DISORDERED EATING AND ATTACHMENT WITH GOD AND OTHERS

AN EXPLORATORY STUDY

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Abstract

Research trends suggest that there is a correlation between insecure attachment with God and with others and disordered eating behaviors. Individuals who report insecure attachment with others and with God may be more likely to also report disordered eating behaviors. Researchers have also suggested that there is a connection between insecure attachment and binge eating, although the empirical evidence supporting this claim is limited. Via an online survey, Christian participants were invited to complete assessments measuring attachment with others, attachment with God, and eating behaviors. Anxious attachment with others was found to be a strong predictor variable for binge eating behaviors. Avoidant attachment with others and anxious attachment with God were strongly correlated with binge eating. No correlation was found between avoidant attachment with God and binge eating. When all of the variables were combined and analyzed through stepwise regression, there was no additional predictive value added to predict binge eating beyond what information was provided by anxious attachment with others. Exploratory analyses were performed to consider attachment and binge eating when controlling for gender and denominational affiliation. In addition, binge eating scores were also analyzed as a categorical variable to compare attachment scores between groups categorized by binge eating severity.

Keywords: attachment, eating behavior, binge eating

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Chapter 1

Introduction

Since binge eating disorder became recognized as a diagnostic entity upon the 2013 release of the new *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; *DSM-5*; American Psychiatric Association (APA), 2013), researchers have begun to investigate binge eating behavior occurring within an eating disorder process. Research evidence suggests that binge eating behaviors are prevalent among individuals who have not been identified as having an eating disorder diagnosis (Hudson, Hiripi, Pope, & Kessler, 2007). More investigation is needed to better understand the conditions in which people binge eat.

Researchers have suggested that there is a relationship between disordered eating behaviors and insecure attachment with others (Ty & Francis, 2013) and with God (Akrawi, Bartrop, Potter, & Touyz, 2015). However, a gap currently exists in the literature addressing reported binge eating behaviors in particular and attachment with God and attachment with others. In this study, I investigated a possible connection between binge eating behaviors and insecure attachment with God and with others.

Background

Binge eating behaviors. Researchers' understanding of binge eating behaviors has evolved over time. In 1959, Stunkard identified binge eating as a distinct pattern of potential significance in the pathogenesis of obesity (Gormally, Black, Daston, & Rardin, 1982). Marcus, Wing, and Hopkins (1988) identified binge eating behaviors as involving affect and specific cognitions including expressions of self-condemnation. Researchers agree that individuals with binge eating behaviors experience a loss of control over food

(APA, 2013; Gormally et al., 1982; Mason, Heron, Braitman, & Lewis, 2016). As new research emerged, binge eating behavior was identified as occurring independent of obesity and among participants in nonclinical as opposed to clinical samples (Duarte, Pinto-Gouveia, & Ferreira, 2015; Striegel, Bedrosian, Wang, & Schwartz, 2012). However, definitions of binge eating in the literature do not necessarily delineate between the subjective versus objective experience of binge eating (Timmerman, 1999). A working definition of binge eating behaviors involves the behavior of eating abnormally large amounts of food, in a discrete period of time, a perceived sense or experience of a loss of control over food, and associated shame and guilt as a result of the eating behavior (APA, 2013). Individuals who are suffering from binging are more likely to use the term compulsive overeating, which can be defined as the internal sense of a loss of control over food to the point of self-identifying with an addiction to food (National Center for Eating Disorders, 2012; Russell-Mayhew, Von Ranson, & Masson, 2010).

There is evidence to suggest that men and women may define and experience binges differently (Reslan & Saules, 2011). In a study by Phillips, Kelly-Weeder, and Farrell (2016), young college women more frequently reported being stressed and being alone at home prior to binge eating, whereas young men were more likely to report binging on meals in social situations after substance use or exercise. Other researchers noted that men associate a binge with a rapid consumption of a large quantity of food with a consequence of gastrointestinal complaints (LaPorte, 1997) or with feeling full or satisfied (Phillips et al., 2016). In contrast, young women are more likely to report feeling unattractive and experiencing other negative emotions such as guilt or regret (LaPorte, 1997; Phillips et al., 2016).

Binge eating is a prominent symptom across the eating disorder diagnoses but is also reported by individuals in nonclinical samples of individuals not meeting criteria for clinical diagnosis (Hudson et al., 2007; Sachs-Ericsson et al., 2012). Due to the trans-diagnostic nature of disordered eating symptomology (Fairburn, 2008), an estimated 4.5% lifetime prevalence rate of binge eating in adults in the United States will include a number of individuals possibly meeting criteria for other eating disorder categories (Hudson et al., 2007). As indicated previously, binge eating can occur in individuals who are obese, of average weight (Duarte et al., 2015; Striegel et al., 2012), or underweight (Lavender et al., 2011) as determined by body mass index (BMI). It is estimated that binge eating behaviors are equally as common among men as among women in community samples (Hudson et al., 2007; Striegel et al., 2012). Finally, in a demographic study of men and women in the workplace, men (N = 21,743) and women (N = 24,608) experienced comparable levels of psychosocial impairment, including increased depression, stress, total work productivity impairment, daily health-related non-work activity impairment, missed work, and reported illness (Striegel et al., 2012). Both men and women who reported binge eating also experienced higher levels of psychosocial impairment than those who did not binge eat (Striegel et al., 2012).

Individuals who report binge eating are more likely to experience anxiety (Rosenbaum & White, 2015) and negative affect (Deaver, Miltenberger, Smyth, Meidinger, & Crosby, 2003; De Young, Zander, & Anderson, 2014). The belief that eating will help alleviate negative affect has been associated with binge eating, whereas those who believe eating is pleasurable and useful as a reward may be less likely to binge (De Young et al., 2014). Dietary restraint has been indicated in the research as a risk

factor for binge eating (Mason et al., 2016); however, there is evidence to suggest that beliefs about dietary restraint such as in religious fasting may mediate the relationship (Schaumberg, Anderson, Reilly, & Anderson, 2015).

Akrawi et al. (2015) performed a systematic review of the literature and concluded that there is a strong connection between disordered eating and insecure global attachment with others and with God in nonclinical community samples. For example, within a college student sample Han and Pistole (2014) found that those with insecure attachment to others indicated a greater tendency toward binge eating. Furthermore, Weaver's (2011) doctoral dissertation evidenced a significant indirect relationship between binge eating behaviors and insecure attachment with God in a sample of 175 Christian college women. In times of significant stress when emotions are high, individuals may turn to binge eating as a way to regulate affect (Weaver, 2011). Additional research is needed to more fully understand the association between binge eating and insecure attachment within a broader community sample.

Attachment theory. Proponents of attachment theory emphasize an individual's need for affection and support rooted in human interaction; when a person is vulnerable, the other serves as a potential haven or safe base (Shaver & Mikulincer, 2009). The central role of attachment has its origins in Freud's theory of child development. Freud was the first to introduce the idea that children develop mental representations of others based upon their interactions with their early caregivers (Shaver & Mikulincer, 2009). He hypothesized that specific behaviors that are punished or rewarded during specific developmental stages of a child's life would leave an imprint and likely shape components of a child's personality and understanding of self and of others. This

understanding would ultimately impact relationships, life choices, and overall mental health in adulthood.

In his book *A Secure Base*, Bowlby (1988) defined attachment behavior as "any form of behavior that results in a person attaining or maintaining proximity to some other clearly identified individual who is conceived as better able to cope with the world" (p. 27). This attachment may be evidenced when a caring person provides comfort and caregiving to another who is vulnerable. When two people take turns giving care, it instills a sense of security within both people that in times of need, help and support is available, and that the relationship that is shared is mutually experienced as meaningful and valuable.

Ainsworth (1978) built upon the concept of mental representations by formulating a method to operationalize and study child development of attachment. In the famous Strange Situation Study, she examined proximity-seeking behavior of infants following separation and reunification with their mothers. When a child's needs for comfort and protection were met, the child was thought to be more likely to develop a positive or trusting perception of the caregiver and, in turn, a secure attachment pattern or style. In contrast, if a distressed infant's proximity- and protection-seeking behaviors were met by a caregiver with punishment, distancing, or neglectful behaviors, the child would develop an avoidant attachment style. Ainsworth hypothesized an anxious attachment pattern to be rooted in parental anxiety and inconsistency, such that the infant protests loudly to inattentive caregiving and is vigilant of possible separation or loss of support. Ainsworth found that a small percentage of disorganized-attached infant participants demonstrated either desperate proximity-seeking behaviors or complete inattention to the mother upon

separation. Upon reunification with the mother, the infant protested but was not consoled despite the mother's attempts.

Ainsworth (1978) believed that disorganized attachment behaviors were evidence of a child's inner emotional conflict about the parent as a source of comfort and support, as well as evidence of the parent's personal unresolved trauma and loss. More recent research has linked poor quality of relationship between mother and child in early childhood with obesity in adolescence (Anderson et al., 2012). In a longitudinal study, researchers acquired the attachments of 18-month-old infants with their mothers and 20 years later performed fMRI imaging to study emotion regulation of positive affect (Moutsiana et al., 2014). During uptake of positive emotions, 22-year-old individuals who were insecurely attached in infancy demonstrated greater activation in regions of the brain associated with cognitive control (prefrontal cortex) and decreased activation in areas of the brain associated with emotion regulation (areas of the nucleus accumbens). In other words, disturbances in early childhood attachments may have a neurological impact on individuals in young adulthood (Moutsiana et al., 2014).

Researchers Hazen and Shaver (1987) hypothesized that adult romantic attachment could resemble a similar attachment between mother and child; in a romantic relationship each partner takes turns being vulnerable and being a support and safe haven. The researchers released a questionnaire that was designed to measure adult attachment between partners, based upon Ainsworth's (1978) early observations of children and their mothers. In this longitudinal study, Hazen and Shaver indicated that attachment styles from childhood remained relatively stable into adulthood and gave validity to the concept of romantic adult attachment. Other researchers, such as Amini and colleagues (1996),

hypothesized that early interactions with caregivers in infancy were said to determine the internal working models of interaction that determined a person's schema about oneself and others; these models of interaction would change as relationships transition throughout the life span. Johnson (2008) believed that adult partners are emotionally connected to and dependent on their partners in the same way that a child is connected to and dependent on a parent for comfort, nurturance, and protection. As an extension of Hazen and Shaver's work, researchers including Susan Johnson, founder of emotionally focused couples therapy, and John Gottman have found that secure attachment is essential to a strong partnership between two adult romantic partners (Gottman & Silver, 2015; Johnson, 2008).

Bartholomew and Horowitz (1991) sought to categorize specific patterns of adult interpersonal problem behaviors according to the four attachment styles. They developed the circumplex model, comprised of two orthogonal axes representing dependence (model of self) and avoidance (model of other within close relationships). The researchers categorized secure attachment as low dependence and low avoidance. The remaining attachment styles were categorized as preoccupied (high dependence-low avoidance), dismissing (low dependence-high avoidance), and fearful (high dependence-high avoidance). To test the circumplex model, non-first-year college students completed self-report questionnaires about their relationships with a friend and family member. In addition, participants completed the Adult Attachment Interview (AAI), a structured interview about early childhood experiences and quality of relationships. Responses were organized for patterns of behavior hypothesized to be characteristic of the four attachment styles. Individuals with avoidant attachment styles generally had problems

with nurturance and giving comfort to others, while individuals with an anxious style had problems related to constant demands for love and support. Secure individuals tended to have fewer interpersonal problems (Bartholomew & Horowitz, 1991). Brennan, Clark, and Shaver (1998) subsequently developed the Experiences in Close Relationship Scale-Revised (ECR-R), conceptualizing attachment as having two poles—anxiety and avoidance—with secure attachment in the middle.

