this general finding, it is difficult to assess whether the hypothesis that religiosity, through its social networks and the tenets of social identity theory, holds potential appeal or benefit for individuals with BPD because there is minimal religious engagement occurring in the first place. A better means of testing this theory may require sampling within various explicitly religious contexts and groups in order to determine between and within group differences by BPD. But even if that is the case, religious engagement obviously holds minimal benefit, at least within this population, if it has generally been abandoned. Some studies suggest that this phenomenon is consistent with traditionally college-aged individuals, but begins to increase once young adults begin having children of their own (Smith, 2009). So religious engagement is likely better assessed among a slightly older sample.

Of significant interest, however, was the finding that individuals with BPD had higher levels of religious quest than those without. The particulars of this relationship would require further inquiry, but several possibilities can be hypothesized here. It could be that the emotional deficits within individuals with BPD make them more open to religiosity for its potential of making meaning of their suffering through the provision of an externalizing structure. This finding is consistent with literature regarding other mental health diagnosis and the higher levels of religious quest associated with them (Laurencelle, et al., 2002). Or it also could be that individuals with higher religious quest demonstrate higher levels of BPD, that at some level, individuals within both categories share similarities. The specific, causal nature of this

relationship cannot be determined from the current study and would require longitidual inquiry to fully determine.

This study supports that body of work with the finding that depression and anxiety also related to higher levels of religious quest. The results, however, indicate that BPD adds something to religious quest over and above the effects of anxiety and depression. It is not surprising that people who experience significant need are searching for things that may fill those needs. So it appears that individuals with BPD look to several places for the fulfillment of their needs. They look to relationships, but in the ensuing struggles they experience there, they seem to be increasingly open to religiosity and what it may offer them.

Because a religion's level of rigidity and fundamentalism may negatively influence psychologically vulnerable individuals, this was measured and accounted for in the model. When fundamentalism was controlled, BPD continued to have a significant relationship with religious quest. Interestingly, fundamentalism had a significant positive relationship with religious quest and a significantly negative relationship with religious engagement. This finding would suggest that religious engagement may, at least partially, be driven by the rules and requirements of more fundamentalist religious traditions. Individuals endorsing religious quest appear to be highly "turned off" by rigid traditions. College students, many making first-time independent decisions regarding religious engagement, are largely disinclined to align themselves with groups that are rigid in nature. The popular notion of being "spiritual, but not religious" may apply here. Religious interest remains high, but religious engagement, especially with highly rigid groups, remains low. Again, this may change over time and with age, but the trend likely reflects that of the larger culture.

It is useful to look at this dynamic more specifically by religious denomination. As indicated previously, denomination must be taken into account in discussions about religious quest, religious engagement and BPD. Particularly noteworthy were the high religious quest means reported by the Other Religion and No Religion groups. Individuals exploring alternative religions and/or those who endorse no formal religion remain engaged in religious quest, a finding that may further support the idea of spirituality and religiosity.

Looking at other aspects of the religiosity variables is also interesting. When the fundamentalism categorical variable was examined, few respondents overall described their tradition as fundamentalist, but many (40%) described it as conservative. Two-thirds of students do not believe in punishment for non-belief in God or a Higher Power. Over half (54%) of respondents see their religious tradition as having many rules. Additionally, BPD (viewed as a dichotomous variable, B+ and B-) was examined against the fundamentalism categorical variable. Among the B+ (i.e., high BPD) group, a higher percentage of students were in the nonexistent category (32%) than the B- (i.e., low BPD) group (25%). Fewer B+ students identified as conservative (24%) than the B- group (36%). While it must be interpreted with caution, this finding suggests that respondents with high levels of BPD are slightly more represented among the religiously nonexistent category and slightly less represented among the conservative religious group.

