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LOYOLA UNIVERSITY CHICAGO

THE ROLE OF SPIRITUALITY/RELIGION AS A COPING MECHANISM
DURING TREATMENT FOR DISORDERED EATING

A DISSERTATION SUBMITTED TO
THE FACULTY OF THE GRADUATE SCHOOL
IN CANDIDACY FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

PROGRAM IN SOCIAL WORK

BY

DAVID FRANCYK

CHICAGO, IL

AUGUST 2014

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ACKNOWLEDGEMENTS

Many teachers, colleagues and friends provided guidance and support during this dissertation process. I would like to thank the faculty of the School of Social Work at Loyola University Chicago, particularly my committee, Dr. Terry Northcut, Chair, Dr. Terri Kilbane, Dr. Patricia Murphy (Rush University Medical Center), and Dr. Patrick Crotty who skillfully and patiently guided me through the process.

For all the technical assistance with data analysis, thanks to William McGill, Eric Olsen and especially to Brian Kay (Marquette University) and Eric Klosterman (University of Wisconsin-Milwaukee) both of whom patiently provided significant support, guidance and assistance to me through the analytics process. For assistance in the early stages of planning both the research and the organization of this paper, thanks to Dr. Pam Bean, Rogers Memorial Hospital and Pat Walsh, Alverno College.

For taking time in our monthly accountability meetings, thanks to my colleague the Rev. Kate Jones. For moral support and cheerleading, thanks to my fellow students Dr. Sarah Hessenauer and Dr. Robyn Welk-Richards who assured me that this too shall pass. And for her loving support and encouragement, I thank my partner, Kristine Devitt.

This work is dedicated to two friends,
Douglas MacNeil and the Rev. Tom Winslow (1944-2012),
who many years ago helped me find the right path.
And to Kristine, the one in whom my soul delights.

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LIST OF ABBREVIATIONS

AN	Anorexia Nervosa
BN	Bulimia Nervosa
BED	Binge Eating Disorder
EDNOS	Eating Disorder Not Otherwise Specified
QIDS	Quick Inventory of Depressive Symptomatology
EDEQ	Eating Disorders Examination Questionnaire
STAI	Spielberger State-Trait Anxiety Questionnaire
DSM-V	Diagnostic and Statistical Manual of Mental Disorders, 5 th ed.
SMR	Standardized Mortality Ratio
CSA	Childhood Sexual Abuse
ED	Eating Disorder
CBT	Cognitive Behavioral Therapy
DBT	Dialectical Behavior Therapy
AA	Alcoholics Anonymous
OA	Overeaters Anonymous
S/R	Spirituality/Religion
EDC-CBT	Eating Disorder Center-Cognitive Behavioral Therapy Treatment Track
EDC-DBT	Eating Disorder Center-Dialectical Behavioral Therapy Treatment Track
PHP	Partial Hospital Treatment Track

ABSTRACT

The purpose of this study was to investigate the role of spirituality/religion used as a coping mechanism during treatment for disordered eating. Given the mixed outcome results of current therapeutic and pharmacological treatment methods for disordered eating, it is important to investigate other factors which may influence the treatment process. This study evaluated the role of spirituality/religion used as a coping mechanism among 61 patients who were admitted into an eating disorder treatment program and then discharged over a period of 15 months. In this quantitative study, the Brief RCOPE measure was self-administered at admission to determine the levels of both positive and negative spiritual/religious coping utilized by the patients. The Quick Inventory of Depressive Symptomatology – Self-Report (QIDS-SR 16), the Spielberger State-Trait Anxiety Questionnaire (STAI) and the Eating Disorders Examination Questionnaire (EDE-Q4) were self-administered at admission and discharge to measure changes in depression, anxiety and severity of dietary restraint and concerns about eating and body shape and weight areas during the treatment process. The results of this study show there are significant relationships between the use of spirituality/religion as a coping mechanism and anxiety and length of stay, and trends towards significance with depression and duration of illness.

CHAPTER ONE

INTRODUCTION

Introduction to the Study

This study is divided into five chapters. Chapter One, Introduction, will provide an introduction to disordered eating including a description of the disorder as well as the diagnostic criteria presented in the Diagnostic and Statistical Manual of Mental Disorders (5th ed.), the vulnerabilities and risk factors associated with the development of disordered eating as well as the treatment of disordered eating. Chapter Two, the Literature Review, focuses on the topics of spirituality and religion as they relate to health outcomes and specifically the relationship between spirituality and religion and the course of treatment of eating disorders. Chapter Two also includes the hypothesis and sub-hypotheses. Chapter Three, Methodology describes the population studied, the process of completing various measures, a description of the measures used and finally the statistical analysis procedures. Chapter Four presents the results of the statistical analysis and Chapter Five discusses the findings of this research, the relation of the findings of this research to existing research, the limitations of the research, and the relevance of this research to the practice of social work.

Introduction to Disordered Eating

“It is such a terrible disease because you watch your child deliberately hurting herself, and obviously suffering, and yet you are unable to help her. Another tragedy is that it affects the whole family...” (Bruch, 2001, p. 1). Often thought of as a 20th century

disease, the first medically documented case of anorexia nervosa (AN) was Martha Taylor in England in 1667. The first medically documented case of AN in a male followed in 1694 also in England. Bell (1985) describes the culture-bound syndrome of “holy anorexia” in medieval Italy where female ascetics deprived themselves of physical needs and comforts, often including food in order to exemplify the life of Christ. For Catherine of Sienna, the 14th century Italian saint, self-starvation was a prominent feature of her asceticism (Bell). However it was not until the latter part of the 20th century that speculation on theories of the etiology and treatment of disordered eating began. In the mid-1970s, Hilda Bruch began studying and writing about the disordered functioning of those suffering from anorexia nervosa (AN). In 1979, Gerald Russell published his seminal research on bulimia nervosa (BN): “Bulimia Nervosa: An Ominous Variant of Anorexia Nervosa” (Russell, 1979). But it wasn’t until 1980 when the Diagnostic and Statistical Manual of Mental Disorders, Third Edition was published, that bulimia nervosa was recognized as a separate eating disorder diagnosis. So while disordered eating was identified and documented over 300 years ago, it is only in the last 40 years that we have made strides in understanding and treating both anorexia nervosa (AN) and bulimia nervosa (BN).

Research shows that disordered eating is a complex, chronic, and deadly disease which is difficult to treat. Golden et al. (2003) found that “Eating disorders are associated with complex biopsychosocial issues that, under ideal circumstances, are best addressed by an interdisciplinary team of medical, nutritional, mental health and nursing professionals who are experienced in the evaluation and treatment of eating disorders” (p.

497). Eating disorders are the third most chronic disease in adolescent females with an incidence rate of 5% (Golden et al.). Some studies have reported anorexia nervosa to have the highest mortality rate of any psychiatric disorder for young females (Birmingham et al., 2005). While some dispute these high mortality rate findings, research has shown that anorexia nervosa is associated with an increased and a substantial risk of premature death and suicide (Herzog et al., 2000). The causes of death are typically related to complications of the disease, such as suicide and alcoholism (Herzog et al.). Although Herzog et al. found no deaths related to bulimia nervosa in their study, they suggest that the relationship between mortality and bulimia nervosa is unclear and recommend further research.

Disordered eating is a chronic disease wherein significant numbers of those suffering from these disorders will continue to display symptomatology for years or even their entire lifetime. In their meta-analysis of 26 studies looking at the course and outcome of eating disorders, Keel and Brown (2010) found worse outcomes with anorexia nervosa when compared to bulimia nervosa. Their analysis identified a 50% remission rate for anorexia after 10 years and 75% remission for bulimia after 10 years, with a higher mortality rate for anorexia (p. 203). Wonderlich et al. (2012) found that most patients suffering from anorexia and bulimia do not recover fully after short-term treatment and a significant number of patients will continue to engage in disordered eating behaviors for long periods of time. The authors further found that once the duration of illness exceeded 6-7 years, the likelihood of recovery diminishes (p. 467).

In looking at the chronicity and difficulty in treating Anorexia, Vitousek and Gray (2005) discuss the ego-syntonic nature of Anorexia: "... attachment to symptoms and reluctance to change are not special problems but expected features that affect almost every aspect of treatment with virtually all patients" (p. 181). To add to the complexity of the ego-syntonic nature of anorexia, the authors also identify the *culturally*-syntonic beliefs that support the thinness ideal in Western culture (p. 195).

Purpose of this Study

Eating disorders are complex, chronic and treatment resistant psychological disorders caused and exacerbated by multiple vulnerabilities and risk factors, including psychological factors, biomedical factors and sociocultural factors as well as co-occurring psychopathologies. The interplay of these factors makes treatment of disordered eating both complex and challenging. The purpose of this study is look at one factor which may have an influence on the outcome of treatment: spirituality and religion; specifically, the role of spirituality and religion when used as coping mechanism during the stressful experience of treatment.

There is a body of literature in which the role of religion/spirituality has been found to correlate with positive outcomes of health treatment (Koenig, 1997; Larson & Larson, 2003). However, there has been modest research on the mechanisms through which spirituality/religion influences health – that is, identifying the mechanisms which influence the positive outcomes. George, Ellison and Larson (2002) identified four categories of mediators which are believed to contribute to the positive outcomes: health practices, social support, psychosocial resources and sense of coherence. With health

practices, religious practices generally promote good health habits which in turn promotes better health and longevity; among those who participate in religious services develop stronger social ties and support in their community which, again, supports better health and increased longevity; there is evidence (Ellison, 1993) that religious participation positively affects psychosocial resources such as self-esteem, self-efficacy and mastery; and sense of coherence which includes meaning, predictability and manageability which then support more effective coping skills during stressful life events.

When looking specifically at disordered eating, there is a modest but growing body of research also indicating a positive relationship between spirituality and religion and the positive outcomes of treatment of disordered eating (Jacobs-Pilipski et al., 2005; Mardsen, Karagianni & Morgan, 2006; Smith, Hardman, Richards & Fischer, 2003). The purpose of this study is to investigate another potential influencing factor within the sphere of spirituality/religion: the role of spirituality and/or religion as a *coping mechanism* during treatment for disordered eating.

Description of Disordered Eating

Eating disorders are psychological disorders characterized by disturbed eating patterns and maladaptive ways of controlling weight as well as a disturbed perception of body shape and weight (Nevid, Rathus & Greene, 2011). The major variants of this disorder are bulimia nervosa (BN), anorexia nervosa (AN), eating disorder not otherwise specified (EDNOS) and binge eating disorder (BED).

Bulimia nervosa (BN) is characterized by repeated episodes of eating far more than typical followed by compensatory behaviors such as purging, exercise or use of laxatives, along with a disturbed perception of the body (DSM-V, 2013). The DSM-V identifies three essential features of bulimia which are: bingeing which is eating, in a discrete period of time, an amount of food which is significantly greater than most people would eat; using inappropriate compensatory behaviors in order to prevent weight gain; and, self-evaluation based on body weight and shape (p. 345).

The Diagnostic Criteria for BN are:

- A. Recurrent episodes of binge eating.
- B. Recurrent inappropriate compensatory behavior in order to prevent weight gain.
- C. The binge eating and compensatory behaviors occur one time per week for 3 months.
- D. Self evaluation is unduly influenced by body shape and weight.
- E. The disturbance does not occur exclusively during episodes of Anorexia Nervosa. (DSM-V, 2013)

Anorexia nervosa (AN) is characterized by an intense fear of gaining weight, persistent food restriction, and distorted body image (DSM-V, 2013). The Diagnostic Criteria for AN are:

- A. Restriction of energy intake and refusal to maintain body weight at or above a minimally normal weight for age and height.
 - B. Intense fear of gaining weight or becoming fat, even though underweight.
 - C. Disturbance in the way the body weight or shape is experienced, self-evaluation based on weight and shape, or denial of the severity of low body weight.
- Two Subtypes: Restricting Type and Binge-Eating/Purging Type. (DSM-V, p. 339)

Binge-Eating Disorder (BED) is characterized by recurrent episodes of binge eating occurring once per week for at least three months. The diagnostic criteria for BED are:

- A. Recurrent episodes of binge eating occurring once a week for 3 months.
- B. Marked distress during binge eating.
- C. There is no use of inappropriate compensatory behaviors (exercise, laxatives, etc.). (DSM-V, 2013)

Eating disorder not otherwise specified (EDNOS) is a diagnostic category for eating disorders that do not meet the criteria for any other specific eating disorder. Examples of EDNOS are a female who meets all other criteria for AN, but continues with menses; or, an individual meets the criteria for AN, but despite restricting, weight is within normal range.

The prevalence rate for anorexia nervosa among females ranges from 0.3% (Hoek & van Hoeken, 2003) to 0.4% (DSM V, 2013) and the prevalence rate for bulimia nervosa among females ranges from 0.1% (Hoek & van Hoeken) to 1-1.5% (DSM V, 2013). The average incidence rate (per 100,000 population) for anorexia nervosa in the U.S. during the period 1935-1989 was 8.3. However there has been an increasing trend in the U.S. The incidence rate in the period 1950-1959 was 4.3 increasing to 12.0 during the period 1980-1989. The incidence rate for bulimia nervosa among females is uncertain since the criteria for bulimia nervosa was first published in the DSM-III in 1980. However, three studies completed in the mid-1990s reported an incidence rate of 13.5 in Rochester, MN, 11.5 for The Netherlands and 12.2 in the UK (Hoek & van Hoeken). The standardized mortality rate (SMR: ratio of observed to expected deaths) for anorexia nervosa ranges from .71 to 17.8 (Birmingham et al., 2005). In their research

on the mortality rates of eating disorders, Crow, Praus and Thuras (1999) reported the SMR for anorexia at 8.35. Far less information is available on the mortality rates of those diagnosed with bulimia nervosa. When Huas et al. (2013) performed a meta-analysis on mortality of bulimia nervosa, only 12 studies were identified. As a result, their research goal was to determine more precise information on the mortality rates of those with bulimia nervosa by comparing the mortality rates of a population diagnosed with severe bulimia nervosa to the general population. The global SMR for this population was 5.52 which is 2.83 lower than that for anorexia nervosa. The SMR for suicide in the group was significantly higher at 30.9.

Whether the prevalence and incidence rates of eating disorders are actually increasing is unclear and controversial (Turnbull et al., 1996). Increased reporting of cases may be a factor, as well as improved diagnosis or the fact that more primary care physicians are referring cases to psychiatrists. However, the prevalence rates for AN suggest an upward incidence trend since the mid-1950s, but the methods used to collect data have also changed which can have a significant effect on the statistical results (Hoek & van Hoeken, 2000). Time trends for the incidence of BN have shown a significant increase in BN, but that may be due to the publication of the criteria for diagnosing BN in the DSM-III in 1980.

In summary, eating disorders are chronic diseases with high rates of morbidity and mortality. Complex biopsychosocial factors influence the etiology, maintenance and treatment of these disorders. While there has been significant research identifying a correlation between spirituality/religion and the positive outcomes in health care in

general (George, Ellison & Larson, 2002; Koenig, McCullough & Larson, 2001; Sperry & Shafranske, 2005), a potential treatment factor which has received less attention is the role of spirituality/religiosity on the outcomes of treatment for disordered eating (Jacobs-Pilipski et al., 2005; Mardsen, Karagianni & Morgan, 2006; Smith et al., 2003). No research has been identified which has looked at the role of spirituality/ religion used as a coping mechanism with the outcomes of treatment for disordered eating. Therefore, the purpose of this study is to look at the relationship between use of spirituality and/or religion as a coping mechanism during treatment and three outcomes of treatment: (1) improvement in mood disorders, (2) anxiety, and (3) behaviors related to eating. This study looks at the changes, from admission to discharge, of scores measuring mood, anxiety and eating behaviors, to determine if spirituality/religion used as a coping mechanism, as measured by the Brief RCOPE, is a significant factor in those changes.

Vulnerabilities and Risk Factors

Eating disorders are complex diseases arising from one or a combination of risk factors and personal vulnerabilities, including psychological, interpersonal, social and biological factors. Similar to other addictive diseases, such as substance abuse, eating disorders also include significant family systems variables through which the etiology, development, and ultimately the treatment are connected to the identified patient's social system of family, friends, acquaintances or culture (Okon, Greene & Smith, 2003, pp. 450-451). While the specific causes of anorexia nervosa are not known, research indicates that problems with the demands of puberty, maternal preoccupation with diet, low self-esteem, feelings of inadequacy, lack of control of life, and controlling and highly

organized family systems are all antecedent risks to the development of anorexia nervosa (Lock, Le Grange, Agras & Dare, 2001, p. 4).

