2018

Dimensions of Diversity in Sustained Eating Disorder Recovery in Females: A Study of the Predictive Power of Hope, Resilience, and Spirituality

Chelsey L Morgan

Follow this and additional works at: <https://researchrepository.wvu.edu/etd>

Recommended Citation

Morgan, Chelsey L, "Dimensions of Diversity in Sustained Eating Disorder Recovery in Females: A Study of the Predictive Power of Hope, Resilience, and Spirituality" (2018). *Graduate Theses, Dissertations, and Problem Reports*. 7217.

<https://researchrepository.wvu.edu/etd/7217>

This Dissertation is protected by copyright and/or related rights. It has been brought to you by the The Research Repository @ WVU with permission from the rights-holder(s). You are free to use this Dissertation in any way that is permitted by the copyright and related rights legislation that applies to your use. For other uses you must obtain permission from the rights-holder(s) directly, unless additional rights are indicated by a Creative Commons license in the record and/ or on the work itself. This Dissertation has been accepted for inclusion in WVU Graduate Theses, Dissertations, and Problem Reports collection by an authorized administrator of The Research Repository @ WVU. For more information, please contact researchrepository@mail.wvu.edu.

Dimensions of Diversity in Sustained Eating Disorder Recovery in Females:
A Study of the Predictive Power of Hope, Resilience, and Spirituality

Chelsey L. Morgan, M.S.

Dissertation submitted
to the College of Education and Human Services
at West Virginia University

in partial fulfillment of the requirements for the degree of

Doctor of Philosophy in
Counseling Psychology

Christine Schimmel, Ed.D., Chair
G. David Allen, Ph.D.
John Blake, Ph.D.
Jeffrey Daniels, Ph.D.
Catherine Yura, Ed.D.

Department of Counseling, Rehabilitation Counseling, and Counseling Psychology

Morgantown, West Virginia
2018

Keywords: eating disorder recovery, hope, resilience, spirituality, diversity
Copyright 2018 Chelsey L. Morgan

ABSTRACT

Dimensions of Diversity in Sustained Eating Disorder Recovery in Females: A Study of the Predictive Power of Hope, Resilience, and Spirituality

Chelsey L. Morgan

Eating disorders are historically believed to impact individuals of European-American descent (Talleyrand, 2010). However, recent literature provided support for similar prevalence rates across ethnic groups (e.g., Wade, Keski-Rahkonen, & Hudson, 2011) and sexual orientation groups (e.g., Maloch, Bieschke, McAleavey, & Locke, 2013). Up to 80% of affected individuals are estimated to attain some level of recovery (Treasure, Claudino, & Zucker, 2010), with several variables contributing to the recovery process. This dissertation quantitatively examined the effects of hope, resilience, and spirituality on recovery among a diverse group of females with a previous diagnosis of an eating disorder. Research questions examined the relationship between sustained eating disorder recovery and the Eating Disorder Examination-Questionnaire (EDE-Q) and assessed the degree to which hope, resilience, and spirituality predict EDE-Q scores and sustained time in recovery. The study also examined ethnic and sexual orientation group differences in EDE-Q scores, sustained time in recovery, hope, resilience, and spirituality. Major findings included that EDE-Q scores were predicted by hope, resilience, and spirituality. Additionally, there were differences found in hope between individuals who identified as heterosexual and as a sexual minority. Implications included the potential impact of targeted clinical interventions to increase hope, resilience, and spirituality among affected individuals seeking recovery. Limitations included accessing individuals in recovery, obtaining a diverse sample, conceptualizing and measuring recovery, and the use of self-report. Future research should address measurement and conceptualization issues of eating disorder recovery, as well as methods to increase hope, resilience, and spirituality among affected individuals holding minority identities.

DEDICATION

This study is dedicated to the thousands of individuals who continue to seek recovery from an eating disorder.

ACKNOWLEDGEMENTS

There are many people who have helped make this dissertation possible, and without whom, it may never have been completed. First, the John and Barbara Pisapia Doctoral Research Award had an important role in providing financial support toward the completion of this dissertation. The award provided funding for 100 gift cards for participants, and allowed me to access a much more substantial sample size than would have otherwise been possible.

To the chairperson of my dissertation committee, Dr. Christine Schimmel, I am so grateful for your patience and guidance throughout this process. Your willingness to provide constructive, thoughtful feedback and reassurance was critical, and I feel so lucky to have had you as my dissertation chair. Dr. John Blake, thank you for your willingness to schedule teleconferences to review the statistical analyses and results with me; those meetings were both helpful and crucial to ensuring that the appropriate analyses were completed. Dr. David Allen, Dr. Jeffrey Daniels, and Dr. Catherine Yura, thank you for your time and willingness to serve on my committee; this process wouldn't be complete with you.

To my parents, Allen and Barbara Bohr, thank you for instilling the value of education in us from a young age. The completion of this doctoral degree has been many years in the making, and it began with learning to pursue things that are important and meaningful to me.

Finally, to my husband Ryan. Our relationship began during the first year I was a doctoral student, and it means the world to me that you've been by my side throughout this process. I love you and our adventures together, and I look forward to so many years with you to come. Thank you for being the calm in the stress of doctoral studies.

ABSTRACT.....	ii
DEDICATION.....	iii
ACKNOWLEDGEMENTS.....	iv
CHAPTER ONE: INTRODUCTION.....	1
Rationale.....	2
Background.....	2
Problem Statement.....	4
Research Questions.....	4
Operational Definitions.....	5
Eating Disorders.....	5
Sexual Minority.....	5
Hope.....	6
Spirituality.....	6
Summary of Study.....	6
CHAPTER TWO: REVIEW OF THE LITERATURE.....	8
Eating Disorders.....	8
Anorexia Nervosa.....	9
Subtypes and Specifiers.....	9
Bulimia Nervosa.....	10
Specifiers.....	10
Binge-eating Disorder.....	11
Specifiers.....	11
Otherwise Specified Feeding and Eating Disorders.....	12
Age.....	13
Ethnic Minorities.....	15
African-Americans.....	15
Asian-Americans.....	16
Hispanics and Latinas.....	17
Native-Americans.....	18
Sexual Minorities.....	18
Bisexual Females.....	19
Lesbians.....	19
Questioning Females.....	20
Transgender Females.....	20
Recovery versus Resilience.....	21
Recovery.....	21
Eating Disorder Recovery.....	22
Measuring Eating Disorders and Recovery.....	22
Predictive Variables to Recovery.....	23
Spirituality.....	23
Measuring Spirituality.....	25
Resilience.....	26
Definitional Emphases.....	26
Protective Factors.....	26

Positive adaptation and adversity.....	27
Conceptualizing Psychological Resilience	27
Trait.....	27
Response or outcome	28
Process	28
Resilience and Eating Disorders	29
Measuring Resilience.....	30
Hope.....	30
Goals	31
Pathways	32
Agency	32
Hope in Recovery	32
Measuring Hope.....	34
Present Research	35
CHAPTER THREE: METHODS	36
Research Questions.....	36
Research Design.....	37
Participants and Sample Size	38
Predictor Variables.....	39
Demographic Information.....	39
Outcome Variables (Measures).....	39
Eating Disorder Recovery	39
Resilience.....	41
Hope.....	42
Sustained Time in Recovery	43
Spirituality.....	44
Sample Procedures.....	45
Data Analysis	48
Hypotheses and Analyses	54
Summary	56
CHAPTER FOUR: RESULTS	58
Respondent Demographics	59
Measuring Recovery	59
Preliminary Data Screening and Analysis	61
Major Findings.....	63
Research Question One: Relationship Between Sustained Recovery and the EDE-Q	63
Research Question Two: Hope, Resilience, and Spirituality as Predictors of Recovery.....	64
Research Question Three: Predictors of Sustained Recovery.....	65
Research Question Four: Differences in Eating Disorder Recovery between Ethnic and Sexual Orientation Groups.....	66
Research Question Five: Differences in Sustained Time in Recovery between Ethnic Groups and Sexual Orientation Groups	67
Research Question Six: Differences in Hope, Resilience, and Spirituality between Ethnic Groups.....	68

Research Question Seven: Differences in Hope, Resilience, and Spirituality between Sexual Orientation Groups.....	70
Exploratory Analyses.....	71
Summary.....	74
CHAPTER FIVE: SUMMARY & DISCUSSION.....	75
Research Questions.....	75
Findings in the Context of the Literature.....	76
Sustained Recovery and EDE-Q Scores Discussion.....	76
Predicting Eating Disorder Recovery Discussion.....	77
Predicting Sustained Time in Recovery Discussion.....	79
Eating Disorder Recovery Group Differences Discussion.....	80
Sustained Time in Recovery Group Differences Discussion.....	81
Ethnic Groups and Hope, Resilience, and Spirituality Discussion.....	82
Sexual Orientation Groups and Hope, Resilience, and Spirituality Discussion.....	82
Limitations.....	83
Accessing Individuals in Recovery.....	83
Obtaining a Diverse Sample.....	84
Conceptualizing and Measuring Recovery.....	85
The Role of Self-Report.....	86
Implications.....	87
Future Research.....	87
Conclusion.....	89
REFERENCES.....	91
APPENDICES.....	112
Appendix A: Informed Consent.....	112
Appendix B: Participant Invitation Request.....	114
Appendix C: Debriefing and Resources Form.....	115
Appendix D: Demographic Information Questionnaire.....	117
Appendix E: IRB Approval.....	119
Appendix F: Adult Dispositional (Trait) Hope Scale.....	121
Appendix G: Connor-Davidson Resilience Scale.....	122
Appendix H: Eating Disorder Examination-Questionnaire.....	123
Appendix I: Expressions of Spirituality Inventory-Revised.....	126
CURRICULUM VITAE.....	129

CHAPTER ONE: INTRODUCTION

There are currently five primary types of eating disorders recognized by the American Psychiatric Association (2013): (a) anorexia nervosa (anorexia), (b) bulimia nervosa (bulimia), (c) binge-eating disorder, (d) other specified feeding and eating disorder (OSFED), and (e) additional eating or feeding disorders, with anorexia, bulimia, binge-eating disorder, and OSFED being most prolific (American Psychiatric Association, 2013). The Diagnostic and Statistical Manual of Mental Disorders (4th edition – text revision; DSM-IV-TR; American Psychiatric Association, 2000) also included the diagnosis of Eating Disorders Not Otherwise Specified (EDNOS). With the publication of the most recent edition of the Diagnostic and Statistical Manual of Mental Disorders (5th edition, DSM-5; American Psychiatric Association, 2013), OSFED replaced EDNOS in an effort to reduce ambiguity associated with the EDNOS diagnosis. Historically, eating disorders were a psychiatric illness believed to primarily affect individuals of European-American or Caucasian descent (Talleyrand, 2010). Due to this popular belief, the research examining eating disorders in the lives of Caucasian individuals is prolific.

More recently, the documented incidence of eating disorders has increased (Hoek & Van Hoeken, 2003). There is mixed support for similar prevalence rates across ethnic groups (e.g., Marcus & Kalarchian, 2003; Wade, Keski-Rahkonen, & Hudson, 2011) as well as across sexual orientations (Cachelin, Rebeck, Veisel, & Striegel-Moore, 2001; Maloch, Bieschke, McAleavey, & Locke, 2013). With regard to eating disorder recovery, between 70% and 80% of affected individuals will attain some recovery (Treasure, Claudino, & Zucker, 2010), with a number of variables contributing to eating disorder recovery. Among the variables believed to contribute to sustained eating disorder recovery, hope (Weinberg, 2013), resilience (Ohrui & Nihei, 2006), and spirituality (Berrett, Hardman, O'Grady, & Richards, 2007) appear to positively influence

the recovery process. Despite ongoing discussion of the presence of eating disorders among ethnic and sexual minority groups, the current literature regarding sustained recovery is insufficient. This study examined the roles of hope, resilience, and spirituality in the lives of individuals in recovery from a diagnosed eating disorder identifying as ethnic and/or sexual minorities.

Rationale

In light of the recent demographic shift regarding populations affected by eating disorders (Austin, Nelson, Birkett, Calzo, & Everett, 2013; Cachelin et al., 2001, Maloch et al., 2013, Marcus & Kalarchain, 2003; Wade et al., 2011), it is important to understand how affected populations, including ethnic and sexual minorities, are sustaining recovery. Hope (Weinberg, 2013), resilience (Ohrui & Nihei, 2006), and spirituality (Berrett et al., 2007) clearly impact eating disorder recovery, and clarifying our understanding of how these variables together predict sustained recovery may offer insight into how to assist individuals in sustaining recovery from an eating disorder.

Background

Originally, eating disorders as a psychiatric illness were believed to primarily affect individuals, particularly females, of European-American or Caucasian descent (Talleyrand, 2010). While females are currently diagnosed with eating disorders at significantly higher rates than males (American Psychiatric Association, 2013), there is a shift occurring with subsets of females who were historically believed to be protected from eating disorders (Striegel-Moore & Smolak, 2000). In recent years the registered incidence of eating disorders has risen (Hoek and Van Hoeken, 2003); currently, there is disagreement within the literature regarding incidence of eating disorders. While some researchers (e.g., Cachelin et al., 2001; Mulholland & Mintz,

2001; Wade et al., 2011) posit prevalence rates are similar across ethnic groups, other researchers (e.g., Marcus & Kalarchian, 2003; Striegel-Moore, Wilfley, Pike, Dohm, & Fairburn, 2000) note distinctions in prevalence rates across groups.

Likewise, there is disagreement within the literature regarding incidence of eating disorders across females identifying as heterosexual, bisexual, lesbian, or questioning. While there is some support for similar prevalence rates across sexual orientations (e.g., Cachelin et al., 2001; Mulholland & Mintz, 2001), opposing evidence is also available (e.g., Koh & Ross, 2006; Maloch et al., 2013). Despite increased incidence across ethnic and sexual minorities, the literature in these areas remains lacking.

In an effort to better understand how individuals attain and sustain recovery from an eating disorder, researchers have examined a number of factors believed to impact the recovery process. Among these, current variables of interest within the eating disorder recovery process include the role of hope (Weinberg, 2013), resilience (Ohnishi & Nihei, 2006), and spirituality (Berrett et al., 2007). However, researchers have not examined the predictive roles of hope, resilience, and spirituality together for sustained recovery in females who self-identify as an ethnic or sexual minority. While these variables have been somewhat examined within the literature, the evidence is far from comprehensive and lacks a predictive model of sustained recovery. The present study began with an examination of the existing literature to identify potential predictors of sustained eating disorder recovery. Based on the current literature, hope, resilience, and spirituality were selected as potential predictive variables of eating disorder recovery; prior research has indicated these variables individually impact eating disorder recovery in a variety of populations.

Problem Statement

While there are several studies reviewing the individual roles of several variables on eating disorder recovery, there currently is no literature assessing the combined predictive power of hope, resilience, and spirituality on eating disorder recovery. Specifically, the impact of each of these variables on sustained eating disorder recovery is unclear in both ethnic and sexual minorities. To better understand how individuals sustain recovery from an eating disorder, it is necessary to understand the predictive, combined power of hope, resilience, and spirituality. Furthermore, understanding the roles of each of the aforementioned variables in sustained eating disorder recovery may offer clinical applications to better inform eating disorder treatment and recovery support services.

Research Questions

The following research questions were addressed in this study:

1. What is the relationship between self-reported sustained eating disorder recovery and the Eating Disorder Examination-Questionnaire (EDE-Q) in a female sample that is diverse ethnically, sexually, and by age?
2. Do hope, resilience, and spirituality predict eating disorder recovery (according to the EDE-Q) in a female sample that is diverse ethnically, sexually, and by age?
3. Do hope, resilience, and spirituality predict sustained time in recovery from an eating disorder in a female sample that is diverse ethnically, sexually, and by age?
4. Are there differences in eating disorder recovery (according to the EDE-Q) between ethnic groups, and sexual orientation groups?
5. Are there differences in sustained time in recovery from an eating disorder between ethnic groups, and sexual orientation groups?

6. Do the relationships among hope, resilience, and spirituality to eating disorder recovery differ between ethnic groups?
7. Do the relationships among hope, resilience, and spirituality to eating disorder recovery differ across sexual orientations?

Operational Definitions

The following definitions were used throughout the present study:

Eating Disorders. Current eating disorder diagnoses included in the study are derived from symptom lists within The Diagnostic and Statistical Manual of Mental Disorders (5th edition; DSM-5; American Psychiatric Association, 2013), and include anorexia nervosa, bulimia nervosa, binge-eating disorder, and other specified feeding and eating disorder. Additionally, given the recent transition from the eating disorder diagnoses included in the DSM-IV-TR (American Psychiatric Association, 2000) to those included in the DSM-5 (American Psychiatric Association, 2013), the present study also included eating disorders not otherwise specified (EDNOS) as an eating disorder diagnosis.

Ethnic Minority. For the purpose of this study, an ethnic minority was an individual who identifies their primary ethnicity as non-European-American or Caucasian. For example, an individual who self-identifies as African or African-American, American Indian, Native American, or Native Alaskan, Asian, Asian-American, Pacific Islander, or of Hispanic or Latina descent were considered an ethnic minority. Additionally, participants may have self-identified as having multiple ethnicities or as a specific ethnicity that was not listed.

Sexual Minority. Within the current study, a sexual minority was an individual who identified their sexual orientation as non-heterosexual. For example, an individual who

identified as bisexual, lesbian, or questioning was a sexual minority. Additionally, participants may have self-identified a specific sexual orientation that was not listed.

Hope. Within the present study, the researcher drew upon an established definition of hope, “the process of thinking about one’s goals, along with the motivation to move toward those goals (agency), and the ways to achieve those goals (pathways)” (Snyder, 1995, p. 355).

Resilience. Within the literature resilience is conceptualized as a trait, process, or outcome (Fletcher & Sarkar, 2013; Richardson, 2002) and includes varied emphases on the roles of positive adaptation and adversity (Fletcher & Sarkar, 2013). For the present study, the researcher defined resilience as the adaptation and overcoming of an adverse or difficult experience, specifically, the experience and process of recovering from a diagnosed eating disorder.

Spirituality. The researcher drew from MacDonald’s (2000) spirituality literature, which posits spirituality may be expressed in several ways. Among the dimensions of spirituality are an individual’s transcendental or mystical experiences, beliefs in paranormal or psychological phenomena, religious means and practices, understanding of the meaning and purpose of life and existence, and beliefs, attitudes, and perceptions of spirituality. While spirituality may include an aspect of religion for some individuals, spirituality is a distinct, multidimensional construct (MacDonald, 2000). Spirituality is, “the aspect of humanity that refers to the way individuals seek and express meaning and purpose, and the way they experience their connectedness to the moment, to self, to others, to nature, and to the significant or sacred” (Puchalski et al., 2009, p. 887).

Summary of Study

The present study attempted to assess the combined, predictive roles of hope, resilience,

and spirituality in sustained eating disorder recovery. In particular, the researcher was interested in understanding how each of the aforementioned variables impacted sustained eating disorder recovery in females identifying as an ethnic or sexual minority. The roles of hope, resilience, and spirituality are established within the literature, and their application to eating disorder recovery offers clinical and practical implications as providers attempt to increase recovery rates among affected individuals.

CHAPTER TWO: REVIEW OF THE LITERATURE

The current body of research on hope (Waynor, Gao, Dolce, Haytas, & Reilly, 2012), resilience (Dowrick, Kokanovic, Hegarty, Griffiths, & Gunn, 2008), and spirituality (Berrett et al., 2007; Mihaljevic, Aukst-Margetic, Karnicnik, & Vuksan-Cusa, 2015) is comprehensive in its application to many adverse situations faced by individuals in society today. However, these variables are frequently examined individually in relationship to specific psychopathology (e.g., resilience and depression, Dowrick et al., 2008; spirituality and depression, Mihaljevic et al., 2015). Furthermore, while hope (Irving & Cannon, 2000), resilience (Junko & Yoshiaki, 2006), and spirituality (Wasson & Jackson, 2004) have individually been examined with regard to eating disorder recovery their potential collective predictive power has yet to be assessed.