Insecure attachment. In the research literature, insecure attachment is an inclusive term that has been previously measured as the presence of self-reported anxious attachment or avoidant attachment behaviors (Fraley & Shaver, 2000; Fraley, Waller, & Brennan, 2000; Hazen & Shaver, 1987; Shaver & Mikulincer, 2009). The most frequently used self-report measure of adult attachment in use today is the ECR-R (Shaver & Mikulincer, 2009). Researchers have been known to modify the instrument to measure adult attachment with a romantic partner (Fraley & Shaver, 2000; Sibley, Fischer, & Liu, 2005) or to identify global attachment to others (Fraley et al., 2000). In response to stress, individuals with an anxious attachment style are preoccupied with fear of interpersonal rejection or abandonment whereas those with avoidant attachment are more fearful of interpersonal closeness (Boone, 2013). Securely attached individuals are more likely to experience a sense of safety and comfort when asking for and receiving care from an attachment figure (Mikulincer, Shaver, & Pereg, 2003).

An insecure attachment style differs significantly from secure attachment by the way in which an anxious or avoidant manifestation of behaviors impacts coping strategies, internal reactions to relationships with others, and a person's overall experience of relationships (Boone, 2013). Researchers Berant, Mikulincer, Shaver, and

Segal (2005) believed that when an attachment figure is unavailable or rejecting, an individual will use one of two affect regulation strategies (i.e., hyperactivating or deactivating strategies) to cope and mental health will decrease. This hypothesis was based upon research by Mikulincer and colleagues (2003), who investigated emotion regulation coping strategies used by insecurely attached individuals on the anxious-avoidant spectrum. Individuals with anxious attachment behaviors were more likely to utilize hyperactivating strategies, consisting of persistent vigilance, concern, or effort to maintain proximity, involvement, and care from an attachment figure (Boone, 2013, Mikulincer et al., 2003). Individuals with an avoidant attachment were more likely to utilize a deactivating strategy to regulate distress alone (Mikulincer et al., 2003). A deactivating strategy can be defined as regulating emotions alone through denial of closeness, intimacy, and dependence from an attachment figure (Fraley & Shaver, 2000; Mikulincer et al., 2003). Anxious-attached people fear abandonment or rejection and thus may complain or ruminate as strategies to elicit care and ensure availability of the attachment figure (Fraley & Shaver, 2000; Shaver & Mikulincer, 2009).

An individual whose requests for connection to an attachment figure are met with anger or rejection instead of love and closeness may be more likely to avoid others and may attempt to reduce stress by suppressing emotions, reinforcing an avoidant attachment response (Brenning, Soenens, Braet, & Bosmans, 2012). When an individual uses either a hyperactivating or deactivating strategy to reduce stress, mixed emotions of love, dependency, fear, irritability, or vigilance toward the attachment figure will emerge (Holmes, 2005).

In contrast, secure attachment is related to the presence of fewer anxious or avoidant attachment behaviors (Hazen & Shaver, 1987). Someone with secure attachment will experience comfort with both closeness and interdependence and will use strategies such as support seeking to cope with stress (Mikulincer et al., 2003). Coping with activating and deactivating strategies has been found to be associated with increased psychopathology symptoms such as depression (Brenning et al., 2012). As was mentioned previously, researchers Berant et al. (2005) examined participants' self-report responses of anxious and avoidant attachment and responses on a Rorschach test. These researchers found that individuals with self-reports of attachment anxiety also possessed Rorschach scores that were thought to indicate difficulties with regulating emotions and a self-perception of being helpless and unworthy (Berant et al., 2005). However, individuals reporting avoidant attachment had Rorschach scores that were thought to indicate a lack of acknowledgment of personal needs and actively maintaining a more grandiose sense of self (Berant et al., 2005). Finally, the use of deactivating and hyperactivating coping strategies has been associated with increased binge eating behaviors in nonclinical samples (Gordon, Holm-Denoma, Troop-Gordon, & Sand, 2012; Han & Pistole, 2014).

Binge eating and insecure attachment. Seen through the lens of attachment theory, individuals who binge eat are more likely to possess negative relational coping strategies to cope with distress (Boone, 2013) and thus experience greater amounts of emotional dysregulation (Han & Pistole, 2014). According to the affect regulation model of binge eating, individuals engage in binge eating to cope with negative affect (Mason et al., 2016). Gormally et al. (1982) made an observation that individuals who binge eat

were more likely to experience a lack of control associated with food consumption and thus, instead of coping with a "problem-solving attitude, the binge eater attributed the lack of control to a lack of willpower" (p. 51). Consequently, low personal self-efficacy and high dieting standards put people at risk for binge eating behaviors (Gormally et al., 1982). The individual who experiences a lack of control over food may be able to overcome the urge to overeat if they use different coping strategies such as reaching out to others to reduce distress (Hertz, Addad, & Ronnel, 2012). As mentioned previously, the process of binge eating is associated with a reduction in anxiety (Deaver et al., 2003).

When a person experiences a loss of self-control over food or a sense of willpower to maintain one's own values, self-regulation may be impaired as a result of loneliness or socially perceived isolation, which may lead to a binge (Mason et al., 2016). In a longitudinal study of 300 college students who reported binge eating, Wei, Russell, and Zakalik (2005) found that when controlling for baseline depression, an individual who felt confident in social situations may be less likely to have attachment anxiety, depression, increased anxious feelings, and loneliness. Wei et al. also noted that an individual who experienced discomfort with self-disclosure was more likely to have avoidant attachment, feelings of loneliness, and subsequent depression. Alexander and Siegel (2013) believed that the attachment system can "be viewed as an emotion regulation system" (p. 374). They theorized a link between attachment anxiety and emotional eating, for example, when a person interprets anxiety from attachment as internal hunger (Alexander & Siegel, 2013). In the event of overwhelming attachment anxiety, Heatherton and Baumeister (1991) indicated that individuals will attempt to escape through binge eating. Individuals will use maladaptive behaviors to escape

aversive self-awareness of negative affect where one is aware of a failure to meet a standard that is valued (Gordon et al., 2012). Based upon this idea, other researchers have postulated connections between the role of perfectionism as related to attachment and binge eating behaviors (Mackinnon et al., 2011).

Increased binge eating has been associated with concern and rumination over mistakes (Mackinnon et al., 2011), a behavior central to perfectionism and likely mediated by interpersonal conditioning with another attachment figure (Mushquash & Sherry, 2013). In a sample of 328 adolescents with a mean age of 17.1 years, Boone (2013) found that socially prescribed perfectionism, defined as perceived expectations of self held by another, was associated with anxious attachment with both parents. In addition, Boone found a small association between socially perceived perfectionism and avoidant attachment with mother only. Perfectionistic self-promotion, defined as presenting oneself as perfect to another, was associated with attachment avoidance toward father, not toward the mother, and anxious attachment with both parents. All insecure attachment representations were associated with binge eating except for attachment avoidance toward mother (Boone, 2013). Mushquash and Sherry (2013) found in a sample of 218 mother-daughter dyads that socially prescribed perfectionism and mother's controlling and demanding behaviors were binge triggers that contributed to binge eating. Similar to escape theory (Gordon et al., 2012; Heatherton & Baumeister, 1991), the researchers postulated that daughters who believed that their mothers required them to be perfect and whose mothers possessed psychological control over them were more likely to binge eat in order to escape from or cope with an unhealthy and unsatisfying relationship (Mushquash & Sherry, 2013).

Attachment has been traditionally emphasized with the relationship between children and their mothers (Ainsworth, 1978). However, researchers have recently broadened the use of the theory to inform adult attachment (Hazen & Shaver, 1987; Mccarthy, 1999). Kirkpatrick (1999) extrapolated upon these findings and believed that attachment with God could resemble human relationships. Further investigation has found a connection between people and an unseen God (Granqvist, Ivarsson, Broberg, & Hagekull, 2007; Granqvist, Mikulincer, & Shaver, 2010; Reinert, Edwards, & Hendrix, 2009).

Experience of and understanding of God. A person's internal experience of God has been said to be impacted by early experiences with caregivers (Shaver & Mikulincer, 2009). Within object relations theory, Winnicott (1988) believed that God can serve as a form of transitional object reflecting the believer's actual experience of relationships as being conditionally loving, in the way that a child would hold onto a teddy bear to cope with fear and discomfort. The God concept, first introduced by Rizzuto (1979), is conceptualized as stemming from a complex collaboration of a child's early experiences with primary objects (parents, grandparents) and early sense of self and beliefs presented by the family as culturally bound values and opinions. The child, upon deciding his or her own religion, must try to assimilate his own beliefs and fantasies about his or her own perceptions of God. Rizzuto wrote that "reshaping, rethinking, and endless rumination, fantasies and defensive maneuvers, will come to help the child in his difficult task" (p. 8). Lawrence (1997) claimed that the God image is a psychological working internal model of the sort of person that the individual imagines God to be. He

indicated that a person's understanding of God is contingent upon personal free will to make cognitive decisions about which experiences and beliefs will be held or discarded.

Attachment to God. Kirkpatrick (1999) was one of the first individuals to postulate that human relationships can replicate a person's attachment with God. In other words, when a believer is feeling vulnerable, he or she can turn to God, who can be seen as a safe haven providing comfort and support (Beck, 2006). The concept of attachment to God is likely limited to Judeo-Christian faith traditions, as the theory relies heavily on "God as father" as a central religious premise (Kirkpatrick, 1999) and empirical evidence is still developing (Beck, 2004). Secure attachment to God is conceptualized by four aspects of attachment theory: God as a safe haven, God as a secure base for exploration, seeking/maintaining proximity to God, and responding to separation from God (Sim & Loh, 2003). Conversely, anxious and avoidant attachment are comprised of behavioral characteristics of worry, rumination, and avoidance of God respectively (Beck, 2006).

In the Christian faith, the father-child relationship is often used as a metaphor to resemble or explain a believer's relationship with God (Beck & McDonald, 2004). In translations, the Christian Bible references God as a father figure as opposed to a mother figure. The perspective of God as father can be illustrated in 1 Corinthians 8:6 (New International Version): "Yet for us there is but one God, the Father, from whom all things came and for whom we live; and there is but one Lord, Jesus Christ, through whom all things came and through whom we live."

Buri and Mueller (1993) proposed that children view God similarly to the way in which they view their parents, also known as parent referencing. Bierman (2005) conducted a national study of 3,032 adults between the ages of 25 and 74. The researcher

used questionnaires and telephone interviews to measure non-sexual child abuse experiences and adult religiosity and spirituality. Children who suffered abuse by their mothers did not necessarily view God as abusive, but children who suffered maltreatment from their fathers were likely to view God as abusive (Bierman, 2005). Therefore, if a person is likely to have had a very absent or neglectful human father, a child may experience God as "father" in the same light, which could result in feelings of insecurity and anxiety toward God (Kirkpatrick, 1999). A person's relationship with their mother as warm, open, and caring has been highlighted in the research as strongly associated with secure attachment with God (Desrosiers, Kelley, & Miller, 2011; Dickie, Ajega, Kobylak, & Nixon, 2006). In contrast, Beck and McDonald (2004) hypothesized that individuals may be able to choose to conceptualize God independently of previous attachment figures for a more secure relationship, which they referred to as the compensation theory. Researchers have found a weak positive correlation between secure attachment with God and insecure attachment with parent figures (Beck & McDonald, 2004; Kirkpatrick, 1998). However, the weak association may be stronger in studies with larger sample sizes (Beck & McDonald, 2004; Kirkpatrick, 1998).