Individual and Family Risk Factors

A discussion of the individual and family risk factors that contribute to disordered eating provides a context for understanding the complexity of the etiology, maintenance and treatment of this disease. Disturbed family functioning and attachment representations have been identified as factors underlying the development of disordered eating (Armstrong & Roth, 1989; Beattie, 1988; Keel & Forney, 2013; Ward et al., 2000). Some of the earliest descriptions of anorexia implicate the role of the family as described by Marce (1860): “it is indispensable . . . to entrust the patient to the care of strangers” (Ward et al., p. 371). While the dynamics of the anorexic family and bulimic family have differences, both lend to development of attachment styles associated with disordered eating. Disorganization and conflict characterize the bulimic family where lack of support and nurturance arises from the hostile, conflictual and detached family system (Armstrong & Roth, 1989). In contrast, the anorexic family tends to avoid conflict and displays patterns of enmeshment and over-protectiveness (Armstrong & Roth). These two types of family functioning play a significant role in the development of attachment patterns and the role of these patterns in the etiology and maintenance of disordered eating. Early research (Bruch, 1973; Masterson, 1977; Palozzoli, 1978) and more recent research (Eggert, Levendosky & Klump, 2006) have identified attachment styles, specifically the insecure-resistant style, to be associated with disordered eating. Although the concept of the pathogenic/anorexogenic family (Ward et al., 2000) was considered an

influential factor in the development of disordered eating through the early 1970s, current research clearly identifies attachment patterns as a more influential factor. However, disordered eating pathology is determined by multiple factors, in which the family and the mother are players within the system supporting the pathology.

Individuals who have developed insecure attachment generally experience more negative outcomes than those with secure attachment profiles (Eggert, Levendosky & Klump, 2006). Those negative outcomes vary widely but may include low self-esteem, low academic achievement and psychopathology including but not limited to disordered eating. Armstrong and Roth (1989) found insecure attachment to be present in 96% of their adult disordered eating sample as compared to a control group without a disordered eating pathology.

Ward, Ramsay, Turnbull, Benedettini and Treasure (2000) found that the disordered eating individual is

... grown up unable to differentiate her own impulses, reliant on her mother to interpret her wants. Thus, mother is both unbearably intrusive and vitally necessary. One can also see this relationship played out with food, which is both intensely desired and feared. Our results reflect this 'pull-push' pattern, not just with the mother, but in other adult attachment relationships. (p. 374)

This finding supports the earlier findings of Bruch (1974) who described the mother-daughter relationship as one where the mother superimposes her own needs rather than responding to the baby's needs.

From a psychodynamic perspective, Beattie (1988) identified the complexity and conflict of separation-individuation from the Oedipal mother as being a significant factor relevant to the development of disordered eating during adolescence and early adulthood.

This process of separation-individuation can be particularly difficult for girls and often persists over a long period of time. While there are many reasons making this process particularly difficult for girls, some particularly relevant for girls are the blurring of boundaries between the mother and the daughter, the narcissistic extension of the mother onto the daughter and rivalry for the affection of the father.

In addition to the conflicts in separation-individuation, there is speculation that adolescent girls experience fear of developing into mature, sexual adults and taking on the responsibilities of adult sexuality, and as a result may use disordered eating behaviors as an attempt to control or even avoid that development (Beattie, 1988, p. 454). Object relations theorists have looked at the overprotective, domineering mother who may impede the development of the daughter's ego structure which is then inadequate both in the tasks of autonomy and self-regulation reducing capacity to monitor inner bodily states such as hunger and satiety (Beattie).

In their recent research examining psychosocial risk factors for disordered eating Keel and Forney (2013) identified exposure to thinness, age, weight concerns, negative emotionality and perfectionism as factors contributing to disordered eating. Exposure to the thinness ideal in our culture is a prominent factor in the etiology of disordered eating. This idealization of thinness has had a significant impact on the on adolescent and young adult women who are in the peak period of risk for development of disordered eating. In addition to being an adolescent or young female, a second robust psychosocial risk factor is weight concern. In a four-year longitudinal study of high school girls, Keel and Forney (2013) found that weight concerns prospectively predicted the onset of eating disorders.

The final risk factors are the personality traits, negative emotionality and perfectionism. Negative emotionality includes sub-domains which include dysphoria, negative self-evaluation and low self-esteem all of which have been identified as risk factors for disordered eating. Maladaptive perfectionism such as unrealistic expectations leading to failure, connecting perfection to social acceptability and fear of mistakes is another contributing factor. Research has found a combination of negative emotionality and perfectionism is predictive of disordered eating (Keel & Forney).

Eggert, Levendosky and Klump (2006) also looked at the role of personality characteristics as a mediating variable with attachment styles, finding that characteristics such as higher levels of neuroticism have been associated with both insecure attachment as well as eating pathology (p. 150). Cervera et al. (2003) identified low self-esteem and high levels of neuroticism as psychological traits most frequently associated with and contributing to a higher risk of disordered eating. Shaw, Stice and Springer (2003) identified the confluence of three factors, perfectionism, body dissatisfaction and low self-esteem as significant in the development of bulimic symptoms.

A significant individual risk factor in the development of disordered eating is a history of childhood sexual abuse (CSA) (Everill & Waller, 1995; Leonard, Steiger & Kao, 2003; Rodriguez, Perez & Garcia, 2005; Smolak & Murnen, 2002; Wonderlich et al., 1997; Wonderlich et al., 2000). Within the spectrum of eating disorders, bulimia nervosa is typically associated with childhood trauma and CSA (Everill & Waller, 1995; Gleaves & Eberenz, 1994; Vanderlinden & Vandereycken, 1996). Determining CSA to be a specific risk factor for disordered eating has been difficult and complex due to

methodological limitations: defining CSA, age of onset of the eating disorder (ED) in relation to the age at time of the CSA, the impact of co-occurring psychopathologies, the accuracy of CSA reporting and defining eating disorders and the populations researched (clinical vs. non-clinical). In a meta-analysis of 53 studies examining the link between CSA and eating disorders, Smolak and Murnen (2002) determined that there was a small but significant relationship between CSA and ED.

In Wonderlich et al.'s (1997) review of the literature about the CSA – ED relationship, the authors found CSA to be a non-specific risk factor for bulimia nervosa and also that CSA resulted in a higher level of psychiatric co-morbidity in an eating disordered population. This research also identified attachment disorders in those who experienced CSA as a contributing factor to the development of eating disorders. Mallinckrodt, McCreary and Robertson (1995) also found CSA to be a causal factor in ED, and linked CSA not only to ED, but also to attachment disorders which may develop in a family environment where incest is present. According to the authors, attachment disorders may also result in poor development of social competencies which they identified as a contributing factor to the development of ED. However, methodological limitations of self-reporting CSA, retrospective assessments of family and attachment, and operational definitions of terms warrant additional research to better understand the relationship between CSA and attachment disorders.

It is difficult to isolate ED from co-occurring psychopathologies. Leonard, Steiger and Kao (2003) evaluated both CSA and adult sexual abuse in a group of bulimic women and a control group of non-bulimic women. They determined that the bulimic

group reported a higher level of CSA and also reported a higher level of co-occurring psychopathologies and were able to link the severity of the CSA to the severity of the co-occurring symptoms. Wonderlich, Wilsnack, Wilsnack and Harris (1996) focused on the methodological problems associated with linking CSA to ED. They looked at a national sampling of women, utilizing a rigorous definition of CSA and multivariate analysis, and concluded that CSA is a risk factor for bulimic eating patterns. They view CSA within the context of traumatic experiences which often result in increased high risk behaviors such as substance abuse, self-destructive behaviors and the coping strategy of bingeing and purging.

Franczyk (2007) found a 31% incidence rate of childhood sexual abuse within a group of 59 patients in a residential eating disorder treatment center. In comparison to the general population, the incidence rate of childhood sexual abuse as reported by the U.S. Department of Health and Human Services, Children's Bureau in 2010 was 9.2% (U.S. Department of Health and Human Services, 2010). Franczyk further found that the patients who experience childhood sexual abuse had a higher score on the Beck Depression Inventory than those who did not experience childhood sexual abuse. Franczyk's findings are consistent with Brand et al. (1996) and Sansonnet-Hayden, Haley, Marriage and Fine (1987) who reported more depressive symptoms among adolescents reporting sexual abuse. Some research suggests that CSA results in powerlessness, guilt and self-blame which are symptoms of depression (Briere & Runtz, 1988). This group's mean score for obsessive compulsive behaviors was twice as high as

the group who did not experience childhood sexual abuse. How childhood sexual abuse affects treatment for disordered eating is discussed in the Treatment section of this paper.

In summary, the Individual and Family Risk Factors contributing to the development of disordered eating include maladaptive attachment patterns, disturbed family functioning, difficulties in separation/individuation, pervasive problems with self-regulation and a history of childhood sexual abuse. As noted earlier, these factors represent an array of complex biopsychosocial factors which may contribute to the development of eating disorders.

Biomedical Risk Factors

An understanding of the biomedical risk factors that contribute to ED provides a biological context for examining possible factors that influence treatment, such as spirituality and religion. The underlying factors in the etiology of disordered eating from the biomedical perspective are primarily physiological imbalances. Researchers generally agree that an irregularity in the hypothalamus, which among other homeostatic processes regulates hunger, satiety and metabolism plays a role in the development of both anorexia and bulimia (Lelwica, 1999). The Study Group on Anorexia (1995) found that there are severe disturbances in all of the endocrine systems in those suffering from anorexia nervosa: the hypothalamic-pituitary-adrenal axis (HPA), the hypothalamic-pituitary-gonadal axis (HPG), the hypothalamic-pituitary-thyroid axis (HPT), the growth hormone (GH)/somatomedin C (IGF-1) system and the central and peripheral arginine vasopressin (AVP) systems (p. 235). The cholinergic, noradrenergic and serotonergic neurotransmitter systems also are abnormally regulated in those with AN (p. 235). Low

levels of serotonin, a neurotransmitter which also regulates satiety, may be a factor in the binge eating behavior of bulimia.

Other biomedical factors are inadequate nutrition, electrolyte imbalances, cardiac irregularities and neurological abnormalities (Lelwica, 1999). Consequently, stabilization of a patient's health through adequate nutrition and weight stabilization is the first line of defense in treating disordered eating.

Social and Cultural Risk Factors

An understanding of the social and cultural risks factors that contribute to ED provides a socio-cultural context for examining possible factors that influence treatment, such as spirituality and religion. Padulo and Rees (2006) present a feminist and social perspective which first views disordered eating within the context of the Western patriarchal culture. They view this patriarchal culture as an addictive system where there is an "... insatiable hunger for money and power, leaving the inner life of connection and authenticity starving and primed for an addiction" (p. 65). The authors believe that women in our culture are perceived as simply being another commodity to be consumed and discarded by men who decide how women should look. "Women suffering from body image, weight issues, and eating disorders mirror a culture participating in out of control consumerism, isolation from community, addiction, war, and starvation of individual identity. A therapeutic alliance is challenging due to the stringent control issues that have evolved as a result of this culture" (p. 63).

Fredrickson and Roberts' (1997) objectification theory identifies multiple experiential consequences for women in our culture such as internalizing the "observer's

(men's)" perspective on their physical self, and subjective experiences such as shame, anxiety, reduction in peak motivational states and diminished awareness of internal bodily states. In addition to these experiential consequences, Fredrickson and Roberts also identify three specific mental health risks experienced predominantly by women and related to their objectification: unipolar depression, sexual dysfunction and disordered eating. These studies provide information about the objectification of women that is relevant to understanding a risk factor disordered eating.

Fredrickson and Roberts (1997) identify the emergence of disordered eating symptomatology in adolescent girls at which time both self-esteem levels drop and the likelihood of mood disorders increase. It is at this confluence of psychological changes, together with the significant physical changes of adolescence, when girls begin to think that their bodies belong less to themselves and more to others. As girls develop a woman's body, it seems to become part of the public domain, open to sexualized gazing, advances, harassment, as well as over-protection by parents (pp. 193-194). These early experiences of sexual objectification, along with the need to acquiesce to the thinness requirements of society, may lead to disordered eating as well as other psychological impairments. This theory provides a framework for understanding the cultural risk factors for developing disordered eating.

Dorian (2001) attributes the surge in disordered eating in the 1960's to the cultural pressures placed on women as their roles changed dramatically and Madison Avenue became the arbiter of the ideal female look. This ideal female look was based on an unrealistic measure of the woman's body: extremely slender hips, large breasts,

disproportionately long legs, and long necks. This “barbie doll” look was reinforced in our culture by the popularity of the actual Barbie Doll which was introduced in 1959. In order to achieve the “barbie doll” look, a woman would have to engage in excessive dieting and exercise. Dorian views disordered eating “as the expression of converging intrapsychic, interpersonal and cultural experience” (p. 109). The development of these converging experiences, intensifying the feelings of inadequacy common to many women prior to the women’s movement, all led to seeking fulfillment through acquisition. Like Padulo and Rees, Dorian views the rampant consumerism in our society as a direct result of the promises of advertising which lure consumers into endless consumption of products which guarantee “status, desirability, social mobility, independence, and power ...” (p. 109). This cycle of acquiring products for self improvement supports the false notion of the inadequate self. This objectification of women, which is the engine of the fashion and beauty industry, reinforces self-objectification by women and encourages men to view women as objects for their own consumption (Frederickson & Roberts, 1997). This cultural stance of women as objects overwhelms the development of a belief system which honors the body as a sacred gift and may lead to disordered eating. These studies reveal how objectification by the larger society reinforces self-objectification, which may contribute to eating disorders.

Lelwica (1999) looked at disordered eating and gender in an attempt to understand the prevalence of disordered eating in women. What are the socio-economic-political issues in our culture that seem to strongly influence women to seek the slender body which they perceive as the correct body type to have? Perhaps the oppressive

conditions of a patriarchal society cause powerlessness in girls and women leaving them with a sense of emptiness. The desire to have control of themselves is counterbalanced by the fear of not following the codes of the existing social order: thinness (Lelwica). By looking at the socioeconomic and political issues that may influence symptoms of disordered eating, we gain insight into the development of eating disorders.

In their cross-cultural study on male and female body shapes, Furnham and Baguma (1994) found a relationship between higher socioeconomic status and the preference for thinness in women in Western countries (p. 82). In the case of the white female and male British subjects who viewed and rated drawings of the male and female figure, they did find the thinner, but not the thinnest, body shapes most attractive. While it is hard to generalize for the apparently preferred female body shape, this research does support the belief by both women and men that thinness is preferred to obesity in both women and men. In order for most women to maintain this desired thinness, extraordinary measures are required such as significant reduction of caloric intake, purging, use of laxatives and excessive exercise which are symptoms of disordered eating.

Wiseman, Gray, Mosimann and Ahrens (1992), in their study of the cultural expectations of thinness in women, found that during the period 1979-1988, Miss America contestants' and *Playboy* magazine centerfolds' body measurements and weight decreased, while during the same period, American women were increasing in weight based on actuarial tables (p. 86). The authors also found during the same period that articles about dieting and exercise increased significantly in six popular women's

magazines, *Harpers Bazaar*, *Vogue*, *Ladies Home Journal*, *Good Housekeeping*, *Women's Day* and *McCalls*. The dilemma for American women has been the paradox of thinness as an ideal and the reality of women increasing in size and weight. And, presumably the popular media most read by women provides the answer to the dilemma: diet and exercise.

Summary of Vulnerabilities and Risk Factors

Factors underlying disordered eating may be categorized as psychological factors, biomedical factors and sociocultural factors. The psychological view is that disordered eating is a pathological response to developmental conflicts such as insecure attachment, low self-esteem, high levels of neuroticism and incomplete separation-individuation, as well as a desire for control. In *The Golden Cage*, Bruch (1978) states, that the eating disordered individual's supreme goal is control of the self. Given the role of developmental conflicts as underlying factors, the role of family dynamics and family systems theory are also part of the psychological approach. For example, the perfectionistic, frustrated mother and the absent father are key factors in the family systems approach.

The biomedical factors are physiological centering on nutrition, hypothalamus dysfunction, and imbalances in neurotransmitters. Proponents of the biomedical approach see the underlying factors as physical rather than psychological, without taking into consideration the social conditions and the thoughts and feelings influenced by the physical processes (Lelwica, 1999).

Proponents of the socio-cultural model see disordered eating as a "...culture bound syndrome rooted in shifting social norms and expectations, rather than individual pathology or chemical imbalances" (Lelwica, 1999, p. 25). This model supports factors such as the learned behaviors of young women barraged by a media which defines the thin body as the preferred, ideal body. Another important socio-cultural factor is the attempt of a patriarchal culture to maintain control of women, economically, politically and socially (Lelwica).

Research on Treatment of Disordered Eating

Treatment of disordered eating is complex and the results are mixed. Evidence for an effective treatment of choice for anorexia nervosa (AN) is weak (Bulik et al., 2007). Bulik et al. cite many obstacles to the development of effective treatment for AN, including: lack of consensus on the best treatments, multiple presenting factors of individual patients such as length of illness and age, comorbid psychiatric diseases and related medical problems. Thus far, the Maudsley model of family treatment developed by Lock and le Grange (Lock et al., 2001) has shown positive outcomes for the treatment of anorexia in adolescents under the age of 18 and has been considered the most effective treatment approach of anorexia to date (Goldstein et al., 2011).