In summary, the relationship between religious quest and BPD was a significant one, indicating that there is interest and inclination toward religiosity within this population. This is an encouraging and promising finding in light of the author's suspicion that religiosity holds potential value for this population. In other words, the interest and inclination are there. Individuals with BPD do not seem to be engaging religiosity in an overtly behavioral way, but

then again, neither do most of their peers. While aspects of the theorized gains of religiosity (i.e., its social networks) do not seem to be relevant to this population, their internal openness to religiosity suggests an open playing field. Further, it could also be that the way the author theorized that religiosity could affect an individual internally, through a strengthening or bolstering of identity, is misguided. Religiosity may serve as less of a change agent and more of a companion, source of longing, or even inspiration for the hurting individual. If this is the case, it does not lessen the importance of or beneficial nature of religiosity. It may simply take a different role than the one theorized in this work, thereby requiring different ways of measuring and exploring the latent constructs of interest.

Religiosity as a moderator variable. The third research question expanded the findings of research question one by adding religiosity as a potentially moderating variable. When the models from the first question were tested, however, religious quest was not found to moderate the negative effects of BPD on academic or interpersonal functioning. It was not the case that religious quest in some way "offset" the negative interpersonal effects of BPD as theorized. Several explanations for this finding are important to consider here. First, religious quest may simply not be a vehicle by which individuals with BPD experience improvement in interpersonal or academic functioning. In other words, these may be the wrong outcomes to study in order to detect the changes brought about by religious quest. Religious quest and engagement were theorized to benefit individuals with BPD through their social and identity-related gains. However, religious engagement and the social gains of religiosity were not found to be present in this population. That leaves religious quest, which may refer more to an inclination or a leaning toward religiosity or spirituality that is encouragingly alive and well in those with BPD, but not a means by which they experienced significant change in the outcomes studied. Religious quest

may not impact identity in the way theorized. These constructs may be entirely independent in the sense that gains in one area not impacting the other. As indicated previously, it may be that a different, latent construct is affected by religiosity and BPD, one that will require further exploration to tease out.

Second, religious quest without religious engagement may simply be an internal inclination toward religion without enough behavioral commitment to produce any substantive effect in the life of the individual. That is, religious quest may suggest general "openness" in the same way that a student is open to many different things at this time in their life such as political ideologies or vocational directions. But being open and searching may suggest an early phase, one that may ultimately lead to more active exploration through religious engagement or may also ultimately lead to abandonment or indifference. This interpretation fits within Daloz Park's (1986/2000) stages of faith theory which suggests a generally linear process related to faith development, wherein religious ideology and practices become more integrated over time and with increased developmental maturity. This is say that college-aged individuals may be open to religious quest, but that this represents a relatively immature stage of faith development, one without the integration of internal and external forces necessary to produce the change represented by growth in identity. This may also shed partial light on the absence of religious engagement within this sample. Park's theory (1986/2000) further suggests that religious engagement is a byproduct of more mature religious quest, a "stage" that has not yet been (or may never be) achieved by many within this population.

Recommendations

Policy and practice. Based on these findings and consistent with the Joint Commission on Accreditation of Healthcare Organization's (JCAHO, the largest health care accrediting body

in the United States) current policy requirements (http://www.jointcommission.org), religiosity should continue to be assessed in social work practice. While JCAHO mandates spiritual assessments in the settings they accredit including hospitals, home care organizations, long-term care facilities, and certain behavioral health organizations, social workers work in any number of additional settings outside the jurisdiction of JCAHO. The National Association of Social Work (NASW) currently has a written policy recommending spiritual assessment in palliative and end of life care (http://www.naswdc.org/practice/bereavement/standards/default.asp), but the NASW has not yet extended similar practice recommendations through all areas of social work. This study calls for more through policy and practice recommendations related to mandating spiritual assessments. This recommendation certainly pertains and extends to practice with individuals with BPD. The relationship is clear and an understanding of the individual in context must include a thorough exploration of their religiosity.

Related to spiritual assessment, it seems particularly important to carefully measure the internal, perhaps more latent, aspects of religiosity (what many call "spirituality"). Focusing only on behavior markers of religion will miss a significant component of searching and faith that exists primarily within the individual. Related to this, the social work practitioner should be attentive the potential gains of religiosity for individuals with BPD. Although this study did not find a moderating effect, religiosity may be important to many with BPD and it remains an important resource which may frequently be overlooked by practitioners. This is particularly true for social work and psychological clinicians on college campuses who are advised to consider the role of religion, particularly with clients who demonstrate BPD traits.