In recent years, the demographic distribution of those affected by eating disorders has shifted (Austin et al., 2013; Cachelin et al., 2001, Maloch et al., 2013, Marcus & Kalarchain, 2003; Wade et al., 2011) and eating disorders, specifically bulimia nervosa and binge-eating disorder, are becoming more common than in previous generations (Hudson, Hiripi, Pope, & Kessler, 2007). Unfortunately, the current body of literature does not reflect these changes. The application of hope, resilience, and spirituality in sustained recovery from an eating disorder for females who self-identify as ethnic or sexual minorities may offer important information for the treatment and outcome trajectories of these individuals.

Eating Disorders

The Diagnostic and Statistical Manual of Mental Disorders (5th edition) (DSM-5) includes several eating and feeding disorders, as well as their respective subtypes (American Psychiatric Association, 2013). Four of the eating disorders recognized within the DSM-5 are addressed in this paper. According to the American Psychiatric Association (2013), the

prevalence rates for these four disorders range from .4 percent to 1.6 percent. However, it is important to note that an overall prevalence rate is unavailable for Otherwise Specified Feeding and Eating Disorder (OSFED; formerly Eating Disorders Not Otherwise Specified, EDNOS), and that many cases are unreported and undiagnosed (Le Grange, Swanson, Crow, & Merikangas, 2012).

Anorexia Nervosa. Reported prevalence rates for anorexia nervosa (anorexia) among females range from .3 percent (Hoek & Van Hoeken, 2003) to approximately one percent (Hudson et al., 2007), with the American Psychiatric Association (2013) estimating .4 percent of young females are affected by the disorder. The American Psychiatric Association (2013) indicates the point prevalence, or current and new cases of anorexia, occur at their highest rate during adolescence or young adulthood. Anorexia also affects between three (Hoek & Van Hoeken, 2003; Hudson et al., 2007) and 10 times as many females as males (American Psychiatric Association, 2013). The disorder is typically characterized by a “restriction of energy intake relative to requirements” (American Psychiatric Association, 2013, p. 338) leading to a weight below normal or what would be minimally expected of someone of similar age, sex, developmental trajectory, and physical health. Additionally, a fear of weight gain, and a disturbed view of one’s body or shape must be present in the affected individual (American Psychiatric Association, 2013).

Subtypes and Specifiers. According to the American Psychiatric Association (2013), anorexia is further distinguished into two subtypes: restricting type and binge-eating/purging type. Individuals with anorexia-restricting type typically accomplish their weight loss by means of dieting, fasting, and/or extreme amounts of exercise, whereas individuals who have anorexia-binge-eating/purging type accomplish their weight loss by engaging in binge-eating or purging

behavior (e.g., self-induced vomiting, overusing diuretics). Furthermore, the American Psychiatric Association (2013) includes specifiers related to remission (partial or full remission) as well as the current severity level, which is based on an individual's body mass index to provide additional information about an individual's current symptoms and severity.

Bulimia Nervosa. Reported prevalence rates for bulimia nervosa (bulimia) among females range from one percent (Hoek & Van Hoeken, 2003; Hudson et al., 2007) to 1.5 percent (American Psychiatric Association, 2013). The American Psychiatric Association (2013) indicates the point prevalence, or current and new cases of bulimia, occur at their highest rate during late adolescence or young adulthood. Bulimia also affects between three (Hudson et al., 2007) and 10 times as many females as males (American Psychiatric Association, 2013; Hoek & Van Hoeken, 2003). Bulimia is characterized by recurrent episodes of binge-eating, using inappropriate compensatory behaviors (e.g., excessive exercise, overusing diuretics, self-induced vomiting) at least once a week for three months, and having a disturbed view of one's body. Binge-eating is specifically defined as consuming an abnormally large amount of food in comparison to others in a given period of time, as well as feeling a loss of control regarding what one is eating during the episode (American Psychiatric Association, 2013).

Specifiers. Bulimia is further distinguished by two sets of specifiers: status of remission, and current severity level, which is based on the number of episodes each week in which the affected individual engaged in inappropriate compensatory behaviors (American Psychiatric Association, 2013). It should be noted the diagnosis of bulimia was formerly distinguished by subtypes (purging type and non-purging type), and some researchers (e.g., Jordan et al., 2014) are unsure if the non-purging subtype of bulimia better aligns with binge-eating disorder than the

diagnosis of bulimia due to the similar clinical characteristics and eating disorder symptomatology.

Binge-eating Disorder. Reported prevalence rates for binge-eating disorder among females range from approximately one percent (American Psychiatric Association, 2013; Hoek & Van Hoeken, 2003) and 3.5 percent (American Psychiatric Association, 2013; Hudson et al., 2007), and affect twice as many females as males (American Psychiatric Association, 2013; Hudson et al., 2007; Swanson, Crow, Le Grange, Swendsen, & Merikangas, 2011). The disorder is characterized by several criteria, the first of which is recurrent episodes of binge-eating; similar to bulimia, binge-eating is defined as eating an unusually large amount of food in comparison to others in a given period of time, and feeling a loss of control regarding what is eaten during the episode (American Psychiatric Association, 2013).

Additionally, binge-eating episodes are characterized by at least three of the following features (American Psychiatric Association, 2013):

Eating much more rapidly than normal, eating until feeling uncomfortably full, eating large amounts of food when not feeling physically hungry, eating alone because of feeling embarrassed by how much one is eating, and feeling disgusted with oneself, depressed, or very guilty afterward. (p. 350)

Finally, the affected individual is distressed when bingeing, the bingeing occurs weekly for a minimum of three months, and the binge-eating is not associated with the regular use of an inappropriate compensatory behavior (American Psychiatric Association, 2013).

Specifiers. Similar to bulimia, binge-eating disorder is further distinguished by two sets of specifiers: status of remission, and current severity level, which is based on the number of binge-eating episodes the affected individual engages in each week (American Psychiatric

Association, 2013). Limited research regarding the specifiers of binge-eating disorder is available due to its recent addition to the DSM-5.

Otherwise Specified Feeding and Eating Disorders. A more clarified version of the former Eating Disorders Not Otherwise Specified (EDNOS), Otherwise Specified Feeding and Eating Disorders (OSFED) affects an unknown percentage of the population due to its many presentations (American Psychiatric Association, 2013). Given the historical ambiguity associated with the EDNOS diagnosis, and recent diagnostic shift from EDNOS to OSFED, limited literature is available assessing the treatment and prevalence of OSFED (e.g., Call, Walsh, & Attia, 2013; Le Grange et al., 2012). Pincus, Wakefield Davis, and McQueen (1999) suggested not specified and otherwise specified disorders, including Eating Disorders Not Otherwise Specified (EDNOS), are often viewed as less serious or harmful than specific disorders. The perception that persons diagnosed with disorders that are less easily categorized, and consequently are less clinically concerning than those diagnosed with anorexia nervosa or bulimia nervosa has impacted the depth and quantity of available clinical research.

Otherwise Specified Feeding and Eating Disorders are the appropriate diagnosis for individuals who have significant features and related impairment but fail to meet the full criteria for any of the other feeding and eating disorders. Instances in which OSFED is an appropriate diagnosis include, but are not limited to, binge-eating at a lower frequency than once a week for a period of three months, or engaging in recurrent purging behavior without engaging in episodes of binge-eating. A clinician who gives a diagnosis of OSFED is also to include a specific reason for the diagnosis (American Psychiatric Association, 2013). Despite the lack of clarity for the prevalence, the majority of individuals who seek treatment for an eating disorder are diagnosed

with EDNOS (Button, Benson, Nollett, & Palmer, 2005; Eddy, Celio-Doyle, Hoste, Herzog, & Le Grange, 2008; Ricca et al., 2001), or more recently, OSFED (Call et al., 2013).

In an effort to assess the prevalence of EDNOS in the US population, Le Grange et al., (2012) utilized cross-sectional survey data of adults and adolescents to determine rates of anorexia nervosa and bulimia nervosa. These researchers found EDNOS was the most common eating disorder diagnosis among those presenting with an eating disorder, with the lifetime prevalence of 4.64 percent among adults. Additionally, adults diagnosed with EDNOS reported suicide plans more frequently than individuals diagnosed with anorexia nervosa, but less frequently than individuals diagnosed with bulimia nervosa (Le Grange et al., 2012).

Age

Eating disorders were initially believed to solely affect teenagers and young women (Talleyrand, 2010) but more recently researchers (e.g., Keith & Midlarsky, 2004; Mangweth-Matzek, Rupp, Hausmann, Assmayr, Mariacher, Kemmler, Whitworth, & Biebl, 2006; Ng, Cheung, & Chou, 2013) have demonstrated the presence of anorexia nervosa among middle-aged and older adults. Despite the generally agreed upon presence of eating disorders among middle-aged and older adults (Keith & Midlarsky, 2004; Mangweth-Matzek et al., 2006; Ng et al., 2013), there is disagreement regarding the onset of the disorder. Lucas, Beard, O'Fallon, and Kurland (1991) posited the majority of adults diagnosed with an eating disorder developed the disorder during adolescence and the presence of the disorder in middle and late adulthood is due to delayed diagnosis or a relapse. On the contrary, Lapid, Prom, Burton, McAlpine, Sutar, and Rummans (2010) argued those diagnosed in middle or late adulthood more commonly developed the disorder later in life (late-onset) rather than during adolescence or early adulthood (early-onset).

Using two diagnostic eating disorder measures, as well as structured clinical interviews, Mangweth-Matzek and colleagues (2006) assessed eating disorder prevalence and body dissatisfaction in a sample of women ages 60 to 70 years ($n = 475$). On average, participants were 63.8 years of age ($SD = 2.7$ years), and 56% reported intentionally limiting their caloric intake to inhibit weight gain. Additionally, 18 participants (3.8 percent) reported eating disorder symptomatology, with the majority (15 participants) indicating symptoms indicative of an Eating Disorder Not Otherwise Specified.

Drawing from a sample of middle-aged and older adults, Ng and colleagues (2013) utilized a cross-sectional design to analyze secondary national survey data ($n = 2,870$). To assess eating disorder prevalence, participants completed a brief, five-item screening measure; endorsing two or more items was equated to the presence of an eating disorder. Seventy-five participants (2.61 percent of the overall sample, 3.5 percent of females) endorsed at least two items on the screening measure. When divided across age groups, participants in the 50 to 59 years age group reported the highest prevalence (4.3 percent), followed by the 60 to 69 year age group (2.1 percent) and those 70 years or older (1.1 percent). Despite using less complex diagnostic assessments, Ng and colleagues' (2013) prevalence findings are comparable to older adult female prevalence rates documented by other researchers (e.g., Mangweth-Matzek et al., 2006).

In an adult, Canadian sample ($n = 1,204$), Boisvert and Harrell (2014) utilized telephone survey data to examine the relationships among socioeconomic status, ethnicity, and disordered eating symptoms. Disordered eating symptoms were assessed with a four-item measure, and self-reported height and weight. Similar to Ng et al., 2013, Boisvert and Harrell's (2014) results

indicate that while eating disorders are present among older adults, age is negatively correlated with an eating disorder diagnosis.

Ethnic Minorities

According to Austin et al., (2013) females identifying as sexual minorities across ethnic groups are at an increased risk of engaging in eating disordered behaviors. Wade and colleagues (2011) reported increased incidence in anorexia, bulimia, and OSFED among individuals who self-identify as Caucasian, African-American, Asian-American, and Hispanic. Cachelin et al. (2001) and Mulholland and Mintz (2001) reported comparable disordered eating rates among African-American, Hispanic, and Caucasian samples. Crago, Shisslak, and Estes (1996) also suggested comparable disordered eating rates among Native-Americans, Hispanics, and Caucasians. Zhang and Snowden (1999) demonstrated comparable rates of anorexia in Caucasian and Asian-American samples. Binge-eating disorder is also believed to be as common in ethnic minority groups as in Caucasian females (American Psychiatric Association, 2013). Despite the increasing presence of eating disorders among ethnic minority groups, the research to date is inadequate.

African-Americans. Thomas, Witherspoon, and Speight (2004) posited race may serve as a potential stressor contributing to the development of eating disorders in African-American women who lack the inherit privileges associated with males and whiteness. Specifically, Zhang and Snowden (1999) found that African-American females were more likely to suffer from eating disorders than Hispanic and Asian-American females. Striegel-Moore and colleagues (2000) demonstrated high rates of binge-eating disorder among African-American females, and Marcus and Kalarchian (2003) reported binge-eating episodes are more frequent among African-American females than Caucasian females. Striegel-Moore and colleagues (2000) also found

African-American women reported greater frequencies of bingeing, fasting, and diuretic use than Caucasian women; Pumariega, Gustavson, and Gustavson (1994) reported laxative use is more common than vomiting among African-American females.

On the contrary, Austin and colleagues (2013) suggested African-American females may be protected from eating disorder behaviors by cultural norms, as they report lower rates of purging and diet pill use than Caucasian females. Additionally, African-Americans in the United States report lower levels of caloric restriction and lower rates of anorexia in comparison to other ethnic groups (Crago et al., 1996; Striegel-Moore & Smolak, 2000; Zhang & Snowden, 1999).

Asian-Americans. As recently as 2013, Austin and colleagues demonstrated Asian-American females were less likely to engage in purging and diet pill use than Caucasian females through a single-item assessment of purging, laxative use, and diet pill use. Providing further support for the belief that Asian-American females may be at lower risk for disordered eating (Austin et al., 2013; Nicdao, Hong, & Takeuchi, 2007) than Caucasian females in a college sample, Tsai, Hoerr, and Song (1998) indicated Asian-Americans reported reduced levels of disordered eating in comparison to Caucasian females.

On the contrary, Neumark-Sztainer, Croll, Story, Hannan, French, and Perry (2002) suggested Asian-American female adolescents actually reported higher levels of disordered eating symptoms than their Caucasian female counterparts in several categories. Specifically, despite experiencing the lowest prevalence of obesity among the ethnic groups in the study, Asian-American females reported perceiving themselves as somewhat or very overweight (42%), dieting at least five times within the past year (21%), engaging in unhealthy weight-control behaviors or practices within the past year (65%) and having low body satisfaction (54%).

Finally, Asian-American females were more likely to report a health-care provider diagnosed them with an eating disorder than Caucasian females (Neumark-Sztainer et al., 2002).

Hispanics and Latinas. Similar to African-American and Asian-American females, there is disagreement regarding whether disordered eating symptoms and eating disorders among Hispanic and Latina women are more or less prevalent in comparison to other ethnic minority groups. While Gil-Kashiwabura (2002) suggested Hispanic females are less vulnerable to disordered eating than members of other ethnic minority groups, Fitzgibbon, Spring, Avellone, and Blackman (1998) and Gentile, Raghavan, Rajah, and Gates (2007) indicated higher rates of disordered eating symptoms and eating disorders among Hispanic populations.

Fitzgibbon et al. (1998) found Hispanic females reported greater levels of disordered eating than their Caucasian counterparts with regard to binge eating. While Hispanic females reported more severe binge eating symptoms than Caucasians, it is important to note that binge-eating behavior is not the sole diagnostic criterion for binge-eating disorder and the presence of more severe binge-eating behavior is not necessarily indicative of higher rates of binge-eating disorder among Hispanic females (Fitzgibbon et al., 1998).

Gentile and colleagues (2007) sought to assess the prevalence and types of eating disorders present across ethnicities using diagnostic scales and criteria. The sample for this study was comprised mostly of Hispanic participants ($n = 884$; 45.8% were Hispanic). While the gender distribution of the sample did not allow for gender comparisons across ethnic groups, Hispanic individuals (12.6%) met criteria for an eating disorder at significantly higher rates in comparison to African-American/Afro-Caribbean (five percent) and Caucasian (6.1 percent) persons (Gentile et al., 2007).

Native-Americans. In comparison to other ethnic groups, the literature examining eating disorders among Native Americans is minimal. While Native-American-Indian females report greater levels of disordered eating than their Caucasian female counterparts (Croll, Neumark-Sztainer, Story, & Ireland, 2002; Davis & Lambert, 2000; Neumark-Sztainer et al., 2002), little else is known about the prevalence rates of eating disorders among Native Americans, or their experiences with eating disorder recovery.

Overall, the information available regarding eating disorders in females identifying as an ethnic minority is mixed, with evidence available for comparable, reduced, and increased eating disorder prevalence in nearly each of the aforementioned ethnic groups. While ethnic minority status may serve as a stressor, an additional minority status (sexual minorities) could potentially increase risk further (McNair, Kavanagh, Agius, & Tong, 2005).

Sexual Minorities

The available literature reviewing eating disorders among sexual minorities is limited and includes mixed information regarding the prevalence and types of eating concerns present among females identifying as bisexual, lesbian, and questioning. Austin et al. (2013) suggested females identifying as a sexual minority are up to four times more likely to engage in purging and diet pill use in comparison to their heterosexual female counterparts. On the contrary, Feldman and Meyer (2007b) indicated eating disorder prevalence rates are similar among lesbian, bisexual, and heterosexual females.

Polimeni and colleagues (2009) conducted a longitudinal survey study in which females responded to dichotomous questions assessing healthy (e.g., engaging in regular exercise, and reducing fat and sugar consumptions) and unhealthy (e.g., purging, smoking, skipping meals, and using diet pills) weight control practices within the past 12 months. Additionally, females

indicated whether the weight control practice was intended to control their weight or shape, and whether they identified as exclusively heterosexual, mainly heterosexual, bisexual, mainly homosexual, or exclusively homosexual. Females identifying as mainly heterosexual or bisexual reported unhealthy weight control practices more than females identifying as exclusively heterosexual. Additionally, lesbians were less likely to report using healthy weight control practices than females identifying as exclusively heterosexual (Polimeni et al., 2009).

Bisexual Females. Similar to the current literature on eating disorders among ethnic minorities, the evidence regarding the prevalence rates among females identifying as bisexual is mixed. Several research studies (e.g., Koh & Ross, 2006; Maloch et al., 2013) indicate bisexual females experience more eating concerns and are more likely to develop an eating disorder than persons identifying as lesbian. Other studies have examined bisexual females' experience with eating concerns in comparison to heterosexual females. Nelson, Castonguay, and Locke (2011) found no difference between eating concerns reported by bisexual and heterosexual females, while Polimeni and colleagues (2009) reported bisexual and heterosexual females appear to be most at risk for eating disorders among sexual orientation groups.

Lesbians. As a whole, the literature reviewing eating disorders among lesbians is varied. Austin, Ziyadeh, Kahn, Camargo, Colditz, and Field (2004) posited there are no differences in disordered eating between lesbians and heterosexual females. On the contrary, Nelson and colleagues (2011) found lesbians reported fewer clinically elevated eating concerns in comparison to heterosexual and bisexual females on a university counseling center screening measure. Additionally, Bradford, Ryan, and Rothblum (1994) assessed eating behaviors of self-identified lesbians ($n = 1,925$), and found lesbians reported engaging in overeating and vomiting behaviors at higher rates than restrictive behaviors. Specifically, African-American lesbians

reported increased rates of bingeing and purging behaviors compared to non-African-American lesbians (Bradford et al., 1994).

Questioning Females. Nelson and colleagues (2011) found questioning females were more likely to report moderate eating concerns in comparison to heterosexual females. Questioning females also reported moderate and high eating concerns more often than bisexual women (Nelson et al., 2011). Specifically, Matthews-Ewald, Zullig, and Ward (2014) reported females identifying as a sexual minority (lesbian, bisexual, or questioning) were up to 35% more likely to report having dieted to lose weight than females identifying as heterosexual. However, identifying as a female sexual minority was not significantly related to disordered eating behaviors overall, as dieting for weight loss purposes was the only differentiating behavior between heterosexual females and females identifying as sexual minorities (Matthews-Ewald et al., 2014).

Transgender Females. The literature reviewing transgender females affected by eating disorders is sparse in comparison to available research on affected females who identify as heterosexual, lesbian, bisexual, or questioning. Surgenor and Fear (1997) reviewed a case report of a transgender female who presented with food restriction as well as patterns of bingeing and purging. While they offered insight into the development and course of the patient's eating disorder, they were unable to offer comparisons of the patient's presentation to those seen in non-transgender eating disorder patients due to the nature of a case study. On the contrary, in a large, matched-control study, Witcomb, Bouman, Brewin, Richards, Fernandez-Aranda, and Arcelus (2015) compared three groups of 200 participants (200 transgender individuals, 200 eating disorder patients, and 200 control group participants who were not affected by an eating disorder) and assessed eating disorder risk and body dissatisfaction among the participants

identifying as transgender. These researchers found that individuals in the eating disorder group scored significantly higher than their transgender and control group counterparts, and transgender participants reported higher levels of body dissatisfaction than control group participants.