Birgegard and Granqvist (2004) conducted three different experiments and found evidence that attachment to God may resemble attachment with parents, suggesting that unconscious affect regulation through God is moderated by attachment history. Participants were assigned into either an experimental or control group and were given subliminal messages of separation stimuli in addition to completing assessments related to attachment history and belief in God. Two experiments alluded to disconnection from God and one alluded to disconnection from mother. Individuals with secure attachment

histories demonstrated higher proximity-seeking behaviors in relation to God, whereas those who had insecure attachment histories demonstrated a decrease in attachment-seeking behaviors compared to controls. This research supports the theory of internal working models of attachment as influenced by early experiences with parents and the concept of God as an attachment figure (Birgegard & Granqvist, 2004).

Upon transition into young adulthood, it is hypothesized that individuals transition from parent referencing into a self-referencing view of God (Buri & Mueller, 1993; Dickie et al., 2006; Kirkpatrick, 1998). Buri and Mueller (1993) gave a sample of male and female Catholic college students ($N = 213$) assessments measuring self-esteem and attachment with God and found that participants' self-esteem was significantly related to their perception of God. Dickie et al. (2006) extended these findings, noting differences between the way in which young men and women in college perceived God based upon relationship with parents and with self. They presented 132 male and female college students with 14 different pictures depicting adjectives on four defining scales: (a) closeness, (b) power, (c) nurturance, and (d) punishing/judging. During the interview, researchers asked participants to rate each picture on a Likert scale as to the degree to which they perceived mother, father, self, and God, in addition to completing assessments measuring self-esteem and religiosity. The researchers found that the daughters' perceptions of mothers' and fathers' power and nurturance were predictive of self-perceptions and God-perceptions of power and nurturance. Among the daughters in the study, no correlations were found between self-esteem (positive or negative) and God concepts. They found that daughters who saw their mother as punishing also saw God as punishing; however, there was no correlation between sons' perceptions of parents as

punishing and God as punishing. Mothers' nurturance was predictive of sons' religiosity and closeness with God and positive self-esteem. Finally, sons who reported mothers' discipline as high punishing and judging reported a closer relationship with God and greater religiosity, whereas women who reported low punishing and judging discipline by their mothers reported a closer relationship with God and greater religiosity. While the researchers found differences in how sons and daughters referenced self, parents, and God in relationship to their self-esteem, overall the findings of this study supported the correspondence theory of attachment with God but did not support a compensation theory of attachment (Dickie et al., 2006).

In Akrawi et al.'s (2015) extensive literature review, secure attachment to God was associated with more positive body image and reduced dieting behaviors. In a sample of college students, Beck (2006) observed that those with more secure attachment with God had increased tolerance of different religious beliefs and demonstrated more personal theological exploration, which may be related to better adjustment and less relationship anxiety with others of differing beliefs. Individuals with secure attachment with God have also reported lower levels of depression (Exline, Yali, & Sanderson, 2000). Finally, in a sample of individuals with recent loss, those reporting a more secure relationship with God expressed lower overall grief and increased stress-related growth (Kelley & Chan, 2012).

In contrast, an insecure attachment with God may be associated with disordered eating behaviors (Akrawi et al., 2015). These researchers used the term "disordered eating" to refer to a wide range of disordered eating behaviors falling under any of the eating disorder diagnostic categories (Akrawi et al., 2015). However, empirical evidence

of the relationship between attachment to God and binge eating is still lacking. To date there is evidence to suggest that there is a correlation between binge eating in particular and insecure attachment with others in college student populations (Han & Pistole, 2014; Phillips et al., 2016), although the relationship is not widely understood.

Spirituality and binge eating. Hawks (1994) defined spiritual health as an individual's pursuit of a higher power or larger reality that results in greater connectedness with self and others and enhanced sense of meaning and purpose to existence. Moreover, limited research is available that currently addresses the spiritual health of individuals with binge eating (Hawks, 1994). Watkins, Christie, and Chally (2006) conducted survey research with a randomized sample of college females (N = 809) and found that higher levels of reported binge eating were associated with lower global spiritual and existential well-being. In a similar study, Hawks, Goudy, and Gast (2003) found a weak correlation between higher binge eating behaviors and low spiritual well-being in a sample of 223 female college students.

A community program such as Overeaters Anonymous (OA) is a spiritually based program and does not adhere to any specific religious doctrine (OA, 2015). Overeaters Anonymous is a community 12-step addiction-based program to help individuals who self-identify as having problems with binge eating and other eating concerns (OA, 1990). OA conceptualizes binge eating as a disease, with compulsive overeating behaviors rooted in spiritual, emotional, and behavioral issues that all need to be addressed in the healing process (Hertz et al., 2012). Spirituality is a central component of the program and is defined as one's belief in a higher power, a term that is subjectively defined based on one's own conceptualization of the nature and manifestation of God (OA, 1990).

Individuals who have achieved healthier eating through OA may also report spiritual and worldview transformation; however, it is still unclear how the program works (Ronel & Libman, 2003). Confidential community-based 12-step programs such as OA do not easily lend themselves to empirical research because of confidentiality tenets of the group (Pope & Gutheil, 2014).

As previously mentioned, there is research evidence to suggest that binge eating behaviors may be related to interpersonal perfectionism (Mackinnon et al., 2011). According to OA tradition, members will experience reduced vulnerability to overeating behaviors through the belief that God will remove the character flaw of perfectionism via "step work" and progression through the program (OA, 2015). As members utilized the tools of OA such as step work, plan of eating, sponsorship, the telephone, and literature (OA, 2015), researchers Russell-Mayhew et al. (2010) found positive changes in self-reported attachment patterns with others (less self-centered to open and compassionate) and with God (perceiving God as loving and supportive). Hertz et al. (2012) found in a qualitative research study that members participating in OA will develop a secure attachment with others when the OA group is experienced as offering unconditional acceptance and where attachment figures are readily accessible. In addition, secure attachment to God is facilitated through regular attendance of meetings and making the deliberate decision to perceive God as loving and kind while simultaneously making behavioral change (Hertz et al., 2012).

Binge eating may be conceptualized as an attempt to fulfill an unmet human need for spirituality or to fill the "God-shaped hole" (Hagedorn & Moorhead, 2010, p. 63). Therefore, increasing spiritual health may serve as a buffer against overeating (Hawks et

al., 2003). Jung (2004) indicated that believers can become disconnected to their body and that the act of being mindful of food can help cultivate awareness of and gratitude toward God's blessing, as well as greater discipline for encountering and enjoying God.

There is no research currently available connecting religious beliefs and binge eating behavior. However, researchers Buser and Woodford (2010) suggested that religious beliefs can be both healing and harmful to individuals who struggle with eating disorders. According to some literal interpretations of the Bible, a person with excessive overeating may be perceived or judged as someone who loves pleasure in excess and who lacks self-control, both of which may be perceived as characteristics of an ungodly person (Prov. 28:7; Prov. 23:2; 2 Tim. 3:1-9 New International Version). Hagedorn and Moorhead (2010) cautioned that individuals with problematic behaviors with food can experience the same addictive symptoms by legalistically pursuing religious practices as they did in other addictive behaviors: tolerance, psychological withdrawal, loss in major life domains, and continued engagement despite negative circumstances. Reverend Schnekloth of the Evangelical Lutheran Church (2006) cautioned that when church members engage in food rituals related to the faith tradition (saying grace before meals) or engage in specific fasting (only eating fish on Fridays or forgoing food before Lent), mindless eating may result. The reverend suggested that mindless eating is a sign that the believer has failed to reconcile the nature of one's own false idols (Schnekloth, 2006). In other words, a person may be putting something else (e.g., comfort eating, obsession over food, anxiety) before God.

Available research on binge eating and religious beliefs, behaviors, and spirituality is in its infancy. There is evidence to suggest that binge eating may not

necessarily diminish with religious practice (Buser & Woodford, 2010) and yet, spirituality may be helpful to extend a sense of hope and support as seen in the practice of OA membership (Hertz et al., 2012). Despite the limited research base, researchers indicate that religion and spirituality as it relates to binge eating is an important health dimension warranting further research (Hawks et al., 2003).

Rationale

An objective of the current study was to investigate the strength of the connection between binge eating and insecure attachment with others and with God. In addition, it was hoped that the present research may also provide more information about the extent to which attachment styles with others might resemble attachment with God (McDonald & Beck, 1999). If connections between binge eating and insecure attachment with others and with God were found, this information would be relevant to both community leaders and practitioners in medical and mental health settings. By better understanding how binge eating behaviors interacted with insecure attachment with God, pastors and clergy may be better equipped to provide spiritual resources that will foster secure attachment to God. This research would also increase awareness for those in the medical and mental health community regarding the spiritual and religious needs of the people whom they serve.

Individuals with binge eating behaviors may possess a limited understanding of their own relationship with food and the impact it has on their psychosocial functioning. As a result, these individuals may not be readily identified or themselves recognize their disordered eating as a problem (Phillips et al., 2016). Therefore, it was my aim to research a community sample of self-identified Christian individuals to elucidate the

relationship between binge eating behaviors and insecure attachment to God and with others. To date, research on binge eating has been conducted primarily with college student populations; thus, there is a lack of information regarding how binge eating may occur in community samples of Christians with participants representing the life span (Phillips et al., 2016). Moreover, the research literature available on binge eating has traditionally involved only women, with men greatly underrepresented (Striegel et al., 2012).

Research Questions and Hypotheses

There is substantial evidence to suggest that binge eating behaviors are present in nonclinical samples of people (Duarte et al., 2015; Hudson et al., 2007). However, there is limited research available regarding the association between binge eating and attachment with others and with God (Weaver, 2011). To date, research studies have looked at either attachment with others or with God independently (Akrawi et al., 2015); therefore, there is a gap in the research on how these two variables may account for the variance of binge eating when combined.

The research question consisted of three parts:

1. Is there a correlation between insecure attachment with others and self-reported binge eating behaviors in a community sample of professing Christians?
2. Is there a correlation between insecure attachment with God and self-reported binge eating behaviors in a community sample of professing Christians?
3. Does attachment with others and attachment with God account for more variance in binge eating together than either variable individually?

Based upon previous research evidence that there is a connection between insecure attachment with God and disordered eating behaviors (Akrawi et al., 2015), I hypothesized that there was a connection between binge eating behaviors and insecure attachment with people and with God.

Researchers also have indicated that attachment with others begins in infancy, and these early experiences form the basis from which a person will perceive, conceptualize, and attach to God (Buri & Mueller, 1993). Therefore, I hypothesized that insecure attachment with others and with God would be more predictive of binge eating behaviors than either of the variables independently. I believed that this information was needed in order to better understand the interpersonal or spiritual suffering experienced by self-professed Christians dealing with binge eating.