Bulik et al. (2007) reviewed 32 studies on the treatment of AN including studies on medication only, behavioral therapy only, and behavioral therapy and medication together. The studies were given a Poor, Fair or Good rating which were the collapsed scores of 25 items in 11 categories: (1) research aim/study questions, (2) study population, (3) randomization, (4) blinding, (5) interventions, (6) outcomes, (7) statistical

analysis, (8) results, (9) discussion, (10) external validity, and (11) funding/sponsorship. Of the 32 studies, only two of the medication studies were rated as good and six were fair; only two of the behavioral trials were rated as good and nine were rated as fair. One study on psychotherapy for adolescents was rated as moderately strong. While some findings, such as the strength of family therapy versus individual therapy for adolescent patients with a shorter duration of the illness, were positive, the authors generally conclude there is no evidence supporting an effective treatment method for AN (Bulik et al.). The authors do conclude that medication treatment alone is inappropriate (Bulik et al.). These medication treatment findings are supported by Crow, Mitchell, Roerig, and Steffen (2009) who conclude there is no convincing evidence of the efficacy of pharmacological treatment for AN and further state that AN may be the only psychiatric diseases which has no effective medication (p. 1). The authors acknowledge that a significant problem in determining efficacy of psychopharmacological treatment is the high drop-out rate of study participants. The authors believe that psychopharmacology together with psychotherapy could improve the continued participation in studies which could provide clearer evidence of the value of psychotropic medication.

Shapiro et al. (2007) found convincing evidence for effective cognitive and medication treatments for bulimia nervosa (BN). Of the cognitive therapies reviewed: cognitive behavioral therapy (CBT), interpersonal therapy (IPT), dialectical behavioral therapy (DBT) and stress management therapy, CBT was associated with the most positive outcomes for remission and reduction in compensatory behaviors (Shapiro et al.). Since low levels of the neurotransmitter serotonin which regulates satiety and may

trigger binge eating behaviors (Lelwica, 1999), higher doses of fluoxetine (60-80 mg/day) proved most effective in reducing binge eating as well as improvements in measures of food preoccupation, weight concern, drive for thinness and body dissatisfaction (Shapiro et al., 2007).

Determining the appropriate and most effective treatment depends upon psychological, interpersonal, social and biological causal factors. The interplay of one or more of these causal factors makes the treatment process complex, and management of the disease challenging. For most patients recovery is an ongoing and sometimes lifelong process involving a multi-disciplinary treatment team as well as a strong social support system. Understanding the impact of any particular causal factor on treatment outcomes is difficult to measure.

For example, determining the specific impact of childhood sexual abuse (CSA) on the course of treatment for an eating disordered population is not clear. Gleaves and Eberenz (1994) determined that a very high percentage of women in their study who were considered poor risks for successfully completing a course of treatment were survivors of childhood sexual abuse. Rodriguez, Perez and Garcia (2005) determined a direct correlation between CSA, particularly multiple abuse and repeated traumatic experiences, and their outpatient eating disorder population's poor response to treatment. For the bulimic, Coker, Vize, Tracey and Cooper (1993) differentiate between poor response to treatment and an inability to engage in treatment. Failure to engage is not attributed to one factor but to the significant array of psychopathology which impede the effectiveness of standard treatment protocols.

The impact of CSA on the treatment of eating disorders has received less attention and less research than other factors. Gleaves and Eberenz (1994) studied a subset of bulimic patients who were identified as having a poor prognosis for treatment due to multiple hospitalizations, substance abuse disorders and self-injurious behaviors. They determined that 71% of this group had a history of sexual abuse (not specifically identified as CSA) as compared to only 15% of the group of bulimic patients who were not considered treatment resistant or likely to fail to engage in treatment. The authors conclude that this high-risk group of bulimic patients also had a myriad of other psychopathologies often related to trauma. The authors recommended assessment of posttraumatic and dissociative symptoms when a history of sexual abuse is present, and that treatment protocols should be modified to meet the needs of this bulimic patient subset. The authors do point out several shortcomings of their research such as their operational definition of sexual abuse which has been subject to multiple interpretations. In addition they suggest that some of the women may have been unwilling or unable to accurately report histories of sexual abuse. Valdiserri and Kihlstrom's (1995) study of 241 college students looked at the relationship of eating disorders to other psychopathology. The authors determined there was a modest relationship between eating disorders and dissociative experiences which may explain the difficulty some women have in reporting their histories of trauma.

Rodriguez, Perez and Garcia (2005) studied the impact of trauma including sexual abuse on a sampling of Columbian women, and determined a very high probability of poor outcomes among those women who experienced trauma with the highest probability

of poor outcomes in the group who experienced sexual abuse and exposure to other violent acts. This study found that 45% of the bulimic women in this group reported traumatic experiences and that these experiences of trauma are directly related to poor response to treatment and greater treatment dropout and relapse rates. This study supports the earlier study of Mahon et al. (2001) which confirmed the dose-effect relationship between childhood trauma and the dropout rate from treatment for bulimia. The authors found that trauma affects the trauma survivor's ability to develop a sufficiently strong therapeutic relationship to continue the course of treatment. Attachment theory which seeks to understand and explain how individuals are able to develop and maintain secure relationships, as with a therapist, could be the framework for the modification of treatment protocols which may reduce dropout rate and treatment resistance.

Disordered Eating, Addictive Diseases and Religion/Spirituality

Similarities between disordered eating and other addictive diseases have been noted by clinicians. Compulsion, loss of control, and engagement in dysfunctional behavior with little concern about negative consequences are common symptoms of both disordered eating and other addictive diseases (Halmi, 2009, pp. 163-164). Halmi equates the high state of purging in the binge/purge cycle of bulimic behaviors as having addictive aspects (p. 164). Halmi further describes the similar characteristics of those suffering from disordered eating and those suffering from substance addictions: the addict's compulsion to use substances and the anorexic's compulsion to exercise; the addict's lack of control over the intake of substances and the bulimic's lack of control

over the intake of food. Halmi also identifies the role of denial in both disorders as well as the common effective therapeutic approaches: behavioral and social rehabilitation or stabilization (p. 164).

“Dysregulation of the brain reward system, a model proposed by Koob and LeMoal (1997) for understanding drug addiction, has salient features applicable to conceptualizing the development of eating disorders” (Halmi, 2009, p. 163).

Homeostasis is the self-regulation process which allows the body to adequately and successfully respond to acute challenges. In those suffering from disordered eating, homeostasis fails and allostasis sets in. Koob and LeMoal (1997) describe allostasis as “the process of maintaining apparent reward function stability by changes in the brain reward mechanism” (p. 163). They explain the allostatic state as “dysregulation of reward circuits with activation of brain and hormonal stress responses” (p. 163). The allostatic model is germane to disordered eating since the chronic stress of the disorder results in changes to the entire brain-body system: hormones, opioids and transmitters which then provide for the physiological basis for the continuation of the disordered eating patterns and behaviors (Halmi, 2009, p. 164). Koob and LeMoal suggest this allostatic state reflects both genetic and environmental factors which may lead to the addiction cycle (p. 164).

The spiritual aspects of the Twelve Steps (12 Steps) of Alcoholics Anonymous (AA) have long been recognized as an important and significant part of this addiction recovery method by its adherents (Alcoholics Anonymous, 1976). The analysis of the findings of Project MATCH, a study on the outcomes of alcoholism treatment, found a

positive relationship between engagement in AA principles and beliefs and abstinence of those successfully managing their recovery (Tonnigan, Miller & Connors, 2000). Carter (1998) compared two groups of recovering alcoholics and found a positive relationship between spiritual practices and long-term recovery from substance abuse. Sterling et al. (2007) found in their study of two groups of recovering alcoholics, one with a history of relapse and another with a history of continued abstinence, that relapse was associated with decreased spirituality.

Kaskutas (2009) quantified the role of spirituality and participation in AA 12-Step meetings, taking other factors into consideration, such as formal treatment for alcoholism versus only participation in AA as the source of recovery, the number of AA meetings attended weekly, and the length of sobriety. When she compared her data of those who utilized AA either alone or in combination with formal treatment programs to those treated with CBT and another non-AA based treatment programs, those who participated in the spiritually based 12-Steps of AA had longer and more continuous sobriety and recovery.

Given the key role of spirituality in 12 Step addictive disease recovery programs, the purpose of this study is to examine the possible relationship between spirituality and/or religion and treatment for disordered eating which has a similar psychopathology to other addictive diseases (Ram, Stein, Sofer & Kreidler, 2008). There are a significant number of studies which report a significant positive relationship between spirituality/religion and health (George, Larson & Ellison, 2002; Koenig, 1997). And, although there is a dearth of literature about the role of the spiritual-religious matrix and its influence on

the treatment of disordered eating, there is a growing body of research which indicates that a positive relationship may exist (Jacobs-Pilipski et al., 2005; Mardsen, Karagianni & Morgan, 2006; Smith et al., 2003).

CHAPTER TWO

LITERATURE REVIEW: SPIRITUALITY/RELIGION AND HEALTH

The United States is reportedly a very religious country – perhaps the most religious in the Western world (Fuller 2001; Hoge, 1996; Roof, 1999). National polls show that 94% of Americans believe in God, 90% pray regularly and 90% claim a religious affiliation (Roof). A third of Americans report having had a meaningful spiritual experience which transformed their lives in some way (Cimino & Lattin, 1998) and a 2009 Gallup national poll of 428,516 adults over the age of 18 reported that 65% of those polled considered religion to be “important in their daily lives” (Newport, 2009) and 27% considered religion to be “fairly important” (O’Hanlon, 2006). A 2000 poll by Greenburg Quinlan Research showed that 83% of respondents believed their spiritual faith and religious beliefs were tied to their mental health (O’Hanlon).

Significant research on the relationship between spirituality/religion and health (George, Ellison, & Larson, 2002; Koenig, McCullough & Larson, 2001; Sperry & Shafranske, 2005) has shown a positive relationship. Sperry and Shafranske found religious experience to be a “robust clinical variable” in research (p. 11). Pargament, Smith, Koenig and Perez (1998) found a positive relationship between the use of spirituality/religion as a coping method and the outcomes of crisis in people’s lives. While less research has been completed on the relationship between spirituality/religion and disordered eating, a positive relationship has been identified. Jacobs-Pilipski et al. (2005) found a positive relationship between spirituality/religion as a coping mechanism

and the anxiety related to perceived body image. Smith et al. (2003) found that improvements in spiritual well-being during treatment of eating disorders resulted in positive changes in eating attitudes, reduction in body image distortion and improved psychological and social functioning. Richards et al. (2006) found those who participated in spirituality support groups during treatment experienced improved treatment outcomes, larger reductions in eating disorder symptoms and a greater decrease in depression and anxiety symptoms.

While the majority of Americans consider spirituality/religion important in their lives, when we look at behavioral health providers, the evidence shows that only 46% of social workers, 33% of clinical psychologists and 32% of psychiatrists consider religion to be influential in their own lives (Paul, 2005). There seems to be a significant disconnect between what the general America population believes about religion and spirituality versus mental health professionals which might explain why spirituality/religion issues are generally not considered as effective interventions

However, there now seems to be a growing recognition among mental health professionals that spirituality/religion is a factor influencing health. Research in the field of spirituality/religion and health is advancing exponentially and is being addressed in every major medical and behavioral health discipline (Sperry & Shafranske, 2005). In academia, the Council on Social Work Education recognizes religious and spiritual diversity as important and necessary topics in social work education; and, the number of courses related to spirituality and social work offerings are increasing in schools of social work (Canda, 1998/1999). These shifts seem to suggest that spirituality and religion are

again being recognized as part of the whole person and an important part of the biopsychosocial-*spiritual* approach to social work (Canda). “A groundswell of interest in contemporary religious experience is becoming more apparent throughout the behavioral sciences as this factor, so often forgotten within the buzz of modernity, ignored by science, and marginalized in the cacophony of postmodernism, is turning out to be a robust clinical variable” (Sperry & Shafranske, 2005, p. 11).

Research shows that Americans are religious and spiritual, both in their practices and their transformative experiences (Cimino & Lattin, 1998). The research in the field of spirituality and health shows a positive connection between the two. Larson and Larson (2003) report on longitudinal studies which find an active link between spiritual/religious factors and longevity. Regular religious participation added a potential of 14 years to the lifespan of African-Americans and seven years to Caucasians. Tepper, Rogers, Coleman and Maloney (2001) report the significant positive impact of S/R on a group of 400 mentally ill patients:

1. A large majority - 80% - used some type of religious beliefs or activity to cope with their symptoms or daily difficulties;
2. 65% reported that religion helped them either a large or moderate extent in coping with symptom severity;
3. Almost half - 48% - indicated that spirituality/religion became more important to them when their symptoms worsened;
4. 30% stated their religious beliefs or activities ‘were the most important things that kept them going’. (p. 662)

Defining Religion and Spirituality

The research conducted on the meaning of spirituality and religion indicates that there are no clear characteristics differentiating spirituality from religion. Zinnbauer et al. (1997) conducted empirical studies which indicated a sizable variability in the way

people define and view spirituality and religion (Sperry & Shafranske, 2005). Zinnbauer, Pargament and Scott (1999) state that there has been a polarization of spirituality and religion, such that spirituality is “good” and religion is “bad”; religion constricts and spirituality expands one’s views and opportunities within the universe (Sperry & Shafranske, 2005). Hill and Pargament (2003) warn that this bifurcation of religion and spirituality probably clouds the issues since both religion and spirituality often occur within the same realm and differentiating them may result in duplication of concepts and measures. “Religion and spirituality appear to be related rather than independent constructs” (Sperry & Shafranske, 2005, p. 15).

Vaillant (2008) defines spirituality as the “amalgam of the positive emotions that bind us to other human beings – and to our experience of ‘god’ as we may understand him [sic]” (pp. 4-5). Vaillant uses MacLean’s triune brain theory to frame his own theory of spiritual evolution. MacLean (1990) views the brain as three distinct parts: the reptilian brain (instinct), the paleomammalian brain (emotional brain; limbic system) and the neomammalian brain (intellect). While many consider man’s spiritual center to be in the intellectual brain (neomammalian brain), Vaillant (2008) believes man’s spirituality is based in the emotional brain (paleomammalian brain). Vaillant describes spirituality more as positive emotion and social connectedness rather than theological concepts (p. 16).

Vaillant’s (2008) understanding of spirituality as a “reflection of humanity’s biological press from communication and community building” (p. 16) is consistent with the role of spirituality in recovery from addictive diseases. The 12-Step approach to

recovery from addictive diseases focuses not only on spirituality, but also on the “we” versus the “I”. Not one of the Twelve Steps uses the pronouns “I” or “me” in the description of a suggested program of recovery (Alcoholics Anonymous, 1976). The support of the community of others recovering from addictive diseases is essential for the continued recovery of the individual.

Vaillant’s (2008) concept of spirituality as a positive emotion and social connectedness is supported by others such as Froma Walsh, Marc Galanter and Jon Kabat-Zinn. Froma Walsh (2003) states that spirituality is that which connects us to all there is; Galanter (2005) views spirituality as the process of creating meaning in one’s life; and, Kabat-Zinn (1994) views spirituality as the way of experiencing wholeness and interconnectedness directly and seeing that individuality and the totality are interwoven. In contrast to Vaillant’s concept of spirituality fostering social connectedness, disordered eating results in social disconnectedness. The eating disordered individual considers themselves, rather than their social milieu, as the primary source of control and power.

Although it is often difficult to differentiate between spirituality and religion, it is necessary to try to understand how differences may be understood, despite the fact that many people do not experience tension between spirituality and religion (Pargament, 1999). In his study on whether people considered themselves religious and not spiritual, spiritual and not religious, both religious and spiritual or neither religious nor spiritual, Pargament found 74% of the participants considered themselves to be both spiritual and religious and further found no detectable differences in how participants conceptualized spirituality as compared to religiosity.

William James (1902) defined religion as “the feelings, acts and experiences of individual men in their solitude” (p. 32). Pargament (1999) defines religion as “the search for significance in ways related to the sacred” (p. 12). Vaillant (2008) attributes four qualities to religion that differ from spirituality:

- (1) religion refers to the interpersonal and institutional aspects of religiosity/spirituality that are derived from engaging with a formal religious group’s doctrines, values, traditions, and co-members;
- (2) religion arises from culture;
- (3) religion is more cognitive;
- (4) religions tend to be authoritarian and imposed from without. (pp. 187-189).