Second, much is already known about BPD, but this study reinforces the struggle that individuals with BPD have in so many areas. Key areas of struggle include relationships, Axis I psychopathology, emotional regulation, and the inclination toward self-harm. In highlighting these areas, practitioners with this population are urged to focus treatment on these primary areas of struggle. Interventions with the means of improving emotional regulation appear key to dually enhancing better relationships (i.e., by decreasing punishing or controlling externalizing behaviors in relationships with others) and reducing the inclination toward self-harm. A particular clinical focus on interpersonal functioning problems comes through in these findings. Individuals with BPD are so internally fractured that they will require education and insight into the behaviors of others around them. What they may consider to be invalidating behaviors by others may simply be others' attempts to cope with the overwhelming aspects of BPD by distancing from the individual. Additionally, finding means of offsetting the negative impact of BPD on academic functioning comes through in these findings. A multi-systemic approach seems indicated for students with BPD where counseling programs and/or academic support programs join forces in providing a broad range of services that bolster multiple outcomes.

A third recommendation relates to those working, formally and informally, within religious institutions and groups. This study suggests that practitioners must not expect or wait for college-aged individuals to come to them. They will be waiting indefinitely. More creative means must be procured for connecting with the religious searching or longing experienced by so many. The call is also for religious practitioners to be more attentive to those with BPD as they are particularly drawn to religiosity. Yet it is also the author's suspicion that individuals with BPD do not always find a welcoming or safe community or a place to honestly express their questions, doubts, or points of disagreement. This separation of religious institutions or groups

and individual spirituality seems to be supported by the fact that many endorsed "no religion," yet had high levels of religious quest. It seems that formal, externalized religiosity has lost its relevance or credibility with many or most college students. Making a dent here will require honest dialogue, wherein religious practitioners listen without defensiveness to college students and those with BPD. Religious practitioners must also be educated and aware that individuals with BPD are highly psychologically complex and will require sensitive interactions that take their core struggles into account. Additionally, those in relationship with BPD individuals will require validation, education, and support if they are to remain positively connected to the individual with BPD. Again, this necessitates honest and non-defensive dialogue, ideally within the context of long-term relationships. This type and level of relationship offers a direct contrast to the typically tumultuous and rejecting ones individuals with BPD regularly experience.

Research. Like any exploratory study, more questions may have been created than answered. While it is known that BPD and religious quest are related and that religious quest does not serve as a moderator, the mechanisms of this relationship remain unknown. As indicated earlier, a logical next step may involve looking more closely at religiosity and BPD and identifying the specific role it plays. This will additionally necessitate looking at faith development and attempting to more specifically measure religious maturity as a variable of potential importance. Qualitative studies of individuals who share religious quest and BPD seem particularly important to understanding this relationship better. Also, these findings should be extended in numerous other ways including research with different populations, ages, denominations, and levels of religiosity. Specifically isolating and interviewing "high religion" individuals from "low or no religion" individuals by BPD may be particularly informative.

Another area of interest specifically for religiosity researchers lies in understanding the large number, nearly one quarter in this study, of respondents who self-identified as having "no religion." The findings indicate that although many identified as having no religion, they did endorse religious quest. It would be useful to better understand this relationship and this group, not to mention the reasons that most of the respondents do not endorse religious engagement. It may be equally important to know if low religious engagement represents a generational change (and if so, why) or an enduring phenomenon.

Further research is also indicated in the area of religious measurement. While the measures used in this study proved informative, they are new and have therefore been minimally tested across various populations. Developing contemporary measures, particularly those with relevance to spirituality as expressed by the current generation of college students, remains a significant need. The researcher noted that many of the available religiosity measures rely on behavioral counts of religious engagement, a construct that appears outdated and misplaced considering the present findings. Related to this, this study strongly supports the reality that religious researchers cannot collapse religiosity into one category. Nor can they continue to rely on the outdated "intrinsic" and "extrinsic" measures of religiosity, measures which unfortunately continue to be heavily used in contemporary research. This study, like others (Astin, Astin, & Lindholm, 2011; Pargament, 2002) found that religious denominations matter when it comes to studying religiosity. Therefore, the development of measures with denominational specificity is additionally recommended. A similar recommendation relates to the need for developing measures that reliably assess levels of fundamentalism, further facilitating the ability to understand the positive and negative effects of religiosity.