Chapter 2

Methods

In this study, I used a quantitative methodology to investigate the association between a person's relationship with God and others and their binge eating behaviors. Attachment styles characterized by anxiety and avoidance have been implicated in severe eating disorders treated in inpatient settings. A person's attachment to God may mimic their relationships with others, for example, in an anxious or avoidant attachment (Kirkpatrick, 1999). If a person views God as loving and kind, attachment to God may be an ongoing source of comfort, support, and healing (Beck & McDonald, 2004). Although some researchers have suggested that emotion dysregulation may be related to binge eating frequency (Weaver, 2011), other researchers have suggested that these findings are inconclusive due to sampling bias on college student populations (Han & Pistole, 2014; Phillips et al., 2016). Extending previous research, the goal of the study was to explore a possible relationship between attachment styles with others, with God, and binge eating among a community population of self-professing Christians. The research question consisted of three parts:

1. Is there a correlation between insecure attachment with others and self-reported binge eating behaviors in a community sample of professing Christians?
2. Is there a correlation between insecure attachment with God and self-reported binge eating behaviors in a community sample of professing Christians?
3. Does attachment with others and attachment with God account for more variance in binge eating together than either variable individually?

Participants

In this research investigation, I invited men and women who self-identify as Christian living in the United States and over the age of 18 to participate in a study about eating behaviors, relationship with others, and relationship with God. I recruited participants via Facebook and other online communities. This study was advertised online as an investigation of eating behaviors, relationship with others, and connection with God. I excluded participants who did not self-define as Christian from the study. Participants were not offered any compensation for participating. All participants remained anonymous for this study.

Surveys were administered via Survey Monkey and distributed through a snowball sampling method throughout online communities. There were a total of 400 responses, of which 246 were complete and met the study exclusionary criteria. Surveys with incomplete surveys to the BES, AGI, and ECR-R questions were removed from the sample. Of the 246 completed surveys, 16 respondents indicated that they did not self-identify as a Christian but did have a relationship with God. These surveys were not excluded from the sample.

There were a total of 246 study participants, of which there were 44 male (17.9%) and 202 female (82.1%). The average age (with standard deviation in parentheses) was 45 (13.72). The majority of the participants reported their race/ethnicity as white/Caucasian (91.9%) and were residing in Washington state (N = 229, 93%). Within the sample the denominations represented were Protestant (N = 80, 32.5%), Evangelical (N = 125, 50.8%), Catholic (N = 28, 11.4%), Mormon (N = 7, 2.8%), and other (N = 6, 2.45%) which would be defined as individuals who identified as agnostic. In this study

individuals who categorized themselves as Mormon and "other" were combined into one group for the purposes of data analysis. The majority of the sample reported having a bachelor's degree or higher (N = 154, 62.6%) and reported an annual income of $75,000 or greater ($N$ = 128, 52.0%). The average (with standard deviation in parentheses) of the Imperial Body Mass Index (BMI) was 28.44 (6.9), which is in the overweight range. BMI is a screening tool (not diagnostic) of the body fat tissue in the body (CDC, 2015). The thresholds for BMI are as follows: below 18.5 (underweight), 18.5–24.9 (normal or healthy weight), 25.0–29.9 (overweight), 30.0 and above (obese) (CDC, 2015). The BMI score range for this sample was between 14.14 and 53.21.

Measures

Demographic information collected included: age of faith (number of years identifying as Christian), chronological age, race/ethnicity, annual income, years of education, and state of residence. In addition, participants were asked if they had been diagnosed with an eating disorder, either presently or in the past. Current or previous diagnosis of an eating disorder was not part of the exclusionary criteria, as this study drew from a community pool of participants. Additional measures were used to identify eating behaviors and attitudes, attachment style, and attachment with God.

Binge Eating Scale (BES). The Binge Eating Scale (BES) was originally developed to measure binge eating behavior according to *DSM-III* criteria for bulimia (Gormally et al., 1982). The BES identifies behavioral manifestations of binge eating and associated feelings and cognitions. The scale demonstrated good test-retest reliability (r = .87, $p < .001$) when applied to a population of obese persons (Gormally et al., 1982). In a large community population (N = 1,008) with average BMI, Duarte et al. (2015) found

the BES to have similarly high internal consistency ($\alpha = .96$) and high test-retest reliability ($r = .84$).

The BES contains 16 items. Each item has four possible responses, with increasing severity of affect and behaviors considered to be consistent with more severe binge eating. Examples include:

1. "I feel capable to control my eating urges when I want to."
2. "I feel like I have failed to control my eating more than the average person."
3. "I feel utterly helpless when it comes to feeling in control of my eating urges."
4. "Because I feel so helpless about controlling my eating I have become very desperate about trying to get in control." (Gormally et al., 1982, p. 53)

The scale yields a total score ranging from 0 to 46, where higher scores are indicative of more severe and problematic binge eating behaviors (Decker & Dennis, 2013; Gormally et al., 1982). Individuals are categorized into three groups as defined by established cutoff scores of binge eating severity: no or mild binge eating (score $\leq$17), mild to moderate binge eating (score 18–26), and severe binge eating (score $\geq$27) (Duarte et al., 2015). Historically the BES cutoff scores of 17 and 27 have been used in samples of obese and non-obese community samples of participants to categorize non-binge eaters and binge eaters respectively (Marcus, Wing, & Lamparski, 1985; Marcus et al., 1990; Ricca et al., 2000). Researchers have previously used BES scores to classify participants into groups related to binge eating severity (Marek, Tarescavage, Ben-Porath, Ashton, & Heinberg, 2015; Timmerman, 1999). However, the BES has also been used to measure the frequency of binge eating behaviors as a continuous variable (Gordon et al., 2013). The BES was used as a continuous variable to measure the severity of reported binge

eating behaviors in a community sample of participants.

Experience in Close Relationships-Revised (ECR-R). The Experience in Close Relationships-Revised (ECR-R) is a self-report assessment designed to measure global attachment versus temporary or a specific attachment to one person (Dewitte & De Houwer, 2011). There are a total of 36 items, equally divided between two subscales measuring anxious and avoidant attachment. Anxious subscale items assess rumination about possible rejection and separation, such as "I often worry that my partner will not want to stay with me." Items on the avoidant subscale reflect emotional proximity seeking, such as "I am nervous when partners get too close to me." The response format is a 7-point Likert scale (1 = *strongly disagree*, 7 = *strongly agree*) on which participants rate agreement with each statement (Fraley et al., 2000). Odd-numbered items are on the anxiety subscale and even-numbered items are on the avoidant subscale. Scores 4, 8, 16, 17, 18, 20, 21, 22, 24, 26, 30, 32, 34, and 36 are reverse-scored. Finally, item scores are summed to yield anxious or avoidant scale scores, with lower scores on both the anxiety and avoidance subscales for a given respondent indicating the presence of secure attachment. Fraley et al. (2000) published the first measures of test-retest reliability on the anxious (α = .93, M = 2.06, SD = 1.00) and avoidant (α = .94, M = 1.95, SD = 99) subscales. However, more recent psychometric research conducted by Sibley et al. (2005) yielded similar results, with test-retest reliability for both scales in the low .90s.

Attachment to God Inventory (AGI). The Attachment to God Inventory (AGI) is a 28-item self-report questionnaire using a Likert scale (1 = *strongly disagree*, 7 = *strongly agree*) (Beck & McDonald, 2004). Odd-numbered items assess anxiety about abandonment by God and even-numbered items assess avoidance of intimacy with God.

Scale scores are the sum of appropriate items, with items 4, 8, 13, 18, 22, 26, and 28 reverse-scored. The internal consistency for each of the subscales, AGI Anxiety and AGI Avoidance, is adequate (α = .80, .84, respectively). Although not statistically significant, a positive relation has been found between the anxiety and avoidance subscales of the AGI with the respective scales of the ECR-R (Beck & McDonald, 2004). Researchers have verified attachment to God measures such as the AGI through concurrent validity studies measuring attachment with others (Beck & McDonald, 2004).

Procedures

Interested participants were invited to use a web link leading to further description about the study and informed consent. The researcher's name and contact information was included for participants to contact in the event they had additional questions. If participants agreed to participate, they were immediately invited to begin the anonymous survey consisting of the BES, AGI, ECR-R, and demographic questions. The survey took participants about 20 to 30 minutes to complete.

Preparation of data for analysis. In this study, I evaluated the role of attachment with God and with others in the prediction of binge eating. Anxious and avoidant attachment to others and to God scores were computed for the ECR-R and AGI, respectively, by summing appropriate items across each scale. On both assessments, appropriate items were reverse-coded to attain an overall sum. On the BES, the scores were summed to yield a total binge eating score. All of the study participants' BES, ECR-R, and AGI scores were averaged, which provided a mean for binge eating, attachment with others, and attachment with God. This mean was used to run all statistical tests.

The first research question was answered by analyzing the data utilizing a correlational model of four independent variables (anxious attachment with others and with God) to identify any possible correlations with binge eating behavior. The independent variables are anxious attachment with others (AWOX), avoidant attachment with others (AWOV), anxious attachment with God (AWGX), and avoidant attachment with God (AWGV). The final research question was answered by utilizing a multiple linear regression equation (Hartwig & Dearing, 1979) to conduct stepwise regression. In order to analyze the model, variables were systematically added into the equation to determine which predictor (attachment to others or to God) should be included and ultimately which model would be the best fit to the data (Field, 2009). When conducting the steps, insecure attachment with others was entered first, followed by insecure attachment with God. This order was based upon theoretical review of the research. Researchers have indicated that a person's attachment with others will inform how a person experiences God (Beck & McDonald, 2004; Birgegard & Granqvist, 2004; Buri & Mueller, 1993; Rizzuto, 1979) and therefore, reported attachment with others preceded attachment with God in a stepwise regression order. After completing the analysis of variables using stepwise regression, I then compared the two models to compare significance and best fit of the data.

Summary

In this study, attachment was analyzed with respect to its ability to predict binge eating. Male and female adult participants were recruited to describe their eating-related behaviors, relationship to others, and relationship to God using three self-report measures to assess participants' perceptions. Stepwise regression analysis was conducted to

determine if the variance of self-report binge eating scores was best accounted for by attachment to God or attachment to others individually or in combination.

Chapter 3

Results

Data was collected and analyzed in order to better understand how insecure attachment with others and with God may predict binge eating (dependent variable). The independent variables in this study were anxious attachment with others (AWOX), avoidant attachment with others (AWOV), anxious attachment with God (AWGX), and avoidant attachment with God (AWGV). Additional exploratory analyses were performed. The Binge Eating Scale (BES) was originally developed to classify individuals into groups based upon binge eating severity (Gormally et al., 1992). For exploratory purposes, statistical tests were performed to look for differences in insecure attachment with others and with God among participants categorized into groups based upon their binge eating severity (mild, moderate, and severe). Binge eating and attachment scores were compared to see if there were differences in binge eating between male and female participants. Finally, attachment and binge eating scores were compared between denominational affiliation groups to see if there were differences in reported binge eating and attachment scores between different Christian denominations.

Data Analysis

Tests of normality. In order to answer the research questions, tests of assumptions were used prior to all tests of analysis. Before running tests, test assumptions were conducted for Pearson's correlation and multiple linear regression analysis. In order to test for the assumptions relevant to Pearson's correlation, inspection of box plots for the independent and dependent variables were evaluated. The assumption that the three variables have a normal distribution was evaluated by inspection of histograms separately

for each variable. The linear relationship and homogeneity of variance assumptions were evaluated through inspection of a scatter plot between the independent and dependent variables.