Recovery versus Resilience

Researchers (e.g., Bogar & Hulse-Killacky, 2006; Bonanno, 2004) have commonly used the terms recovery and resilience interchangeably, but an important distinction exists between these two words. Bonanno (2004) clarified the term, “recovery,” as indicating that there was once a presence of psychopathology and the individual returned to a previous, healthier, level of functioning, while, “resilience,” necessitates healthy functioning is maintained throughout the adverse experience.

Recovery

Koski-Jannes and Turner (1999) further defined recovery as abstaining from an addiction for a period of three or more consecutive years. Koski-Jannes and Turner (1999) assessed several types of addiction including alcohol and substance dependence, smoking, and binge-eating (as a part of bulimia) among others, and examined change and maintenance factors related to addiction recovery. Participants ($n = 76$) were considered to be in recovery if they had abstained from their respective addiction for three years. Bulimia was the only eating disorder included because its behavioral symptoms (binge-eating and purging) resemble the behavioral symptoms of other addictions (Wilson, 1993 as cited in Koski-Jannes & Turner, 1999). In comparison to the other addictions, bulimia participants ($n = 11$) reported the shortest recovery (10.5 years), with the average bulimic recovering at 26.6 years of age (Koski-Jannes & Turner, 1999). Despite the limited sample size, Koski-Jannes and Turner (1999) identified several

factors influencing recovery including tiring-out of one's addiction, family relationships, love, 12-step programs, social consequences, peer groups, spiritual revivals, professional help, and changing careers. While recovering bulimics identified the love factor as positively influencing their recoveries most, spiritual revival was not identified as influencing their recovery (Koski-Jannes & Turner, 1999).

Eating Disorder Recovery

With regard to eating disorders, researchers (Berkman, Lohr, & Bulik, 2007; Treasure et al., 2010) agree between 70% and 80% of individuals will obtain some level of recovery. However, Emanuelli, Waller, Jones-Chester, and Ostuzzi (2012) suggested there is disagreement within the literature regarding the construct of sustained recovery, including the amount of time an individual must abstain from their disorder to obtain the status of recovery. Fitzsimmons-Craft, Keatts, and Bardone-Cone (2013) addressed several dimensions of recovery (e.g., behavioral, psychological, physical), but it is unclear if any single dimension accurately captures an individual's recovery status.

Measuring Eating Disorders and Recovery

While there is disagreement among researchers regarding the construct of eating disorder recovery, several instruments to measure eating disorder recovery are available. Among the available instruments, the Eating Disorder Examination-Questionnaire (EDE-Q), is frequently used and accepted among researchers in the field (Brewin, Baggott, Dugard, & Arcelus, 2014; Celio, Wilfley, Crow, Mitchell, & Walsh, 2004; Franko & George, 2008; Kelly, Cotter, & Mazzeo, 2012; Kelly & Tasca, 2016; Sysko, Walsh, & Fairburn, 2005). When compared to other eating disorder instruments, the EDE-Q more accurately captured participants' frequency of binge eating (Celio et al., 2004) and yields comparable results as an interview based

assessment of eating disorder symptoms (Sysko et al., 2005). Additionally, there is support for the use of the EDE-Q within Latina (Franko & George, 2008) and Black (Kelly et al., 2012) female samples.

Predictive Variables to Recovery

Recovery from an addiction or disease is challenging at best and there is a wide range of factors that positively impact recovery reported in the literature. In particular, there is substantial support for the positive roles of spirituality, hope, and resilience in the context of recovery from mental illnesses. More specifically, these three variables are demonstrated to impact and positively contribute to sustained eating disorder recovery.

Spirituality

For many individuals, spirituality is an integral aspect of their identity and serves as a source of support and comfort. Eating disorders can distance women from their spirituality and incorporating spirituality into treatment may be helpful for affected individuals. Several research studies (e.g., Berrett et al., 2007; Hsu, Crisp, Callender, 1992; Richards, Berrett, Hardman, & Eggett, 2006; Smith, Richards, Hardman & Fischer, 2003) support the important role spirituality fulfills for many individuals in recovery from an eating disorder. Furthermore, Berrett and colleagues (2007) noted religious activities and spirituality are not limited to traditional church attendance, sacred readings, and prayer, but can also include experiencing compassion, love, hope, gratitude, and finding meaning and purpose. While this approach is most relevant for individuals believing in God, some components may be culturally relevant within humanistic spirituality and Eastern belief systems (Berrett et al., 2007).

Hsu and colleagues (1992) interviewed females ($n = 6$) who recovered from anorexia and noted one participant shared that after professional therapy, her spirituality and faith were most

helpful to her during the recovery process. Similarly, Marsden, Karagianni, and Morgan (2007) interviewed females in treatment for anorexia ($n = 9$) and noted that several participants credited God as being the most responsible for their recovery. There is also support for spirituality contributing to symptom reduction within anorexia; specifically, Richards and colleagues (2006) assessed eating disorder symptom reduction among participants assigned to spirituality, cognitive, or emotion treatment groups. After nine weeks, participants in the spirituality group demonstrated larger improvements across several areas, including eating disorder symptoms than their cognitive and emotional group counterparts (Richards et al., 2006). Likewise, Smith and colleagues (2003) demonstrated improvement in spiritual well-being (pre-treatment to post-treatment), which was negatively correlated with reduced eating disorder symptoms among females treated for anorexia and bulimia ($n = 251$).

Wasson and Jackson (2004) conducted a qualitative analysis of the role of Overeaters Anonymous in recovery from bulimia. The study revealed a number of reported helpful elements, most notably spirituality. While Overeaters Anonymous is not a substitute for professional treatment, programs such Overeaters Anonymous often serve to supplement the professional care individuals with eating disorders receive as a part of their treatment. Wasson and Jackson (2004) sought to understand the aspects of Overeaters Anonymous that contributed to recovery from bulimia, and asked participants to describe their experiences with Overeaters Anonymous as well as how their experience with the 12-step program impacted their recovery from bulimia.

According to Overeaters Anonymous (1980), participants follow the 12 steps of recovery (admit powerlessness over food and eating, achieve abstinence, and integrate spirituality into their recovery) as a part of the Overeaters Anonymous curriculum. Specifically, the first three

steps necessitate acknowledging one's powerlessness and granting one's life to a greater power (Overeaters Anonymous, 1980). Wasson and Jackson (2004) gathered focus group and individual interview data ($n = 26$) from females who met diagnostic criteria for bulimia-purging type, and had attended at least one Overeaters Anonymous meeting per week for at least six months. Wasson and Jackson (2004) found participants used several program-based skills including meeting attendance and participation, interaction with a sponsor, written processing (e.g., journaling), meal plan adherence, and spirituality (e.g., prayer and meditation). Nineteen participants reported using spirituality (e.g., daily prayer, meditation) to maintain their recovery from bulimia, which was surpassed only by meeting attendance and participation regarding skills used to maintain recovery (Wasson & Jackson, 2004).

Measuring Spirituality. There are many instruments available to assess religiosity and spirituality. While religion is one aspect of spirituality, the two constructs are distinct and can be examined separately or within the same assessment. The Expressions of Spirituality Inventory-Revised (ESI-R; MacDonald, 2000) is psychometrically derived from the original instrument, the Expressions of Spirituality Inventory (ESI; MacDonald, 1997). While the available literature in support of the ESI-R is more limited than the research supporting the original version of the instrument (ESI), there is empirical support for the use of the ESI-R. Specifically, Huber and MacDonald (2011) utilized the ESI-R, along with measures of altruism and empathy in a college student sample, demonstrating spirituality, altruism, and empathy were all significantly associated. Additionally, MacDonald and colleagues (2015) utilized the ESI-R in a large, cross-cultural study with university student participants across eight countries. Each of the ESI-R factors demonstrated adequate reliability (.72 to .89) in the total sample and the results indicated that while spirituality can be measured cross-culturally, it is important to grant consideration to

cultural factors that may impact the study and measurement of spirituality (MacDonald et al., 2015).

Resilience

Researchers have defined the term “resilience” in a number of ways within the literature. Soanes and Stevenson (2006) reported the term originated from the Latin word, “resilire,” meaning to leap or jump backward. More recently, Fletcher and Sarkar (2013) and Richardson (2002) referred to the term as a trait, process, or a response. Despite the varied use of the term, Fletcher and Sarkar (2013) posited most researchers tend to define it as including components of adversity and positive adaptation by the individual.

Definitional Emphases. The definitions of resilience tend to vary most in the way that certain pieces of the definition are emphasized. Some researchers (e.g., Rutter, 1985) emphasize the role and importance of protective factors (contextually dependent things that help shield an individual against risk), while others (e.g., Masten, Best, & Garnezy, 1990) place greater importance on the role of positive adaptation despite adversity.

Protective Factors. Factors that cushion or buffer an individual against risk are also known as protective factors. These factors are contextually dependent and may include things such as social support or religious affiliation (Herrman, Stewart, Diaz-Granados, Berger, Jackson, & Yuen, 2011; Jenson & Fraser, 2010). These factors differ from things that enhance or encourage a positive trajectory (regardless of the presence of risk), which are known as promotive factors. When individuals experience a potentially traumatic event (PTE), their response to the PTE contributes to their outcome trajectory (Bonanno & Mancini, 2008); protective and promotive factors are believed to be important predictors of resilient adaptation following a PTE (Herrman et al., 2011). Psychological resilience can be considered a personal

trait, but at times external circumstances aid the person in the face of difficulty, which may also be deemed protective factors (Beauvais & Oetting, 1999).

Positive adaptation and adversity. Positive adaptation is defined as being successful at a given task (Luthar & Cicchetti, 2000), or behaving in a way that is consistent with well-being (Masten & Obradovic, 2006). However, positively adapting to adversity may also include appropriately using effective, healthy, coping skills, or making necessary adjustments following an adverse experience (Fletcher & Sarker, 2013). Additionally, it is important to assess positive adaptation in light of what is conceptually appropriate for the adversity experienced (Luthar, Cicchetti, & Becker, 2000). Adversity is conceptualized by researchers as being both threshold dependent (Luthar & Cicchetti, 2000), and as including any hardship regardless of the level of difficulty (Jackson, Firtko, & Edenborough, 2007).

Conceptualizing Psychological Resilience. Researchers (e.g., Fletcher & Sarker, 2013; Richardson, 2002; Rigsby, 1994) conceptualize resilience throughout the literature in many ways; most often, resilience is discussed in one of three ways: as a trait, process, or an outcome/response. While these variations have their similarities, they each also carry distinct implications for the study of resilience.

Trait. Rigsby (1994) emphasized the use of the term “resilience” as a singular trait or personal attribute, while others (e.g., Garmezy & Tellegen, 1984) extended the term’s use to a protective trait or attribute. Resilience is also defined as several personal qualities or attributes that allow an individual to thrive during an adverse experience(s) (Connor & Davidson, 2003). According to Luthar (2006), the primary disadvantage of conceptualizing resilience as a trait is that it implies an individual either is resilient or they are not, which removes the opportunity for

developing resilience and carries a negative connotation for individuals who experienced adversity and were unable to effectively and appropriately adapt (Luthar, 2006).

Response or outcome. Occasionally, researchers conceptualize resilience as a response or an outcome; while this is the least frequent of the conceptualizations, it is important to note how this affects the study of resilience. Masten (2001) conceptualized resilience broadly as being several experiences with good outcomes (despite adversity and threats to positive adaptation). However, categorizing resilience or resilient adaptation as an outcome is inappropriate; researchers have not defined it as an endpoint, but as a process-oriented adaptation which includes protective and promotive factors (Fletcher & Sarker, 2013).

Process. Some prefer the term “resilient adaptation” to “resilience” as it emphasizes the importance of a person effectively coping and adapting despite adversity. It should also be noted that resilient adaptation differs from ego resiliency as ego resiliency refers to having a flexible and resourceful disposition, without the requirement of adversity. Resilient adaptation as a process also supports the concept that individuals are dynamic and may not react positively to all adverse experiences; an individual who demonstrates resilient adaptation following one situation, may still struggle to effectively adapt to a stressor several years later (Luthar et al., 2000). Furthering the conceptualization of resilience as a process, Masten et al., (1990) explained the construct as the capacity to positively adapt despite hardships and triumph in the process. The study of psychological resilience helps us better understand the factors that allow some individuals to successfully withstand or thrive in the face of immense adversity (Fletcher & Sarkar, 2013). Historically, resilience researchers emphasized identifying and describing protective factors. More recently, research has highlighted a desire to understand how an individual progresses through and ultimately triumphs over hardship (Luthar et al., 2000).

Resilience and Eating Disorders. For the last two decades, resilience researchers have largely conceptualized resilience as a process. There is evidence that individuals with varying psychopathologies, including depression, exhibit resilience as they overcome their illness (Dowrick et al., 2008). However, resilience with regard to eating disorders specifically is limited. In a small study ($n = 9$), Junko and Yoshiaki (2006) examined how resiliency, self-esteem, and overall life satisfaction change throughout eating disorder recovery in participants who were considered pre-treatment ($n = 2$), in-treatment ($n = 4$), and recovered ($n = 3$). In addition to using a resiliency measure, self-esteem and overall life satisfaction were also assessed. While there were no significant differences in resiliency between groups, this may be attributable to the limited sample size (Junko & Yoshiaki, 2006).

Las Hayas and colleagues (2016) qualitatively assessed participants who no longer met diagnostic criteria for anorexia, bulimia, both anorexia and bulimia, or an eating disorder not otherwise specified (EDNOS), and were at least one year into recovery. The researchers provided participants with a process-conceptualization definition of resilience; participants were then asked open-ended questions regarding if they believed they experienced resilience in their recoveries, as well as what was helpful to them in overcoming the adversity of their eating disorder. Among the things participants shared as contributing to their resilience were: a turning point in understanding the severity of their condition, acceptance of a loss of control and hope for recovery, discovering the cause of the eating disorder, and observing previously dormant qualities and characteristics in themselves (e.g., joy; Las Hayas et al., 2016).

Additionally, in a review of the literature, Oktan (2012) sought to understand hope in relation to the construct of psychological resilience. While much of the resilience research broadly emphasizes risk and protective factors, hope is considered to be a specific protective

factor. Similarly, it is not surprising that hope and psychological resilience are related as psychological resilience assists individuals in their pursuits to overcome adversity.

Measuring Resilience. Among the numerous available instruments to assess resilience, the Connor-Davidson Resilience Scale (CD-RISC; Connor & Davidson, 2003) is well established and accepted within the literature (Smith, 2009; Tsai, Harpaz-Rotem, Pietrzak, & Southwick, 2012; Wingo, Wrenn, Pelletier, Gutman, Bradley, & Ressler, 2010). Specifically, the use of the CD-RISC is commonly used in research related to varying psychological disorders and traumatic experiences. Smith (2009) established resilience and willingness are significant predictors for older, African-American, adults' access of mental health services for undiagnosed depressive symptoms. Wingo and colleagues (2010) demonstrated resilience significantly moderated depression symptom severity in a sample of participants historically exposed to trauma or childhood abuse. Similarly, Tsai et al., (2012) found combat-veterans who indicated they were experiencing symptoms of post-traumatic stress disorder (PTSD) reported significantly lower scores on each subscale of the CD-RISC with the exception of the Tolerance of Negative Affect subscale when compared to those who did not indicate symptoms of PTSD. Additionally, despite the documented use of the CD-RISC in assessing several psychological disorders, to date, the CD-RISC does not seem to have been used in eating disorder research.

Hope

Within the literature, there is significant variance regarding the construct of hope. Less commonly, Lopez, Snyder, and Pedrotti (2003) posited hope as an emotion, while more commonly accepted, Breznitz (1986) and Gottschalk (1974) conceptualized hope as based in cognition or as a descriptor of a cognitive state. Snyder, Rand, and Sigmon (2002) combined the affective and cognitive components of hope and designated hope as a mediator because the

expectancy of many cognitive models and the emotional intensity associated with emotion-based models of hope. Snyder, Irving, and Anderson (1991) defined hope as “a positive motivational state that is based on an interactively derived sense of successful agency (goal-directed energy) and pathways (planning to meet goals)” (p. 287).

Higher levels of hope are also correlated with more positive outcomes in several areas including physical health and psychological adjustment (Snyder, 2002), and the connection of hope to recovery is well established (Krause & Edles, 2014; Waynor et al., 2012; Weinberg, 2013). Finally, Snyder and colleagues (2002) noted that hope serves as a catalyst for emotions and well-being. Current hope literature indicates Snyder and colleagues’ (2002) hope theory is among the most widely accepted and used amongst researchers in the field. Snyder and colleagues (2002) grounded their current view of hope on the foundation that previous hope theories failed to fully encapsulate the complexities of goal-directed, hope-filled, cognition and lacks the necessary components of both pathways to reach goals and motivation to use pathways.

Goals. Within Snyder’s (1994a) theory of hope, goals serve as the cognitive component. Goals may be short or long term, and can vary in specificity and type (Snyder, 1994a). The specificity or clarity of the goal is important as less vague goals are less likely to be present in high-hope thinking. Secondly, goals may be positive, or they may involve avoiding a negative outcome. A positive goal may be related to pursuing a future goal for the first time (e.g., beginning to save money), or the maintenance of a present goal (e.g., not spending saved money). A goal that avoids a negative outcome may also reflect stopping an event before it happens, or delaying an event before it happens (Snyder, 2002). Goals must also be important or relevant enough to require intentional thought, need to be attainable, and are not a guaranteed outcome (Snyder et al., 2002).

Pathways. Goals without a route, plan, or method to reach them, would remain stagnant and unattained; pathways (pathways thinking) are an individual's tentative sequence of steps for attaining his or her goal (Snyder, 2002). Similarly, pathways thinking is referred to as an individual's ability to create potential methods to achieve their goals (Snyder, Lapointe, Crowson, & Early, 1998). Producing several potential pathways also matters, because when encountering obstacles, additional pathways provide alternative routes, and consequently help sustain hope (Irving, Snyder, & Crowson, 1998; Snyder et al., 1991). Often multiple pathways are necessary to reach goals, and individuals who have higher levels of hope are able to adjust or alter their pathways accordingly (Snyder, 2002).

Agency. Agency, also known as agentic thought, is an individual's believed ability to access and utilize one's pathways toward goals; in this way, agency is also conceptualized as the motivational piece of hope (Snyder, 2002). Agency includes both thoughts prior to beginning to move in a goal-directed way as well as motivation to continue moving toward the desired goal (Snyder et al., 2002). Agentic thought becomes especially relevant when individuals encounter barriers or blockages, as it helps them channel their motivation into the next best pathway (Snyder, 1994b). Both agentic thought (goal-directed motivation) and pathways thinking (potential routes to reach desired goals) are necessary for hope to be present (Snyder et al., 1991).

Hope in Recovery. Anthony (2003) identified hope as an important predictor in optimal treatment outcomes, as it aligns well with a strengths-based perspective. Lysaker, Campbell, and Johannesen (2005) also found hope to be correlated with better psychosocial functioning, and improved treatment outcomes. Finally, Waynor et al., (2012) found a significant inverse relationship between hope and psychiatric symptoms among an ethnically diverse patient sample.

The role of hope within eating disorder recovery has been somewhat examined. Irving and Cannon (2000) posited eating disorder recovery requires hope; that is, for an individual to recover they must be motivated and able to identify several recovery-related goals to ground their behavior. Additionally, Irving and Cannon (2000) noted cognitive behavioral therapy and feminist therapy may be helpful in the treatment of eating disorders, as both therapies emphasize the development and pursuance of specific goals. Specifically, within cognitive behavioral therapy, goals emphasize symptom reduction and relapse prevention while feminist therapy seeks to discern and embrace goals unrelated to things the eating disorder emphasizes (e.g., weight, shape, appearance; Irving & Cannon, 2000).