Limitations

This study acknowledges several limitations. First, the researcher utilized a convenience sample of college students from a large, public Midwestern university which was not fully representative across gender and race. Additionally, sampling only college students, in this case only individuals enrolled in a Psychology course, excluded many individuals and limited generalizability. For its exploratory purpose, however, the sample provided useful foundational information that can be expanded upon in subsequent work. Further, sample participants voluntarily chose to participate and were not randomly selected. For these reasons, the study's overall generalizability is therefore limited accordingly.

Second, the religiosity measures which were used required adaptation for this study. Their specific use in this study varied slightly from the format used by the designers of the scales, limiting their ability to be compared with previous findings. In addition, the fundamentalism measure was necessarily developed by the author and therefore its internal and external validity will require further testing. Each of these measures provided sufficient variance and clearly differentiated between religious engagement and quest, however, a primary goal in the study.

Third, academic functioning was measured via self-report. While respondents were given specific categories to choose from, measurement error may be apparent through over or underreporting or poor recall. A lack of variance in two of the academic functioning questions also led to their necessary elimination from the analyses, thereby restricting the way that academic functioning was measured in the study. Variance in the measure of high school GPA was also minimal, likely decreasing the ability to fully capture overall academic ability.

Fourth, there were problems of collinearity between BPD, anxiety, and depression that made it difficult to fully tease out the specific contributions of each variable. It seems likely that the development of measures of BPD that embrace the coexisting components of depression and anxiety will be necessary in order to fully address this problem.

Fifth, the study's cross-sectional design did not permit an analysis over time and may therefore have missed dynamics of importance to overall understanding of the topic. Causal inferences are also not possible with the study's design, forcing these findings to be viewed as solely correlational in nature. While this is a limitation, the correlational nature of this exploratory work provided a needed and necessary foundation for subsequent research of a more longitudinal or qualitative nature.

Conclusion

Individuals with BPD suffer greatly as do those who surround them. Therefore, exploring means of understanding this disorder and effectively treating its negative effects remains an important practice and research goal. The upcoming publication of the DSM-5 has highlighted both significant current knowledge about BPD, but also reveals ongoing ambiguity and mystery about the disorder. Religiosity remains a fascinating and enormous resource that has recently been paired with mental health in empirical research. It is the researcher's hope that BPD and religiosity, albeit unlikely companions, will continue to be studied for the ways that they can join forces in forging some of the deepest rivers of human psychological pain.

APPENDICES

APPENDIX A

IRB APPROVAL FORM

September 7, 2011

To: Christopher Hopwood
107a Psychology
MSU, East Lansing, MI 48824-1116

Re: **IRB# x11-812**
Category: Exempt 2
Approval Date: September 7, 2011

Title: Examining the effects of religiosity on borderline personality disordered college students

The Institutional Review Board has completed their review of your project. I am pleased to advise you that **your project has been deemed as exempt** in accordance with federal regulations. The IRB has found that your research project meets the criteria for exempt status and the criteria for the protection of human subjects in exempt research. **Under our exempt policy the Principal Investigator assumes the responsibilities for the protection of human subjects** in this project as outlined in the assurance letter and exempt educational material. The IRB office has received your signed assurance for exempt research. A copy of this signed agreement is appended for your information and records.

Renewals: Exempt protocols do not need to be renewed. If the project is completed, please submit an ***Application for Permanent Closure***.

Revisions: Exempt protocols do not require revisions. However, if changes are made to a protocol that may no longer meet the exempt criteria, a new initial application will be required.

Problems: If issues should arise during the conduct of the research, such as unanticipated problems, adverse events, or any problem that may increase the risk to the human subjects and change the category of review, notify the IRB office promptly. Any complaints from participants regarding the risk and benefits of the project must be reported to the IRB.

Follow-up: If your exempt project is not completed and closed after three years, the IRB office will contact you regarding the status of the project and to verify that no changes have occurred that may affect exempt status.