To evaluate the assumptions for multiple linear regression analysis, scatter plots between the independent and dependent variables were analyzed to evaluate the assumption of a linearity relationship. A histogram of the regression standardized residuals was inspected to evaluate the assumption that the error term has a normal distribution with a mean of 0. Scatter plots of the standardized residuals versus each of the individual variables were inspected to evaluate the constant variance assumption. In order to test the assumption that the two independent variables were not identical to each other and that multicollinearity was not present, variance inflation factors were inspected.

Analysis of the research questions. In order to answer research question one, Pearson's correlation statistic was used to evaluate the relationship between binge eating (dependent variable) and anxious and avoidant attachment with others (independent variables). Multiple regression analysis was performed to determine if anxious and avoidant attachment styles with others combined to better predict binge eating than either of the independent variables alone. In order to analyze for a possible correlation between insecure attachment with God and self-reported binge eating behaviors (research question number 2), Pearson's correlations were used to compare binge eating scores and anxious and avoidant attachment scores with God. Multiple regression was then used to determine if anxious and avoidant attachment with God combined to better predict binge eating scores than either of the independent variables alone. Research question three was answered using stepwise linear regression in order to determine if insecure attachment to

God added additional predictive information about the BES beyond the predictive information provided by insecure attachment to others.

Exploratory analyses. In the exploratory analyses, binge eating scores were analyzed as a categorical variable in order to look for any differences in attachment scores when participants were organized into groups of binge eating severity. A one-way analysis of variance was used to conduct the analysis. Prior to running the analysis, the assumptions for one-way analysis of variance were evaluated. The assumption that there were no outliers for any of the 3 BES groups was evaluated with box plots of each of the four attachment scores, separately for each of the three BES groups. The assumption that the attachment scores have a normal distribution for each of the BES groups was evaluated by inspection of histograms of each of the four attachment scores, separately for each of the three BES groups. The Levene's test was used to evaluate the constant variance assumption.

An independent *t* test was used to analyze binge eating and attachment scores between males and females. Assumptions for the independent samples *t* test were evaluated prior to conducting the analysis. In order to evaluate the assumption that there were no extreme outliers in the dependent variables, box plots of the BES and attachment scores for each group were inspected. The assumption that the dependent variables had a normal distribution for both groups was evaluated by inspection of histograms of dependent variables, separately for males and females. The Levene's test was used to evaluate the homogeneity of variance assumption.

A one-way analysis of the variance (ANOVA) was used to analyze differences in binge eating and attachment scores between denominational affiliation groups. Prior to

conducting the ANOVA, the assumptions for ANOVA were evaluated. The assumption that there were no outliers for any of the four Christian denomination groups was evaluated by evaluating box plots of BES and each of the four attachment scores separately for each of the four denominational groups. The assumption that the BES and attachment scores have a normal distribution for each of the groups was evaluated by inspection of histograms of each BES and each of the four attachment scores separately. The constant variance assumption was evaluated with the Levene's test.

Table 1

Correlation Matrix of All Relevant Study Variables

		Experience in Close Relation-ships (Anxious)	Experience in Close Relation-ships (Avoidant)	Attachment to God (Anxious)	Attachment to God (Avoidant)	Binge Eating Scale
Experience in Close Relationships (Anxious)	Pearson Correlation	1	0.593**	0.567**	0.102	0.470**
	Sig. (2-tailed)		<0.001	<0.001	0.110	<0.001
	N	246	246	246	246	246
Experience in Close Relationships (Avoidant)	Pearson Correlation	0.593**	1	0.298**	0.261**	0.285**
	Sig. (2-tailed)	<0.001		<0.001	<0.001	<0.001
	N	246	246	246	246	246
Attachment to God (Anxious)	Pearson Correlation	0.567**	0.298**	1	0.026	0.318**
	Sig. (2-tailed)	<0.001	<0.001		0.684	<0.001
	N	246	246	246	246	246
Attachment to God (Avoidant)	Pearson Correlation	0.102	0.261**	0.026	1	0.065
	Sig. (2-tailed)	0.110	<0.001	0.684		0.312
	N	246	246	246	246	246
Binge Eating Scale	Pearson Correlation	0.470**	0.285**	0.318**	0.065	1
	Sig. (2-tailed)	<0.001	<0.001	<0.001	0.312	
	N	246	246	246	246	246

**. Correlation is significant at the 0.01 level (2-tailed).

Findings

Table 1 presents a correlation matrix of all relevant study variables.

Research Question 1: Insecure Attachment With Others. Insecure attachment with others and binge eating scores were analyzed by a Pearson's correlation statistic to determine if there was any correlation with binge eating. A multiple regression test was

analyzed to consider if insecure (anxious and avoidant) attachment scores have predictive value for predicting binge eating.

The tests of assumptions for Pearson's correlation and multiple regression analysis statistics were considered satisfied. The results of the Pearson's correlation for BES and attachment with others scores can be found in Table 2. There was a statistically significant correlation between anxious attachment with others (AWOX) and binge eating scores (BES), $r = .47$; $p < .001$; effect size $r = 0.47$; 95% confidence interval (0.37, 0.56). The correlation between avoidant attachment with others (AWOV) and BES was also statistically significant, $r = .29$; $p < .001$; effect size $r = 0.29$; 95% confidence interval (0.17, 0.40).

Table 2

Pearson's Correlation for the Binge Eating Scale versus Attachment With Others

		Binge Eating Scale
Experience in Close Relationships (Anxious)	Pearson Correlation	0.470
	p-value	<0.001
	N	246
Experience in Close Relationships (Avoidant)	Pearson Correlation	0.285
	p-value	<0.001
	N	246

In terms of the results of the multiple linear regression analysis, results were statistically significant, $F(2, 243) = 34.46$, $p < .001$; effect size $R^2 = 0.22$; 95% confidence interval (0.13, 0.31). Although AWOX and AWOV were correlated with binge eating, when combined to predict binge eating, only AWOX was statistically significant with a *p*-value < .001. AWOV was not statistically significant with a *p*-value = .889 (see Table 3).

Table 3

Multiple Linear Regression for Binge Eating versus Attachment With Others

Model [a, b]	B	Std. Error	Beta	T	*p*-value
(Constant)	0.906	1.533		0.591	0.555
Experience in Close Relationships (Anxious)	2.841	0.431	0.464	6.599	<0.001
Experience in Close Relationships (Avoidant)	0.072	0.521	0.010	0.139	0.889

a. Dependent Variable: Binge Eating Scale
b. $F(2, 243) = 34.46$; $p < 0.001$

Research Question 2: Insecure Attachment With Others. Insecure attachment (avoidant and anxious attachment) with God and binge eating scores were analyzed for any correlations via a Pearson's correlation statistic. In addition, multiple regression was used to determine if there was any value in combining both anxious and avoidant attachment with God to predict binge eating. Tests of assumptions for Pearson's correlation and multiple regression analysis statistics were considered satisfied. There was a statistically significant correlation between anxious attachment with God (AWGX) and binge eating, $r = 0.32$, $p < .001$; effect size $r = 0.32$; 95% confidence interval (0.20, 0.43). There was not a statistically significant correlation between avoidant attachment with God (AWGV) and binge eating, $r = .07$; $p = .31$; effect size $r = 0.07$; 95% confidence interval (-0.06, 0.19) (see Table 4).

Table 4

Pearson's Correlation for the Binge Eating Scale versus Attachment With God

		Binge Eating Scale
Attachment to God (Anxious)	Pearson Correlation	0.318
	p-value	<0.001
	N	246
Attachment to God (Avoidant)	Pearson Correlation	0.065
	p-value	0.312
	N	246

The multiple linear regression analysis was statistically significant, $F(2,243) = 14.18$; $p < .001$; effect size $R^2 = 0.13$; 95% confidence interval (0.05, 0.21). However, only anxious attachment with God (AWGX) was statistically significant ($p < .001$) when anxious and avoidant attachment with God scores were combined to predict binge eating (see Table 5).

Table 5

Multiple Linear Regression for Binge Eating Scale versus Attachment With God

	Unstandardized Coefficients		Standardized Coefficients		
Model [a, b]	B	Std. Error	Beta	T	*p*-value
(Constant)	2.092	2.108		0.993	0.322
Attachment to God (Anxious)	0.167	0.032	0.317	5.218	<0.001
Attachment to God (Avoidant)	0.032	0.035	0.057	0.931	0.353

a. Dependent Variable: Binge Eating Scale
b. $F(2, 243) = 14.18$; $p < 0.001$

Research Question 3: Attachment With Others and With God. Attachment with others and with God scores were analyzed in order to consider if the variables combined account for more variance in binge eating together than any of the variables

individually. Results from the test of assumptions for multiple linear regression were evaluated and considered satisfied. Results of the stepwise regression for attachment scores and BES can be found in Table 6. The overall regression model was statistically significant, $F(4,241) = 17.52$; $p < .001$; effect size $R^2 = 0.23$; 95% confidence interval (0.14, 0.32). However, only AWOX was statistically significant, $p < .001$.

Table 6

Multiple Linear Regression of Attachment With Others and God

Model [a, b]	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	*p*-value
(Constant)	-0.227	2.121		-0.107	0.915
Experience in Close Relationships (Anxious)	2.563	0.501	0.419	5.116	<0.001
Experience in Close Relationships (Avoidant)	0.066	0.539	0.009	0.123	0.902
Attachment to God (Anxious)	0.041	0.036	0.078	1.128	0.260
Attachment to God (Avoidant)	0.010	0.034	0.018	0.299	0.765

a. Dependent Variable: Binge Eating Scale
b. $F(4, 241) = 17.52$; $p < 0.001$

Exploratory Analysis

Attachment and binge eating severity. For the first exploratory analysis, the Binge Eating Scale (BES) scores were categorized into three categories as outlined by Gormally and researchers (1992). The categories were coded as follows: 1 = no or mild binge eating, (BES < 18); 2 = mild or moderate binge eating (BES 18–26); or 3 = severe binge eating (BES 27 or greater). This breakdown is consistent with the research and the

original labels of the categorical groups based upon binge eating severity (Duerte et al., 2015; Gormally et al., 1992). Attachment with others and attachment with God scores were compared among the three binge eating scale categories using a one-way analysis of variance (ANOVA). Assumptions testing for the one-way analysis of variance was evaluated and considered satisfied. Results of the one-way analysis of variance comparing attachment scores across groups of eating severity can be found in Table 7. When comparing anxious attachment with others (AWOX) scores across groups categorized by binge eating severity, results suggest that the BES < 18 group had a statistically significant smaller anxious average score than the BES 18–26 ($p < .001$), and BES > 27 ($p = .002$) groups. There was not a statistically significant difference between the BES 18–26 and BES > 27 groups ($p > 0.095$).

In terms of avoidant attachment with others (AWOV), the BES < 18 group had a statistically significantly smaller average avoidant score than the BES 18–26 group ($p = .020$) but not the BES > 27 group ($p = 0.28$). There was not a statistically significant difference between the BES 18–26 and the BES > 27 group ($p > 0.99$) when comparing AWOV across groups.

When comparing attachment with God scores across groups organized by binge eating severity, the BES < 18 group had a statistically significantly smaller average anxious attachment with God (AWGX) score than the BES 18–26 group ($p = .029$) and the BES > 27 group ($p = .001$). There was not a statistically significant difference between the BES 18–26 group and the BES > 27 group ($p = .095$) in regards to AWGX. There were no statistically significant differences in avoidant attachment with God (AWGV) among the three BES groups.