A qualitative study with collegiate athletes who had previously suffered from eating disorders revealed important information regarding attaining recovery. Arthur-Cameselle and Baltzell (2012) used content analysis to identify themes from structured interviews. Each participant was previously diagnosed with anorexia, bulimia, or an eating disorder not otherwise specified according to diagnostic criteria for a period of at least six months ($M = 32.4$ months), and had been in recovery for a minimum of three months ($M = 13.3$ months). Among the advice the recovered participants would share with other athletes included maintaining hope that recovery is possible, in addition to seeking professional treatment, striving to understand the cause of the disorder, reaching out to others for emotional supports, emphasizing the benefits of recovery, and adjusting one's perspective of the eating disorder (Arthur-Cameselle & Baltzell, 2012).

Using narrative inquiry, Dawson, Rhodes, and Touyz (2014) sought to understand the participants' ($n = 8$) viewpoint of their recovery process from chronic anorexia. Participants were absent of eating disorder behaviors (e.g., purging, caloric restriction, etc.), scored within

one standard deviation of non-clinical norms of each subscale of the Eating Disorder Examination (EDE; Fairburn & Cooper, 1993), were previously diagnosed with anorexia for a period of at least seven years ($M = 15.5$ years), and self-reported recovery for at least five years ($M = 13$ years). Results indicated four phases participants seemingly progressed through: lack of readiness to change, a tipping point of change, active pursuit of recovery, and reflection and rehabilitation. Specifically, within phase one, participants reported hopelessness, while phase two included the internalization of hope; hopelessness was identified as a barrier to change (Dawson et al., 2014).

Measuring Hope. Among the instruments available to assess hope, Snyder and colleagues' (1991) Adult Dispositional (Trait) Hope Scale (AHS) is well established within the literature (Arnau, Rosen, Finch, Rhudy, & Fortunato, 2007; Bailey & Snyder, 2007; Cheavens, Cukrowicz, Hansen, & Mitchell, 2016; Creamer et al., 2009; Ferrari, Stevens, Legler, & Jason, 2012; Lloyd & Hastings, 2009). The use of the AHS within the literature has yielded mixed results with regard to psychopathology research, with varied contributions noted by the Agency, Pathways, and Goals subscales of the instrument. In a sample of college students, the Agency component of the AHS had a small, negative effect on future depressive and anxiety episodes, while the Pathways component did not significantly influence depressive or anxiety episodes (Arnau et al., 2007). On the contrary, Lloyd and Hastings (2009) demonstrated that within a parental sample, lower levels of Agency predicted maternal and paternal depression and paternal anxiety; additionally, Pathways significantly predicted maternal depression. Finally, in an exploration of the relationships between hope, self-esteem, and self-regulation of individuals in recovery from substance abuse, Ferrari and colleagues (2012) found significant relationships between the three aforementioned variables. Specifically, Ferrari et al., (2012) demonstrated

significant associations of self-competency and resistance to Agency and Pathways; self-liking and self-confidence were also significantly related to Agency.

Present Research

The aforementioned research on hope, resilience, and spirituality is broad in its application to adverse situations faced by individuals. In recent years, researchers have not addressed demographic shifts of individuals affected by eating disorders. The application of hope, resilience, and spirituality in sustained recovery from an eating disorder for females who self-identify as ethnic and sexual minorities may offer important information for the treatment and outcome trajectories of these individuals. Given the established contributions of hope (Weinberg, 2013), resilience (Ohrui & Nihei, 2006), and spirituality (Berrett et al., 2007) to eating disorder recovery, the present study attempted to assess the predictive power of these variables in the lives of females historically affected by eating disorders across ethnic and sexual orientation groups.

CHAPTER THREE: METHODS

The goal of increasing sustained eating disorder recovery rates must begin with deepening our understanding of the factors that contribute to and predict sustained recovery. Currently, there is research support for the positive and individual roles of hope, resilience, and spirituality within eating disorder recovery. This study attempted to assess the combined role of hope, resilience, and spirituality in the sustained eating disorder recovery of females across ages, ethnicities, and sexual orientations. This chapter reviews the questions that guided the study, inclusion criteria for the sample, the instruments used, as well as data collection and analysis procedures.

Research Questions

The current literature provided a foundation for understanding the individual roles of hope, resilience, and spirituality within eating disorder recovery. Building upon this, the purpose of the present study was to assess the predictive power of the three aforementioned variables within eating disorder recovery. Specifically, the researcher attempted to understand the roles of ethnic and sexual minority status in the recovery process, and to what extent the three variables differ between groups. This in-depth, quantitative study of sustained eating disorder recovery examined the following research questions:

1. What is the relationship between self-reported sustained eating disorder recovery and the Eating Disorder Examination-Questionnaire (EDE-Q) in a female sample that is diverse ethnically, by sexual orientation, and by age?
2. Do hope, resilience, and spirituality predict eating disorder recovery (according to the EDE-Q) in a female sample that is diverse ethnically, by sexual orientation, and by age?

3. Do hope, resilience, and spirituality predict sustained time in recovery from an eating disorder in a female sample that is diverse ethnically, by sexual orientation, and by age?
4. Are there differences in eating disorder recovery (according to the EDE-Q) between ethnic groups, and sexual orientation groups?
5. Are there differences in sustained time in recovery from an eating disorder between ethnic groups, and sexual orientation groups?
6. Do the relationships among hope, resilience, and spirituality to eating disorder recovery differ between a relative sample of ethnic groups?
7. Do the relationships among hope, resilience, and spirituality to eating disorder recovery differ between a relative sample of sexual orientation groups?

Research Design

In the present study, the researcher utilized a cross-sectional, quantitative, descriptive, between-subjects design. Participants were not randomly assigned to conditions or groups, nor were any interventions delivered as a part of this study. While participant data was initially collected and analyzed as belonging to one group (females across ages, ethnicities, and sexual orientation groups in the United States), the predictive model was tested within specific demographic groups (e.g., bisexual females). Additionally, differences among group means were assessed for the following ethnic groups: African/African-American, American-Indian/Native Alaskan/Native-American, Asian/Asian-American/Pacific Islander, European-American/Caucasian, and Hispanic/Latina. Differences among group means were assessed for the following sexual orientation groups: Bisexual, Heterosexual, Lesbian, and Questioning. The administration order of the Adult Dispositional Hope Scale, Connor-Davidson Resilience Scale,

Eating Disorder Examination-Questionnaire, and Expressions of Spirituality Inventory-Revised was counterbalanced.

Participants and Sample Size

The researcher established several inclusion criteria for participation in the current study. Participants must have been female, be 18 years of age or older, and have previously been diagnosed with an eating disorder (anorexia nervosa, bulimia nervosa, binge-eating disorder, otherwise specified feeding and eating disorder, or an eating disorder not otherwise specified). It should be noted that while the diagnosis of eating disorder not otherwise specified was removed with the publication of the DSM-5, it was included as a diagnostic option for the current study given the recent change in diagnostic categories.

An a priori power analysis (Faul, Erdfelder, Lang, & Buchner, 2007) indicated at least 77 participants were needed for hierarchical multiple linear regression analyses. The number of participants needed for the hierarchical multiple linear regression analyses was calculated by entering the number of predictor variables (three), a desired effect size of .15, a power of .80, and a probability level of .05. An a priori power analysis (Faul et al., 2007) indicated at least 108 total participants were needed for one-way analysis of variance (ANOVA) in each ethnic and sexual orientation group for the current study. The number of participants needed for the one-way analyses of variance was calculated by entering the number of ethnic groups (five) that are included in the current study, a desired effect size of .15, a power of .80, and a probability level of .05. While only four sexual orientation groups were included in the current study, the researcher conducted the a priori power analysis with the number of ethnic groups (five) to ensure a large enough sample size was obtained. The researcher selected .80 for the power of the current study as it was the most commonly accepted level of power within psychological

research (Faul et al., 2007). Participants ($N = 160$) were recruited through a convenience sample of treatment center alumni networks, an online research study posting on the National Eating Disorder Association (NEDA) website, and social media sampling; participant recruitment and sampling procedures are outlined in greater detail in the subsequent sections.

Predictor Variables

Demographic Information

In the current study, the researcher was particularly interested in three demographic questions as predictor variables: age, ethnicity, and sexual orientation (Appendix D). Each of these variables is related to the prevalence of eating disorders (Cachelin et al., 2001; Ng et al., 2013; Wade et al., 2011) and investigating the degree to which they predict sustained eating disorder recovery is necessary in order to answer the research questions. The predictor variables were not manipulated within the present study, nor did the researcher interact with the participants.

Outcome Variables (Measures)

Eating Disorder Recovery

For the current study, the researcher utilized the Eating Disorder Examination Questionnaire (EDE-Q; Fairburn & Beglin, 2008; Appendix H) to assess multiple components of recovery (e.g., behavioral, psychological, and physical). The EDE-Q is a 33-item self-report measure, which was previously available for use in a 36-item format (e.g., Carter, Aime, & Mills, J. S., 2001; Luce, & Crowther, 1999; Mond, Hay, Rodgers, Owen, & Beumont, 2004b) and takes approximately 10 minutes to complete. The original instrument assesses the behavioral (e.g., “Have you gone for long periods of time (8 waking hours or more) without eating anything at all in order to influence your shape or weight?”), psychological (e.g., “Has

your weight influenced how you think about or judge yourself as a person?”), and physical (e.g., “What is your height?”; “What is your weight at present?”) components of recovery.

While the instrument is 33-items and requires only 10 minutes to complete, only 22 of the items are required to calculate a global recovery score. For the purpose of this study, the researcher elected to remove 11 of the items that request unnecessary, sensitive information (e.g., “What is your weight at present?”). These 11 questions do not contribute to the global recovery score, and may impact participants’ willingness to complete the study. With the removal of the 11 items, each of the original items that assess the physical component of recovery (e.g., “What is your weight at present?”) were also removed. While the removal of the physical component of recovery items reduces the relevant clinical information available through the instrument, their removal (as well as the remaining non-physical component items) does not impact the psychometric properties or the scoring of the instrument. Additionally, although this group of 11 questions offers additional information to providers in a clinical setting, they were not appropriate or necessary for use within the current study. Finally, permission to use the instrument non-commercially was not required or requested (for additional information, please see: <http://www.credo-oxford.com/7.2.html>).

Each item was scored on a Likert-type scale (0 to 6) in accordance with the frequency with which an individual endorses the item (e.g., Not at all in the last 28 days, every day of the last 28 days); higher scores reflect a greater frequency with which an individual has engaged in a behavior or thought. Researchers (Luce & Crowther, 1999) indicated that they established excellent internal consistency reliability for the EDE-Q with a sample of 208 females (18-45 years of age), however the specific reliability values could not be accessed; Luce and Crowther (1999) also utilized a very similar sample as the anticipated sample for the current study.

Additionally, Berg, Peterson, Frazier, and Crow (2012) systemically reviewed the available literature that included assessments of the psychometric properties of two eating disorder instruments that measure eating disorder symptoms. As a part of the review process (Berg et al., 2012), the criterion-oriented and construct validity of the EDE-Q were thoroughly assessed. Specifically, the EDE-Q discriminated between participants diagnosed with anorexia (Engelsen & Laberg, 2001 as cited in Berg et al., 2012), bulimia (Mond, Hay, Rodgers, Owen, & Beumont, 2004a as cited in Berg et al., 2012), binge-eating disorder (Wilson, Nonas, & Rosenblum, 1993 as cited in Berg et al., 2012), EDNOS (Mond et al., 2004a as cited in Berg et al., 2012), and those without eating disorder diagnoses. Regarding the construct validity of the EDE-Q, the frequencies of objective and subjective bulimic episodes, and objective overeating episodes reported by adults diagnosed with binge-eating disorder were significantly positively related to those recorded by participants in daily food records (Grilo, Masheb, & Wilson, 2001a; Grilo, Masheb, & Wilson, 2001b). Peterson et al., (2007) conducted an exploratory factor analysis of the EDE-Q with individuals presenting with bulimic symptoms. While a four-factor model of the EDE-Q was supported, the model did not replicate the four subscales of the EDE-Q; specifically, Peterson and colleagues (2007) identified eating concerns, restraint, shape and weight concerns, and the importance of and preoccupation with shape and weight as comprising the four-factor structure of the EDE-Q.

Resilience

For the current study, the researcher utilized the Connor-Davidson Resilience Scale (CD-RISC; Appendix G; Connor-Davidson, 2003) to assess participants' resilience. Resilience is defined as the ability to cope and adapt to challenging experiences as well as have the personal characteristics that allow an individual to grow despite experiencing adversity (Connor &

Davidson, 2003). The CD-RISC is a 25-item, Likert-type, self-report measure that takes approximately five minutes to complete. The items are scored on a five-point scale, with higher scores indicating greater levels of resilience. The one-dimensional measure is also well established within the literature as a commonly accepted way to measure resilience (e.g., Burns & Anstey, 2010; Davidson, Stein, Rothbaum, Petersen, Szumski, & Baldwin, 2012). Researchers (e.g., Connor & Davidson, 2003) have demonstrated strong internal consistency for the CD-RISC, with full-scale internal consistency reliability (Cronbach's alpha) at .89, and item-total correlations ranging from .30 to .70 for the general population.

Several researchers provide support for construct and convergent validity of the CD-RISC. Specifically, combat veterans with higher resilience (as measured by the CD-RISC) were less likely to be diagnosed with post-traumatic stress disorder (Roberts et al., 2007). Resilience (as measured by the CD-RISC) was also protective against suicide for both prisoners and individuals with substance abuse concerns who had a traumatic childhood experience (Roy, Carli, & Sarchiapone, 2007). Connor and Davidson (2003) demonstrated CD-RISC scores were positively related to hardiness and social support, and negatively related to perceived stress and stress vulnerability. Overall, these results provide additional support for the relationships of hardiness and social support to psychological resilience.

Hope

For the current study, the researcher utilized the Adult Dispositional (Trait) Hope Scale (AHS; Appendix F; Snyder et al., 1991) to assess participants' level of hope. Snyder and colleagues (1991) defined hope as "a positive motivational state that is based on an interactively derived sense of successful agency (goal-directed energy) and pathways (planning to meet goals)" (p. 287). The AHS is an eight item, self-report measure that takes less than five minutes

to complete and is based on an eight-point Likert-type scale (1 = Definitely False, 8 = Definitely True) for each item. The items are divided among three subscales (pathways, agency, and distraction items), with each containing four items. For the purpose of this current study, the four distraction items were removed; the distraction subscale does not impact the scoring of the instrument or the psychometric properties of the scale. The subscale items for the pathways and agency subscales are summed for an individual's hope score (which can range from eight to 64), with higher scores indicating greater levels of hope.

Use of the AHS is well established within the literature (Bailey & Snyder, 2007; Creamer et al., 2009), and the reliability is strong (Cronbach's alpha: .74 to .84). Additionally, there is support for the measure's construct validity as a two-factor model of hope: agency and pathways (Snyder et al., 1991). Babyak, Snyder, and Yoshinobu (1993) also conducted a confirmatory factor analysis on the AHS with four large samples of college students, providing additional support for the two-factor model of hope. Pacico, Bastianello, Zanon, and Hutz (2013) examined dispositional hope (as measured by the AHS) in comparison to other psychological constructs, including self-esteem, optimism, and cognitive hope. Positive, moderate correlations between dispositional hope and the aforementioned psychological concepts provide additional support for convergent validity between these variables.

Sustained Time in Recovery

To date, a clear definition of sustained recovery from an eating disorder does not exist in the literature; however, a general consensus exists among most mental health professionals that diagnostic criteria is an important factor in determining recovery. For the current study, the researcher requested eligible participants disclose the number of months that have passed since experiencing each diagnostic criterion of each of the four eating disorders as a part of the

demographic information form (Appendix D). Overall sustained recovery time was then determined by the least number of months reported for meeting any of the diagnostic criteria.

Spirituality

For the current study, the researcher utilized the Expressions of Spirituality Inventory-Revised (ESI-R; Appendix I; MacDonald, 2000) to assess participants' expressions of spirituality. MacDonald and colleagues (2015) defined spirituality as:

A natural aspect of human functioning which relates to a special class of non-ordinary experiences and the beliefs, attitudes, and behaviors that cause, co-occur, and/or result from such experiences. The experiences themselves are characterized as involving states and modes of consciousness which alter the functions and expressions of self and personality and impact the way in which we perceive and understand ourselves, others, and reality as a whole. (p. 5)

The ESI-R is a 32 item, self-report measure that takes approximately five minutes to complete and is based on five-point Likert-type scale (0 = Strongly Disagree, 4 = Strongly Agree) for each item. The items are divided among five dimensions (cognitive orientation towards spirituality, experiential/phenomenological, existential well-being, paranormal beliefs, and religiousness) with each containing six items. There are also two additional validity items, which are not included in the dimension scores. The subscale items for the five dimensions are summed for an individual's spirituality score (which can range from zero to 120), which higher scores indicating greater levels of spirituality.

The psychometric properties of the ESI-R are less robust than the original, 98 item version of the test (Expressions of Spirituality, ESI; MacDonald, 1997). The ESI-R consists entirely of items from the original instrument (the ESI), which is well established within the

literature. The ESI-R items were selected on the basis of providing distinct content as well as having strong psychometric properties; specifically, the reliability (Cronbach's alpha: .80 to .89 across the five dimensions) and factorial validity for the ESI-R is strong. With regard to the instrument's construct validity, the ESI is strongly, and positively correlated to other measures of spirituality (MacDonald, 2000).

Sample Procedures

Approval to collect data from participants was obtained from the West Virginia University Institutional Review Board (IRB) for the protection of human subjects. Documentation from West Virginia University's Institutional Review Board Office of Research Integrity is located in Appendix E. Once the researcher obtained IRB approval, recruitment of participants through convenience sampling from three sources began. First, the researcher created a numerical list of inpatient and residential treatment centers that treat only female patients based on the comprehensive treatment center directory available on the website, "www.nationaleatingdisorders.org." Once a numerical treatment center list was created, the researcher randomly selected the treatment centers to be contacted for recruitment purposes by using the website, "www.random.org." The researcher contacted the alumni networks of the first 15 numbers (treatment centers) provided by "www.random.org," and upon receiving permission from the treatment center to send an overall invitation for participation (Appendix B) through their alumni network, the researcher posted the link to the study on Qualtrics.

The second method the researcher used to recruit participants included submitting a request to post the research study in the research study section of the National Eating Disorder Association (NEDA) website (<http://www.nationaleatingdisorders.org/find-treatment/support-groups-research-studies>). While the NEDA website accepts research studies that are not limited

to female participants, researchers are able to list inclusion criteria for potential participants to determine if they are eligible to complete the study. At the end of the required form for NEDA research study submission, the researcher included the link to the study on Qualtrics.

The third and final method the researcher used to recruit participants was through social media. The researcher created a shareable public post on social media platforms (e.g. Facebook, and Reddit) along with the inclusion criteria for participation. Potential participants learned of the study by viewing the link to the study on Qualtrics website posted by the researcher or by any individual who shared or posted the link to the study on Qualtrics and information to their own page. Additionally, the researcher contacted several organized groups through social media to reach specific groups of participants (e.g., Thick Dumpling Skin – an online community of Asian-Americans who have experienced eating and body image concerns; Nalgona Positivity Pride – a community of teens of color to converse about the intersections of food, culture, and body-image). Data was collected through Qualtrics for approximately eight weeks following IRB approval. Every effort was made to obtain an ethnically diverse sample; however, it became apparent at the conclusion of the data collection period participation by ethnically diverse groups was limited.

For each method of recruitment, the risks and benefits were clearly outlined for the participants (see informed consent, Appendix A), as well as the opportunity to receive an incentive (a drawing to receive one of 100, electronic, Starbucks gift cards valued at \$10) for those who completed the study. Individuals who chose to participate in the study clicked on the study link, and were redirected to Qualtrics. Once at the Qualtrics website, they completed the informed consent (Appendix A) and a short demographic information form (Appendix D). Within the demographic information form (Appendix D), participants provided responses to

questions regarding their gender, age group, sexual orientation, ethnic group identity, previous eating disorder diagnosis, and eating disorder symptoms. Upon completing the demographic form, if the participant remained eligible (the information entered into the demographic form had not already filled a data quota), the participant completed the following four measures in a randomized order: the Eating Disorder Examination Questionnaire (EDE-Q, Appendix H), the Trait Hope Scale (Appendix F), the Connor-Davidson Resilience Scale (CD-RISC-25, Appendix G), and the Expressions of Spirituality Inventory-Revised (ESI-R, Appendix I).