Please use the IRB number listed above on any forms submitted which relate to this project, or on any correspondence with the IRB office.

Good luck in your research. If we can be of further assistance, please contact us at 517-355-2180 or via email at IRB@msu.edu. Thank you for your cooperation.

Harry McGee, MPH
SIRB Chair

cc: Lisa Hosack

APPENDIX B

STUDY QUESTIONNAIRE

Below are a series of statements. Please read each statement and decide if it is an accurate statement about you. Give your own opinion about yourself and please be sure to answer every question.

Answer options (questions 1-24):

False, not true at all
Slightly true
Mainly true
Very true

Questions 1-24 (the PAI-BOR) cannot be reproduced per copyright agreements.

The following questions relate to the topic of religiosity. Please select the answer that best represents your views at this time.

25. What is your current religious preference?

Baptist
Buddhist
Church of Christ
Eastern Orthodox
Episcopalian
Hindu
Islamic
Jewish
LDS (Mormon)
Lutheran
Methodist
Presbyterian
Quaker
Roman Catholic
Seventh Day Adventist
Unitarian/Universalist
United Church of Christ/Congregational
Other Christian
Other Religion
None

Answer options (questions 26-33):

Frequently
Occasionally

Not at all

26. Since entering college, indicate how often you have attended a religious service.

27. Since entering college, indicate how often you have attended a class/workshop or retreat on matters related to religion/spirituality.
28. Since entering college, indicate how often you have found new meaning in the rituals and practices of your religion.
29. Since entering college, how often have you helped at a house of worship?
30. Since entering college, how often have you felt loved by God?
31. Since entering college, how often have you discussed religion/spirituality with friends?
32. Since entering college, how often have you discussed religion/spirituality in class?
33. Since entering college, how often have you attended a religious organization on campus?

Answer options (questions 34-40):

Essential
Very Important
Somewhat Important
Not Important

34. How important to you personally is attaining inner harmony?
35. How important to you personally is attaining wisdom?
36. How important to you personally is seeking beauty in your life?
37. How important to you personally is developing a meaningful philosophy of life?
38. How important to you personally is findings answers to the mysteries of life?
39. How important to you personally is seeking to follow religious teachings in your everyday life?
40. How important to you personally is becoming a more loving person?

Answer options (questions 41-43):

Yes
No
I do not pray.

41. Do you pray for help in solving problems?
42. Do you pray for emotional strength?
43. Do you pray for forgiveness?

Answer options (questions 44-47):

Daily
Several times a week
Once a week
Monthly
Less than Monthly

Not at all

44. How often do you engage in meditation?
45. How often do you engage in religious singing/chanting?
46. How often do you read sacred texts?
47. How often do you engage in other readings on religion/spirituality?

Answer options (questions 48-49):

To a great extent
To some extent
Not at all

48. To what extent do you discuss the meaning of life with your friends?
49. To what extent do you search for meaning/purpose in your life?

Answer options (questions 50-52):

All
Most
Some
None

50. How many of your close friends belong to a campus religious organization?
51. How many of your close friends share your religious/spiritual views?
52. How many of your close friends are searching for meaning/purpose in life?

Answer options (questions 53-66):

Agree Strongly
Agree Somewhat
Disagree Somewhat
Disagree Strongly

53. My spiritual/religious beliefs have helped me develop my identity.
54. My spiritual/religious beliefs lie behind my whole approach to life.
55. My spiritual/religious beliefs are one of the most important things in my life.
56. My spiritual/religious beliefs give meaning and purpose to my life.
57. My spiritual/religious beliefs provide me with strength, support, and guidance.
58. My spiritual/religious beliefs help me define the goals I set for myself.
59. It is futile to try to discover the purpose of existence.
60. I gain spiritual strength by trusting in a Higher Power.
61. I find religion to be personally helpful.
62. My religious tradition has many rules about how to live life.
63. People who don't believe in God or a Higher Power will be punished.
64. I view myself as highly religious.
65. I have a sense of connection with God/Higher Power that transcends my personal self.
66. My religious tradition is best described as:

Fundamentalist
Conservative
Liberal
Nonexistent

The following statements concern your perception about yourself in a variety of situations. Please mark the answer that best indicates the strength of your agreement with each statement.