Table 7

Descriptive Statistics and One-Way Analysis of Variance Results to Compare the Average Attachment Scores Among the Three Binge Eating Categories

		N	Mean	Std. Deviation	Minimum	Maximum
Experience in Close Relationships (Anxious) [a]	BES < 18	203	2.8350	1.18625	1.00	6.72
	BES 18 – 26	33	4.0488	0.92210	1.89	5.89
	BES > 27	9	4.2531	1.83987	1.17	6.33
	Total	245	3.0506	1.27053	1.00	6.72
Experience in Close Relationships (Avoidant) [b]	BES < 18	203	3.3580	1.01547	1.11	6.11
	BES 18 – 26	33	3.8906	1.12307	1.78	6.56
	BES > 27	9	3.9506	1.11439	2.28	5.94
	Total	245	3.4515	1.04993	1.11	6.56
Attachment to God (Anxious) [c]	BES < 18	203	34.97	13.918	14	89
	BES 18 – 26	33	41.91	13.755	16	74
	BES > 27	9	53.44	21.367	23	90
	Total	245	36.58	14.718	14	90
Attachment to God (Avoidant) [d]	BES < 18	203	49.08	13.867	22	89
	BES 18 – 26	33	52.48	12.047	29	77
	BES > 27	9	49.67	13.000	26	68
	Total	245	49.56	13.606	22	89

a. $F(2, 242) = 19.78$; $p < 0.001$; Bonferroni adjusted group-wise comparisons: BES<18 versus BES 18-26 ($p < 0.001$); BES<18 versus BES > 27 ($p = 0.002$); BES 18 – 26 versus BES > 27 ($p > 0.99$).
b. $F(2, 242) = 4.86$; $p = 0.009$; Bonferroni adjusted group-wise comparisons: BES < 18 versus BES 18-26 ($p = 0.020$); BES < 18 versus BES > 27 ($p = 0.28$); BES 18-26 versus BES>27 ($p > 0.99$).
c. $F(2, 242) = 9.97$; $p < 0.001$; Bonferroni adjusted group-wise comparisons: BES<18 versus BES 18-26 ($p = 0.029$); BES<18 versus BES > 27 ($p = 0.001$); BES 18 – 26 versus BES > 27 ($p = 0.095$).
d. $F(2, 242) = 0.89$; $p = 0.41$.

Binge eating and gender. In the second exploratory analysis, binge eating and attachment scores were compared between male and female participants using independent samples *t* tests. The assumptions for the independent *t* tests were considered satisfied. Descriptive information and the results of the independent *t* tests can be found in Table 8. The average BES score was statistically significantly smaller for males compared to females $t(244) = -3.03$; $p = .003$. The average AWOX score was statistically

significantly smaller for males compared to females $t(244)= -2.30$; $p = .022$. There was not a statistically significant difference between AWOV scores between males and females $t(244) = .45$; $p = .65$. Females had a statistically significantly larger AWGX score than males, $t(244) = -3.31$; $p = .001$. There was not a statistically significant difference in the average AWGV score between males and females, $t(244) = 1.37$; $p = 0.17$.

Table 8

Descriptive Statistics and Independent Samples t Tests to Compare the Average Binge Eating and Attachment Scores Between Males and Females

		N			Std.		
	Gender	Valid	Missing	Mean	Deviation	Minimum	Maximum
Binge Eating Scale [a]	Male	44	0	6.66	6.566	0	24
	Female	202	0	10.50	7.849	0	35
Experience in Close Relationships (Anxious) [b]	Male	44	0	2.6528	1.03950	1.06	4.89
	Female	202	0	3.1342	1.29945	1.00	6.72
Experience in Close Relationships (Avoidant) [c]	Male	44	0	3.5189	1.09922	1.11	5.67
	Female	202	0	3.4406	1.03996	1.17	6.56
Attachment to God (Anxious) [d]	Male	44	0	30.11	14.239	14	59
	Female	202	0	38.06	14.466	14	90
Attachment to God (Avoidant) [e]	Male	44	0	52.05	13.534	27	89
	Female	202	0	48.96	13.583	22	84

a. $t(244) = -3.03$; $p = 0.003$
b. $t(244) = -2.30$; $p = 0.022$
c. $t(244) = 0.45$; $p = 0.65$
d. $t(244) = -3.31$; $p = 0.001$
e. $t(244) = 1.37$; $p = 0.17$

Binge eating, attachment, and denominational affiliation. In the third exploratory analysis, participants were categorized into one of four different denominational groups. The groups were coded as follows: 1 = "Protestant"; 2 =

"Evangelical"; 3 = "Catholic"; 4 = "Other," which includes Mormon and Agnostic. A one-way analysis of variance was used to compare BES and attachment scores across the groups. Assumptions testing of the one-way analysis of variance was conducted and considered satisfied. Table 8 shows descriptive statistics and the results of the one-way analysis of variance tests for BES scores and each of the four attachment scores for each of the four Christian denominational groups. The results (Table 9) show that there was not a statistically significant difference in any of the scores among the four groups.

Table 9

Descriptive Statistics and One-Way Analysis of Variance to Compare the Average Binge Eating and Attachment Scores Among the Four Christian Denomination Categories

		N	Mean	Std. Deviation	Minimum	Maximum
Binge Eating Scale [a]	Protestant	80	8.31	6.686	0	30
	Evangelical	125	11.10	8.217	0	35
	Catholic	28	8.14	7.117	0	22
	Other	13	10.31	9.277	1	29
	Total	246	9.82	7.765	0	35
Experience in Close Relationships (Anxious) [b]	Protestant	80	2.8972	1.25169	1.00	6.22
	Evangelical	125	3.2013	1.30762	1.06	6.72
	Catholic	28	2.8770	1.04509	1.39	5.83
	Other	13	2.8718	1.38377	1.00	4.89
	Total	246	3.0481	1.26852	1.00	6.72
Experience in Close Relationships (Avoidant) [c]	Protestant	80	3.3438	1.02444	1.17	5.61
	Evangelical	125	3.5929	1.10500	1.11	6.56
	Catholic	28	3.2659	0.77724	1.67	5.56
	Other	13	3.2137	1.07292	1.67	5.00
	Total	246	3.4546	1.04893	1.11	6.56
Attachment to God (Anxious) [d]	Protestant	80	34.58	13.165	14	73
	Evangelical	125	38.52	15.996	14	90
	Catholic	28	35.00	11.716	14	69
	Other	13	34.85	15.910	15	68
	Total	246	36.64	14.717	14	90
Attachment to God (Avoidant) [e]	Protestant	80	50.39	13.433	24	82
	Evangelical	125	47.81	14.119	22	89
	Catholic	28	53.21	7.871	34	67
	Other	13	52.54	17.624	22	80
	Total	246	49.51	13.598	22	89

a. $F(3, 242) = 2.65$; $p = 0.05$
b. $F(3, 242) = 1.24$; $p = 0.30$
c. $F(3, 242) = 1.56$; $p = 0.20$
d. $F(3, 242) = 1.39$; $p = 0.25$
e. $F(3, 242) = 1.69$; $p = 0.17$

Summary

Bivariate correlation analyses using Pearson's correlation statistic showed statistically significant, moderately strong positive correlations between BES and

AWOX, AWOV, and AWGX. When insecure attachment with others variables were combined to predict binge eating, only AWOX was found to be statistically significant. In terms of insecure attachment to God, only AWGX was found to have a statistically significant, moderately strong positive correlation with binge eating. There was no evidence to suggest AWGV was correlated with binge eating. Similarly, when AWGX and AWGV were combined to determine the predictive value, only AWGX was statistically significant, $p < .001$. Variables were loaded in stepwise fashion into a multiple linear regression analysis in the following order: AWOX, AWOV, AWGX, and AWGV, as supported by theoretical knowledge of attachment development (Beck & McDonald, 2004; Birgegard & Granqvist, 2004; Buri & Mueller, 1993; Rizzuto, 1979). In the results of the multiple linear regression statistic, AWOX was the only variable that was statistically significant $p < .001$.

In addition to answering the research questions, additional exploratory analyses were performed to evaluate relationships between insecure attachment styles, binge eating severity categories, gender, and religious denomination. When participants were sorted into groups of binge eating severity based upon BES scores, individuals in the no-mild binge eating group had statistically significantly lower average AWOX and AWGX scores than those in the moderate or severe binge eating groups. In terms of AWOV there was only a statistically significant difference between the no-mild binge eating group and the moderate binge eating group. There were no statistically significant differences in AWGV scores among the three BES groups. When comparing BES and attachment scores between males and females, males had statistically significantly lower average BES, AWOX, and AWGX scores than females. In terms of differences between

denominations and reported binge eating and attachment styles, there were no statistically significant differences.

Chapter 4

Discussion

In this study, attachment with others and with God was analyzed in order to better understand the nature of binge eating in a community sample of self-professing Christians. While there are obvious limitations to the application of the results, to my knowledge no other researchers have looked at both attachment with others and attachment with God and how these variables interact with binge eating. From a theoretical perspective, attachment with God coalesces out of various cultural, developmental, and relational influences of which attachment to others is inseparable (Rizzuto, 1979). Results and discussion are provided.

Interpretation

The results of this study showed that there were statistically significant positive bivariate correlations between the binge eating score and anxious attachment with others, avoidant attachment with others, and anxious attachment with God scores. There was no indication that there was a correlation between avoidant attachment with God and binge eating, nor did avoidant attachment with God as an independent variable have any predictive value in relationship to binge eating. When all of the variables were analyzed for collective power to predict binge eating, anxious attachment with others was the only variable that was statistically significant. Thus, avoidant attachment with others and insecure attachment with God (anxious and avoidant) did not add predictive information about binge eating. According to Cohen (1988), effect size values of 0.0196, 0.13, and 0.26 are considered to be small, medium, and large effects, respectively. The effect size for anxious attachment with others in the present study approached the threshold for large

effects ($R^2 = 0.23$). The current results suggest that anxious attachment with others is a strong predictor of binge eating.

Information acquired through exploratory analysis provided similar findings. Organizing individuals into groups based upon binge eating severity allowed for the analysis of the BES as a categorical variable. Findings suggested that individuals in the no-mild binge eating group reported significantly lower anxious attachment with others and anxious attachment with God average scores than did participants in the moderate and severe binge eating groups. In addition, the no-mild binge eating group had a smaller average avoidant attachment with others score than the moderate binge eating group. When analyzing binge eating as a continuous variable in relationship to attachment with others and God, it was found that those with less severe binge eating problems tended to have more secure (as opposed to anxious) attachment to others and with God. These findings from the exploratory analysis might suggest that individuals in the no-mild binge eating group had more secure attachment with others and with God than did individuals in the moderate and severe binge eating groups. However, because there were no statistically significant differences between the moderate and the severe binge eating groups in regards to attachment styles, a conclusion cannot be made that individuals in the severe binge eating group had more anxious attachment with others and God than did individuals in the moderate binge eating group. There was no evidence to suggest differences in avoidant attachment with God among the three groups. Exploratory analyses of gender showed statistically significant evidence that on average, males tend to have a lower BES, AWOX, and AWGX score compared to females. In terms of

Christian denominations, there was insufficient evidence to suggest differences in binge eating or attachment styles among the four denominational groups.