In *The Handbook of Religion and Health*, Koenig, King and Carson (2012) define religion as “involving beliefs, practices, and rituals related to the transcendent, where the transcendent is God, Allah, HaShem, or a Higher Power in Western religious traditions, or to Brahman, manifestations of Brahman, Buddha, Dao or ultimate truth/reality in Eastern traditions” (p. 45). They view spirituality as very similar to religion in that spirituality is also connected to the transcendent. They argue that the “gold standard” that spirituality refers to “remains the deeply religious whose strivings and way of life are defined by their religion” (p. 46). It is this concept of transcendence that connects religion and spirituality. Given the complexities in differentiating spirituality from religion, for the purposes of this study we will use the term “spirituality/religion” to indicate a belief in: seeking transcendence; seeking communication and community building; connection to a Higher Power, however that is defined; and finally belief and participation in a particular religious tradition.

In their research on the connection between health and religion, Koenig and Cohen (2002) looked at the relationship between: religion and coping with stress; religion

and social support; religion, physical health and the impact on mortality, and, biological mechanisms, such as immune functioning, which may have a role in religion's impact on health. The majority of these studies find a positive relationship between spirituality/religion and health, with religious beliefs and religious practices as the primary mechanism to impact positive outcomes. Of all the studies, those looking at biological mechanisms, specifically psychoneuroimmunology and the mind-body relationship were the strongest (Koenig & Cohen, 2002).

Koenig, King and Carson (2012) identified 1,717 studies which looked at the relationship between spirituality/religion and mental health (Coping with Psychiatric Illness – 34 studies, Perceived Stress – 37 studies, Stress Buffering – 38 studies, Religion and Mental Health – 231 studies, Depression – 341 studies, Anxiety and Fear – 237 studies, Psychiatric Disorders – 58 studies, Alcohol Use/Abuse/Dependence – 194 studies, Drug Use/Abuse/Dependence – 140 studies, Personality Disorders – 334 studies, Eating Disorders – 18 studies, General Mental Health – 55 studies). While this is a significant body of literature on the relationship between spirituality/religion and health, only 18 studies or 1% of these studies have examined the role of spirituality/religion and the treatment of eating disorders. The prestigious journals which focus on eating disorders, such as the *International Journal of Eating Disorders* and *Eating Disorders: Journal of Treatment and Prevention* have published very little empirical research studies on the role of S/R in the treatment of eating disorders. In the *International Journal of Eating Disorders*, only eight of 1,033 empirical studies published between 1993 and 2004 used spirituality or religion as a variable; and in *Eating Disorders: Journal of Treatment*

and Prevention, only four of 186 empirical studies were about S/R and eating disorders, between 1999 and 2004 (Richards, Hardman & Berrett, 2007). Clearly, there is a dearth of research on the relationship between spirituality/religion and the treatment of eating disorders. The research reported in this study will add to the body of knowledge necessary to better understand the role of spirituality and/or religion in the treatment of disordered eating.

The developing research in this area generally finds that a relationship exists between spirituality/religion and treatment of disordered eating, but little is understood about the mechanisms of action (Jacobs-Pilipski et al., 2005, p. 299). In an attempt to understand these mechanisms of action, Smith et al. (2003) looked at the relationship of religious orientation, religious affiliation, and spiritual well-being to the outcomes of 251 women in an eating disorder treatment program which uses an ecumenical, theistic spiritual approach in treatment. The characteristics of the theistic, spiritual model includes four elements: acknowledging that God can intervene in one's life; understanding the role of moral values such as integrity, honesty, respect, forgiveness, religious devotion, humility in human development; use of spiritual interventions such as prayer, use of Scripture, seeking spiritual guidance from church leaders, spiritual relaxation and imagery techniques; and, use of prayer and meditation in pursuit of spiritual enlightenment (Richards, Hardeman & Berrett, 2007).

The participants in their study were diagnosed with anorexia nervosa, bulimia nervosa or eating disorder not otherwise specified; 64% identified themselves as Mormons, 4.4% as Protestant, 4% as Catholic, 1.2% as Jewish, 8% were affiliated with

an unidentified denomination, and 5.6% were unaffiliated but had a spiritual belief (Smith et al., 2003). Of the staff at the treatment center, 50% were Mormon, and the balance was of other religious traditions. The results of this study found that treatment outcomes were not associated with either religious orientation or religious affiliation. However, improvements in spiritual well-being during treatment, as measured by the Spiritual Well-Being Scale (Paloutzian & Ellison, 1991), were associated with positive changes in eating attitudes, a reduction in body image distortion and improved psychological and social functioning (Smith et al., 2003, p. 15). It seems that a limitation of this study may be the high proportion of study participants from one religious denomination (Mormon), as well as the fact that the 50% of the staff are members of the same denomination (Mormon).

Also looking at these mechanisms of change, Jacobs-Pilipski et al. (2005) looked at a group of college-age women who were at high risk for engaging in disordered eating patterns and behaviors to determine if spirituality/religion was an effective way to cope with anxiety related to perceived body image. The authors found that only the religious preference variable was related to the level of spirituality/religion of the participants. The Protestant students (62%) and the Catholic students (70%) reported the highest levels of spirituality/religion, followed by those with non-Western beliefs, Judaism and agnostics/atheists. Those for whom spirituality/religion was most important were more likely to successfully cope with the anxiety related to body-image by reading religious literature, praying and meditating rather than engaging in distracting-type activities, such as exercise, which were used by those without strong spiritual/religious beliefs.

In trying to sort out spirituality/religion as a potential mechanism for change in a disordered eating population, Richards et al. (2006) looked at the efficacy of three different support groups: a Spirituality support group, a Cognitive support and an Emotional support group in an inpatient eating disorder treatment program. Those who participated in the Spiritual support group were assigned to read a specific spiritual book and workbook based on Judeo-Christian tradition and participated in a weekly 60 minute discussion group. All the participants in the Cognitive support group read a cognitive behavioral book and workbook which described different cognitive and behavioral techniques and also participated in a weekly 60 minute discussion group. Those in the Emotional support group participated in a weekly 60 minute support group focusing on educational topics covered during the previous week such as self-esteem (Richards et al.).

The investigators in this study looked at whether those patients participating in the spirituality support group had greater improvements in reducing depression and anxiety, relationship stress, social anxiety and eating disorder symptoms. In this group of 122 participants, 68.9% identified themselves as Mormon with the balance identifying with other or no religious denominations. All viewed themselves as spiritual, and none identified as agnostic or atheist. Fifty percent of the staff also identified themselves as Mormon. The significant findings of this study are that those participating in the spirituality group fared better than the other two groups in the following areas: treatment outcomes were enhanced more in the spirituality group, larger reductions in eating disorder symptoms, a greater decrease in depression and anxiety symptoms, and this group had a more positive feeling about their religious well-being. The limitations of the

study were the high proportion of Mormons as compared to other belief systems in the group, the small size of the group, and poor control for therapist effects (Richards et al., 2006). The significance for the therapist effects is the similar religious beliefs of the therapists and the participants which could be an influencing factor in the outcomes.

Marsden, Karagianni and Morgan (2007) investigated the relationship between religion and eating disorders and how that relationship impacts treatment of eating disorders. The participants were 10 adult Christian women diagnosed with disordered eating and being treated in an inpatient hospital unit in the UK; all the participants identified religion as an important part of their lives. The authors used semi-structured depth interviews from which five themes emerged: locus of control, sacrifice, self-image, salvation and maturation. The authors concluded that when treating eating disordered individuals who have strong religious beliefs, the care and treatment should be based on the biopsychosocial-*spiritual* make-up of the patient. In this research, the authors recognize sampling bias as a limitation.

Looking at the mechanisms for change outside of the realm of treatment for disordered eating in a treatment facility, Wasson and Jackson (2004) analyzed the role of the Overeaters Anonymous, a 12-step based program for individuals who want to manage their disordered eating. This qualitative study which looked at a group of 26 members of Overeaters Anonymous (OA) identified five skills utilized by this group to manage their disordered eating: (1) OA meeting attendance, (2) interaction with a sponsor, (3) processing through journaling, (4) spirituality, and (5) adherence to a meal plan. OA meeting attendance and regular contact with a sponsor were most significant in managing

the symptoms of disordered eating. However, 74% of this group described their spiritual lives which included the daily practices of prayer and meditation as the foundation to their recovery. The limitations of this study are the sample size; participants were recruited only from OA, the influence of the interviewers (over-compliance), and the influence of dominant members of the focus groups.

Continuing the investigation into the mechanisms of change, Pargament, Smith, Koenig and Perez (1998) looked beyond the substantive measures of spirituality/religion (e.g., frequency of prayer, frequency of attendance) and focused on the functional perspective of religion – that is, what function does spirituality/religion serve as a coping mechanism in times of stress. They define spirituality/religion as a coping method which “...mediates the relationships between an individual’s general religious coping orientation and the outcomes of major life events” (p. 711). Pargament, Feuille and Burdzy (2011) also define religious coping “...as efforts to understand and deal with life stressors in ways related to the sacred” (p. 52). Pargament’s theory of religious coping refers not only to generally accepted notions of God or higher powers, but to other aspects of life associated with the divine (p. 52).

Pargament’s theory stresses several points: (1) religious coping serves multiple functions, including the search for meaning, intimacy with others, identity, control, anxiety-reduction, transformation, as well as the search for the sacred or spirituality itself; (2) religious coping is multi-modal: it involves behaviors, emotions, relationships, and cognitions; (3) religious coping is a dynamic process that changes over time, context, and circumstances; (4) religious coping is multi-valent: it is a process leading to helpful or harmful outcomes, and thus, research on religious coping acknowledges both the “bitter and the sweet” of religious life; (5) religious coping may add a distinctive dimension to the coping process by virtue of its unique concern about sacred matters; and, (6) because of its distinctive focus on the ways religion expresses itself in particular life situations, religious coping may add vital information to our understanding of religion and its

links to health and well-being, especially among people facing critical problems in life. (pp. 52-53)

Summary of the Literature Review

This review of the literature identifies multiple factors relevant to the question how spirituality/religion may influence the treatment of eating disorders. First, it is clear that the United States is a religious country with 90% of the population claiming a religious affiliation (Roof, 1999) with a majority of the population believing that religion plays a central role in their daily lives (Newport, 2009). Second, defining and differentiating spirituality and religion can be both complicated and complex and include a myriad of definitions and a variety of understandings. Despite the many views, it seems fair to say there is more of a relationship between spirituality and religion than independence (Sperry & Shrafanske, 2005).

Finally, there is a significant body of literature on the research of the interface between spirituality/religion and health which has shown there is a significant relationship between these two variables (George, Ellison & Larson, 2002; Koenig, McCullough & Larson, 2001; Sperry & Shafranske, 2005). However, there is a dearth of research looking at the relationship between spirituality/religion and treatment of disordered eating. Of the 1,717 studies on the relationship of spirituality/religion and mental health identified by Koenig, King and Carson (2012), only 18 or 1% of the total have examined the relationship between spirituality/religion and disordered eating. Early research suggests spirituality/religion does influence some aspects of treatment for disordered eating (Jacobs-Pilipski et al., 2005; Richards et al., 2006; Smith et al., 2003).

Given the limited research in this area, this study will add to the body of knowledge on the role of spirituality/religion and treatment of disordered eating.

Hypotheses

Given the similarities in both the characteristics and the common effective therapeutic approaches for both disordered eating and substance addiction, and the apparent value of the role of spirituality in recovery from substance addictions (Kaskutas, 2009), the hypotheses of this research are that those patients who use spirituality and/or religion as a coping mechanism during treatment for disordered eating will experience more positive treatment outcomes than those patients who do not use spirituality and/or religion as coping mechanism during treatment. Specifically, the hypotheses are:

Hypothesis 1

Patients who use spirituality and/or religion as a positive coping mechanism during treatment will exhibit lower severity levels of dietary restraint and reduced concerns about eating and the shape and weight of their bodies as measured by changes in the scores from admission to discharge of the Eating Disorders Examination Questionnaire. Those who use spirituality and/or religion as a negative coping mechanism, e.g., experience abandonment by God, will exhibit less improvement in levels of dietary restraint and reduced concerns about eating and the shape and weight of their bodies as measured by changes in the scores from admission to discharge of the Eating Disorders Examination Questionnaire compared with those who do not use negative religious coping.

Hypothesis 2

Patients who use spirituality and/or religion as a coping mechanism during treatment will experience lower levels of depressive symptoms as measured by the changes in scores from admission to discharge of the Quick Inventory of Depressive Symptomatology (Self-Report). Those who use spirituality and/or religion as a negative coping mechanism, e.g., experience abandonment by God, will exhibit less improvement in depressive symptoms as measured by changes in the scores from admission to discharge of the Quick Inventory of Depressive Symptomatology compared with those who do not use negative religious coping.

Hypothesis 3

Patients who use spirituality and/or religion as a coping mechanism during treatment will experience lower levels of anxiety as measured by the changes in scores, admission to discharge, of the Spielberger State-Trait Anxiety Questionnaire. Those who use spirituality and/or religion as a negative coping mechanism, e.g., experience abandonment by God, will exhibit less improvement in levels of anxiety as measured by the change scores from admission to discharge of the Spielberger State-Trait Anxiety Questionnaire compared with those who do not use negative religious coping.

This study will also explore the relationship between the use of spirituality and/or religion as a coping mechanism during treatment for disordered eating and the demographic variables: gender, age, diagnosis and education level; and, the structural variables: treatment track, length of stay and duration of illness.

CHAPTER THREE

METHODOLOGY

Introduction to Methodology

The purpose of this study is to investigate the role of spirituality/religion in the treatment of disordered eating. There is a body of literature which supports the positive relationship between spirituality/religion and positive health treatment outcomes (George et al., 2002; Koenig et al., 2001; Sperry & Shafranske, 2005) as well as positive outcomes in the treatment of addictive diseases (Tonnigan, Miller & Connors, 2000). The purpose of this research is to add to this growing, but limited, body of knowledge about the relationship between spiritual/religion and the treatment of disordered eating. Specifically, this research study examines the impact on the treatment outcomes of specific measures when spirituality and religion are used as a coping mechanism during the treatment process.

This study is a quantitative study with the objective of determining the relationship between the use of spirituality/religion as a coping mechanism and the health outcomes of patients being treated for disordered eating. One measure, the Brief RCOPE was used to determine the level of spiritual coping at pre-treatment and three other measures (the Quick Inventory of Depressive Symptomatology, the Eating Disorders Examination Questionnaire and the Spielberger State-Trait Anxiety Questionnaire) were administered pre-treatment and post-treatment to determine differential changes in pathologies and behaviors related to disordered eating.

Sample

The participants ($N = 61$) of this study are males and females, aged 18 to 53, who have been diagnosed with either Bulimia Nervosa, Anorexia Nervosa or Eating Disorder Not Otherwise Specified, and are being treated for these disordered eating diagnoses in a residential or partial hospital (day treatment) eating disorder treatment program at a psychiatric hospital in a major Midwestern metropolitan area. This convenience sample represents patients who were admitted to this eating disorder treatment program during a 15 month period between February 2012 and May 2013 and who consented to participate in the study.

This group of participants consisted of 61 patients, 51 females and 10 males. The average age of the females was 24.14 and the average age of the males was 23.0. The ethnicity of the group was 95% Caucasian ($n = 58$), 3% African-American ($n = 2$) and 2% Asian ($n = 1$). The education data is incomplete, but for the participants who provided education information ($n = 37$), the average length of education was 13.9 years. The diagnosis of this group was: Anorexia Nervosa, $n = 29$, Bulimia Nervosa, $n = 17$ and Eating Disorder Not Otherwise Specified, $n = 15$.

The average length of stay in the residential treatment track was 48.8 days and the average length of stay in the partial hospital track was 22.55 days. The duration of the eating disorder for all the participants ranged from 1 year to 35 years with an average duration of 9.5 years. Table 1 describes the participants by diagnosis, gender, and treatment track.

Table 1. Clinical Demographics ($N = 61$)

Primary Diagnosis	Female	Male
AN	24	6
BN	13	1
EDNOS	13	3
Major Depressive Disorder	1	0
<hr/>		
Duration of Illness - Average Years	10.51	5.78
<hr/>		
Avg. Length of Stay	Total Days	
CBT Track	59.17	
DBT Track	61.09	
PHP Track	26.70	

The data was drawn from patients participating in three different treatment tracks: one group in the residential program received cognitive behavioral therapy, a second group in the residential program received dialectical behavior therapy and the third group of patients were treated in the partial hospital programs which primarily utilizes cognitive behavioral therapy. Further explanation of these groups follows in the Setting section. These three treatment tracks are the standard courses of medical treatment at this treatment center for those whose primary diagnosis is disordered eating. For those with a primary diagnosis of obsessive-compulsive disorder or substance abuse disorder with a secondary disordered eating diagnosis, separate, unique treatment tracks are available.

Setting

The setting is a Midwest psychiatric hospital which has a 36-bed residential eating disorder treatment program and a partial hospital (day treatment) program for adolescents, young adult and adult females and males diagnosed with anorexia nervosa, bulimia nervosa and eating disorder not otherwise specified. Treatment is provided by a multi-disciplinary team including psychiatrists, internal medicine physicians, registered nurses, social workers, dieticians, and chaplains as well as art, experiential and relaxation therapists. The treatment programming consists of weekly individual and family therapy sessions and daily group therapy sessions. Residents meet individually with a therapist multiple times a week and also meet with a psychiatrist and dietician weekly as well as participate in the other therapy options weekly. Individual meal plans are developed to meet the nutritional and body weight requirements of each resident.