Answer options (questions 67-110):

Strongly disagree
Disagree a little
Neither disagree nor agree
Agree a little
Strongly agree

67. I see myself as someone who is talkative.
68. I see myself as someone who tends to find fault with others.
69. I see myself as someone who does a thorough job.
70. I see myself as someone who is depressed, blue.
71. I see myself as someone who is original, comes up with new ideas.
72. I see myself as someone who is reserved.
73. I see myself as someone who is helpful and unselfish with others.
74. I see myself as someone who can be somewhat careless.
75. I see myself as someone who is relaxed, handles stress well.
76. I see myself as someone who is curious about many different things.
77. I see myself as someone who if full of energy.
78. I see myself as someone who starts quarrels with others.
79. I see myself as someone who is a reliable worker.
80. I see myself as someone who can be tense.
81. I see myself as someone who is ingenious, a deep thinker.
82. I see myself as someone who generates a lot of enthusiasm.
83. I see myself as someone who has a forgiving nature.
84. I see myself as someone who tends to be disorganized.
85. I see myself as someone who worries a lot.
86. I see myself as someone who has an active imagination.
87. I see myself as someone who tends to be quiet.
88. I see myself as someone who is generally trusting.
89. I see myself as someone who tends to be lazy.
90. I see myself as someone who is emotionally stable, not easily upset.
91. I see myself as someone who is inventive.
92. I see myself as someone who has an assertive personality.
93. I see myself as someone who can be cold and aloof.
94. I see myself as someone who perseveres until the task is finished.
95. I see myself as someone who can be moody.

96. I see myself as someone who values artistic, aesthetic experiences.
97. I see myself as someone who is sometimes shy, inhibited.
98. I see myself as someone who is considerate and kind to almost everyone.
99. I see myself as someone who does things efficiently.
100. I see myself as someone who remains calm in tense situations.
101. I see myself as someone who prefers work that is routine.
102. I see myself as someone who is outgoing, sociable.
103. I see myself as someone who is sometimes rude to others.
104. I see myself as someone who makes plans and follows through with them.
105. I see myself as someone who gets nervous easily.
106. I see myself as someone who likes to reflect, play with ideas.
107. I see myself as someone who has few artistic interests.
108. I see myself as someone who likes to cooperate with others.
109. I see myself as someone who is easily distracted.
110. I see myself as someone who is sophisticated in art, music, or literature.

Answer options (questions 111-142):

Not at all
Somewhat
Moderately
Very
Extremely

111. It is hard for me to understand another person's point of view.
112. It is hard for me to be supportive of another person's goals in life.
113. It is hard for me to show affection to people.
114. It is hard for me to join in on groups.
115. It is hard for me to tell another person to stop bothering me.
116. It is hard for me to let other people know when I am angry.
117. It is hard for me to attend to my own welfare when someone else is needy.
118. It is hard for me to keep things private from other people.
119. I am too aggressive toward other people.
120. It is hard for me to feel good about another person's happiness.
121. It is hard for me to experience a feeling of love for another person.
122. It is hard for me to introduce myself to new people.
123. It is hard for me to confront people with problems that come up.
124. It is hard for me to be assertive without worrying about hurting the other person's feelings.
125. I try to please other people too much.
126. I open up to people too much.
127. I try to control other people too much.
128. I am too suspicious of other people.
129. It is hard for me to feel close to other people.
130. It is hard for me to socialize with other people.
131. It is hard for me to be assertive with another person.

132. I am too easily persuaded by other people.
133. I put other people's needs before my own too much.
134. I want to be noticed too much.
135. I argue with other people too much.
136. I want to get revenge against people too much.
137. I keep other people at a distance too much.
138. It is hard for me to ask other people to get together socially with me.
139. It is hard for me to be firm when I need to be.
140. I left other people take advantage of me too much.
141. I am affected by another person's misery too much.
142. I tell personal things to other people too much.

Answer options (questions 143-199):

Never
Rarely
Sometimes
Often
Always

In the past 7 days….