Integration of Findings With Previous Research

The finding that there is a correlation between insecure attachment with others and disordered eating has been well evidenced in the literature, especially in clinical samples of individuals with eating disorders (Akrawi et al., 2015). The finding that insecure attachment with others is associated with binge eating was consistent with research using college students (Hans & Pistole, 2014; Weaver, 2011). Prior to data collection for this study, the hypothesis that a correlation between insecure attachment with God and binge eating existed was largely theoretical and founded only upon findings of previous research on attachment with God and eating disorders. The only other study that is known to date was conducted by Weaver (2011), in which the researcher analyzed effects of insecure attachment with others and emotion dysregulation on binge eating. Data results from both studies supported the notion that insecure attachment with God, specifically anxious attachment with God, plays a role in perpetuating binge eating symptoms.

The finding that there was no correlation or predictive value of avoidant attachment with God and binge eating was interesting and unexpected. It has been suggested that individuals may be more likely to binge eat in reaction to emotional distress (Deaver, Miltenberger, Smyth, Meidinger, & Crosby, 2003; De Young, Zander, & Anderson, 2014). In Overeaters Anonymous programs, a central premise of the program is that when an individual turns to their higher power and reaches for others, these actions might be helpful coping strategies to overcome the urge to overeat (Hertz,

Addad, & Ronnel, 2012). The finding that avoidant attachment with God is not related to binge eating seems contradictory when there is evidence to suggest that by turning toward a higher power for help could reduce binge eating behaviors. This finding raises questions about the complexity of the interaction between avoidant attachment with God and binge eating.

The finding that males reported statistically significantly lower binge eating, anxious attachment with others, and anxious attachment with God scores compared to women in the study is noteworthy, as there is very little research available in regards to the differences in binge eating between male and female participants (Reslan & Saules, 2011). Striegel and colleagues (2012) conducted a research study hypothesizing men's lower clinical impairment from binge eating compared to women may be a potential explanation for their underrepresentation in the research. In the present study, men reported significantly less binge eating than did women. More investigation is needed to assess if men are less likely to be identified as at risk for binge eating because of under-reporting or lower incidence of actual binge eating behaviors compared to women. This may be particularly important, because there is research evidence to suggest that men who binge eat do experience some clinical impairment (Striegel et al., 2012).

Limitations of the Current Findings

In terms of the study sample, there were a total of 400 survey responses; however, only 246 were selected to be part of the sample after exclusionary criteria were applied. According to the Centers for Disease Control (CDC, 2017) statistics, the mean BDI in the United States for women is 26.5 and the mean BDI for men is 26.6. The BMI average for men and women in this sample is consistent with the national U.S. average, which would

be consistent with a community sample of participants. However, the current sample is not representative of the larger population because of a lack of random sampling. Individuals in the study were recruited through online communities via snowball sampling and as a result, collectively the individuals in this study do not reflect enough diversity in education level, annual income, or race/ethnicity as is evidenced in the larger U.S. population. Additionally, approximately 7% of responses (n = 28) were discontinued after the demographic questions portion of the survey. In future studies, researchers may want to move eating disorder screening questions to the end of the survey, as asking participants to disclose height, weight, and previous eating disorder history might have dissuaded some participants from completing the survey.

Since the development of the Binge Eating Scale by Gormally and researchers (1982) for identifying binge eating behaviors, binge eating disorder as a clinical diagnosis was adopted in the *DSM-5* following advances in the specific measurement of binge eating (APA, 2013). While the BES has been used to measure binge eating behaviors, replication of the study with other measurement tools is recommended. The AGI was developed from the ECR-R and holds strong theoretical similarities (Beck & McDonald, 2004), which raised concerns about concurrent validity and the possibility that the assessments were too similar. Correlations between independent variables (see Table 1) were found to be mild-strong (Cohen, 1988), with the highest correlation being AWOV and AWOX at .593, $p < .001$. In this study, all assumptions testing for multicollinearity were found to be satisfied before performing statistical analysis of the data. This would suggest that the variables (attachment with others and with God) were not so alike that the results would be skewed before statistical analysis was performed. Replicating the

study with different assessments may provide further evidence of the relationship between attachment with others, with God, and binge eating.

Exploratory analyses were performed after breaking up participants into groups based upon a covariate, that is, denomination, gender, or binge eating severity. When entering the BES as a categorical instead of continuous variable, valuable information was disregarded, which made the results less informative about its relation to attachment. The rationale for including binge eating levels in this exploratory analysis was the frequent use of cut-off criteria by practitioners in practice. However, due to the very small number of study participants in the severe binge eating category in comparison to the other levels, the statistical power of the analysis was low.

Denominational groups were organized based upon theoretical understanding of faith traditions. In order to code denominational differences and to group participants into categories based upon denominational affiliation, I sought out consultation from an expert in theology and religion. With guidance, individuals were organized based upon a theoretical understanding of the different denominational groups. As a result of small numbers of participants reporting specific denominational affiliations, some categories needed to be combined into an "other" category in order to conduct a statistical analysis with sufficient cell sizes. Hence, certain denominational groups and their effect on binge eating or attachment could not be fully tested.

Future Directions/Recommendations

There is a substantial research base that supports the notion that there is a relationship between disordered eating and attachment with others and with God (Akrawi et al., 2015). Limited information is available regarding the nature of insecure attachment

with others and binge eating, and any connection between binge eating and insecure attachment with God is currently theoretical. The data results from this study support the notion that there is a connection between binge eating and insecure attachment with God and others.

Exploratory analysis comparing groups based upon binge eating severity revealed statistically significant differences between the mild binge eating group and the moderate or severe binge eating groups in terms of anxious attachment with others and anxious attachment with God scores. In terms of avoidant attachment with others, there was only a statistically significant difference between the no-mild binge eating group and the moderate binge eating group. There was no statistically significant difference in avoidant attachment with God scores between the groups. There was not a statistically significant difference between the moderate and severe binge eating groups. This is likely because the sample size in the severe binge eating group ($n = 9$) was not large enough to yield adequate statistical power. Replicating this study with a control and clinical group of people with severe binge eating behaviors may offer more information about whether there is increased risk for binge eating when individuals present with insecure attachment with others and/or God in different settings (i.e., clinical settings as opposed to community environments such as faith organizations). In the exploratory analysis of gender, female participants in the study reported more binge eating than did men. Men are often underrepresented in the research on binge eating (Reslan & Saules, 2011; Striegel et al., 2012); the majority of research studies utilize college students as the research participants. While the sample used in this study was derived from a community

sample of both men and women, future researchers may want to explore differences in gender more closely with a larger sample size of male participants.

Cooper (2013) found a correlation between the presence of negative self-beliefs such as self-loathing, demanding, and a belief in needing help, and binge eating. Gordon et al. (2012) found connections between ruminative thinking, brooding, and binge eating. Ruminative thinking and brooding have been found to be behaviors characteristic of anxious attachment (Bartholomew & Horowitz, 1991). The finding that anxious attachment with others was strongly correlated to binge eating is consistent with research on interpersonal psychotherapy (IPT) as a current treatment intervention for binge eating. In IPT, treatment addresses interpersonal behaviors that interfere with a person's sense of satisfactory intimacy, which could be a maintaining factor of binge eating behaviors (Murphy, Straebler, Basden, Cooper, & Fairburn, 2012). Findings from this study provide some evidence that clinicians consider inquiring about binge eating when individuals come to counseling with insecure attachment behaviors. Finally, results would suggest that anxious attachment with God correlated with binge eating and that Christians presenting with binge eating may have spiritual needs as well. The American Psychological Association's (2010) code of ethics supports the notion that therapists consult with others in the community and integrate faith and spirituality into therapy as it is wanted and beneficial to the client.

The results have implications for pastors and clergy in the community working with Christians in faith-based environments. There is benefit for pastors to gain skills in consultation with mental health professionals who may be working in clinical settings with individuals presenting with binge eating or insecure attachment problems. Research

suggests that clergy are often the first individuals to help families and individuals in crisis and that within their role they may deliver a significant amount of mental health support to their local community (Weaver, Koenig, & Ochberg, 1996). Thompson (2015) suggests that clergy collaborate, refer, and consult with other professionals such as mental health counselors for the benefit of clients whom they are counseling. Results from this study suggest that individuals with an anxious attachment with others are at risk for binge eating. It is recommended that pastors advocate for parishioners to seek help for binge eating early, in order to prevent the occurrence of developing an eating disorder.

Conclusions

There were statistically significant positive correlations between binge eating scores and anxious attachment with others, avoidant attachment with others, and anxious attachment with God. However, there was insufficient evidence to suggest two or more of the attachment styles combined predicted binge eating better than did anxious attachment with others alone. Specifically, when controlling for attachment with others and attachment with God, only anxious attachment with others was a statistically significant predictor of BES. The present study findings provide some evidence that the more an individual reports anxious attachment with others, the more severe binge eating is reported to be.

Exploratory analysis results did not reveal statistically significant differences in attachment and binge eating when controlling for religious denominations. When comparing males and females, males presented with statistically significant lower average binge eating, attachment with others, and attachment with God scores. When comparing individuals based upon binge eating severity, individuals in the none-mild

category had statistically smaller mean scores in anxious attachment with others and anxious attachment with God than did those in the moderate and severe binge eating groups. Those in the none-mild group also had smaller average avoidant to others scores than did individuals in the moderate binge eating group. There were no statistically significant differences found between the moderate and severe binge eating groups, likely because of small sample sizes.

This study was a correlational study and, therefore, causal explanations for binge eating are not possible. However, there are ways in which the present results may inform practice. Practitioners in clinical settings may consider asking about binge eating when individuals present with anxious attachment. Additionally, individuals presenting with difficulties with binge eating may also have spiritual needs that may be unaddressed. Clergy and pastors in community settings may be able to advocate for parishioners who binge eat by urging them to seek help from a mental health counselor. Pastors and mental health counselors each play a unique role in addressing attachment with others and with God when someone is struggling with binge eating. While the results of the study are consistent with research, more information is needed about the experience of binge eating as it is related to attachment in community and clinical settings.

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Appendix A

Demographic Survey

Demographic Survey

I am interested in gathering information about eating behaviors and how they impact you. This survey is NOT designed to determine diagnosis or to take the place of professional consultation. Please fill out the following forms as accurately, honestly, and completely as possible. There are no right or wrong answers. All your answers are anonymous.

Please complete the following questions by clicking on one box that is most applicable:

Current age: _____

Would you consider yourself a Christian?
- Yes
- No

How many years have you been a Christian?
- 0-1
- 2-4
- 5-10
- 11-14
- 15+

State Residing: _____

Highest Level of Education:
- No High School Degree
- High School Degree/GED
- Some College
- Associate's Degree
- Bachelor's Degree
- Master's Degree
- Doctorate Degree

Yearly Income:
- Less than $25,000
- $26,000 - $30,000
- $31,000 - $49,999
- $50,000 - $74,999
- $75,000 - $99,999
- $100,000 - $149,999
- $150,000+

Race/Ethnicity
- White/Caucasian
- Asian/Pacific Islander
- Hispanic/Latino
- African American
- Other

Height: Feet: _____ Inches: _____
Current Weight (lbs.): _____
Highest Weight (excluding pregnancy) (lbs.): _____
Lowest Adult Weight (lbs.): _____
Ideal Weight (lbs.): _____

Ever diagnosed with an eating disorder?
- Yes
- No

If yes, which diagnosis?