If the participant was no longer eligible due to not indicating their gender as female, being 18 years of age or older, or identifying entirely in groups in which the research quotas were met, they were redirected to the debriefing and resources page (Appendix C). The debriefing and resources page thanked participants for their time and effort and provided information regarding the opportunity to enter a drawing for one of 100, electronic Starbucks gift cards (valued at \$10). Additionally, the debriefing and resources page included several options for treatment (inpatient, residential, and outpatient), resources for sustained recovery (e.g., nationaleatingdisorders.org), and toll-free telephone numbers for individuals who may be experiencing immediate crisis. Upon completion of the last measure, eligible participants were also directed to the resources page where they were thanked for their participation and time and offered the opportunity to be redirected to a separate online link to enter their email address for a chance to receive an incentive (gift card). The participant's email address was entered through a distinct link to separate the entered email address from the participant's responses.

Prior to administering the measures, the researcher conducted a pilot study. Six individuals completed the study to ensure understanding of instructions, identify potential administration concerns prior to administration, and obtain an accurate estimation of the time

required to complete the study. The length of time required to complete the study ranged from 8 to 16 minutes ($M = 12$ minutes). Participants in the pilot study indicated the instructions were simple to understand, and did not identify potential administration concerns.

The approximate total time commitment for eligible participants who choose to participate in the study from initial access through the email address entry opportunity was estimated to be less than 20 minutes. Participants were highly encouraged to seek services if they were experiencing distress upon completion of the study (whether eligible or ineligible for study participation; Appendix C). The eligible participant exited the window, and did not have additional contact with the researcher unless their email address was randomly selected to receive one of the incentives (in which case she received an email providing her with the link for her gift card). The researcher randomly selected email addresses by numerically listing the email addresses and selecting numbers by using the website, “www.random.org.” An electronic link for the gift card was sent to selected participants via the email addresses they provided at the conclusion of the study.

Data Analysis

The researcher collected data through the Qualtrics website and exported the data from Qualtrics to the Statistical Package for Social Sciences (SPSS) software. The researcher completed a preliminary screening of the data including screening for missing values, outliers, multicollinearity, normality, linearity, and homoscedasticity. Participants who completed at least 80% of the study were included in analyses, which resulted in an N of 160; each of the 160 participants completed the study in its entirety and as such there were no missing data values. Outliers were identified by examining the Mahalanobis distances for each participant. The Mahalanobis distances ($M = 2.981$) were less than the critical value (16.27) for the number of

predictive variables (3), and as a result there were not any identified outliers that were removed from analysis. Multicollinearity was assessed using the variance inflation factor (VIF) and examining tolerance; the variance inflation factor (VIF) and tolerance were each within acceptable ranges (Field, 2009).

The researcher also examined assumptions of normality (skewness and kurtosis), linearity, and homoscedasticity by reviewing scatter plots, distributions, and normality (skewness and kurtosis) statistics. The Durbin-Watson statistics (Table 3.1) were also reviewed to identify the presence of autocorrelation, which were within the accepted range of 1.5 to 2.5. Visual examination of the regression standardized residual histogram of the first outcome variable, eating disorder recovery (as measured by the EDE-Q, Figure 1) and the normal Q-Q plot (Figure 2) indicate the possible presence of outliers. This is not unusual for larger sample sizes and visual outliers are unlikely to significantly impact the statistical analyses (Field, 2009).

Table 3.1

Normality Statistics (Outcome Variables)

Outcome Variable	Durbin-Watson
1. Sustained Time in Recovery	1.803
2. EDE-Q Scores	1.936

Figure 1: Regression Standardized Residual Histogram (Eating Disorder Recovery)

Figure 2: Normal Q-Q Plot of Regression Standardized Residual (Eating Disorder Recovery)

Visual examination of the regression standardized residual histogram of the second outcome variable, sustained time in recovery (months in recovery, Figure 3) and the normal Q-Q plot (Figure 4) indicate the possible presence of outliers. This is not unusual for larger sample sizes and visual outliers are unlikely to significantly impact the statistical analyses (Field, 2009). Additionally, the Mahalanobis distance values provide additional support for the inclusion of all data points, as there was not support for the removal of any identified statistical outliers.

Figure 3: Regression Standardized Residual Histogram (Sustained Time in Recovery)

Figure 4: Normal Q-Q Plot of Regression Standardized Residual (Sustained Time in Recovery)

Preliminary analyses of the data set included calculating descriptive statistics, correlational analyses, and the internal consistency reliability (Cronbach's alpha) for each measure. Measures of distribution, central tendency, and dispersion were calculated for each predictor and outcome variable. Correlational analyses were calculated to examine the relationships between each of the variables, and the internal consistency reliabilities indicated the strength of the relationships between items within a single measure. Screening and transformation procedures met the assumptions for the multivariate analysis. Upon completion of the preliminary analyses, the researcher tested the hypotheses, which are outlined in greater

detail in the subsequent section. All data was analyzed using the Statistical Package for Social Sciences (SPSS) software.

Hypotheses and Analyses

1. There will be a significant, positive relationship between participants' self-reported sustained eating disorder recovery and their Eating Disorder Examination-Questionnaire (EDE-Q) scores. Specifically, the researcher sought to examine whether sustained eating disorder recovery and EDE-Q scores are related among females holding an underrepresented identity. This hypothesis was tested with a Pearson product-moment correlation coefficient, with EDE-Q scores and sustained eating disorder recovery as the entered variables.
2. Scores on hope, resilience, and spirituality measures will significantly predict eating disorder recovery (EDE-Q scores). Specifically, the researcher sought to examine whether the predictor variables predict EDE-Q scores among females holding an underrepresented identity. This hypothesis was tested with a hierarchical multiple linear regression, with EDE-Q scores serving as the outcome variable, and scores on the ADHS, CD-RISC, and ESI-R entered as the predictor variables. The entry of the predictor variables was determined by reviewing the established support within the literature for the impact each variable has on eating disorder recovery. Specifically, within the literature resilience is highly supported as contributing to eating disorder recovery, followed by hope and spirituality, respectively.
3. Scores on hope, resilience, and spirituality measures will significantly predict sustained time in recovery (according the most recent endorsement of any single DSM-5 eating disorder diagnostic criteria). Specifically, the researcher sought to examine whether the

predictor variables predict sustained time in recovery among females holding an underrepresented identity. This hypothesis was tested with a hierarchical multiple linear regression, with sustained time in recovery serving as the outcome variable, and scores on the ADHS, CD-RISC, and ESI-R entered as predictor variables. The entry of the predictor variables was determined by reviewing the established support within the literature for the impact each variable has on eating disorder recovery. Specifically, within the literature resilience is highly supported as contributing to eating disorder recovery, followed by hope and spirituality, respectively.

4. There will be significant differences in eating disorder recovery scores (according to the EDE-Q) among ethnic groups, and sexual orientation groups. Specifically, the researcher sought to examine whether differences exist within eating disorder recovery among females holding an underrepresented identity. This hypothesis was tested with a one-way analysis of variance (ANOVA), with ethnic, sexual orientation, or age group membership serving as the predictor variable, and scores on the EDE-Q entered as the outcome variable.
5. There will be significant differences in sustained time in recovery (according the most recent endorsement of any single DSM-5 eating disorder diagnostic criteria) from an eating disorder among ethnic groups, and sexual orientation groups. Specifically, the researcher sought to examine whether differences exist within eating disorder recovery among females holding an underrepresented identity. This hypothesis was tested with a one-way analysis of variance (ANOVA), with ethnic, sexual orientation, or age group membership serving as the predictor variable, and sustained eating disorder recovery entered as the outcome variable.

6. There will be significant differences in the variables of hope, resilience, and spirituality between the ethnic groups. Specifically, the researcher sought to examine whether differences exist within eating disorder recovery among females holding an underrepresented identity. This hypothesis was tested with a one-way analysis of variance (ANOVA), with ethnic group membership serving as the predictor variable, and scores on the ADHS, CD-RISC, and ESI-R entered as the outcome variables.
7. There will be significant differences in the variables of hope, resilience, and spirituality among the sexual orientation groups. Specifically, the researcher sought to examine whether differences exist within eating disorder recovery among females holding an underrepresented identity. This hypothesis was tested with a one-way analysis of variance (ANOVA), with sexual orientation group membership serving as the predictor variable, and scores on the ADHS, CD-RISC, and ESI-R entered as the outcome variables.

Summary

The current body of literature does not address the combined role of hope, resilience, and spirituality in the sustained eating disorder recovery in a diverse sample of self-identified cisgender females across ages, ethnicities, and sexual orientations. This study attempted to assess and examine this potentially powerful and predictive role and was guided by seven research questions. The present study used a quantitative, between-subjects design and recruited participants who identified as female, were at least 18 years of age, and had a history of an eating disorder diagnosis. Participants were recruited through treatment center alumni networks, an online research study posting, social media platforms, and convenience sampling. Participants completed a demographic information form (included information regarding time since

experiencing eating disorder symptoms), as well as measures assessing eating disorder recovery, resilience, hope, and spirituality. The estimated time required of participants was approximately 20 minutes. Upon completion of the study, participants were provided with a resource page, as well as the opportunity to enter a drawing to receive a Starbucks gift card valued at \$10. Data were analyzed using Statistical Package for Social Sciences (SPSS) software.

CHAPTER FOUR: RESULTS

The purpose of this study was to assess the predictive power of hope, resilience, and spirituality within eating disorder recovery. Specifically, the researcher sought to examine whether differences exist within eating disorder recovery among members of diverse identity groups. Correlational analyses were used to examine relationships among the variables of hope, resilience, spirituality, and recovery. The researcher used hierarchical regression analysis to calculate the variance accounted for by the variables of hope, resilience, and spirituality. Additionally, one-way ANOVAS were used to compare differences between participants' recovery scores within majority and minority ethnic and sexual orientation groups. This chapter describes the results of the preliminary analysis and screening of the data, descriptive statistics for each measure, as well as the results of the statistical analyses for each hypothesis.

The following research questions guided the current study; specifically, the researcher attempted to examine whether differences exist within eating disorder recovery among females holding an underrepresented identity:

1. What is the relationship between self-reported sustained eating disorder recovery and the Eating Disorder Examination-Questionnaire (EDE-Q) in a female sample that is diverse ethnically, by sexual orientation, and by age?
2. Do hope, resilience, and spirituality predict eating disorder recovery (according to the EDE-Q) in a female sample that is diverse ethnically, by sexual orientation, and by age?
3. Do hope, resilience, and spirituality predict sustained time in recovery from an eating disorder in a female sample that is diverse ethnically, by sexual orientation, and by age?
4. Are there differences in eating disorder recovery (according to the EDE-Q) between ethnic groups and sexual orientation groups?

5. Are there differences in sustained time in recovery from an eating disorder between ethnic groups and sexual orientation groups?
6. Do the relationships among hope, resilience, and spirituality to eating disorder recovery differ between a relative sample of ethnic groups?
7. Do the relationships among hope, resilience, and spirituality to eating disorder recovery differ across a relative sample sexual orientations groups?

Respondent Demographics

Two hundred twelve participants began the research study. Fifty-two participants did not complete at least 80% of the study. One hundred sixty participants completed the research study in its entirety and were included in the statistical analyses and findings. Of the 160 participants who completed at least 80% of the study, all 160 completed the study in its entirety; as a result, there were no missing values to compute. Of the 160 participants included in analyses, the average age reported was 28.93 years ($SD = 7.986$), ranging from 18 years to 58 years. Participants were primarily of European-American or Caucasian descent (88.8 %) and primarily identified as heterosexual (67.5 %). Additionally, participants reported an average of 6.87 months ($SD = 32.84$) sustained time in recovery, ranging from zero to 330 months. See Table 4.1 for information on respondent demographics.

Measuring Recovery

Several conceptualizations of recovery were reviewed in defining the term for the present study. Koski-Jannes and Turner (1999) defined recovery as abstaining from an addiction for three or more consecutive years. With regard to eating disorder recovery, an individual must abstain from (Emanuelli et al., 2012) several dimensions (e.g., behavioral, psychological, physical) of their disorder to attain the status of recovery (Fitzsimmons-Craft et al., 2013).

Based upon the available definitions of recovery as well as the various ways in which it has been measured, sustained time in recovery was measured according to self-report of symptom abstinence within the present study. Specifically, a participant's sustained time in recovery was determined by the least number of months reported for having met any DSM-5 diagnostic criteria for an eating disorder. For example, a participant endorsed that she most recently experienced most diagnostic criteria eight months ago, with the exception of experiencing significant concern about her weight or shape three months prior to the study, her sustained time in recovery is three months. Table 4.1 provides descriptive analysis of ages of the participants as well as ethnicity, sexual orientation, and sustained time in recovery. In reviewing participants' sustained times in recovery, the researcher was aware of the impact of a single endorsement of having recently experienced diagnostic criteria; as a result, an exploratory variable of average time in recovery was created [see exploratory analyses for greater detail].

Table 4.1

Participant Demographic Information (N = 160)

Demographic Information	<i>n</i> (%)	<i>Mean (SD)</i>
Age		28.93 (7.98)
Ethnicity		
European-American or Caucasian	142 (88.8%)	
African or African-American	2 (1.3%)	
Hispanic or Latina	10 (6.3%)	
Custom*	1 (.6%)	
Asian, Asian-American or Pacific Islander	5 (3.1%)	
Ethnic Minority Total	18 (11.3%)	
Sustained Time in Recovery		6.87 (32.84)
Sexual Orientation		
Heterosexual	108 (67.5%)	
Bisexual	29 (18.1%)	
Lesbian	9 (5.6%)	
Questioning	6 (3.8%)	
Custom*	8 (5.0%)	
Sexual Minority Total	52 (32.5%)	

*Custom refers to participants who self-identified an ethnicity or sexual orientation that was not listed.

Preliminary Data Screening and Analysis

The researcher completed a preliminary screening of the data, including screening for outliers, multicollinearity, normality, linearity, and homoscedasticity. Mahalanobis distances were calculated to identify potential outliers, and multicollinearity was assessed using the variance inflation factor (VIF); assumptions regarding outliers and multicollinearity were met. Scatterplots, distributions, and normality statistics were also reviewed to examine assumptions of normality; these statistics indicate varied degrees of skewness and kurtosis present within the data. Further preliminary analyses of the data set included calculating descriptive statistics, correlational analyses, and internal consistency reliability for each measure. Normality statistics

are presented in Table 3.1, demographic information is presented in Table 4.1, the correlation matrix is presented in Table 4.2, and the internal consistency reliability for each measure is presented in Table 4.3.

Preliminary analyses of the data also indicated sustained time (in months) in recovery variable was significantly and positively correlated ($p < .01$, $r = .822$) with a participant's average number of months in recovery as expected. Additional, significant positive correlations exist between age and average months in recovery ($p = .030$, $r = .171$), age and spirituality ($p < .001$, $r = .251$), average months in recovery and spirituality ($p = .034$, $r = .168$), sustained time in recovery and spirituality ($p = .016$, $r = .190$), resilience and hope ($p < .001$, $r = .833$), resilience and spirituality ($p < .001$, $r = .519$), and spirituality and hope ($p < .001$, $r = .421$). Finally, the reliability statistics for each measure were highly acceptable, ranging from .897 (Adult Dispositional Hope Scale) to .956 (Eating Disorder Examination-Questionnaire).

Table 4.2

Correlations, Means, and Standard Deviations for Variables Used in Analyses

Variable	1	2	3	4	5	6	7
1. Age	1	--	--	--	--	--	--
2. Averaged Months in Recovery	.171*	1	--	--	--	--	--
3. Sustained Time in Recovery (DSM-5)	.119	.822**	1	--	--	--	--
4. Resilience	-.007	.053	.062	1	--	--	--
5. Hope	-.047	-.033	-.032	.833**	1	--	--
6. Spirituality	.251	.168*	.190*	.519**	.421**	1	--
7. Recovery (EDE-Q)	.034	.010	.076	-.448**	-.390**	-.227**	1
Mean	28.93	20.38	6.87	81.84	44.40	48.57	17.30
SD	7.976	41.48	32.84	15.13	10.53	24.04	8.27
Min	18.00	0.00	0.00	33.00	13.00	4.00	0.50
Max	58.00	332.67	330.00	115.00	63.00	100.00	30.75

Note: * $p \leq .05$; ** $p \leq .01$

Table 4.3

Reliability Statistics (N = 160) and Norming Sample Reliability Statistics

Variable Measured	N of Items	Cronbach's Alpha	Cronbach's Alpha (Norming Samples)
Hope	8	.897	.74 to .84 ¹
Resilience	25	.920	.89 ²
Spirituality	30	.948	.80 to .89 ³
Recovery	22	.956	.93 ⁴

¹ *Snyder et al., 1991*; ² *Connor & Davidson, 2003*; ³ *MacDonald, 2000*; ⁴ *Mond et al., 2004a***Major Findings**

This section presents major findings organized according to each of the seven research questions associated with this study. Research questions were answered using the following instruments: Eating Disorder Examination-Questionnaire (EDE-Q), Adult Dispositional (Trait) Hope Scale (AHS), Connor-Davidson Resilience Scale (CD-RISC), and the Expressions of Spirituality Inventory-Revised (ESI-R), demographic information, and sustained time in recovery.

Research Question One: Relationship Between Sustained Recovery and the EDE-Q

Eating disorder recovery was measured by the use of the Eating Disorder Examination-Questionnaire (EDE-Q; Appendix H). The EDE-Q provides an assessment of an individual's experience of their symptoms in the past month. Sustained time in recovery was measured by self-report of symptom abstinence. While the EDE-Q is an assessment of symptoms within the past month, sustained time in recovery provides a longer-term review of symptom experience. Using a correlational analysis (Table 4.4), participants' Eating Disorder Examination-Questionnaire (EDE-Q) scores were not significantly related to sustained time in recovery ($r = .076, p = .342$). While it is important to note that the EDE-Q is an assessment of symptoms in

the past month, and sustained time in recovery refers to the passage of time since experiencing any number of symptoms, it is unclear why a negative correlation was not present.

Table 4.4

Correlations, Means, and Standard Deviations between Sustained Recovery and the EDE-Q

Variable	1	2
1. Sustained Time Recovery	1	--
2. EDE-Q Scores	.076	1
<i>Mean</i>	6.87	17.30
<i>SD</i>	32.84	8.27
<i>Min</i>	0.00	0.50
<i>Max</i>	330.00	30.75

Note: * $p < .05$; ** $p < .01$

Research Question Two: Hope, Resilience, and Spirituality as Predictors of Recovery

The researcher hypothesized scores on hope (AHS), resilience (CD-RISC), and spirituality (ESI-R) measures would significantly predict eating disorder recovery, according to the EDE-Q. Using the literature as a guide, the variables were entered in the following order into a hierarchical regression analysis: resilience, hope, and spirituality; control variables (demographic information) were not entered into the hierarchical regression analysis. Scores on the Eating Disorder Examination-Questionnaire (EDE-Q) were significantly and negatively correlated ($p < .01$) with resilience ($r = -.448$), hope ($r = -.390$), and spirituality ($r = -.227$). The hierarchical regression analysis was used to assess the degree to which each of the predictor variables, hope, resilience, and spirituality, impacts EDE-Q scores (Table 4.5). The results of this hierarchical regression analysis indicate that when resilience is entered as the first predictor variable, 20.1% of the variance of the outcome variable is accounted for (R^2); however, adding hope and spirituality as secondary and tertiary predictor variables minimally increases the amount of variance accounted for by the regression model. Specifically, when all three predictor variables are entered hierarchically, 20.2% of the variance of EDE-Q scores is accounted for.

Despite the minimal increase in variance accounted for by hope and spirituality, the regression model significantly predicts EDE-Q scores at the $p < .001$ level (Table 4.5).