143. I felt worthless.
144. I felt that I had nothing to look forward to.
145. I felt helpless.
146. I withdrew from other people.
147. I felt that nothing could cheer me up.
148. I felt that I was not as good as other people.
149. I felt sad.
150. I felt that I wanted to give up on everything.
151. I felt that I was to blame for things.
152. I felt like a failure.
153. I had trouble feeling close to people.
154. I felt disappointed in myself.
155. I felt that I was not needed.
156. I felt lonely.
157. I felt depressed.
158. I had trouble making decisions.
159. I felt discouraged about the future.
160. I found that things in my life were overwhelming.
161. I felt unhappy.
162. I felt I had no reason for living.
163. I felt hopeless.
164. I felt ignored by people.
165. I felt upset for no reason.
166. I felt that nothing was interesting.

167. I felt pessimistic.
168. I felt that my life was empty.
169. I felt guilty.
170. I felt emotionally exhausted.
171. I felt fearful.
172. I felt frightened.
173. It scared me when I felt nervous.
174. I felt anxious.
175. I felt like I needed help for my anxiety.
176. I was concerned about my mental health.
177. I felt upset.
178. I had a racing or pounding heart.
179. I was anxious if my normal routine was disturbed.
180. I had sudden feelings of panic.
181. I was easily startled.
182. I had trouble paying attention.
183. I avoided public places or activities.
184. I felt fidgety.
185. I felt something awful would happen.
186. I felt worried.
187. I felt terrified.
188. I worried about other people's reactions to me.
189. I found it hard to focus on anything other than my anxiety.
190. My worries overwhelmed me.
191. I had twitching or trembling muscles.
192. I felt nervous.
193. I felt indecisive.
194. Many situations made me worry.
195. I had difficulty sleeping.
196. I had trouble relaxing.
197. I felt uneasy.
198. I felt tense.
199. I had difficulty calming down.

The following questions relate to your academic background.

200. What one answer best describes your undergraduate grade point average (GPA) so far?

A (3.75 – 4.0)
A-/B+ (3.25 – 3.74)
B (2.75 – 3.24)
B-/C+ (2.25 – 2.74)
C (1.75 – 2.24)
C- or less (below 1.74)

201. What one answer best describes your overall high school GPA?

A (3.75 – 4.0)
A-/B+ (3.25 – 3.74)
B (2.75 – 3.24)
B-/C+ (2.25 – 2.74)
C (1.75 – 2.24)
C- or less (below 1.74)

202. What was your highest score on the SAT math exam? If you have never taken the SAT exam, PLEASE TYPE NA.

203. What was your highest score on the SAT critical reading exam? If you have never taken the SAT exam, PLEASE TYPE NA.

204. What was your highest composite score on the ACT exam?

15 or below
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
I have never taken the ACT exam.

205. Please indicate the total number of semesters you have been on academic probation at MSU.

0
1
2

3
4 or more

206. What was your high school class rank? Please type your rank, a backslash, and the number of students in your graduating class (e.g., 25/125). If you do not remember, please type “do not remember.”

207. Your sex

Male
Female

208. How many years of undergraduate education have you completed thus far?

Less than one
1
2
3
4 or more

209. Is English your native language?

Yes
No

210. What is your citizenship status?

US citizen
Permanent resident (green card)
Neither

211. How old will you be on December 31 of this year?

18
19
20
21
22
23-24
25-29
30-39
40-54
55 or older

212. Please indicate your ethnic background, marking all that apply.

White/Caucasian
African American/Black
American Indian/Alaska Native
Asian American/Asian
Native Hawaiian/Pacific Islander
Mexican American/Chicano
Puerto Rican
Other Latino _____
Other _____

Answer options (questions 213-220):

False, not at all true
Somewhat true
Mostly true
Very true

Questions 213-220 of the PAI-INF measure cannot be reproduced per copyright restrictions.

APPENDIX C

PARTICIPANT CONSENT AND DEBRIEF FORMS

CONSENT:

You are being asked to participate in a psychological research project. You will be compensated for research participation credit by the Psychology Department Human Subjects Pool. Researchers are required to provide a consent form to inform you about the project, to convey that participation is voluntary, to explain risks and benefits of participation, and to empower you to make an informed decision. You should feel free to ask the researcher any questions you may have.