The expected average length of stay in the residential program is 60 days but can go beyond. A step-down partial hospital program is often recommended and consists of day programming for a period of two to six weeks. The primary differences between the residential and partial hospital populations are the cost, as well as the ability of the patient to remove themselves from their daily work and family responsibilities. The average length of stay for residential patients is 83 days – a significant disruption in the lives of most patients (Frisch, Herzog & Franko, 2006). The partial hospitalization treatment programs are typically for older adolescents and adults who require an intensive level of treatment while remaining engaged with school, work, and family responsibilities. The

other population utilizing the partial hospital program is patients who have completed residential treatment.

The continuum of care often includes a period of partial hospital care after residential treatment, ultimately followed by outpatient care. The level of care in both programs is quite similar in terms of programming but different in terms of scheduling. Both residential and partial hospital programs are led by a full-time board certified psychiatrist who specializes in eating disorders. The partial hospital programs typically run from noon to 6:00 in the evening and include supervised mid-day and evening meals. For this study, conducted at a Midwest psychiatric hospital, all newly admitted patients were given an opportunity to participate in the study.

There has been surprisingly little research completed on the effectiveness of inpatient treatment versus partial hospital or day treatment. In response to the dearth of research in this area, Goldstein et al. (2011) looked at the benefit of inpatient versus day treatment, assuming medical care (i.e., very low body weight) is not warranted. They found that significant change occurred between the beginning and end of the day treatment program, using weight gain as measure of improvement. While data is not available on the outcomes of the residential treatment program versus the partial hospital program of this treatment facility, it may be reasonable to assume similar outcomes.

Although there is no required spiritual component in the treatment programming, the facility's Spiritual Care Program provides ready opportunity and engagement with trained spiritual care professionals as well as ordained ministers. The goal of the facility's Spiritual Care Program is to help patients identify, access, and utilize their

spirituality during the process of treatment and recovery. The services provided are non-denominational and available by request.

The services of the spiritual care program include:

1. Spiritual Care Groups disorder specific psycho-educational groups focusing on topics such as shame, forgiveness, self-worth, etc.;
2. One-on-One Spiritual Care – Spiritual Assessment and individual meetings with trained spiritual care staff;
3. Chapel and Resource Library;
4. On-site community clergy visits, as requested;
5. Off-site church attendance and on-site holiday services (Rogers Memorial Hospital). Since the instrument used to measure spirituality/religion as a coping mechanism was only administered at admission, participation in the spiritual care program of the treatment facility during treatment would have no impact on the use of spirituality/religion as a coping mechanism during treatment.

This treatment center's approach focuses on three key areas: nutritional stability wherein the patient abstains from disordered eating behaviors (i.e., food restricting, use of laxatives or diuretics, excessive exercise, cycles of bingeing and purging) and restores healthy body weight; changes in thinking related to body image distortion, drive for thinness, perfectionism; and, obstacles to recovery wherein patients use newly learned skills to overcome barriers to recovery – such as making healthy choices related to environment, seeking social support, addressing other co-occurring disorders such as anxiety. The treatment team is led by a board-certified psychiatrist who specializes in disordered eating in adults. The team consists of the psychiatrist, a masters-level therapist, dietician, registered nurse and other trained specialists in the areas of art and music therapy, experiential therapy, and daily group therapy.

There are many components in the treatment process which are intended to assist the patient by using a biopsychosocial framework to help the patient manage the issues that brought them into this therapeutic program. These components include individual therapy which is intended to identify the core issues related to the eating disorder and develop treatment goals and objectives. The patient will meet with the individual therapist at least once weekly. In addition to individual therapy, patients will participate in 10 hours of group therapy per week. Group therapy is designed to help the patient identify and express feelings in a supportive setting with peers who are experiencing similar issues.

Along with individual and group therapy, family therapy is a key component in the treatment process. As a systems disease which affects all people in the patients family and social systems, family therapy guides family members in understanding the role of disordered eating for the individual patient as well how the family's communication patterns and belief systems are linked to the patient's disordered eating. Nutritional therapy is provided by a registered dietician who, with the patient, develops an appropriate meal plan to meet the dietary requirements of the patient. The dietician also leads weekly nutrition education groups which focus on meal planning, food shopping, cooking, and nutrition.

These primary treatment components are supplemented with supportive practices in developing daily living skills along with experiential therapy which is used to challenge patients both physically and mentally with the intent to develop trust and improved self-esteem and self-confidence. If there is a co-occurring or secondary

diagnosis of substance abuse, a certified substance abuse counselor is part of the therapy team who can provide both assessment and treatment recommendations consistent with the treatment protocols and philosophy of the eating disorder treatment team.

In the Cognitive Behavior Treatment Track, cognitive behavioral therapy is the primary theoretical approach to treatment. Cognitive behavioral treatment is the traditional treatment modality used at Rogers and is the treatment of choice, particularly for bulimia nervosa. Wilson (2005) cites Wilson and Fairburn (2002) as well as Whittal et al. (1999) in concluding that “manual-based cognitive-behavioral therapy has the most empirical support and is currently treatment of choice for bulimia nervosa patients” (p. 440). In this track, cognitive behavioral therapy is used “to help patients identify and challenge their eating disorder symptoms with the goal of developing alternative coping skills and more appropriate responses to stressors” (Rogers Memorial Hospital). The treatment initially focuses on disordered eating behaviors, and once the behavioral changes have been developed, “the emphasis shifts to the environmental, social, or internal psychological symptoms that lead to eating disorder behaviors” (Rogers Memorial Hospital).

The Dialectical Behavior Treatment Track is relatively new at this treatment facility, having been introduced within the past two years. Dialectical behavior therapy was developed by Marsha Linehan to treat those suffering from borderline personality disorder. “Dialectical behavior therapy comprises strategies from cognitive and behavioral therapies and acceptance strategies adapted from Zen teaching and practice; it is a synthesis of both validation and acceptance of the patient, on one hand, with

persistent attention to behavioral change on the other” (Linehan et al., 1999, p. 281). As such, dialectical behavior therapy has evolved as a recognized modality for treating “hard to treat” populations (Federici & Wisniewski, 2013, p. 323). The Multidiagnostic Eating Disorder – Dialectical Behavior Therapy Program uses both established and empirically supported interventions for eating disorders along with dialectical behavior therapy strategies (Federici & Wisniewski).

The two Partial Hospital Treatment Programs are located on the main campus of the eating disorder treatment center and at an eating disorder treatment facility in a nearby metropolitan area. The purpose of the partial hospital program is to provide patients with intensive therapy while allowing them to continue to remain involved with family, jobs and school (Rogers Memorial Hospital). This program is also led by a board-certified psychiatrist specializing in adults with eating disorders. This program utilizes cognitive behavioral therapy as the primary treatment intervention along with nutrition education. The program meets from 11:30 to 5:30 Monday through Friday. In addition to the therapeutic interventions, supervised lunch and dinner is part of the behavioral training.

Measures

The treatment facility uses a standard battery of measures to assess patients’ levels of disordered eating behaviors, mood disorders, anxiety, and obsessive-compulsive disorders. These measures are administered at the beginning of treatment (pre-test) and at discharge (post-test). Patients who leave against medical advice are not administered a

post-test as they have not completed the full course of treatment. The standard battery of measures includes all of the following measures:

1. Eating Disorder Inventory-3 (EDI-3),
2. Eating Disorder Examination Questionnaire (EDE-Q),
3. Quick Inventory of Depressive Symptomatology (QIDS),
4. Spielberger State-Trait Anxiety Questionnaire (STAI),
5. Liebowitz Social Anxiety Scale (SAS),
6. Maudsley Obsessive Compulsive Inventory (MOC),
7. Yale-Brown Obsessive Compulsive Scale (Y-BOCS),
8. Compulsive Activity Checklist (CAC),
9. Anxiety Sensitivity Index (ASI).

This battery of tests is self-administered at admission and at discharge. The pre-tests are completed within 48 hours of admission to the treatment facility and the post-tests were completed within the 72 hours prior to discharge.

For the purposes of this study, only the pre- and post-test results of the Eating Disorder Examination Questionnaire, the Quick Inventory of Depressive Symptomatology and the Spielberger State-Trait Anxiety Questionnaire were used since they best represented the data desired to measure changes in eating disorder behaviors, depressive symptoms and symptoms of anxiety. The only measure added to the standard battery of measure used by the treatment facility for this study was the Brief RCOPE which measures the use of spirituality/religion as a coping mechanism. The four measures used in this study are described as follows:

The Brief RCOPE

The Brief RCOPE is a 14-item measure of the level of religious coping engaged in response to stressful life events (Pargament, Feuille & Burdzy, 2011). This condensed measure was developed by Kenneth Pargament as a more useable tool than his original 105-item RCOPE. The Brief RCOPE consists of a 7-item Positive Religious Coping (PRC) subscale:

1. Looked for a stronger connection with God;
2. Sought God's love and care;
3. Sought help from God in letting go of my anger;
4. Tried to put my plans into action together with God;
5. Tried to see how God might be trying to strengthen me in this situation'
6. Asked for forgiveness for my sins;
7. Focused on religion to stop worrying about my problems; and a 7-item Negative Religious Coping (NRC) subscale:
 8. Wondered whether God has abandoned me;
 9. Felt punished by God for my lack of devotion;
 10. Wondered what I did for God to punish me;
 11. Questioned God's love for me;
 12. Wondered whether my church had abandoned me'
 13. Decided the devil made this happen;
 14. Questioned the power of God.

Each item is answered on a 4-point Likert scale with 0 - Not At All, 1- Somewhat, 2 - Quite a Bit, and 3 - A Great Deal and the score is the sum of each of the subscales.

Scores range from 0 to 21 with higher scores on the Positive Religious Coping subscale indicating greater use of positive religious coping and higher scores on the Negative Religious Coping subscale indicating greater religious struggle.

“Positive religious coping methods reflect a secure relationship with a transcendent force, a sense of spiritual connectedness with others, and a benevolent world view. Negative religious coping methods reflect underlying spiritual tensions and struggles within oneself, with others, and with the divine” (Pargament et al., p. 51). This measure was developed assuming that spiritual/religious coping can be both adaptive, positive religious coping or maladaptive, negative religious coping or religious struggle as it is sometimes referred to. Pargament et al. found that positive religious coping generally results greater spiritual growth and fewer psychosomatic symptoms following a stressful time and that negative religious coping was correlated with greater stress, poorer quality of life and that people generally use positive religious coping more frequently than negative religious coping.

In looking at the role of negative religious coping, and using the Brief RCOPE as the measure, among psychotic patients, Rosmarin, Bigda-Payton, Ongur, Pargament and Bjorgvinsson (2013) found negative religious coping to be a risk factor for suicidality in terms of both frequency of ideation as well as intensity of ideation. Pargament, Koenig, Tarakeshwar and Hahn (2001) also found religious struggle to be a predictor for a greater risk of mortality among elderly ill patients. In this longitudinal study of 596 persons, the Brief RCOPE was used to measure positive religious coping and religious struggle along with other indices of global religiousness.

The Brief RCOPE is a commonly used measure of religious coping and is particularly useful in determining the role of religious coping used with crisis, trauma and transition (Pargament et al., 2001). This instrument is appropriate to measure the role of religious coping during the transition from active disordered eating to successful management of the disordered eating behaviors.

The Brief RCOPE has demonstrated good internal consistency across a number of studies using varied sampling. The median Cronbach's alpha for the Positive Religious Coping subscale is 0.92, and the median Cronbach's alpha for the Negative Religious Coping subscale is 0.81 (Pargament, Feuille & Burdzy, 2011). The Brief RCOPE has also demonstrated good concurrent validity. Two studies (Ai, Seymour, Tice, Kronfol & Bolling, 2009; Tsevat et al., 2009) using the Brief RCOPE provide support for predictive validity with both the Positive Religious Coping and the Negative Religious Coping subscales and several studies support the ability of the measure to predict incremental validity with both the Positive Religious Coping and the Negative Religious Coping subscales (Pargament et al., 2011). Additionally, two studies (Piderman, Schneekloth, Pankratz, Maloney & Altschuler, 2007; Bay, Beckman, Tripp, Gunderman & Terry, 2008) support the measure's sensitivity to change; and several studies using the Brief RCOPE have looked at validity among other religions and cultures with some positive results, but more research is required in this area (Pargament et al., 2011, p. 68).

Eating Disorders Examination – Questionnaire (EDE-Q)

The Eating Disorder Examination-Questionnaire is a 36 item self-report measure which assesses the severity of dietary restraint, eating concerns, shape concerns and

weight concerns during the preceding 28 days (Binford, Le Grange & Jellar, 2005, p. 45). This measure was adapted from the Eating Disorder Questionnaire (EDQ), a structured interview widely used as a clinical assessment of disordered eating and generally recognized as the “gold standard” for diagnosing in assessing the range of disordered eating psychopathology (Cooper & Fairburn, 1987; Luce & Crowther, 1999). Studies of the validity of the EDE-Q have shown good correspondence between the EDQ and the EDE-Q (Luce & Crowther, 1999; Mond, Hay, Rodgers, Owen & Beaumont, 2004). Excellent internal consistency and test-retest reliability for the four subscales of the measure, Restraint, Eating Concern, Shape Concern and Weight Concern has been reported by Luce and Crowther (1999). The EDE-Q is scored on a 7-point scale of severity (0 - Not At All to 6 - Markedly) or frequency (0 - No Days to 6 - Every Day) (Mond et al., 2004). Scores of 4 or more on key items are considered to clinically significant.

The Spielberger State-Trait Anxiety Questionnaire (STAI)

The State-Trait Anxiety Inventory Form Y (STAI) measures anxiety in adults and differentiates between temporary state anxiety and long-standing trait anxiety. This self-report measure consists of two 20 question scales, one measuring state anxiety and the other measuring trait anxiety. Each question answered on a 4-point Likert scale with the answers ranging from 1 - Almost Never to 4 - Almost Always. The scores ranged from 20-80 with higher scores indicating higher anxiety.

The STAI has shown both construct and concurrent validity and has correlated with the IPAT Anxiety Scale, the Taylor (1953) Manifest Anxiety Scale and the

Zuckerman (1960) Affect Adjective Checklist (Spielberger, Gorsuch & Lushene, 1970). Internal consistency coefficients ranged from .86 to .95. Test-retest reliability coefficients for the A-Trait scale ranged from .73 to .86 and for the A-State scale ranged from .16 to .54 (Spielberger, Gorsuch & Lushene). The measure is appropriate for someone with at least a sixth-grade reading level.

The Quick Inventory of Depressive Symptomatology (Self-Report) (QIDS-SR 16)

The 16-item QIDS is used to assess the severity of depressive symptoms and assesses all the criterion symptom domains identified in the DSM-IV-TR (APA, 1994), during the prior seven days. The self-report measure's questions are answered on a 4-point Likert scale with the total scores ranging from 0 to 27. The scoring system of the QIDS converts the responses to the 16 questions into the nine symptom domains: sad mood, concentration, self-criticism, suicidal ideation, interest, energy/fatigue, sleep disturbance, decrease or increase in appetite or weight, and psychomotor agitation. A score of 0-5 indicates no depression, 6-10 indicates mild depression, 11-15 indicates moderate depression, 16-20 indicates severe depression and 21-27 indicates very severe depression. Higher scores indicate a greater severity level of depression.

The internal consistency (Cronbach's Alpha =0.86) is high (Rush et al., 2003). Rush et al. (2004) found high correlations between the QIDS-SR 16, the Inventory of Depressive Symptomatology ($c=0.96$), the Hamilton Rating Scale for Depression (HRSD17) ($c=0.81$), the HRSD21 ($c=0.82$) and the HRSD24 ($c=0.84$).

Procedures

Ethical Considerations

This research study was reviewed and approved by both the Loyola University Institutional Review Board and the Rogers Center for Research and Training's Research and Human Subjects Committee. The participants were fully informed about the purpose of the study, the data collection procedures, the risks and benefits of this study, their confidentiality, and that their participation is voluntary. In addition, the participants were advised they could withdraw from the study at any time with no consequences or impact on their treatment. All the participants read and signed the Consent to Participate in Research (see Appendix A). All participants were also approved by the medical director of the treatment center.