Table 4.5

Hierarchical Multiple Regression Analysis for Prediction of Recovery (N = 160)

Variable	R^2	ΔR^2	At Entry Into Model			Final Model		
			B	SE B	B	B	SE B	B
Step 1	.448	.196						
Resilience			-.245	.039	-.448**	-.222	.075	-.406**
Step 2	.449	.191						
Hope			-.043	.101	-.054	-.043	.102	-.054
Step 3	.449	.186						
Spirituality			.002	.029	.006	.002	.029	.006

Note. $F(3, 156) = 13.126, p < .001$ for full model; $F(1, 158) = 39.651, p < .001$, for Step 1; $\Delta F(2, 157) = 19.811, p < .001$ for Step 2; $\Delta F(3, 156) = 13.126, p < .001$ for Step 3.

Note: * $p \leq .05$; ** $p \leq .01$

Research Question Three: Predictors of Sustained Recovery

A second hierarchical regression analysis examined the degree to which hope (AHS), resilience (CD-RISC), and spirituality (ESI-R) predicted sustained time in eating disorder recovery (Table 4.6). Again, the predictive variables were entered in the following order: resilience, hope, and spirituality; control variables (demographic information) were not entered into the hierarchical regression analysis. Unlike the initial hierarchical regression analysis, this regression model was not statistically significant ($p = .022$) and the three predictor variables combined accounted for only six percent of the variance in sustained time in eating disorder recovery. An exploratory regression analysis was conducted with the newly created average months in recovery variable as the outcome variable, and resilience, hope, and spirituality entered into the model hierarchically. Similarly, the model (Table 4.6) was not statistically

significant ($p = .053$) and accounted for 4.8 percent of the variance in participants' average months in recovery.

Table 4.6

Hierarchical Multiple Regression Analysis for Prediction of Sustained Recovery (N = 160)

Variable	R^2	ΔR^2	At Entry Into Model			Final Model		
			B	SE B	B	B	SE B	B
Step 1	.004	-.002						
Resilience			.135	.172	.062	.380	.324	.175
Step 2	.027	.015						
Hope			-.857	.444	-.275	-.832	.438	-.267
Step 3	.060	.042						
Spirituality			.289	.124	.212	.289	.124	.212

Note. $F(3, 156) = 3.302, p = .022$ for full model; $F(1, 158) = .616, p = .434$, for Step 1; $\Delta F(2, 157) = 2.173, p = .117$ for Step 2; $\Delta F(3, 156) = 3.302, p = .022$ for Step 3.

Note: * $p \leq .05$; ** $p \leq .01$

Research Question Four: Differences in Eating Disorder Recovery between Ethnic and Sexual Orientation Groups

The proposed study attempted to examine differences in eating disorder recovery (EDE-Q scores), sustained time in recovery, hope (AHS), resilience (CD-RISC), and spirituality (ESI-R) among ethnic minority and sexual orientation groups. However, examination of this question was not feasible due to the small number of participants in each of the categories. Specifically, the sample of participants primarily identified as European-American or Caucasian (88.8%) and heterosexual (67.5%). As a result, one-way analyses of variance (ANOVA) were used to compare differences between participants on the aforementioned variables within majority and minority ethnic (Table 4.7) and sexual orientation (Table 4.8) groups. There were no statistically significant differences between group means as determined by the one-way ANOVA in eating disorder recovery scores (according to the EDE-Q) between participants identifying as

European-American or Caucasian and minority ethnic groups, ($F(1, 158) = .197, p = .658$) or between participants identifying as heterosexual and minority sexual orientation groups, ($F(1, 158) = 1.953, p = .164$).

Table 4.7

Differences in Eating Disorder Recovery between Ethnic Groups

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>P</i>
Between groups	1	13.54	13.54	.197	.658
Within groups	158	10853.51	68.69		
Total	159	10867.05			

Note: * $p \leq .05$; ** $p \leq .01$

Table 4.8

Differences in Eating Disorder Recovery between Sexual Orientation Groups

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>P</i>
Between groups	1	132.660	132.660	1.953	.164
Within groups	158	10734.389	67.939		
Total	159	10867.048			

Note: * $p \leq .05$; ** $p \leq .01$

Research Question Five: Differences in Sustained Time in Recovery between Ethnic Groups and Sexual Orientation Groups

The proposed study attempted to examine differences in sustained time in recovery among ethnic minority and sexual orientation groups. However, examination of this question was not feasible due to the small number of participants in each of the categories. Specifically, the sample of participants primarily identified as European-American or Caucasian (88.8%) and heterosexual (67.5%). As a result, one-way analyses of variance (ANOVA) were used to compare differences between participants' sustained time in recovery within majority and

minority ethnic (Table 4.9) and sexual orientation (Table 4.10) groups. There were also no significant differences in sustained time in recovery between participants identifying as heterosexual and minority sexual orientation groups, ($F(1, 158) = .007, p = .935$) or between participants identifying as European-American or Caucasian and minority ethnic groups, ($F(1, 158) = .210, p = .647$).

Table 4.9

Differences in Sustained Recovery between Ethnic Groups

Source	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between groups	1	228.083	228.083	.210	.647
Within groups	158	171210.160	1083.609		
Total	159	171438.244			

Note: * $p \leq .05$; ** $p \leq .01$

Table 4.10

Differences in Sustained Recovery between Sexual Orientation Groups

Source	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between groups	1	7.135	7.135	.007	.935
Within groups	158	171431.109	1085.007		
Total	159	171438.244			

Note: * $p \leq .05$; ** $p \leq .01$

Research Question Six: Differences in Hope, Resilience, and Spirituality between Ethnic Groups

The proposed study attempted to examine differences in hope (AHS), resilience (CD-RISC), and spirituality (ESI-R) among ethnic groups. However, examination of this question was not feasible due to the small number of participants in each of the categories. Specifically, the sample of participants primarily identified as European-American or Caucasian (88.8%). As

a result, one-way analyses of variance (ANOVA) were used to compare differences between participants' hope (Table 4.11), resilience (Table 4.12), and spirituality (Table 4.13) within majority and minority ethnic groups. As proposed in the study, the researcher hypothesized there are significant differences between participants identifying as European-American or Caucasian and minority ethnic groups. There were no significant differences between participants identifying as European-American or Caucasian and minority ethnic groups on the variables of resilience, ($F(1, 158) = .006, p = .937$), hope, ($F(1, 158) = .070, p = .791$), or spirituality, ($F(1, 158) = .412, p = .522$).

Table 4.11

Differences in Hope between Ethnic Groups

Source	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between groups	1	7.852	7.852	.070	.791
Within groups	158	17634.548	111.611		
Total	159	17642.400			

Note: * $p \leq .05$; ** $p \leq .01$

Table 4.12

Differences in Resilience between Ethnic Groups

Source	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between groups	1	1.450	1.450	.006	.937
Within groups	158	36407.644	230.428		
Total	159	36409.094			

Note: * $p \leq .05$; ** $p \leq .01$

Table 4.13

Differences in Spirituality between Ethnic Groups

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between groups	1	238.786	238.786	.412	.522
Within groups	158	91614.458	579.838		
Total	159	91853.244			

Note: * $p \leq .05$; ** $p \leq .01$

Research Question Seven: Differences in Hope, Resilience, and Spirituality between Sexual Orientation Groups

The proposed study attempted to examine differences in hope (AHS), resilience (CD-RISC), and spirituality (ESI-R) among sexual orientation groups. However, examination of this question was not feasible due to the small number of participants in each of the categories. Specifically, the sample of participants primarily identified as heterosexual (67.5%). As a result, one-way analyses of variance (ANOVA) were used to compare differences between participants' hope (Table 4.14), resilience (Table 4.15), and spirituality (Table 4.16) within majority and minority sexual orientation groups. There were significant differences between participants identifying as heterosexual and minority sexual orientation groups on the variables of hope, ($F(1, 158) = 7.065, p = .009$), resilience, ($F(1, 158) = 5.585, p = .019$) and spirituality, ($F(1, 158) = 5.754, p = .018$). In other words, hope (Table 4.14), resilience (Table 4.15), and spirituality (Table 4.16) do impact recovery differently for individuals who identify as heterosexual versus individuals who identify as sexual minorities. It is important to note that the differences between sexual orientation groups may be a function of the statistical power within the sample as well as actual differences within the population.

Table 4.14

Differences in Hope between Sexual Orientation Groups

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between groups	1	755.095	755.095	7.065	** .009
Within groups	158	16887.305	106.882		
Total	159	17642.400			

Note: * $p \leq .05$; ** $p \leq .01$

Table 4.15

Differences in Resilience between Sexual Orientation Groups

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between groups	1	1242.985	1242.985	5.585	* .019
Within groups	158	35166.109	222.570		
Total	159	36409.094			

Note: * $p \leq .05$; ** $p \leq .01$

Table 4.16

Differences in Spirituality between Sexual Orientation Groups

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between groups	1	3227.428	3227.428	5.754	* .018
Within groups	158	88625.816	560.923		
Total	159	91853.244			

Note: * $p \leq .05$; ** $p \leq .01$

Exploratory Analyses

While the researcher assessed sustained time in recovery through a self-report of symptom abstinence (calculated by determining the least number of months reported for having met any DSM-5 diagnostic criteria for an eating disorder), this calculation was inherently affected by any endorsement of diagnostic criteria (e.g., preoccupation with one's weight or

shape). As a result, the researcher also calculated the average number of months each participant reported since having met each diagnostic criterion as an exploratory variable. The calculation of the exploratory variable (average months in recovery) included summing the number of months of each endorsed diagnostic criterion, divided by the number of diagnostic criteria endorsed. For example, if a participant endorsed having experienced 5 of the 9 possible diagnostic criteria in her lifetime, the researcher summed the number of months the participant reported having abstained for each of those 5 diagnostic criteria and divided the total by 5, the number of criteria the participant endorsed having ever experienced. This calculation resulted in the exploratory variable of average months in recovery ($M = 20.3813$, $SD = 41.4778$). Average months in recovery was less affected by the single endorsement of having recently experienced a single diagnostic criterion (e.g., preoccupation with weight or shape), if a participant's recovery had been several years in length overall.

Average months in recovery was significantly correlated with sustained time in recovery ($r = .822$, $p < .001$), age ($r = .171$, $p = .030$), and spirituality ($r = .168$, $p = .034$). However, average months in recovery was not significantly correlated to EDE-Q scores ($r = .010$, $p = .896$). An exploratory regression analysis was conducted with the newly created average months in recovery variable as the outcome variable, and resilience (CD-RISC), hope (AHS), and spirituality (ESI-R) entered into the model hierarchically (Table 4.17). Similar to sustained time in recovery, the model (Table 4.17) was not significant ($p = .053$) and accounted for 4.8 percent of the variance in participants' average months in recovery. Finally, one-way analyses of variance (ANOVA) were used to compare average months in recovery between participants identifying as European-American or Caucasian and minority ethnic groups, ($F(1, 158) = 1.430$, $p = .234$) as well as between participants identifying as heterosexual and minority sexual

orientation groups, ($F(1, 158) = .004, p = .947$). There were no significant differences between participants identifying as European-American or Caucasian and minority ethnic groups (Table 4.18) or between participants identifying as heterosexual and minority sexual orientation groups (Table 4.19).

Table 4.17

Hierarchical Multiple Regression Analysis for Prediction of Average Months in Recovery (N = 160)

Variable	R^2	ΔR^2	At Entry Into Model			Final Model		
			B	SE B	B	B	SE B	B
Step 1	.003	-.004						
Resilience			.144	.218	.053	.435	.411	.159
Step 2	.022	.010						
Hope			-.989	.562	-.251	-.962	.557	-.244
Step 3	.048	.030						
Spirituality			.325	.158	.188	.325	.158	.188

Note. $F(3, 156) = 2.617, p = .053$ for full model; $F(1, 158) = .439, p = .509$, for Step 1; $\Delta F(2, 157) = 1.769, p = .174$ for Step 2; $\Delta F(3, 156) = 2.617, p = .053$ for Step 3.

Table 4.18

Differences in Average Months in Recovery between Ethnic Groups

Source	df	SS	MS	F	p
Between groups	1	2452.755	2452.755	1.439	.234
Within groups	158	271091.087	1715.766		
Total	159	273543.843			

Table 4.19

Differences in Average Months in Recovery between Sexual Orientation Groups

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between groups	1	7.708	7.708	.004	.947
Within groups	158	273536.135	1731.241		
Total	159	273543.843			

Summary

This chapter presented findings and analyses of data gathered from individuals who identify as female, had a previous diagnosis of an eating disorder at some point during their lifetime, and were 18 years of age or older at the time of participation. The study included measures of eating disorder recovery, sustained time in recovery, hope, resilience, and spirituality, while also exploring participants' average time in recovery. Measures were organized around seven research questions that guided the statistical analyses. Significant major research findings were that eating disorder recovery (as measured by the EDE-Q) was significantly predicted by resilience, hope, and spirituality, and there were significant differences in hope between individuals who identified as heterosexual and individuals who identified as a sexual minority. Eating disorder recovery (as measured by the EDE-Q) was not significantly correlated with sustained time in recovery as expected. Similarly, there were no statistically significant differences between majority and minority ethnic and sexual orientation groups in eating disorder recovery scores. Chapter five will explore specific conclusions to be drawn from these findings as well as limitations and overall implications for the present study. Finally, chapter five will provide recommendations for future research in the area of eating disorder recovery.

CHAPTER FIVE: SUMMARY & DISCUSSION

While eating disorder diagnoses were historically believed to primarily affect individuals of European-American or Caucasian descent (Talleyrand, 2010), there has been a recent shift in the documented incidence of eating disorders (Hoek & Van Hoeken, 2003). Currently, there is mixed support for the incidence of eating disorders across ethnic groups (e.g., Marcus & Kalarchian, 2003; Wade et al., 2011) and sexual orientation groups (Cachelin et al., 2001; Maloch et al., 2013). While some individuals affected by eating disorders, 70% to 80% are estimated to attain some level of recovery (Treasure et al., 2010), the variables contributing to eating disorder recovery continue to be explored. Hope (Weinberg, 2013), resilience (Ohrui & Nihei, 2006), and spirituality (Berrett et al., 2007) clearly impact the eating disorder recovery process. Each of these variables has been studied individually as impacting eating disorder recovery, but their predictive value in combination in a diverse sample has not been studied. Prior to the current study, a clear understanding of how the aforementioned variables in combination predict sustained recovery in a diverse sample of females previously diagnosed with an eating disorder did not exist.

Research Questions

Quantitative analyses were used to address the following research questions:

1. What is the relationship between self-reported sustained eating disorder recovery and the Eating Disorder Examination-Questionnaire (EDE-Q) in a female sample that is diverse ethnically, sexually, and by age (Pearson correlation)?
2. Do hope, resilience, and spirituality predict eating disorder recovery (according to the EDE-Q) in a female sample that is diverse ethnically, sexually, and by age? (Hierarchical Linear Regression)

3. Do hope, resilience, and spirituality predict sustained time in recovery from an eating disorder in a female sample that is diverse ethnically, sexually, and by age? (Hierarchical Linear Regression)
4. Are there differences in eating disorder recovery (according to the EDE-Q) between ethnic groups and sexual orientation groups? (One-way analysis of variance)
5. Are there differences in sustained time in recovery from an eating disorder between ethnic groups and sexual orientation groups? (One-way analysis of variance)
6. Do the relationships among hope, resilience, and spirituality to eating disorder recovery differ between a relative sample of ethnic groups? (One-way analysis of variance)
7. Do the relationships among hope, resilience, and spirituality to eating disorder recovery differ across a relative sample of sexual orientation groups? (One-way analysis of variance)

Findings in the Context of the Literature

Despite the difficulties defining and conceptualizing recovery within the literature and the present study, there are unique findings in the present study that have not been replicated with a similar sample within an in-depth, quantitative study of sustained eating disorder recovery. Specifically, notable results include predicting eating disorder recovery within a diverse sample and identifying differences in hope, resilience, and spirituality between individuals seeking recovery in majority and minority sexual orientation groups.

Sustained Recovery and EDE-Q Scores Discussion

No statistically significant relationship ($r = .076$) was found between EDE-Q scores and self-reported sustained eating disorder recovery. While it is important to note that the EDE-Q is an assessment of symptoms in the past month, and sustained time in recovery refers to the

passage of time since experiencing any number of diagnostic criteria, it is unclear why a negative correlation was not present. The implications for this may indicate that neither the EDE-Q nor self-report sustained eating disorder recovery reflects eating disorder recovery as a construct. Likewise, the absence of meeting diagnostic criteria may not be an appropriate measure of eating disorder recovery. Just as recovery remains difficult to define, it is possible that neither the EDE-Q nor the absence of diagnostic criteria assess recovery in a measurable way. An additional explanation for these results may be that the EDE-Q and sustained time in recovery assess distinct aspects of recovery, and the intersection between the variables is simply too limited. While the EDE-Q is a very recent self-report assessment of disordered eating symptoms, sustained time in recovery relies on the longitudinal self-report of an individual's symptoms as assessed by diagnostic criteria. There is significant overlap between diagnostic criteria and the EDE-Q items, however, asking participants to recall their most recent symptom experience over a period of several years may not accurately represent their disordered eating history and subsequent recovery. These results align with the current disagreement regarding how to assess recovery both as a construct and specifically to eating disorders (Emanuelli et al., 2012; Fitzsimmons-Craft et al., 2013; Koski-Jannes & Turner, 1999).

Predicting Eating Disorder Recovery Discussion

In this study, the variables of hope, resilience, and spirituality significantly predicted ($p < .001$) eating disorder recovery as measured by the EDE-Q. While the variables significantly predicted EDE-Q scores, nearly all of the accounted variance of the outcome variable was predicted by resilience (20.1%). Given that adding hope and spirituality to the predictive model minimally increased the accounted for variance of eating disorder recovery, these variables did not uniquely contribute to the predictive model. One explanation for this may be that hope and

spirituality considerably overlap with resilience; there is shared variance among the variables which results in limited increases in the amount of variance accounted for by the model at each subsequent step. An additional possibility is that resilience did impact recovery in the predicted manner (e.g., Las Hayas et al., 2016), but that hope and spirituality did not; however, the latter is unlikely given that hope ($r = .833$) and spirituality ($r = .519$) were highly and moderately, positively correlated to resilience. The strong correlation between hope and resilience exhibited in this study also aligned with previous literature in which hope was examined in relation to psychological resilience (Oktan, 2012). Overall, hope, resilience, and spirituality as predictive of eating disorder recovery supports and aligns with the results of several recent eating disorder recovery studies (Berrett et al., 2007; Dawson et al., 2014; Las Hayas et al., 2016).

While hope, resilience, and spirituality significantly predicted eating disorder recovery (according to the EDE-Q), it is important to consider that the EDE-Q is an assessment of eating disorder symptoms within the past month. These variables may impact short-term recovery, but their impact and role in long-term or sustained recovery is far less clear. Even so, the significant prediction of eating disorder recovery by hope, resilience, and spirituality has implications for individuals who are early in the recovery process. Including targeted clinical interventions designed to increase levels of hope, resilience, and spirituality in individuals beginning eating disorder treatment, may have cost and life-saving implications for their eventual sustainment of recovery. Specifically, long-term treatment for eating disorders can be costly. Insurance companies are increasingly less willing to pay for long-term treatment. Therefore, assisting individuals in increasing levels of hope, resilience, and spirituality may reduce their overall time in treatment.

Predicting Sustained Time in Recovery Discussion

According to the findings of this study, hope, resilience, and spirituality do not significantly predict ($p = .927$) sustained time in eating disorder recovery. Given that the predictor variables do significantly predict EDE-Q scores, which provides a similar, but unique, measure of eating disorder symptoms and recovery to sustained time in recovery, it is unclear why the predictive variables did not significantly predict the latter outcome variable. The primary implications for the unexpected lack of prediction of sustained time in recovery indicates that improvements in the areas of hope, resilience, and spirituality in recovering individuals does not predict a reduction in diagnostic criteria of an eating disorder. These results are also contrary to a considerable portion of the literature examining eating disorder recovery.