_____

Appendix B

Binge Eating Scale (BES)

Binge Eating Scale (BES)

Instructions: Below are groups of numbered statements. Read all of the statements in each group and click the one that best describes the way you feel about the problems you have controlling your eating behavior.

1.
1) I don't feel self-conscious about my weight or body size when I'm with others.
2) I feel concerned about how I look to others, but it normally does not make me feel disappointed with myself.
3) I do get self-conscious about my appearance and weight which makes me feel disappointed in myself.
4) I feel very self-conscious about my weight frequently, I feel intense shame and disgust for myself. I try to avoid social because of my self-consciousness.

2.
1) I don't have any difficulty eating slowly in the proper manner.
2) Although I seem to "gobble down" foods, I don't end up feeling stuffed because of eating too much.
3) At times, I tend to eat quickly and then, I feel uncomfortably full afterwards.
4) I have the habit of bolting down my food, without really chew it. When this happens I usually feel uncomfortably stuffed because I've eaten too much.

3.
1) I feel capable to control my eating urges when I want to.
2) I feel like I have failed to control my eating more than the average person.
3) I feel utterly helpless when it comes to feeling in control of my eating urges.
4) Because I feel so helpless about controlling my eating I have become very desperate about trying to get in control.

4.
1) I don't have the habit of eating when I'm bored.
2) I sometimes eat when I'm bored, but often I'm able to "get busy" and get my mind off food.
3) I have a regular habit of eating when I'm bored, but occasionally, I can use some other activity to get my mind off eating.
4) I have a strong habit of eating when I'm bored. Nothing seems to help me break the habit.

5.
1) I'm usually physically hungry when I eat something.
2) Occasionally, I eat something on impulse even though I really am not hungry.
3) I have the regular habit of eating foods that I might not really enjoy, to satisfy a hungry feeling even though physically I don't need the food.
4) Even though I'm not physically hungry, I get a hungry feeling in my mouth that only seems to be satisfied when I eat a food, like a sandwich, that fills my mouth. Sometimes when I eat the food to satisfy my mouth hunger, I then spit the food out so I won't gain weight.

6.

1) I don't feel any guilt or self-hate after I overeat.
2) After I overeat, occasionally I feel guilt or self-hate.
3) Almost all the time I experience strong guilt or self-hate after I overeat.

7.

1) I don't lose total control of my eating when dieting even after periods when I overeat.
2) Sometimes when I eat a "forbidden food" on a diet, I feel like I "blew it" and eat even more.
3) Frequently, I have the habit of saying to myself, "I've blown it now, why not go all the way" when I overeat on a diet. When that happens I eat even more.
4) I have a regular habit of starting strict diets for myself, but I break the diets by going on an eating binge. My life seems to be either a "feast" or "famine."

8.

1) I rarely eat so much food that I feel uncomfortably stuffed afterwards.
2) Usually about once a month, I eat such a quantity of food, I end up feeling very stuffed.
3) I have regular periods during the month when I eat large amounts of food, either at mealtime or at snacks.
4) I eat so much food that I regularly feel quite uncomfortable about eating and sometimes a bit nauseous.

9.

1) My level of calorie intake does not go up very high or go down very low on a regular basis.
2) Sometimes after I overeat, I will try to reduce my caloric intake to almost nothing to compensate for the excess calories I've eaten.
3) I have a regular habit of overeating during the night. It seems that my routine is not to be hungry in the morning but overeat in the evening.
4) In my adult years, I have had week-long periods where I practically starve myself. This follows periods when I overeat. It seems I live a life of either "feast" or "famine."

10.

1) I usually am able to stop eating when I want to. I now when "enough is enough."
2) Every so often, I experience a compulsion to eat which I can't seem to control.
3) Frequently, I experience strong urges to eat which I seem unable to control, but at other times I can control my eating urges.
4) I feel incapable of controlling urges to eat. I have a fear of not being able to stop eating voluntarily.

11.

1) I don't have any problem stopping eating when I feel full.
2) I usually can stop eating when I feel full but occasionally overeat leaving me feeling uncomfortably stuffed.
3) I have a problem stopping eating once I start and usually I feel uncomfortably stuffed after I eat a meal.
4) Because I have a problem not being able to stop eating when I want, I sometimes have to induce vomiting to relive my stuffed feeling.

12.

1) I seem to eat just as much when I'm with others (family, social gatherings) as when I am by myself.

2) Sometimes when I'm with other persons, I don't eat as much as I want to eat because I'm self-conscious about my eating.
3) Frequently, I eat only a small amount of food when others are present, because I'm very embarrassed about my eating.
4) I feel so ashamed about overeating that I pick times to overeat when I know no one will see me. I feel like a "closet eater."

13.
1) I eat three meals a day with only an occasional between meal snack.
2) I eat three meals a day, but I also normally snack between meals.
3) When I am snacking heavily, I get in the habit of skipping regular meals.
4) There are regular periods when I seem to be continually eating, with no planned meals.

14.
1) I don't think much about trying to control unwanted eating urges.
2) At least some of the time, I feel my thoughts are pre-occupied with trying to control my eating urges.
3) I feel that frequently I spend much time thinking about how much I ate or about trying not to eat anymore.
4) It seems to me that most of my waking hours are pre-occupied by thoughts about eating *or* not eating. I feel like I am constantly struggling not to eat.

15.
1) I don't think about food a great deal.
2) I have strong cravings for food but they last only for brief periods of time.
3) I have days when I can't seem to think about anything else but food.
4) Most of my days seem to be pre-occupied with thoughts about food. I feel like I live to eat.

16.
1) I usually know whether or not I'm physically hungry. I take the right portion of food to satisfy me.
2) Occasionally, I feel uncertain about knowing whether or not I'm physically hungry. At these times it's hard to know how much food I should take to satisfy me.
3) Even though I might know how many calories I should eat, I don't have any idea what is a "normal" amount of food for me.

Appendix C

Attachment to God Inventory

The following statements concern how you feel about your relationship with God. I am interested in how you generally experience your relationship with God, not just in what is happening in that relationship currently. Make a mark in the column that best represent how much you are agree with or disagree with each statement.	Strongly Disagree	Disagree	Moderately Disagree	Neutral	Moderately Agree	Agree	Strongly Agree
1. I worry alot about my relationship with God							
2. I just don't feel a deep need to be close to God							
3. If I can't see God working in my life, I get upset or angry							
4. I am totally dependent upon God for everything in my life							
5. I am jealous at how God seems to care more for others than for me							
6. It is uncommon for me to cry when sharing with God							
7. Sometimes I feel that God loves others more than me							
8. My experiences with God are very intimate and emotional							
9. I am jealous at how close some people are to God							
10. I prefer not to depend too much on God							
11. I often worry about whether God is pleased with me							
12. I am uncomfortable being emotional in my communication with God							
13. Even if I fail, I never question that God is pleased with me							
14. My prayers to God are often matter-of-fact and not very personal							
15. Almost daily I feel that my relationship with God goes back and forth from "hot" to "cold"							
16. I am uncomfortable with emotional displays of affection to God							
17. I fear God does not accept me when I do wrong							
18. Without God I couldn't function at all							
19. I often feel angry with God for not responding to me when I want							
20. I believe people should not depend on God for things they should do for themselves							
21. I crave reassurance from God that God loves me							
22. Daily I discuss all of my problems and concerns with God							
23. I am jealous when others feel God's presence when I cannot							
24. I am uncomfortable allowing God to control every aspect of my life							
25. I worry alot about damaging my relationship with God							
26. My prayers to God are very emotional							
27. I get upset when I feel God helps others, but forgets about me							
28. I let God make most of the decisions in my life							

Appendix D

Experiences In Close Relationships Scale- Revised Version

Experiences In Close Relationships Scale- Revised Version

The statements below concern how you feel in relationship with others. We are interested in how **you *generally* experience relationships,** not just in what is happening in a current relationship. Respond to each statement by clicking a circle to indicate how much you agree or disagree with each statement.	Strongly Disagree	Disagree	Moderately	Neutral	Moderately Agree	Agree	Strongly Agree
1. I'm afraid that I will lose others' love							
2. I prefer to not show others how I feel deep down							
3. I often worry that others will not want to stay with me							
4. I feel comfortable sharing my private thoughts and feelings with others							
5. I often worry that others don't really love me							
6. I find it difficult to allow myself to depend on others							
7. I worry that others won't care about me as much as I care about them							
8. I am very comfortable being close to others							
9. I often wish that other people's feelings for me were as strong as my feelings for them							
10. I don't feel comfortable opening up to others							
11. I worry alot about my relationships							
12. I prefer not to be too close to others							
13. When others are out of sight, I worry that they will become interested in someone else							
14. I get uncomfortable when others want to be very close							
15. When I show my feelings for others, I'm afraid they will not feel the same about me							
16 I find it relatively easy to get close to others							
17 I rarely worry about others leaving me							
18 It's not difficult for me to get close to others							
19. Other people in my life make me doubt myself							
20. I usually discuss my problems and concerns with others							
21. I do not often worry about being abandoned							
22. It helps to turn to others in time of need							
23. I find that other people don't want to get as close as I would like							
24. I tell others just about everything							
25. Sometimes others change their feelings about me for no apparent reason							
26. I talk things over with others							
27. My desire to be close to others sometimes scares people away							
28. I am nervous when others get too close to me							
29. I am afraid that once others get to know me they won't like who I really am.							

	Strongly Disagree	Disagree	Moderately Disagree	Neutral	Moderately Agree	Agree	Strongly Agree
30. I feel comfortable depending on others							
31. It makes me mad that I don't get the affection and support I need from my partner							
32. I find it easy to depend on others							
33. I worry that I don't measure up to other people							
34. It's easy for me to be affectionate with other people							
35. Others only seem to notice me when I am angry							
36. Others really understand me and my needs							

Appendix E

Informed Consent

Relationship With God, With Others and Eating Behaviors

Consent Form

Dissertation, Northwest University

Kayce Aspen

You are invited to participate in a research study conducted by Kayce Aspen in the Psy.D. program at Northwest University. The study is being conducted as a class requirement for dissertation. The purpose of this study is to gather information about a modern day Christian's relationship with God, relationship with others, and eating behavior.

If you agree to participate in the study you will be asked to complete the following survey that will take between 15 and 30 minutes.

There are minimal risks associated with participation. Some individuals may be uncomfortable answering personal questions related to eating and personal relationships with others and/or God. You may choose not to participate in this research study.

The benefit of taking part in this study is the opportunity to participate in the research process as a research subject. There will be no compensation for participating in the study.

Participation in this study is voluntary. You may choose not to participate in this study at any time and for any reason. There will not be any negative consequences for you if you refuse to participate. You may refuse to answer any questions asked. All responses are anonymous.

You may keep this consent form for your records. By completing this questionnaire and submitting it, you are giving permission to use your responses in this research study.

The results from this study will be presented to fulfill requirements for the dissertation portion of the Psy.D. degree. Only the responses of groups of participants will be presented. Results may also be presented in community settings such as in churches and published in a psychological journal. All data will be destroyed 5 years past the dissertation defense date.

If you have any questions about this study, contact Kayce Aspen at 206-794-0700. If you have further questions, please contact my faculty advisor Dr. Edstrom at 425-889-5328. You may also contact the Chair of the Northwest University IRB, at irb@northwestu.edu or 425-889-5763.

Thank you for your consideration of this request.

Kayce Aspen

Dr. Leihua Edstrom