Although the subjects of this study are a vulnerable adult population, there were few foreseeable risks to the participating subjects. All participants in this study already agreed, separate from this study, to complete the standard measures administered by the treatment facility (see Measures section). Three of the measures used for this study, the Eating Disorders Examination Questionnaire, the Spielberger State-Trait Anxiety Questionnaire and the Quick Inventory of Depressive Symptomatology were part of the standard measures used by the facility. Separately, all participants were offered the opportunity to participate or decline to participate in this study, as well as the opportunity to remove themselves from the study at a later time. The only deviation from the administration of the treatment facility's standard measures was the addition of the Brief RCOPE measure for this study. They were assured by treatment staff that participation

or lack of participation would have no bearing on the treatment provided. The measures were completed in the presence of a trained residential counselor or therapist who was available to answer any questions or concerns a participant might have. As discussed by Shivayogi (2013), this population was safeguarded through the use of a comprehensive informed consent document; communication about and assurance of privacy and confidentiality in data collection, storage and analysis; and the utilization of trained personnel in the administration of the measures. Approval by the medical director of the treatment center was required for all subjects who chose to participate.

Storage of Data

All of the assessment measures were administered by trained treatment center staff at times of admission and discharge. The completed measures were transferred to the Rogers Center for Research and Training where they were assigned an identity number to each measures packet to ensure confidentiality. The measures were scored by the research center staff and the scores were entered into SPSS for statistical analysis. The analytics were then transferred to the researcher electronically. The original paper measures were stored in locked filing cabinets at the Rogers Center for Research and Training.

Data Analysis Plan

Bivariate correlation analysis, using Spearman's ρ because there was not a normal distribution, was used to first determine and then measure the strength of the relationship between the continuous variables. Simple analysis of variance (ANOVA) was used when analyzing two or more non-overlapping independent variables.

The dependent variables (outcome variables) are those related to changes due to the independent variables, such as increased weight, from baseline to discharge, as well as changes in levels of depression, anxiety and disordered eating behaviors as measured by the following instruments:

- Quick Inventory of Depressive Symptomatology (depression)
- Eating Disorders Examination Questionnaire (disordered eating behaviors)
- Spielberger State-Trait Anxiety Inventory (anxiety)

The independent variables are the levels of positive and negative spiritual/religious coping as measured by the Brief RCOPE as well as: Demographic Variables which include: gender, age, diagnosis, and education; and, Structural Variables: treatment track, length of stay, duration of illness.

Levels of positive and negative spiritual/religious coping were analyzed using the Brief RCOPE scores obtained at the beginning of treatment as the predictor variable. The Brief RCOPE scores were then correlated with the scores of the Quick Inventory of Depressive Symptomatology, the Eating Disorders Questionnaire and the Spielberger State-Trait Anxiety Questionnaire. The Brief RCOPE scores were also tested for any

relationship with the demographic variables: gender, age, diagnosis and education and the structural variables: treatment track, length of stay and duration of illness.

CHAPTER FOUR

RESULTS

The Results Chapter is organized as follows: (1) Description of the Sample - sample size, treatment track, gender, age, ethnicity, marital status, education, average length of stay in treatment, average length of stay in specific treatment tracks, and the primary diagnosis; and (2) Results of Data Analysis.

Population Description

The primary eating disorder diagnoses of this population ($N = 61$) are: Anorexia Nervosa (female $n = 24$, male $n = 6$), Bulimia Nervosa (female $n = 13$, male $n = 1$) and Eating Disorder Not Otherwise Specified (female $n = 13$, male $n = 3$). The average age of the male population ($n = 10$) is 23 and the average age of the female population ($n = 51$) is 24. The ethnicity of this population is: 95% ($n = 58$) are Caucasian, 3% ($n = 2$) are African American, and 2% ($n = 1$) is Asian. Ninety percent of this population ($n = 55$) are single, 7% ($n = 4$) are married, and 3% are divorced ($n = 2$). Although the data is incomplete, the average number of years of education of this population ($n = 37$) is 13.14 years. The average length of stay (LOS) of all the patients in the residential tracks (EDC-CBT and EDC-DBT) is 59.68 days; the average LOS for patients in the EDC-CBT track is 59.17 days and for those in the EDC-DBT track, the average LOS is 61.9 days. The average LOS of patients in the ED-PHP track is 26.7 days. The duration of the eating disorder ranged from 1 to 35 years with an average duration of illness of 10.51 years for females and 5.78 years for males.

Analysis of Data: Procedures

The Brief RCOPE measures both positive religious coping which reflects a secure relationship with a higher power and a benevolent world view and negative religious coping which reflects a spiritual struggle. Each item is answered on a 4-point Likert scale with 0 - Not At All, 1- Somewhat, 2 - Quite a Bit, and 3 - A Great Deal. The score is the sum of each of the subscales with scores range from 0 to 21. In this sample the scores (Graph 4.0) were not normally distributed with the Positive RCOPE having a skewness of 0.758 ($SE = 0.306$) and the Negative RCOPE having a skewness of 1.081 ($SE = .306$).

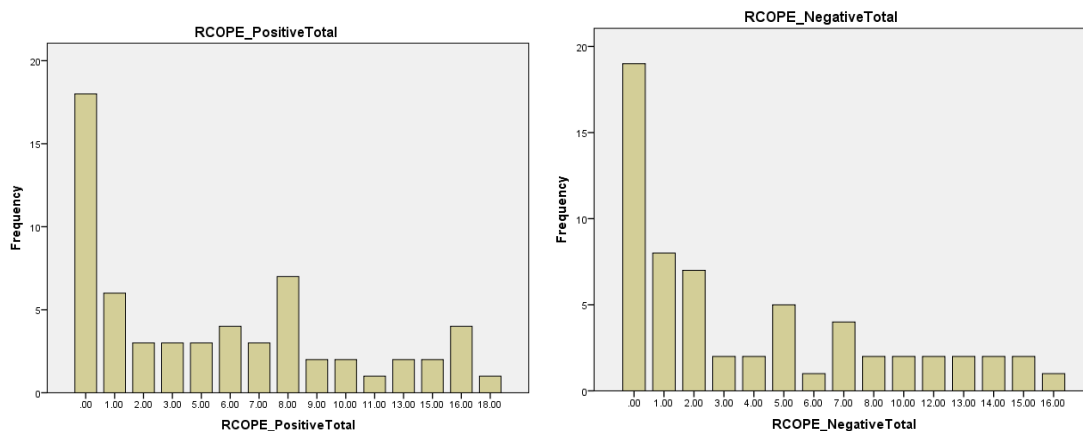


Figure 1. Score Frequencies for the Positive and Negative RCOPE

In the first analysis, a Spearman's *rho* correlation analysis was performed using paired admission-discharge change scores on 61 participants. The sample consisted of male ($n = 10$) and female ($n = 51$) patients, ages 18 to 58, who were being treated for disordered eating.

The data analyzed consisted of the changes, admission to discharge, of three measures: (1) Change in State-Trait Anxiety (STAI), admit to discharge, and RCOPE Positive Scale and RCOPE Negative Scale; (2) Change in Quick Inventory of Depressive Symptomatology (QIDS), admit to discharge, and the RCOPE Positive Scale and RCOPE Negative Scale; and (3) Change in the Eating Disorders Examination Questionnaire and the RCOPE Positive Scale and the RCOPE Negative Scale. The results of the correlation analysis showed no significant relationship between the Positive and Negative RCOPE and the change scores of the EDEQ, QIDS and STAI.

Since both the Pos RCOPE and Neg RCOPE scores were not normally distributed, these variables were dichotomized into subsets and a second analysis was performed. The negative coping subscale was divided into two sub-groups: the No Struggle Sub-Group (score 0-2) and the Potential Struggle Sub-Group (scores 3-16). The positive coping subscale was divided into three groups, the lowest third, the middle third and the highest third. These groups represented a No Coping Sub-Group (score - 0), a Moderate Coping Sub-Group (scores 1-6) and a High Coping Sub-Group (scores 7-18). A Mann-Whitney U test was used to determine significance of the negative coping sub-groups and a One-way ANOVA was used to determine significance of the positive coping sub-groups. This method has been utilized in other investigations (Fitchett, Winter-Pfandler & Pargament, 2013; Maciejewski et al., 2012).

A paired-samples *t*-test was first used to determine whether there was a statistically significant difference between the admission to discharge scores of the State-Trait Anxiety, Quick Inventory of Depressive Symptomatology and the Eating Disorders

Examination questionnaire measures. For all three measures there was a statistically significant mean change in the scores at a 95% confidence level (see Table 2).

Table 2. Comparison of Scores of Religious Coping, and of Clinical Measures at Time of Admission and Discharge and *t*-Test Results ($N = 61$)

Measure	Admission Score		Discharge Score		Change		<i>p</i> Level
	Mean	SD	Mean	SD	Mean	SD	
EDEQ	3.88	1.40	2.20	1.29	1.68	1.39	.001
QIDS	15.34	6.00	7.98	5.38	7.36	5.29	.001
STAI	61.52	10.77	48.40	13.43	13.11	12.56	.001
^a Religious Coping	Median						
Positive Coping	5						
Negative Coping	2						

Note: ^aOnly administered at admission

A Mann-Whitney U test was run to determine if there were significant differences between the negative coping sub-scales (Potential Struggle and No Struggle) and the change scores, admit to discharge, of the Eating Disorders Examination Questionnaire, the Quick Inventory of Depressive Symptomatology and the Spielberger State-Trait Anxiety Questionnaire. The results of this test determined there was no significance in the two negative coping subscales and changes in the scores, admit to discharge, or the EDEQ and QIDS, but there was a significant relationship with the STAI ($p = .006$) (see Table 3).

Table 3. Mann-Whitney U Test: Negative Coping Sub-Scales and Change Scores for the EDEQ, QIDS, STAI

Test	Changes: EDEQ Admit to Discharge	Changes: QIDS Admit to Discharge	Changes: STAI Admit to Discharge
Mann-Whitney U	397.500	405.500	271.50
Z	-.893	-.780	-.272
<i>p</i> level	.372	.436	.006

Note: Grouping variable: Neg RCOPE Category

Mean rank for those with negative coping was 37.94 ($n = 27$) and the mean rank for those with no negative coping was 25.49 ($n = 34$) which indicates that those using negative religious coping had higher change scores than those who did not.

A One-way ANOVA was performed to determine if there were statistically significant differences among the three positive coping sub-scales (No Coping, 0 score, Moderate Coping, 1-6 score, and High Coping, 7-18 score) and the change scores, admission to discharge, of the Eating Disorders Examination Questionnaire, the Quick Inventory of Depressive Symptomatology and the Spielberger State-Trait Anxiety Questionnaire. The results of this test determined there was no statistically significant differences (see Table 4). However, there was a trend towards significance ($p = .086$) with QIDS (No Coping Group: Mean 9.38, SD 4.76; Moderate Coping: Mean 7.47, SD 5.54; High Coping: Mean 5.75, SD 5.13).

Table 4. One-way ANOVA: Positive Coping Sub-Scales and EDEQ, QIDS, STAI

Measure	Sum of Squares	df	Mean Square	F	<i>p</i> level
EDEQ					
Between Groups	6.610	2	3.305	1.729	.187
Within Groups	110.893	58	1.912		
Total	117.563	60			
QIDS					
Between Groups	136.551	2	68.275	2.562	.086
Within Groups	1545.515	58	26.647		
Total	1682.066	60			
STAI					
Between Groups	184.283	2	92.14	.253	.777
Within Groups	21122.70	58	364.18		
Total	21306.98	60			

Table 5. One-way ANOVA: Change Scores of EDEQ, QIDS, STAI by Sub-Scales

Measure/Sub-Scale	<i>N</i>	Mean	SD
EDEQ			
01	18	2.08	1.21
02	19	1.78	1.51
03	24	1.30	1.38
QIDS			
01	18	9.38	4.76
02	19	7.47	5.54
03	24	5.7	5.13
STAI			
01	18	75.55	17.20
02	19	72.57	20.37
03	24	71.37	19.35

The Results by Hypotheses

Hypothesis 1

Patients who use spirituality and/or religion as a coping mechanism during treatment for disordered eating will exhibit lower severity levels of dietary restraint and reduced concerns about eating and the shape and weight of their bodies as measured by the changes in score and admit to discharge, in Eating Disorders Examination Questionnaire. A Mann-Whitney U test determined there was no statistical significance between the changes in the EDEQ and the two Neg RCOPE subscales ($u = 395.5$, $z = -.893$, $p = .372$) (see Table 3). A One-way ANOVA test determined there was no statistical significance between the EDEQ and the three Pos RCOPE subscales ($F [2,58] = 1.729$, $p = .187$) (see Table 4).

Hypothesis 2

Patients who use spirituality and/or religion as a coping mechanism during treatment will experience lower levels of depressive symptoms as measured by the changes in score, admit to discharge, in the Quick Inventory of Depressive Symptomatology (Self-Report). A Mann-Whitney U test determined there was no statistical significance between the changes in the QIDS and the two Neg RCOPE subscales ($u = 405.50, z = -.780, p = .436$) (see Table 3). A One-way ANOVA test determined there was no statistical significance between the QIDS and the three Pos RCOPE subscales ($F [2, 58] = 2.56, p = .086$) (see Table 4). However, there is a trend toward significance.

Hypothesis 3

Patients who use spirituality and/or religion as a coping mechanism during treatment will experience lower levels of anxiety as measured by score changes, admit to discharge, in the Spielberger State-Trait Anxiety Questionnaire. A Mann-Whitney U test determined there was a statistical significance between the changes in the STAI and the two Neg RCOPE subscales ($u = 271.50, z = -.272, p = .006$) (see Table 3). A One-way ANOVA test determined there was no statistical significance between the STAI and the three Pos RCOPE subscales ($F [2, 58] = .529, p = .592$) (see Table 4).

The Research Question and Data Analysis Results

Research Question: Is there a significant relationship between the use of spirituality and/or religion as a coping mechanism during treatment for disordered eating and the Demographic Variables: gender, age, diagnosis and education levels; and, the

Structural Variables: length of stay and duration of illness. A correlation analysis of the Brief RCOPE Positive Scale and Negative Scale to age, education levels, length of stay and duration of illness found a significant correlation between the RCOPE Positive and Length of Stay ($p = .42$) and a trend between the RCOPE Positive and Duration of Illness (see Table 6).

Table 6. Correlations between RCOPE Positive and Negative and Age, Illness Duration, Education and Length of Stay

Variable	RCOPE Positive		RCOPE Negative	
	Spearman's <i>rho</i>	<i>p</i> level	Spearman's <i>rho</i>	<i>p</i> level
Education	.136	.369	-.178	.185
Length of Stay	-.261	.042	.018	.892
Age	.169	.193	-.179	.167
Duration of Illness	.244	.073	.079	.568

Since the assumption of homogeneity of variance was violated, a one-way Welch ANOVA was used to determine if this population, segmented by diagnosis (Anorexia, Bulimia, Eating Disorder Not Otherwise Specified), differed in use of spirituality and/or religion as a coping mechanism during treatment. The differences in these groups was not statistically significant with the Brief RCOPE Positive Religious Coping scale, Welch's $f(2, 26.280) = 1.016, p = .376$, or with the Brief RCOPE Negative Religious Coping scale, Welch's $f(2, 30.212) = .536, p = .590$.

CHAPTER FIVE

DISCUSSION

The results of the Spearman's correlation shows a statistically significant relationship between the Pos RCOPE scale and Length of Stay ($p = .042$), specifically a shorter length of stay, and a trend towards significance between the Positive RCOPE and Duration of Illness ($p = .073$). These findings are particularly important for several reasons. With regard to a shorter Length of Stay, this finding may be indicative of the effectiveness of treatment. A shorter length of stay also reduces the cost to the patient, which is significant for this type of treatment. Finally, a shorter length of stay frees up beds for new patients which reduces waiting times for admission to the treatment program. When looking at the continuum of care of eating disordered patients, Treat, McCabe, Gaskill and Marcus (2008) found that a combination of shorter inpatient stays in combination with partial hospital programs can provide excellent short-term outcomes particularly for those patients who have no previous hospitalizations and who continue to gain weight after discharge from the inpatient setting.

Although the relationship between the Positive RCOPE scale and Duration of Illness is not significant but rather a trend ($p = .073$), this finding is important. Wonderlich et al. (2012) report in their clinical overview of chronicity of disordered eating that after seven years of duration, recovery diminishes and is likely to continue and may result in lifelong disorders. The authors further report that there has been little research on the topic of treatment of chronic eating disorders. None of the various

clinical perspectives on treating chronic disordered eating in this review consider the role of spirituality/religiosity. Based on the trend found in this study, a spiritual/religious clinical perspective may prove effective. It is quite possible that after suffering from disordered eating for lengthy periods of time, the patient finally turns to a resource not used or relied upon in the past. In the parlance of Alcoholics Anonymous, these patients may be “sick and tired of being sick and tired” and conclude that engagement with God or a Higher Power is all that is left.