Las Hayas and colleagues (2016) found that individuals in recovery qualitatively described the role of resilience, including several factors that contributed to resilience in the recovery process. Oktan (2012) examined resilience in relation to hope, and identified that hope is a protective factor for the development of resilience. Furthermore, there is evidence for an inverse relationship between hope and psychiatric symptoms (Waynor et al., 2012), and hope as having an important role within eating disorder recovery (Arthur-Cameselle & Baltzell, 2012; Irving & Cannon, 2000).

Several research studies (e.g., Berrett et al., 2007; Hsu et al., 1992; Richards et al., 2006; Smith et al., 2003) also cite spirituality as having a positive and important role in eating disorder recovery. Specifically, Richards and colleagues (2006) and Smith and colleagues (2003) demonstrated negative relationships between spirituality and symptom reduction, indicating that as an individual's spirituality increased, their experience of eating disorder symptoms decreased.

Given the literature examining the individual impact of hope, resilience, and spirituality on eating disorder recovery, it remains unclear why this is not represented within the current study.

Several plausible explanations exist for why the impact of the aforementioned variables on eating disorder recovery may not be represented within the current study. First, substantial differences exist between the sampling procedures of many of the noted research studies and the present study. Specifically, qualitative research on the impact of resilience (e.g., Las Hayas et al., 2016) and spirituality on eating disorder recovery (e.g., Hsu et al., 1992; Marsden et al., 2007; Wasson & Jackson, 2004) may not align well when compared to measuring these constructs quantitatively. Regarding the previous literature on the impact of spirituality on eating disorder recovery, it is also important to note researchers (e.g., Smith et al., 2003) assessed spiritual well-being prior to treatment (pre-treatment) as well as following the completion of a treatment program (post-treatment). The present study includes only a single point assessment of an individual's spirituality as related to their eating disorder recovery. Additionally, given that hope does significantly predict eating disorder recovery (as measured by the EDE-Q), construct differences between eating disorder recovery and sustained time in recovery likely contribute to the lack of impact demonstrated by hope on sustained time in recovery.

Eating Disorder Recovery Group Differences Discussion

In this study, there was not a significant difference in eating disorder recovery between participants identifying as European-American or Caucasian and minority ethnic groups ($p = .658$) or between participants identifying as heterosexual and those identifying as a sexual minority ($p = .164$). While the literature is mixed with regard to the incidence and prevalence of eating disorders across ethnic groups (Austin et al., 2013; Nicdao et al., 2007; Neumark-Sztainer

et al., 2002) and sexual orientation groups (Austin et al., 2013; Feldman & Meyer, 2007b), research regarding recovery of individuals identifying within these populations is scarce. Specifically, there is limited research examining recovering individuals who hold minority identities as possible additional stressors. On the contrary, individuals who hold a minority identity may have fostered additional resiliency, through cultural norms, which serve as a buffer against disordered eating symptoms and may result in reduced incidence of eating disorders (Crago et al., 1996; Striegel-Moore & Smolak, 2000; Zhang & Snowden, 1999). Despite these things, there were no visible differences in eating disorder recovery across ethnic or sexual minority groups. Previous research supports the concept of minority identities as additional stressors, but the recovery experiences of individuals who hold minority identities are not as different from those who hold majority identities as has been posited. While these group differences may not have ever existed within this population, it is especially possible that even as limited progress toward equity and equality has been made in recent years, that this shift may be instrumental for the experiences of individuals with minority identities.

Sustained Time in Recovery Group Differences Discussion

There was not a significant difference in sustained time in eating disorder recovery between majority and minority ethnic groups ($p = .935$) or sexual orientation groups ($p = .647$) found in the current study. Similar to the lack of differences in EDE-Q scores (eating disorder recovery) between majority and minority ethnic and sexual orientation groups, the reasoning for the lack of difference is unclear. Specifically, individuals who hold a minority identity may experience stressors in addition to the normal stressors that individuals who do not possess these identities experience. While it seems as though this would cause their recovery experiences to differ, it appears that it is not the case. Although it is possible that these differences may not

actually exist, the importance of a sample size within the minority ethnic and sexual orientation groups in the present study is a relevant consideration, in that despite extensive efforts to recruit in this group, participation was unevenly dispersed across groups.

Ethnic Groups and Hope, Resilience, and Spirituality Discussion

In the current study, there was not a significant difference between participants identifying as European-American or Caucasian and minority ethnic groups on the variables of resilience ($p = .937$), hope ($p = .791$), or spirituality ($p = .522$). Prior to the present study, there appears to be limited research examining the differences in hope, resilience, and spirituality across ethnic groups. While there may not actually be any differences in these variables across ethnic groups, it is also important to consider that ethnic composition of the present study may have impacted this outcome. While efforts were made to contact groups of individuals who identify as ethnic minorities and experience disordered eating symptoms, contacting the appropriate groups did not yield sufficient participation with regard to ethnic groups. Additionally, although limited research has examined the role of holding a minority identity as an additional stressor (or buffer) on or against eating disorder recovery, the specific impact of hope, resilience, and spirituality for these individuals has not been examined.

Sexual Orientation Groups and Hope, Resilience, and Spirituality Discussion

Similar to the relationships between hope, resilience, and spirituality to eating disorder recovery between participants identifying as European-American or Caucasian and those identifying as an ethnic minority, there were not significant differences for the variables of resilience ($p = .019$) and spirituality ($p = .018$) and eating disorder recovery between participants identifying as heterosexual and those identifying as a sexual minority. Prior to the present study, there does not appear to have been research examining the differences in hope, resilience, and

spirituality across sexual orientation groups. While there was a significant difference ($p = .009$) between participants identifying as heterosexual and those identifying as a sexual minority on the variable of hope, due to the lack of available literature, it is somewhat unclear why this difference exists. One explanation may be that while holding a minority identity can serve as a stressor, it may also serve as a buffer, or facilitate the development and sustainment of hope; however, it is important to note that this has not been examined thoroughly within the literature.

Limitations

Within the field of eating disorder recovery research, several limitations continue to arise. Within the current study, the primary limitations include accessing individuals in recovery to better understand the recovery process, obtaining a diverse sample, conceptualizing and measuring recovery, and the use of self-report surveys.

Accessing Individuals in Recovery. While every effort was made to obtain access to individuals in recovery for the present study, the results indicate that participants were primarily in the early stages of the recovery process. As individuals progress further into recovery, they may also appropriately distance themselves from things that are highly connected to the eating disorder community. For example, individuals who continue to experience disordered eating symptoms may be more likely to remain connected to their former treatment centers, the National Eating Disorder Association, and social media groups and forums primarily visited by individuals with eating disorders. While each of these entry or access points provides a connection to individuals who are eligible to complete the study, they may not best represent individuals in recovery. Furthermore, due to the appropriate distancing from eating disorder resources that often occurs as an individual progresses in the recovery process, recovered individuals' perspectives are particularly difficult to access.

While there is clear disagreement among researchers regarding how to conceptualize and measure eating disorder recovery, disagreement among recovered or recovering individuals about what constitutes recovery may also exist. Specifically, if recovered or recovering individuals are unsure whether they consider themselves to be in recovery, they may have been discouraged from participating in the study. While the inclusion criteria for participation were clearly defined as being 18 years of age or older, identifying as female, and a previous diagnosis of an eating disorder, the headline of the IRB-approved research study advertisement was, “Are You in Recovery from an Eating Disorder?” As a result, the research study advertisement may have also dissuaded eligible participants from participating if they felt uncertain about their recovery status.

Obtaining a Diverse Sample. While every effort was made to obtain a considerable range of ages, as well as an ethnically and sexually diverse sample for the present study, the demographic composition that resulted remains limited. Despite the researcher initiating and creating ongoing contacts with several groups whose primary members include individuals identifying as an ethnic and/or sexual minority, the demographic composition of the participants who completed the study was primarily European-American or Caucasian and heterosexual. While the sexual orientation group composition of the study was considerably more diverse than that of the ethnic group or age composition, each of these three aspects of diversity was a limitation in the present study.

It is also important to note the possibility of a type two error within the study, particularly with regard to the hypotheses examining ethnic group differences. The limited number of self-identified ethnic minority participants, particularly in contrast with the sexual orientation group composition, reduced the overall power of the sample, which in turn increases the likelihood of a

type two error. As a result, there was insufficient statistical power within the sample to draw meaningful conclusions regarding eating disorder recovery between majority and minority ethnic groups. While the results suggest several meaningful implications regarding eating disorder recovery between majority and minority ethnic groups, the role and lack of statistical power throughout the study remains an issue.

Conceptualizing and Measuring Recovery. While recovery-oriented research has been ambiguous at best, several conceptualizations of recovery were reviewed in defining the term for the present study. Some of the literature conceptualizes recovery as interchangeable with resilience (Bogar & Hulse-Killacky, 2006; Bonanno, 2004) while others (e.g., Koski-Jannes & Turner, 1999) define recovery as abstaining from an addiction for three or more consecutive years. In considering eating disorder recovery specifically, an individual must abstain from several dimensions (e.g., behavioral, psychological, physical; Emanuelli et al., 2012) of their disorder to attain the status (Fitzsimmons-Craft et al., 2013). Specifically, as other studies have struggled to conceptualize a clear definition of recovery, so does the present study.

Within the current study, recovery was measured by the use of the Eating Disorder Examination-Questionnaire as well as self-report of symptom abstinence. The Eating Disorder Examination-Questionnaire provides an assessment of an individual's experience of their symptoms in the past month, while the self-report of diagnostic criteria symptoms provides a longer-term review of symptom experience. In reviewing participants' endorsements of eating disorder diagnostic criteria (based on the DSM-5), it became clear that assessing recovery as the most recent endorsement of diagnostic criteria (see sustained time in recovery variable) was not representing the recovery experience as a whole. Specifically, diagnostic criteria such as endorsement about one's weight or shape reduced a participant's recovery time significantly.

For example, if a participant has been in recovery for 60 months (five years), with the exception of feeling concerned about their shape in the past three months, their sustained time in recovery was reduced to three months. While an exploratory variable of average months in recovery was created to adjust for this effect, the recovery variable remains particularly difficult to conceptualize and measure.

In addition to limitations regarding the conceptualization and measurement of recovery, there is not an established way to assess an individual's time in recovery; for example, while some definitions of recovery refer to behavioral abstinence of disordered eating symptoms others refer to the point at which an individual fully restores their body weight. While researchers continue to make strides with regard to understanding the factors that impact recovery the implications of this on long-term recovery are finite. Until some agreement is reached regarding how to define eating disorder recovery, the field will continue to be plagued by measurement and methodological issues surrounding measuring recovery as a construct, which includes improving how we assess an individual's time in recovery.

The Role of Self-Report. The present study utilized survey research, including several self-report measures of eating disorder recovery, diagnostic criteria, hope, resilience, and spirituality. While respondents were reminded within the informed consent of the anonymity of their responses, many of the constructs included in the research study may have felt sensitive or personal. Likewise, given the research study advertisement headline of, "Are you in recovery from an eating disorder?" it is important to consider that respondents may have answered in accordance with their perception of recovery. Similarly, the social desirability of having attained recovery from an eating disorder may have impacted respondents' answers, as well as the inherent limitations of self-report, survey research.

Implications

Despite the disagreement regarding how to conceptualize and measure recovery, there are several important implications from the present study. The knowledge that hope, resilience, and spirituality significantly predict eating disorder recovery has significant implications for the future of eating disorder treatment and recovery. Efforts to increase hope, resilience, and spirituality among individuals seeking eating disorder recovery may have implications for their sustainment of recovery over time; however, doing so may not actually reduce a participant's endorsement of relevant diagnostic criteria. With the exception of differences in hope in individuals identifying as heterosexual and those identifying as a sexual minority, the additional stressors that individuals who possess a minority identity may experience do not appear to impact the recovery process.

With regard to ongoing research in the field of eating disorder recovery, the results of the present study provide further support for the development and implementation of clinical interventions to increase levels of hope, resilience, and spirituality in individuals diagnosed with an eating disorder. Introducing these interventions into educational and academic training curriculums for helping professionals is also necessary. Helping professionals who have received additional training related to increasing eating disorder recovery among affected individuals may also increase their confidence in providing the interventions in a clinical context. As appropriate and relevant clinical interventions are developed and implemented within treatment settings, affected individuals' attainment and sustainment of recovery may be positively impacted.

Future Research

In light of the present research, future research should continue to attempt to more clearly

define eating disorder recovery as a measurable construct. It is unclear whether this may be most appropriately accomplished through the use of diagnostic criteria, self-report of abstinence from behaviors, or through another method. Several quantitative methods have attempted to measure facets of eating disorder recovery, however, qualitative research is appropriate in efforts to better understand how clinicians, researchers, and affected individuals' perceptions of recovery vary. As conceptualizations of recovery are clarified within each population, research can be appropriately targeted to measure recovery in a way that aligns with a group's understanding of recovery. Additionally, an instrument or evidence-based method of measuring time in recovery is also necessary; without a sound method to assess time in recovery, research efforts to assess the impact of factors on sustained recovery will be limited. Quantitative research to date on the topic of eating disorder recovery has contributed several important pieces of information, however, in order to improve our understanding of the construct, qualitative research may be more appropriate.

Furthermore, additional research is needed regarding how to increase hope, resilience, and spirituality, particularly within populations where it seems to matter most. Specifically, an exploration of differences in hope across sexual orientation groups may offer a better understanding of the experiences of individuals within this population. Accessing an ethnically and sexually diverse sample of individuals affected by eating disorder diagnoses is particularly challenging, and is necessary to better understand how individuals across groups attain and sustain recovery. Improving connections among researchers and individuals who are in recovery is of utmost importance in examining eating disorder recovery; while the methods of accomplishing this remain ambiguous, doing so is critical for the future of eating disorder recovery research.

Conclusion

The documented incidence of eating disorders has recently shifted from primarily affecting individuals of European-American or Caucasian descent (Hoek & Van Hoeken, 2003; Talleyrand, 2010) to individuals holding minority identities (e.g., Maloch et al., 2013; Wade et al., 2011). Seventy to 80% of affected individuals are estimated to attain some level of recovery with numerous variables contributing to the recovery process. The present study utilized quantitative research methods to examine the predictive power of hope, resilience, and spirituality on eating disorder recovery and sustained time in recovery across seven research questions. The results are summarized as follows.

No significant relationship was found between eating disorder recovery and sustained eating disorder recovery; neither measure may assess recovery in a measurable way as well as the measures may assess distinct aspects of recovery with limited overlap. While hope, resilience, and spirituality significantly predicted eating disorder recovery, resilience contributed most to the predictive model. Hope and spirituality were also highly and moderately, positively correlated with resilience, which likely explains the limited additional variance accounted for by hope and spirituality. While hope, resilience, and spirituality significantly predicted eating disorder recovery, they did not significantly predict sustained time in recovery which suggests that improving these does not lead to a reduction of endorsed longitudinal diagnostic eating disorder criteria, but does improve recent eating disorder recovery.

In examining group differences, there were not significant differences in eating disorder recovery or in sustained time in recovery between majority or minority ethnic or sexual orientation group participants. While some research indicates individuals who hold minority identities experience additional stressors, which may impact their recovery, it is also possible

that individuals with minority identities experience a buffer against symptoms as a result of cultural norms (e.g., Striegel-Moore & Smolak, 2000). There was not a significant difference between participants identifying as European-American or Caucasian and minority ethnic groups on the variables of hope, resilience, and spirituality. Similarly, there was not a significant difference between participants identifying as heterosexual and individuals identifying as a sexual minority on the variables of resilience and spirituality; there was a significant difference between participants identifying as heterosexual and individuals identifying as a sexual minority on the variable of hope.

Several limitations were present within the current study including accessing individuals in recovery, obtaining a diverse sample, conceptualizing and measuring recovery, and the use of self-report surveys. Primary implications for the results include developing and implementing targeted clinical interventions to increase hope, resilience, and spirituality among affected individuals. Additionally, it is important to recognize that while doing so may not lead to a reduction in self-reported endorsement of diagnostic criteria, increased levels of hope, resilience, and spirituality are predictive of eating disorder recovery as measured by the EDE-Q. Future research should attempt to more clearly define eating disorder recovery as a measurable construct through qualitative research methodology. Specifically, clarification regarding if clinicians, researchers, and affected individuals' perceptions of recovery may vary, and how these varied perceptions impact eating disorder recovery research.

REFERENCES

- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text rev.). Washington, D.C.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, D.C.
- Anthony, W. A. (2003). Taking issue: Studying evidenced-based processes, not practices. *Psychiatric Service*, 54, 7. doi: 10.1176/appi.ps.54.1.7
- Arnau, R. C., Rosen, D. H., Finch, J. F., Rhudy, J. L., & Fortunato, V. J. (2007). Longitudinal effects of hope on depression and anxiety: A latent variable analysis. *Journal of Personality*, 75(1), 43-64. doi: 10.1111/j.1467-6494.2006.00432.x
- Arthur-Cameselle, J. N., & Baltzell, A. (2012). Learning from collegiate athletes who have recovered from eating disorders: Advice to coaches, parents, and other athletes with eating disorders. *Journal of Applied Sport Psychology*, 24, 1-9. doi: 10.1080/104132000.2011.572949
- Austin, S. B., Nelson, L. A., Birkett, M. A., Calzo, J. P., & Everett, B. (2013). Eating disorder symptoms and obesity at the intersections of gender, ethnicity, and sexual orientation in US high school students. *American Journal of Public Health*, 103(2), 16-22. doi: 10.2105/AJPH.2012.301150
- Austin S. B., Ziyadeh N., Kahn J. A., Camargo C. A., Colditz G. A., & Field A. E. (2004). Sexual orientation, weight concerns and eating disordered behaviors in adolescent girls and boys. *Journal of the American Academy of Child and Adolescent Psychiatry*, 43, 1115–1123. doi: 10.1097/01.chi.0000131139.93862.10

- Babyak, M. A., Snyder, C. R., & Yoshinobu, L. (1993). Psychometric properties of the hope scale: A confirmatory factor analysis. *Journal of Research in Personality*, 27(2), 154-169. doi: 10.1006/jrpe.1993.1011
- Bailey, T. C., & Snyder, C. R., (2007). Satisfaction with life and hope: A look at age and marital status. *The Psychological Record*, 57, 233-240. Retrieved from:
<http://opensiuc.lib.siu.edu/tpr/vol57/iss2/5>
- Beauvais, F., & Oetting, E. R. (1999). Drug use, resilience and myth of the golden child. In M.D. Glantz & J. L. Johnson (Eds.), *Resilience and development: Positive life adaptations* (pp. 101-107). New York: Kluwer Academic/Plenum Publishers.
- Berg, K. C., Peterson, C. B., Frazier, P., & Crow, S. J. (2012). Psychometric evaluation of the eating disorder examination and eating disorder examination-questionnaire: A systematic review of the literature. *International Journal of Eating Disorders*, 45(3), 428-438. doi: 10.1002/eat.20931
- Berkman, N. D., Lohr, K. N., & Bulik, C. M. (2007). Outcomes of eating disorders: A systematic review of the literature. *International Journal of Eating Disorders*, 40(4), 293-309. doi: 10.1002/eat.20369
- Berrett, M. E., Hardman, R. K., O'Grady, K. A., & Richards, P. S. (2007). The role of spirituality in the treatment of trauma and eating disorders: Recommendations for clinical practice. *Eating Disorders*, 15, 373-389. doi: 10.1080/10640260701454394
- Bogar, C. B., & Hulse-Killacky, D. (2006). Resiliency determinants and resiliency processes among female adult survivors of childhood sexual abuse. *Journal of Counseling and Development*, 84, 318-327. doi: 10.1002/j.1556-6678.2006.tb00411.x