Study Title: Borderline Personality Disorder, Religiosity, and College Students

Researcher and Title: Lisa Hosack, Doctoral Student

Department and Institution: Psychology Department, MSU

Address and Contact Information:

Lisa Hosack

School of Social Work

Michigan State University

East Lansing, MI 48848

hosackli@msu.edu

616.245.5603

1. PURPOSE OF RESEARCH:

You are being asked to participate in a project to ascertain differences between college students and college students with borderline personality disorder as well as the effects of religiosity on college students. You have been selected as a possible participant in this study, as have all members of the Psychology Department Subject Pool this semester. In the entire study, 1,000 people are being asked to participate. Your participation in this study will take about 1 hour. If you are under 18, you cannot be in this study.

2. WHAT YOU WILL DO:

Fill out the questions online. Although you can contact the research team (contact information is above) regarding the outcome of the study, we cannot provide individual feedback because your participation is anonymous and your name cannot be tied to the information you provide.

3. POTENTIAL BENEFITS:

The potential benefits to you for taking part in this study involve learning about psychological assessment and research, and potentially more about yourself.

4. POTENTIAL RISKS:

The potential risks of participating in this study are exposure to some sensitive questions, which in rare instances may results in distress or discomfort. If you should experience psychological distress while participating in this study, you should know about resources available to you on campus. These include:

MSU Counseling Services Center

(517)-355-8270

http://www.couns.msu.edu/

MSU Psychological Clinic

(517) 355-9564

http://psychology.msu.edu/clinical/clinic/index.html

5. PRIVACY AND CONFIDENTIALITY:

The data for this project are anonymous and confidential. The answers you provide cannot be linked to your name by the researchers or anyone else.

6. YOUR RIGHTS TO PARTICIPATE, SAY NO, OR WITHDRAW

Participation in this project is completely voluntary. You have the right to not complete the questions.

You may change your mind at any time and withdraw. However, you will only receive compensation from the Psychology Department subject pool for your actual participation time, and if you withdraw before completing the study you may not receive full credit. Choosing not to participate or withdrawing from this study will not make any difference in your relationship to the University or the Psychology Department. Whether you choose to participate or not will have no affect on your grade or evaluation.

7. COSTS AND COMPENSATION FOR BEING IN THE STUDY:

The only compensation for your participation will involve research participation credit in your Psychology course. You will not incur any costs or be compensated in any other way.

8. ALTERNATIVE OPTIONS

Research participation is not required for your class. Please discuss other options with your instructor.

9. CONTACT INFORMATION FOR QUESTIONS AND CONCERNS

If you have concerns or questions about this project, please contact Lisa Hosack, whose contact information is given above. If you have questions or concerns about your role and rights as a research participant, would like to obtain information or offer input, or would like to register a complaint about this study, you may contact, anonymously if you wish, the Michigan State University's Human Research Protection Program at 517-355-2180, Fax 517-432-4503, or e-mail irb@msu.edu or regular mail at 207 Olds Hall, MSU, East Lansing, MI 48824.

10. DOCUMENTATION OF INFORMED CONSENT.

By continuing with the online survey, you acknowledge the information listed above and are considered to be giving your consent to participate in our study.

DEBRIEFING

Thank you for agreeing to participate in this study. The purpose of the study was to test theories about personality disorders and religiosity. We asked you questions related to personality and religious measures that are well-established to determine how they relate to one another. We will use correlational analyses and multiple regression to understand and compare several theoretical models that are commonly used in the research literature.

You can contact Lisa Hosack (hosackli@msu.edu) with any questions you may have about this study. Because this is an anonymous study, no personal feedback is possible. If any aspect of your participation raised any concerns over personal issues, you should contact one of the following agencies for professional consultation and evaluation:

MSU Counseling Services Center (for MSU students)

(517) 355-8270

http://www.couns.msu.edu/

MSU Psychological Clinic (for anyone)

(517) 355-9564

http://psychology.msu.edu/clinical/clinic/index.html

Thank you for your participation!

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