These findings suggest that spiritual interventions may be valuable during the treatment process. While the treatment study where this data was gathered does offer a spiritual care program, it is completely voluntary and no data is being collected which can be used to determine the utility of this program. A way that spirituality of often introduced into the treatment process for substance addictions is through Twelve-Step programs such as Alcoholics Anonymous or Narcotics Anonymous which are based on a spiritual worldview. Introduction of a 12-step program may also be a more benign way introducing spirituality. Developing a 12-step eating disorder program has several potential benefits: first, it’s a tried and tested program with empirical evidence supporting the role of engagement in the spiritual practices and successful management of recovery (Tonnigan, Miller & Connors, 2000); secondly the spiritual approach of 12-step programs is ecumenical and accepting of all spiritual belief systems (including agnostic and atheistic); it can provide a common language to discuss, understand and develop spirituality; it provides an action plan approach to using spirituality in the ongoing

management of disordered eating; and most importantly, it can instill hope and faith in the process of recovery (Richards, Hardman & Berrett, 2007).

The Mann-Whitney U analysis showed a significant relationship between the Negative RCOPE scale and the Spielberger State-Trait Anxiety Questionnaire (STAI) ($p = .006$). In this case, the higher use of negative religious coping has resulted in a decrease in levels of anxiety, which is an unusual relationship. Typically, negative religious coping is associated with higher levels of anxiety (Johnson et al., 2011). One explanation may be that when the patient is so focused on negative religious feelings such as abandonment by God or questioned the power of God that state levels of anxiety decrease. This finding is unusual and unexpected and requires further research.

Another unusual trend was the relationship between the Positive Religious coping scale and the Quick Inventory of Depressive Symptomatology ($p = .086$). This finding shows that higher positive religious coping results in a lower reduction in depressive symptomatology rather than the expected greater reduction. One possible explanation is that the person utilizing higher positive religious coping, i.e., sought God's love and care, focusing on religion to stop worrying about my problems, continues to experience higher levels of depression when their expectations of God are unmet. Again, this unusual and unexpected finding merits further research.

Alternative Explanations to Non-Significant Results

Several factors may have contributed to the non-significant results of this study:

1. the age-range of the population in this study;
2. the Brief RCOPE measure used with the age range of this population;

3. the Brief RCOPE as a measure of spirituality and/or religion as a coping mechanism in addictive diseases; and
4. the role of emotion and anxiety at the time of admission to a treatment center.

Age Range of Population Studied

While no significant relationship was found between the age of patients and the use of spirituality and or religion as a coping mechanism, the relative young age of this population (average female age – 20 years, average male age – 23 years) may be the very reason there was no significant relationship. The Pew Forum on Religion and Public Life/U.S. Religious Survey (2008) found significant differences in religious affiliation between younger and older adults. Twenty-five percent of adults aged 18-29 state they are unaffiliated with any religious tradition as compared to 8% of those age 70 and older. This 18-29 age group has the highest percentage of unaffiliated adults as well as the highest percentage of adults who identify as atheist or agnostic – 7% (Pew Forum, p. 37).

In looking at age and the use of spiritual/religious coping, Pargament (2011) found that “older individuals as well as people dealing with serious life events/crises displayed higher levels of religious copingAs expected, older hospitalized adults generally scored higher on the subscales of the RCOPE than college students” (p. 55). Given the age range of this study’s population and Pargament’s findings on age and spiritual/religious coping, one might conclude that spiritual/religious coping is not a mechanism the population in this study would typically utilize resulting in no significant relationship to the outcomes of this study.

As in this study, there are multiple studies of younger populations where spiritual/religious coping has been measured and has not been correlated with positive outcomes. In a study looking at religious coping in a similar eating disordered population, Christensen (2010) also found that positive religious coping (as measured by the Brief RCOPE) was not related to life satisfaction, self-esteem, anxiety, depression, bingeing behavior or dieting (p. 65) and suggested that this population (with a very similar age-range to the population of this study) may not be skilled in the use and application of these coping skills. In their study looking at the role of religious coping among high-risk youth in El Salvador, Salas-Wright, Olate and Vaughn (2013) found that there was no significant association between religious coping (as measured by a modified version of the RCOPE) and a decreased likelihood of Salvadorian youth engaging in substance use behaviors. In a second study looking at the protective effects of religious coping among high-risk and gang-involved Salvadorian youth, Salas-Wright et al. found the religious coping was not a protective factor against minor delinquent behaviors. In a personal communication, Salas-Wright stated he had doubts about the utility of the RCOPE for his research, particularly with youth and juvenile offenders (personal communication, October, 21, 2013). Therefore, it is possible, given the results of studies using the RCOPE and the Brief RCOPE with younger populations, that these measures are not able to accurately measure the role of spiritual and/or religious coping in younger people.

The Brief RCOPE Measure and Addictive Diseases

A second factor may be the utility of the Brief RCOPE in measuring spiritual and/or religious coping in relation to addictive diseases such as alcoholism or disordered

eating. Robinson, Cranford, Webb and Brower (2007) found that increased daily spiritual experiences predicted fewer days of heavy drinking, but no significant relationship was found between positive or negative religious coping (using an adaption of the Brief RCOPE) and the effect on drinking behaviors of 123 outpatients with alcohol use disorders.

The Role of Emotion and Anxiety at Admission to a Psychiatric Facility

A third factor may be the high levels of emotion (anger, sadness, fear, shame) and the anxiety related to entering into a treatment center both of which could influence how all of the measures were answered. Koenig, King and Carson (2012) report that distress level is a significant contributing factor in how a person responds to religious coping questions. While not stated, the authors imply that questions on religious coping measures, answered under duress, may not accurately measure how positive or negative religious coping is likely to be utilized. Billingsley-Marshall et al. (2013) report that state anxiety seems to contribute to a reduced level of executive functioning in women with both anorexia and bulimia. They further report that the co-morbid mood disorders and anxiety disorders, found in the majority of eating disordered patients, likely influence executive functioning. Similarly, Tchanturia et al. (2011) found poor executive functioning among AN and BN patients who exhibited poor mental flexibility and cognitive set-shifting. This research may provide a level of support for this alternative explanation to the results of this study.

The three outcome variable measures, the Quick Inventory of Depressive Symptomatology, the Eating Disorder Examination Questionnaire and the Spielberger

State-Trait Anxiety Questionnaire were administered both at admission and discharge and in some cases periodically during the treatment process so that emotion and anxiety were less likely to influence the way the questions were answered after admission; whereas the Brief RCOPE was only administered at admission, a time of high emotions and anxiety. It is possible therefore that an accurate measure of religious/spiritual coping was not or could not be ascertained with this measure at the time it was administered.

Summary of the Alternative Explanations of Results of this Study

The age of the population in this study may be the most influential factor contributing to the findings showing no significant statistical relationship between the utilization of spirituality and/or religion as a coping mechanism and the treatment outcomes. The findings of the Pew Forum on Religion and Public Life/U.S. Religious (2008) indicate that 25% of adults in the U.S. between the ages of 18-29 have no religious affiliation. This is the same age group represented in this study. Several other studies using the RCOPE or Brief RCOPE in research related to youth (Christensen, 2010; Salas-Wright, Olate & Vaughn, 2013a; Salas-Wright, Olate & Vaughn, 2013b) found no significant relationships between religious coping and other variables. Pargament (2011) who developed the RCOPE and Brief RCOPE and has used this measure most extensively has found higher scores on the subscales of this measure with older adults.

In addition to the age-range of this population, the Brief RCOPE may not be the appropriate measure to use with those suffering from addictive diseases. Robinson et al. (2007) found no relationship between positive or negative religious coping and drinking

behaviors. Finally, the role of anxiety and emotion at admission to a psychiatric hospital may have influenced how patients responded to the Brief RCOPE measure. Billingsley-Marshall et al. (2013) and Tchanturia et al. (2011) found reduced levels of executive functioning among patients suffering from anorexia and bulimia.

Findings of this Study in Relation to Existing Research

The Functional Versus the Substantive Perspectives of Religion

While there is a growing body of literature supporting the positive relationship between spirituality/religion and improved health outcomes, the majority of the research seems to look at the substantive perspective of religion which focuses on beliefs, practices and interactions related to a greater being rather than the functional perspective or the problems of existence. "... functional thinkers generally focus on the most negative, weighty, seemingly insurmountable facts of life" (Pargament, 1997, p. 27).

Pargament (1997) describes the substantive perspective of religion as the sacred, that it those aspects of religion such as God, deities, the supernatural and transcendent forces (p. 25); whereas the functional perspective of religion is distinguished by its function in people's lives rather than by God or deities or the corporate body of religion. Of the two perspectives, the substantive perspective's advantage is the precision of identifying a deity, a religious practice, a belief system or a corporate body. The substantive perspective of religion is likely more clearly understood and utilized by people as they can readily identify a church of a specific tradition or a system of worship or a set of beliefs. Whereas the weighty, insurmountable aspects of life, which the

functional perspective focuses on is less easy to grasp and perhaps too overwhelming for most people to consider.

In *Measures of Religiosity* (1999), a compendium of existing measures used in the psychology of religion, the editors Hill and Hood (1999) acknowledge that most of the 126 measures of religiosity included in this text, assess religious phenomena which are connected in some way to traditional institutional representations of the relationship to a transcendent being (p. 5) which would best be describes as substantive measures. Hill and Hood (1999) state that a second text, devoted to the measures of spirituality, would be a valuable supplement to their work.

The findings of this study as related to Pargament's (1997) attempt to measure the functional perspective of spirituality/religion through his measure, the Brief RCOPE, suggest that expecting the age group of this study to grasp the "...weighty, seemingly insurmountable facts of life" (p. 27) may be too high of an expectation. Disordered eating is a complex, chronic and deadly disease and the treatment of disordered eating is complex. Gathering empirical evidence regarding the role of spirituality and religion and the treatment of disordered eating is also complex when looking at the many variables such as population, primary disordered eating diagnosis, duration of illness, co-occurring psychological disorders, age of the population studied, the role of trauma, family of origin and the spirituality and religiosity of the population studied.

Smith et al. (2003) found that neither intrinsic religious devoutness nor religious affiliation, both substantive aspects of religion, were significant predictors of the outcomes of treatment despite 65% of the population identifying themselves as Latter-

Day Saints, presumably a more devout and religious group. Although Jacobs-Pilipski et al. (2005) found that women with strong spiritual/religious beliefs cope with weight and shape dissatisfaction differently than women without strong spiritual/religious beliefs, the authors acknowledge the implications of these findings are not clear and further research is recommended.

Studies on Mental Health and Physical Health

Whereas much research on the role of spirituality/religion and health outcomes focuses on the substantive perspective, the Brief RCOPE focuses on the functional perspective of religion. Much of the research using the Brief RCOPE as a measure has focused on physical disease and trauma and less on behavioral health. Of the 24 studies cited by Pargament, Feuille and Burdzy (2011), only one study (Piderman et al., 2007) looked at a behavioral health issue (substance abuse) and the findings suggested a moderate positive relationship between the use of spirituality/religion as a coping mechanism and improvements during treatment.

Despite many of the results of this study, its value in relation to existing research on the role of spirituality/religion and mental health is that not only does it add to the body of research looking at the relationship between spirituality and/or religion and the outcomes of treatment of mental health disorders, but it also adds to the body of research which looks mental health outcomes using the Brief RCOPE measure. Clearly, continued research into the role of spirituality/religion as a coping mechanism of those suffering from mental illness is warranted.

Limitations of this Research

A limitation of this study is the homogeneity of the population studied, specifically race (97% Caucasian) and presumed higher socioeconomic status of this population. Although there is not a direct link between disordered eating and socioeconomic status (Gard & Freeman, 1996; Rogers & Resnick, 1997), the ability of this particular population to engage in treatment, either because of access to health insurance or other financial resources, places them in a higher socioeconomic status.

Other limitations of this study are that the entire population was drawn from a single treatment facility and the relative small sample size limits the generalizability of the findings; no data is available which could show how/if the treatment facility's spiritual care program might influence the development and use of spirituality/religion as a coping mechanism; and, last, whether participating in the day hospital program rather than the residential program has any influence on the use of spirituality/religion as a coping mechanism or the changes in the admit to discharge scores of the Eating Disorders Examination Questionnaire, the Quick Inventory of Depressive Symptomatology or the Spielberger State-Trait Anxiety Questionnaire.

In light of these limitations, it is possible that the subjects in this study differ from the general population of individuals diagnosed with disordered eating. These findings do not imply that utilization of spiritual and/or religious coping does not have a role in positive outcomes of treatment for disordered eating, but rather that further research on the role of spirituality and/or religion as a coping mechanism during treatment for disordered eating is recommended.

Despite the limitations of this study, it contributes to a limited, but growing, body of research in this area. It is one of only a few studies which have measured the use of religion and spirituality as a coping mechanism for those in treatment for disordered eating using the Brief RCOPE as the measure of positive or negative spirituality/religion. Given the dearth of research in the area of religion, spirituality and disordered eating, this research contributes new knowledge about little studied factors that may influence the treatment process.

Recommendations

The Brief RCOPE used in this study was developed by Pargament (2011) because he believed that "...global indices or stable dispositional measures of religiousness cannot capture the rich, multi-dimensional, transactional, dynamic, and multi-valent character of religious coping" (p. 53). A recommendation for future study of spiritual/religious coping and treatment for disordered eating is to use a mixed-method design, gathering qualitative and quantitative data from subjects in order to provide a more comprehensive understanding of the role of religion and spirituality as a coping mechanism in treatment. The very nature of religion and spirituality is so complex that a quantitative measure alone can only provide a partial view of the bigger picture. Engaging research participants in dialogue may more fully capture the rich character of spiritual/religious coping mechanisms.

Another recommendation is for the treatment program where this data was collected to begin gathering hard data which can be analyzed to determine the utility of the spiritual care program as it relates to the outcomes of treatment. A recommended

measure for this purpose is the Theistic Spiritual Outcome Survey (TSOS) which was designed specifically as a treatment outcome measure. The TSOS is a simple, 17 item measure with each item answered on a 1 to 5 Likert scale, from Never to Almost Always. It can be administered periodically during the treatment process to measure the patients' spiritual position and potential development. The questions seem appropriate for the age-range typically found in disordered eating treatment programs.

Relevance of Research and Contributions to Social Work

The relevance and implications of this research for clinical social work are an improved understanding of the relationship of spirituality and/or religion as a coping mechanism to treatment of disordered eating and continued successful management of disordered eating. As clinicians, social workers can become more aware of the need for thorough spiritual assessments and may be able to improve treatment outcomes through understanding and supporting the spiritual/religious beliefs of patients. While the biopsychosocial framework used in social work focuses on the biological and social/environmental influences on the psychological well-being of our patients, by expanding the biopsychosocial model into a biopsychosocial-*spiritual* model, a better understanding and support for spirituality and/or religion may lead to improved treatment and outcomes.

APPENDIX A
CONSENT TO PARTICIPATE IN RESEARCH

Project Title: The Role of Spirituality/Religion as a Personal Coping Mechanism During Treatment for Disordered Eating

Researcher(s): David Franczyk

Faculty Sponsor: Terry Northcut, Ph.D.

Introduction:

You are being asked to take part in a research study being conducted by David Franczyk for a dissertation under the supervision of Terry Northcut, Ph.D. in the Department of Social Work at Loyola University of Chicago.

You are being asked to participate because you are part of a group of patients identified as experiencing disordered eating and will be treated either in a residential treatment facility or a partial hospital treatment facility. It is anticipated that a total of 100 people will participate in this study.

Please read this form carefully and ask any questions you may have before deciding whether to participate in the study.

Purpose:

The purpose of this study is to determine the impact of spirituality or religion on the treatment for eating disorders.

Procedures:

If you agree to be in the study, you will be asked to:

Complete one specific survey for this research: the Brief RCOPE is a 14-item self administered questionnaire which should take about 15 minutes complete.

The Brief RCOPE is in addition to the standard survey/questionnaires used by the hospital at admission of all patients in the disordered eating treatment programs.

Risks/Benefits:

There are no foreseeable risks involved in participating in this research beyond those experienced in everyday life.

While there may be no direct benefits to you for participating in this research, the results of this research may be used to improve the process of treatment for disordered eating.

Confidentiality:

Confidentiality of your information is most important in this research. Confidentiality of your identity will be maintained by using a numerical or alpha-numerical identification on these questionnaires rather than your name. While you may put your name on the questionnaires when you are completing them, when the research receives the data (answers), only the confidential numerical identification will be used.

There will be a master key list of names and ID numbers which will be kept secured in either a locked file or a password protected computer program and the key list will be destroyed after the research is completed.

Voluntary Participation:

Participation in this study is voluntary. If you do not want to be in this study, you do not have to participate. Even if you decide to participate, you are free not to answer any question or to withdraw from participation at any time without penalty and without any change to your treatment program.

Contacts and Questions:

If you have questions about this research study, please feel free to contact David Franczyk Loyola University Chicago School of Social Work at 414/573-2999 or dfrancz@luc.edu, or Dr. Terry Northcut, Loyola University Chicago School of Social Work at 312/915-7034 or tnorthc@luc.edu.

If you have questions about your rights as a research participant, you may contact the Loyola University Office of Research Services at (773) 508-2689.

Statement of Consent:

Your signature below indicates that you have read the information provided above, have had an opportunity to ask questions, and agree to participate in this research study. You will be given a copy of this form to keep for your records.

Participant's Signature

Date

Researcher's Signature

Date

APPENDIX B
MEASURES

The Brief RCOPE

Instructions: The following items deal with the ways you cope with a negative event in your life. There are many ways to try to deal with problems. These items ask what you did to cope with this negative event. Obviously different people deal with things in different ways, but we are interested in how you tried to deal with it.

Each item says something about a particular way of coping. We want to know to what extent you did what the item says; how much or how frequently. The items refer to God, however, people have a number of ways to describe God, such as “the divine”, “the transcendent” or a “higher power”. Please feel free to substitute your preferred word for God as you read each item

Don’t answer the question on the basis of what worked or not – just whether or not you did it. Try to rate each item separately in your mind from the others. Make your answers as true FOR YOU as you can. Circle the answer that best applies to you.

1. I looked for a stronger connection to God.
 - a. Not at all
 - b. Somewhat
 - c. Quite a bit
 - d. A great deal

2. I sought God’s love and care.
 - a. Not at all
 - b. Somewhat
 - c. Quite a bit
 - d. A great deal

3. I sought help from God in letting go of my anger.
 - a. Not at all
 - b. Somewhat
 - c. Quite a bit
 - d. A great deal

4. I tried to put my plans into action together with God.
 - a. Not at all
 - b. Somewhat
 - c. Quite a bit
 - d. A great deal

5. I tried to see how God might be trying to strengthen me in this situation.
 - a. Not at all
 - b. Somewhat

- c. Quite a bit
 - d. A great deal
6. I asked forgiveness of my sins.
- a. Not at all
 - b. Somewhat
 - c. Quite a bit
 - d. A great deal
7. I focused on religion to stop worrying about my problems.
- a. Not at all
 - b. Somewhat
 - c. Quite a bit
 - d. A great deal
8. I wondered whether God had abandoned me.
- a. Not at all
 - b. Somewhat
 - c. Quite a bit
 - d. A great deal
9. I felt punished by God for my lack of devotion.
- a. Not at all
 - b. Somewhat
 - c. Quite a bit
 - d. A great deal
10. I wondered what I did for God to punish me.
- a. Not at all
 - b. Somewhat
 - c. Quite a bit
 - d. A great deal
11. I questioned God's love for me.
- a. Not at all
 - b. Somewhat
 - c. Quite a bit
 - d. A great deal
12. I wondered whether my church had abandoned me.
- a. Not at all
 - b. Somewhat
 - c. Quite a bit
 - d. A great deal

13. I decided the devil made this happen.

- a. Not at all
- b. Somewhat
- c. Quite a bit
- d. A great deal

14. I questioned the power of God.

- a. Not at all
- b. Somewhat
- c. Quite a bit
- d. A great deal

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State-Trait Anxiety Inventory for Adults (p. 1)

mind garden

SELF-EVALUATION QUESTIONNAIRE

STAI Form Y-1

Please provide the following information:

Name _____ Date _____ S _____

Age _____ Gender (Circle) M F T _____

DIRECTIONS:

A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you feel *right now*, that is, at *this moment*. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

- | | | | | |
|--|---|---|---|---|
| 1. I feel calm | 1 | 2 | 3 | 4 |
| 2. I feel secure | 1 | 2 | 3 | 4 |
| 3. I am tense | 1 | 2 | 3 | 4 |
| 4. I feel strained | 1 | 2 | 3 | 4 |
| 5. I feel at ease | 1 | 2 | 3 | 4 |
| 6. I feel upset | 1 | 2 | 3 | 4 |
| 7. I am presently worrying over possible misfortunes | 1 | 2 | 3 | 4 |
| 8. I feel satisfied | 1 | 2 | 3 | 4 |
| 9. I feel frightened | 1 | 2 | 3 | 4 |
| 10. I feel comfortable | 1 | 2 | 3 | 4 |
| 11. I feel self-confident | 1 | 2 | 3 | 4 |
| 12. I feel nervous | 1 | 2 | 3 | 4 |
| 13. I am jittery | 1 | 2 | 3 | 4 |
| 14. I feel indecisive | 1 | 2 | 3 | 4 |
| 15. I am relaxed | 1 | 2 | 3 | 4 |
| 16. I feel content | 1 | 2 | 3 | 4 |
| 17. I am worried | 1 | 2 | 3 | 4 |
| 18. I feel confused | 1 | 2 | 3 | 4 |
| 19. I feel steady | 1 | 2 | 3 | 4 |
| 20. I feel pleasant | 1 | 2 | 3 | 4 |

VERY MUCH SO
MODERATELY SO
SOMEBWHAT
NOT AT ALL

State-Trait Anxiety Inventory for Adults (p. 2)

SELF-EVALUATION QUESTIONNAIRE

STAI Form Y-2

Name _____ Date _____

DIRECTIONS

A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you *generally* feel. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe how you generally feel.

- | | | | | |
|---|--------------|-----------|-------|---------------|
| | ALMOST NEVER | SOMETIMES | OFTEN | ALMOST ALWAYS |
| 21. I feel pleasant | 1 | 2 | 3 | 4 |
| 22. I feel nervous and restless | 1 | 2 | 3 | 4 |
| 23. I feel satisfied with myself | 1 | 2 | 3 | 4 |
| 24. I wish I could be as happy as others seem to be | 1 | 2 | 3 | 4 |
| 25. I feel like a failure | 1 | 2 | 3 | 4 |
| 26. I feel rested | 1 | 2 | 3 | 4 |
| 27. I am "calm, cool, and collected" | 1 | 2 | 3 | 4 |
| 28. I feel that difficulties are piling up so that I cannot overcome them | 1 | 2 | 3 | 4 |
| 29. I worry too much over something that really doesn't matter | 1 | 2 | 3 | 4 |
| 30. I am happy | 1 | 2 | 3 | 4 |
| 31. I have disturbing thoughts | 1 | 2 | 3 | 4 |
| 32. I lack self-confidence | 1 | 2 | 3 | 4 |
| 33. I feel secure | 1 | 2 | 3 | 4 |
| 34. I make decisions easily | 1 | 2 | 3 | 4 |
| 35. I feel inadequate | 1 | 2 | 3 | 4 |
| 36. I am content | 1 | 2 | 3 | 4 |
| 37. Some unimportant thought runs through my mind and bothers me | 1 | 2 | 3 | 4 |
| 38. I take disappointments so keenly that I can't put them out of my mind | 1 | 2 | 3 | 4 |
| 39. I am a steady person | 1 | 2 | 3 | 4 |
| 40. I get in a state of tension or turmoil as I think over my recent concerns and interests | 1 | 2 | 3 | 4 |

Eating Disorder Examination Questionnaire (p. 1)

NAME _____ DATE _____

EDE-Q4

EATING QUESTIONNAIRE

Instructions: The following questions are concerned with the **PAST FOUR WEEKS ONLY** (28 days). Please read each question carefully and circle the appropriate number on the right. Please answer all the questions.

On how many days out of the past 28 days.....	No Days	1-5 Days	6-12 Days	13-15 Days	16-22 Days	23-27 Days	Every Day
1. Have you been deliberately <u>trying</u> to limit the amount of food you eat to influence your shape or weight?	0	1	2	3	4	5	6
2. Have you gone for long periods of time (8 hours or more) without eating anything in order to influence your shape weight?	0	1	2	3	4	5	6
3. Have you <u>tried</u> to avoid eating any foods which you like in order to influence your shape weight?	0	1	2	3	4	5	6
4. Have you <u>tried</u> to follow definite rules regarding your eating in order to influence your shape or weight; for example, a calorie limit, a set amount of food, or rules about what or when you should eat?	0	1	2	3	4	5	6
5. Have you wanted your stomach to be empty?	0	1	2	3	4	5	6
6. Has thinking about food or its calorie content made it <u>much</u> more difficult to concentrate on thing you are interested in; for example, read, watch TV, or follow a conversation?	0	1	2	3	4	5	6
7. Have you been afraid of losing control over eating?	0	1	2	3	4	5	6

Eating Disorder Examination Questionnaire (p. 2)

On how many days out of the past 28 days.....		No Days	1-5 Days	6-12 Days	13-15 Days	16-22 Days	23-27 Days	Every Day
8.	Have you had episodes of binge eating?	0	1	2	3	4	5	6
9.	Have you eaten in secret? (Do not count binges.)	0	1	2	3	4	5	6
10.	Have you definitely wanted your stomach to be flat?	0	1	2	3	4	5	6
11.	Has thinking about shape or weight made it more difficult to concentrate on things you are interested in; for example read, watch TV, or follow a conversation?	0	1	2	3	4	5	6
12.	I have you had a definite fear that you might gain weight or become fat?	0	1	2	3	4	5	6
13.	Have you felt fat?	0	1	2	3	4	5	6
14.	Have you had a strong desire to lose weight?	0	1	2	3	4	5	6
15.	OVER THE PAST 4 WEEKS (28 DAYS) On what proportion of times that you have eaten have you felt guilty because the effect on your shape or weight? (Do not count binges.) <i>Circle the number which applies.</i>	0 None of the times	1 A few of the times	2 Less than half the times	3 Half the times	4 More than half the times	5 Most of the time	6 Every time

Page 2 of 4

Eating Disorder Examination Questionnaire (p. 3)

16.	Over the past four weeks (28 days), have there been any times when you have felt that you have eaten what other people would regard as an unusually large amount of food given the circumstances? <i>Please put appropriate number in the box.</i>	0 – No 1 – Yes	_____
17.	How many such episodes have you had over the past four weeks?		_____
18.	During how many of these episodes of overeating did you have a sense of having lost control over your eating?		_____
19.	Have you had other episodes of eating in which you have had a sense of having lost control and eaten too much, but have <u>not</u> eaten an unusually large amount of food given the circumstances?	0 – No 1 – Yes	_____
20.	How many such episodes have you had over the past four weeks?		_____
21.	Over the past four weeks have you made yourself sick (vomit) as a means of controlling your shape or weight?	0 – No 1 – Yes	_____
22.	How many times have you done this over the past four weeks?		_____
23.	Have you taken laxatives as a means of controlling your shape or weight?	0 – No 1 – Yes	_____
24.	How many times have you done this over the past four weeks?		_____
25.	Have you taken diuretics (water tablets) as a means of controlling your shape or weight?	0 – No 1 – Yes	_____
26.	How many times have you done this over the past four weeks?		_____
27.	Have you exercised <u>hard</u> as a means of controlling your shape or weight?	0 – No 1 – Yes	_____
28.	How many times have you done this over the past four weeks?		_____

Eating Disorder Examination Questionnaire (p. 4)

OVER THE PAST FOUR WEEKS (28 DAYS) <i>Please circle the number which best describes your behavior.</i>		NOT AT ALL		SLIGHTLY		MODERATELY		MARKEDLY
29.	Has your weight influenced how you think about (judge) yourself as a person?	0	1	2	3	4	5	6
30.	Has your shape influenced how you think about (judge) yourself as a person?	0	1	2	3	4	5	6
31.	How much would it upset you if you had to weigh yourself once a week for the next four weeks?	0	1	2	3	4	5	6
32.	How dissatisfied have you felt about your weight?	0	1	2	3	4	5	6
33.	How dissatisfied have you felt about your shape?	0	1	2	3	4	5	6
34.	How concerned have you been about other people seeing you eat?	0	1	2	3	4	5	6
35.	How uncomfortable have you felt seeing your body; for example, in the mirror, in shop window reflections, while undressing or taking a bath or shower?	0	1	2	3	4	5	6
36.	How uncomfortable have you felt about others seeing your body; for example, in communal changing rooms, when swimming or wearing tight clothes?	0	1	2	3	4	5	6

Quick Inventory of Depressive Symptomatology (p. 1)

QUICK INVENTORY OF DEPRESSIVE SYMPTOMATOLOGY (SELF-REPORT) (QIDS-SR 16)

Please circle the one response to each item that best describes you for the past seven days.

1. Falling asleep.
 - 0 I never take longer than 30 minutes to fall asleep.
 - 1 I take at least 30 minutes to fall asleep, less than half the time.
 - 2 I take at least 30 minutes to fall asleep, more than half the time.
 - 3 I take more than 60 minutes to fall asleep, more than half the time.
2. Sleep during the night.
 - 0 I do not wake up at night.
 - 1 I have a restless, light sleep with a few brief awakenings each night.
 - 2 I wake up at least once a night, but I go back to sleep easily.
 - 3 I awaken more than once a night and stay awake for 20 minutes or more, more than half the time.
3. Waking up too early.
 - 0 Most of the time, I awaken no more than 30 minutes before I need to get up.
 - 1 More than half the time, I awaken more than 30 minutes before I need to get up.
 - 2 I almost always awaken at least one hour or so before I need to, but I go back to sleep eventually.
 - 3 I awaken at least one hour before I need to, and can't go back to sleep.
4. Sleeping too much.
 - 0 I sleep no longer than 7-8 hours/night, without napping during the day.
 - 1 I sleep no longer than 10 hours in a 24-hour period including naps.
 - 2 I sleep no longer than 12 hours in a 24-hour period including naps.
 - 3 I sleep longer than 12 hours in a 24-hour period including naps.
5. Feeling sad.
 - 0 I do not feel sad.
 - 1 I feel sad less than half the time.
 - 2 I feel sad more than half the time.
 - 3 I feel sad nearly all of the time.
6. Decreased appetite.
 - 0 There is no change in my usual appetite.
 - 1 I eat somewhat less often or lesser amounts of food than usual.
 - 2 I eat much less than usual and only with personal effort.
 - 3 I rarely eat within a 24-hour period, and only with extreme personal effort or when others persuade me to eat.

Quick Inventory of Depressive Symptomatology (p. 2)

QUICK INVENTORY OF DEPRESSIVE SYMPTOMATOLOGY (SELF-REPORT) (QIDS-SR 16)

Please circle the one response to each item that best describes you for the past seven days.

7. Increased appetite:

- 0 There is no change from my usual appetite.
- 1 I feel a need to eat more frequently than usual.
- 2 I regularly eat more often and/or greater amounts of food than usual.
- 3 I feel driven to overeat both at mealtime and between meals.

8. Decreased weight (within the last two weeks):

- 0 I have not had a change in my weight.
- 1 I feel as if I've had a slight weight loss.
- 2 I have lost 2 pounds or more.
- 3 I have lost 5 pounds or more.

9. Increased weight (within the last two weeks):

- 0 I have not had a change in my weight.
- 1 I feel as if I've had a slight weight gain.
- 2 I have gained 2 pounds or more.
- 3 I have gained 5 pounds or more.

10. Concentration/Decision making:

- 0 There is no change in my usual capacity to concentrate or make decisions.
- 1 I occasionally feel indecisive or find that my attention wanders.
- 2 Most of the time, I struggle to focus my attention or to make decisions.
- 3 I cannot concentrate well enough to read or cannot make even minor decisions.

11. View of myself:

- 0 I see myself as equally worthwhile and deserving as other people.
- 1 I am more self-blaming than usual.
- 2 I largely believe that I cause problems for others.
- 3 I think almost constantly about major and minor defects in myself.

12. Thoughts of death or suicide:

- 0 I do not think of suicide or death.
- 1 I feel that life is empty or wonder if it's worth living.
- 2 I think of suicide or death several times a week for several minutes.
- 3 I think of suicide or death several times a day in some detail, or I have made specific plans for suicide or have actually tried to take my life.

Quick Inventory of Depressive Symptomatology (p. 3)

QUICK INVENTORY OF DEPRESSIVE SYMPTOMATOLOGY (SELF-REPORT) (QIDS-SR 16)

Please circle the one response to each item that best describes you for the past seven days.

13. General interest:

- 0 There is no change from usual in how interested I am in other people or activities.
- 1 I notice that I am less interested in people or activities.
- 2 I find I have interest in only one or two of my formerly pursued activities.
- 3 I have virtually no interest in formerly pursued activities.

14. Energy level:

- 0 There is no change in my usual level of energy.
- 1 I get tired more easily than usual.
- 2 I have to make a big effort to start or finish my usual daily activities (for example, shopping, homework, cooking or going to work).
- 3 I really cannot carry out most of my usual daily activities because I just don't have the energy.

15. Feeling slowed down:

- 0 I think, speak, and move at my usual rate of speed.
- 1 I find that my thinking is slowed down or my voice sounds dull or flat.
- 2 It takes me several seconds to respond to most questions and I'm sure my thinking is slowed.
- 3 I am often unable to respond to questions without extreme effort.

16. Feeling restless:

- 0 I do not feel restless.
- 1 I'm often fidgety, wringing my hands, or need to shift how I am sitting.
- 2 I have impulses to move about and am quite restless.
- 3 At times, I am unable to stay seated and need to pace around.

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