- Boisvert, J. A., & Harrell, W. A. (2014). Ethnicity, socioeconomic status, and eating disorder symptomatology in Canada: Implications for mental health care. *Ethnicity and Inequalities in Health and Social Care*, 7(4), 158-177. doi: 10.1108/EIHSC-10.2013-0038
- Bonanno, G. A. (2004). Loss, trauma and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? *American Psychologist*, 59, 20-28. doi: 10.1037/0003-0666X.59.1.20
- Bonanno, G. A., & Mancini, A. D. (2008). The human capacity to thrive in the face of potential trauma. *Pediatrics*, 121, 369-375. doi: 10.1542/peds.2007-1648
- Bradford, J., Ryan, C., & Rothblum, E. D. (1994). National Lesbian Health Care Survey: Implications for mental health care. *Journal of Consulting and Clinical Psychology*, 62, 228-242. doi: 10.1037/0022-006X.62.2.228
- Brewin, N., Baggott, J., Dugard, P., & Arcelus, J. (2014). Clinical normative data for eating disorder examination questionnaire and eating disorder inventory for DSM-5 feeding and eating disorder classifications: A retrospective study of patients formerly diagnosed via DSM-IV. *European Eating Disorders Review*, 22, 299-305. doi: 10.1002/erv.2301
- Breznitz, S. (1986). The effect of hope on coping with stress. In M. H. Appley & P. Trumbull (Eds.), *Dynamics of stress: Physiological, psychological, and social perspectives* (pp. 295-307). New York, NY: Plenum Press.
- Burns, R. A., & Anstey, K. J. (2010). The Connor-Davidson Resilience Scale (CD-RISC): Testing the invariance of a uni-dimensional measure that is independent of positive and negative affect. *Personality and Individual Differences*, 48, 527-533. doi: 10.1016/j.paid.2009.11.026

- Button, E. J., Benson, E., Nollett, C., & Palmer, R. (2005). Don't forget EDNOS (eating disorder not otherwise specified): Patterns of service use in an eating disorders service. *Psychiatric Bulletin*, 29, 134-136. doi: 10.1192/pb.29.4.134
- Cachelin, F. M., Rebeck, R., Veisel, C., & Striegel-Moore, R. H. (2001). Barriers to treatment for eating disorders among ethnically diverse women. *International Journal of Eating Disorders*, 30, 269-278. doi: 10.1.1.413.5661
- Call, C., Walsh, B., & Attia, E. (2013). From DSM-IV to DSM-5: Changes to eating disorder diagnoses. *Current Opinion in Psychiatry*, 26(6), 532-536. doi: 10.1097/YCO.0b013e328365a321
- Carter, J. C., Aime, A. A., & Mills, J. S. (2001). Assessment of bulimia nervosa: A comparison of interview and self-report questionnaire methods. *International Journal of Eating Disorders*, 30, 187-192. doi: 10.1002/eat/1071
- Celio, A. A., Wilfley, D. E., Crow, S. J., Mitchell, J., & Walsh, B. T. (2004). A comparison of the binge eating scale, questionnaire for eating and weight patterns-revised, and eating disorder examination questionnaire with instructions with the eating disorder examination in the assessment of binge eating disorder and its symptoms. *International Journal of Eating Disorders*, 36(4), 434-444. doi: 10.1002/eat.20057
- Cheavens, J. S., Cukrowicz, K. C., Hansen, R., & Mitchell, S. M. (2016). Incorporating resilience factors into the interpersonal theory of suicide: The role of hope and self-forgiveness in an older adult sample. *Journal of Clinical Psychology*, 72(1), 58-69. doi: 10.1002/jclp.22230

- Connor, K. M., & Davidson, J. R. T. (2003). Development of a new resilience scale: the Connor-Davidson Resilience Scale (CD-RISC). *Depression and Anxiety, 18*, 71-82. doi: 10.1002/da.10113
- Crago, M., Shisslak, C. M., & Estes, L. S. (1996). Eating disturbances among American minority groups: A review. *International Journal of Eating Disorders, 19*, 239-248. doi: 10.1002/(SICI)1098-108X(199604)19:3<239::AID-EAT2>3.0.CO;2-N
- Creamer, M., O'Donnell, M. L., Carboon, I., Lewis, V., Densley, K., McFarlane, A., Silove, D., & Bryant, R. A. (2009). Evaluation of the dispositional hope scale in injury survivors. *Journal of Research in Personality, 43*(4), 613-617. doi: 10.1016/j.jrp.2009.02.002
- Croll, J., Neumark-Sztainer, D., Story, D., & Ireland, M. (2002). Prevalence and risk and protective factors related to disordered eating among adolescents: Relationship to gender and ethnicity. *Journal of Adolescent Health, 31*(2), 166-175. doi: 10.1016/S1054-139X(02)00368-3
- Davidson, J. R. T., Stein, D. J., Rothbaum, B. O., Petersen, R., Szumski, A., & Baldwin, D. S. (2012). Resilience as predictor of treatment response in posttraumatic stress disorder patients treated with venlafaxine extended release or placebo. *Journal of Psychopharmacology, 26*, 778-783. doi: 10.1177/0269881111413821
- Davis, S. M., & Lambert, L. C. (2000). Body image and weight concerns among southwestern American Indian preadolescent schoolchildren. *Ethnicity and Disease, 10*(2), 184-194.
- Dawson, L., Rhodes, P., & Touyz, S. (2014). Doing the impossible: The process of recovery from chronic anorexia nervosa. *Qualitative Health Research, 24*(4), 494-505. doi: 10.1177/1049732314524029

- Dowrick, C., Kokanovic, R., Hegarty, K., Griffiths, F., & Gunn, J. (2008). Resilience and depression: Perspectives from primary care. *Health, 12*(4), 439-452. doi: 10.1177/1363459308094419
- Eddy, K. T., Celio Doyle, A., Hoste, R. R., Herzog, D. B., & Le Grange, D. (2008). Eating disorder not otherwise specified in adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry, 47*(2), 156-164. doi: 10.1097/chi.0b013e31815cd9cf
- Emanuelli, F., Waller, G., Jones-Chester, M., & Ostuzzi, R. (2012). Recovery from disordered eating: Sufferers' and clinicians' perspectives. *European Eating Disorders Review, 20*(5), 363-372. doi: 10.1002/erv.2159
- Engelsen, B. K. & Laberg, J. C. (2001). A comparison of three questionnaires (EAT-12, EDI, and EDE-Q) for assessment of eating problems in healthy female adolescents. *Nordic Journal of Psychiatry, 55*(2), 129-135. doi: 10.1080/08039480151108589
- Fairburn, C. G., & Beglin, S. (2008). Eating disorder examination questionnaire (EDE-Q 6.0). In C. Fairburn (Ed.), *Cognitive behavior therapy and eating disorders* (pp. 309-313). New York, NY: Guilford Press.
- Fairburn, C. G., & Cooper, Z. (1993). The eating disorder examination (twelfth edition). In C. Fairburn & G. T. Wilson (Eds.), *Binge eating: Nature, assessment, and treatment* (pp. 317-360). New York, NY: Guilford Press.
- Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39*, 175-191.

- Feldman, M. B., & Meyer, I. H. (2007b). Eating disorders in diverse lesbian, gay, and bisexual populations. *International Journal of Eating Disorders*, 40, 218–226.
doi:10.1002/eat.20360
- Ferrari, J. R., Stevens, E. B., Legler, R., & Jason, L. A. (2012). Hope, self-esteem, and self-regulation: Positive characteristics among men and women in recovery. *Journal of Community Psychology*, 40(3), 292-300. doi: 10.1002/jcop/20509
- Field, A. P. (2009). *Discovering statistics using SPSS*. London, England: SAGE.
- Fitzgibbon, M. L., Spring, B, Avellone, M. E., & Blackman, L. R. (1998). Correlates of binge eating in Hispanic, Black, and White women. *International Journal of Eating Disorders*, 24, 43-52. doi: 10.1002/(SICI)1098-108X(199807)24:1<43::AID-EAT4>3.0.CO;2-0
- Fitzsimmons-Craft, E., Keatts, D., & Bardone-Cone, A. (2013). Eating expectancies in relation to eating disorder recovery. *Cognitive Therapy & Research*, 37(5), 1041-1047. doi: 10.1007/s1608-013-9522-7
- Fletcher, D., & Sarkar, M. (2013). Psychological resilience: A review and critique of definitions, concepts, and theory. *European Psychologist*, 18(1), 12-23. doi: 10.1027/1016-9040/a000124
- Franko, D. L., & George, J. B. E. (2008). A pilot intervention to reduce eating disorder risk in Latina women. *European Eating Disorders Review*, 16, 436-441. doi: 10.1002/erv.891
- Garnezy, N., & Tellegen, A. (1984). Studies of stress-resistant children: Methods, variables, and preliminary findings. In F. Morrison, C. Lord, & D. Keating (Eds.), *Advances in applied developmental psychology* (Vol. 1, pp. 231-237). New York, NY: Academic Press.

- Gentile, K., Raghavan, C., Rajah, V., & Gates, K. (2007). It doesn't happen here: Eating disorders in an ethnically diverse sample of economically, disadvantaged, urban college students. *Eating Disorders, 15*, 405-425. doi: 10.1080/10640260701667904
- Gil-Kashiwabura, E. F. (2002). Body image disturbance and disordered eating in African-American and Latina women. In Collins, L. H. and Dunlap, M. R. (Eds.), *Charting a new course for feminist psychology*, (pp. 282-306). Westport, CT: Greenwood Press.
- Gottschalk, L. (1974). A hope scale applicable to verbal samples. *Archives of General Psychiatry, 30*, 779-785. doi: 10.1001/archpsyc.1974.01760120041007
- Grilo, C. M., Masheb, R. M., & Wilson, G. T. (2001a). A comparison of different methods for assessing the features of eating disorders in patients with binge eating disorder. *Journal of Consulting and Clinical Psychology, 69*(2), 317-322.
- Grilo, C. M., Masheb, R. M., & Wilson, G. T. (2001b). Different methods for assessing the features of eating disorders in patients with binge eating disorder: A replication. *Obesity Research, 9*(7), 418-422. doi: 10.1038/oby.2001.55
- Herrman, H., Stewart, D. E., Diaz-Granados, N., Berger, E. L., Jackson, B., & Yuen, T. (2011). What is resilience? *Canadian Journal of Psychiatry, 56*(5), 258-265. doi: 10.1177/070674371105600504
- Hoek, H., & van Hoeken, D. (2003). Review of the prevalence and incidence of eating disorders. *International Journal of Eating Disorders, 34*(4), 383-396. doi: 10.1002/eat.10222
- Huber, J. T., & MacDonald, D. A. (2011). An investigation of the relations between altruism, empathy, and spirituality. *Journal of Humanistic Psychology, 1*-16. doi:10.1177/0022167811399442

- Hsu, L. K., Crisp, A. H., & Callender, J. S. (1992). Recovery in anorexia nervosa: The patient's perspective. *International Journal of Eating Disorders*, 11, 341–350. doi: 10.1002/1098-108X(199205)11:4<341::AID-EAT2260110408>3.0.CO;2-G
- Hudson, J. I., Hiripi, E., Pope, H. G., Jr., & Kessler, R. C. (2007). The prevalence and correlates of eating disorders in the National Comorbidity Survey Replication. *Biological Psychiatry*, 61(3), 348-358. doi: 10.1016/j.biopsych.2006.03.040
- Irving, L. M., & Cannon, R. (2000). Starving for hope: Goals, agency, and pathways in the development and treatment of eating disorders. In *Handbook of hope* (pp. 261-283). San Diego, CA: Academic Press.
- Irving, L. M., Snyder, C. R., & Crowson, J. J. Jr. (1998). Hope and the negotiation of cancer facts by college women. *Journal of Personality*, 66, 195-214.
- Jackson, D., Firtko, A., & Edenborough, M. (2007). Personal resilience as a strategy for surviving and thriving in the face of workplace adversity: A literature review. *Journal of Advanced Nursing*, 60, 1-9. doi: 10.1111/j.1365-2648.2007.04412.x
- Jenson, J. M., & Fraser, M. W. (2010). Social policy for children and families: A risk and resilience perspective (2nd ed.). Thousand Oaks, CA: Sage.
- Jordan, J., McIntosh, V. W., Carter, J. D., Rowe, S., Taylor, K., Frampton, C. A., & ... Joyce, P. R. (2014). Bulimia nervosa-nonpurging subtype: Closer to the bulimia nervosa-purging subtype or to binge eating disorder? *International Journal of Eating Disorders*, 47(3), 231-238. doi: 10.1002/eat.22218
- Junko, O., & Yoshiaki, N. (2006). The change of resiliency with the recovery from eating disorders. *Tohoku Psychologica Folia*, 65, 95-98.

- Keith, J. A., & Midlarsky, E. (2004). Anorexia nervosa in postmenopausal women: Clinical and empirical perspectives. *Journal of Mental Health and Aging, 10*(4), 287-299.
- Kelly, N. R., Cotter, E. W., & Mazzeo, S. E. (2012). Eating disorder examination questionnaire (EDE-Q): Norms for Black women. *Eating behaviors, 13*, 429-432. doi: 10.1016/j.eatbeh.2012.09.001
- Kelly, A. C., & Tasca, G. A. (2016). Within-persons predictors of change during eating disorders treatment: An examination of self-compassion, self-criticism, shame, and eating disorder symptoms. *International Journal of Eating Disorders, 49*(7), 716-722. doi: 10.1002/eat.22527
- Koh, A. S., & Ross, L. K. (2006). Mental health issues: A comparison of lesbian, bisexual and heterosexual women. *Journal of Homosexuality Research, 51*, 33-57. doi: 10.1300/J082v51n01_03
- Koski-Jannes, A., & Turner, N. (1999). Factors influencing recovery from different addictions. *Addiction Research, 7*(6), 469-492. doi: 10.3109/16066359909004401
- Krause, J. S., & Edles, P. A. (2014). Injury perceptions, hope for recovery, and psychological status after spinal cord injury. *Rehabilitation Psychology, 59*(2), 176-182. doi: 10.1037/a0035778
- Lapid, M. I., Prom, M. C., Burton, M. C., McAlpine, D. E., Sutor, B., & Rummans, T. A. (2010). Eating disorders in the elderly. *International Psychogeriatrics, 22*(4), 523-526. doi: 10.1017/S1041610210000104
- Las Hayas, C., Padierna, J. A., Munoz, P., Aguirre, M., del Barrio, A. G., Beato-Fernandez, L., & Calvete, E. (2016). Resilience in eating disorders: A qualitative study. *Women & Health, 56*(5), 576-594. doi: 10.1080/03630242.2015.1101744

- Le Grange, D., Swanson, S. A., Crow, S. J., & Merikangas, K. R. (2012). Eating disorder not otherwise specified presentation in the US population. *International Journal of Eating Disorders*, 45, 711-718. doi: 10.1002/eat.22006
- Lloyd, T. J., & Hastings, R. (2009). Hope as a psychological resilience factor in mothers and fathers of children with intellectual disabilities. *Journal of Intellectual Disability Research*, 53(12), 957-968. doi: 10.1111/j.1365-2788.2009.01206.x
- Lopez, S. J., Snyder, C. R., & Pedrotti, J. T. (2003). Hope: Many definitions, many measures (pp.91-107) in *Positive psychological assessment: A handbook of models and measures*. Washington, D.C.: American Psychological Association.
- Lucas, A. R., Beard, C. M., O'Fallon, W. M., & Kurland, L. T. (1991). 50-year trends in the incidence of anorexia nervosa in Rochester, Minn.: A population-based study. *American Journal of Psychiatry*, 148(7), 917-922. doi: 10.1176/ajp.148.7.917
- Luce, K. H., & Crowther, J. H. (1999). The reliability of the Eating Disorder Examination-self report questionnaire version (EDE-Q). *International Journal of Eating Disorders*, 25, 349-351. doi: 10.1002/(SICI)1098-108X(199904)25:3<349::AID-EAT15>3.0.CO;2-M
- Luthar, S. S. (2006). Resilience in development: A synthesis of research across five decades. In D. Cicchetti & D. Cohen (Eds.), *Developmental psychopathology: Risk, disorder, and adaptation* (pp. 739–795). New York, NY: Wiley.
- Luthar, S. S., & Cicchetti, D. (2000). The construct of resilience: Implications for interventions and social policies. *Development and Psychopathology*, 12, 857-885. doi: 10.1017/S0954579400004156

- Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development, 71*, 543-562. doi: 10.1111/1467-8624.00164
- Lysaker, P. H., Campbell, K., & Johannesen, J. K. (2005). Hope, awareness of illness, and coping in schizophrenia spectrum disorders: Evidence of an interaction. *Journal of Nervous and Mental Disease, 193*(5), 287-292. doi: 10.1097/01.nmd.0000161689.96931.0f
- MacDonald, D. A. (1997). The development of a comprehensive factor analytically derived measure of spirituality and its relationship to psychological functioning. Doctoral dissertation. University of Windsor, Windsor, Ontario, Canada.
- MacDonald, D. A. (2000). The Expressions of Spirituality Inventory: Test development, validation, and scoring information. Unpublished test manual. Available: <https://ckannet-storage.commondatastorage.googleapis.com/2015-01-04T21:42:45.640Z/esimanual.pdf>
- MacDonald, D. A., Friedman, H. L., Brewczynski, J., Holland, D., Salagame, K. K. K., Mohan, K. K., Gubrij, Z. O., & Cheong, H. W. (2015). Spirituality as a scientific construct: Testing its universality across cultures and languages. *PLOS ONE, 10*(3), 1-38. doi: 10.1371/journal.pone.0117701
- Maloch, J. K., Bieschke, K. J., McAleavey, A. A., & Locke, B. D. (2013). Eating concerns in college women across sexual orientation identities. *Journal of College Counseling, 16*, 275-288. doi: 10.1002/j.2161-1882.2013.00042.x

- Mangweth-Matzek, B., Rupp, C. I., Hausmann, A., Assmayr, K., Mariacher, E., Kemmler, G., Whitworth, A. B., & Biebl, W. (2006). Never too old for eating disorders or body dissatisfaction: A community study of elderly women. *International Journal of Eating Disorders*, 39, 583-586. doi: 10.1002/eat.20327
- Marcus, M. D., & Kalarchian, M. A. (2003). Binge eating in children and adolescents. *International Journal of Eating Disorders*, 34, S47-S57. doi: 10.1002/eat.10205
- Marsden, P., Karagianni, E., & Morgan, J. F. (2007). Spirituality and clinical care in eating disorders: A qualitative study. *International Journal of Eating Disorders*, 40(1), 7-12. doi: 10.1002/eat.20333
- Masten, A. S. (2001). Ordinary magic: Resilience processes in development. *American Psychologist*, 56, 227-238. doi: 10.1037/0003-066X.56.3.227
- Masten, A. S., Best, K. M., & Garnezy, M. (1990). Resilience and development: Contributions from the study of children who overcome adversity. *Development and Psychopathology*, 2, 425-444. doi: 10.1017/S0954579400005812
- Masten, A. S., & Obradovic, J. (2006). Competence and resilience in development. *Annals of the New York Academy of Sciences*, 1094, 13-27. doi: 10.1196/annals.1376.003
- Matthews-Ewald, M. R., Zullig, K. J., & Ward, R. M. (2014). Sexual orientation and disordered eating behaviors among self-identified male and female college students. *Eating Disorders*, 15, 441-444. doi: 10.1016/j.eatbeh.2014.05.002
- McNair, R., Kavanagh, A., Agius, P., & Tong, B. (2005). The mental health status of young adult and midlife non-heterosexual Australian women. *Australian & New Zealand Journal of Psychiatry*, 29, 265-271. doi: 10.1111/j.1467-842X.2005.tb00766.x

Mihaljevic, S., Aukst-Margetic, B., Karnicnik, S. & Vuksan-Cusa, B. (2015).

Spirituality/religiosity, personality, and recovery rate from depression-follow up study.

spirituality and depression research. *European Psychiatry*, 30(1), 372. doi:

10.1016/S0924-9338(15)30292-3

Mond, J. M., Hay, P. J., Rodgers, B., Owen, C., & Beumont, P. J. V. (2004a). Temporal stability

of the eating disorder examination questionnaire. *International Journal of Eating*

Disorders, 36(2), 195-203. doi: 10.1002/eat.20017

Mond, J. M., Hay, P. J., Rodgers, B., Owen, C., & Beumont, P. J. V. (2004b). Validity of the

Eating Disorder Examination Questionnaire (EDE-Q) in screening for eating disorders in

community samples. *Behaviour Research and Therapy*, 42, 551-567. doi: 10.1016/S0005

-7967(03)00161-X

Mulholland, A. M., & Mintz, L. B. (2001) Prevalence of eating disorders among African

American women. *Journal of Counseling Psychology* 48(1), 111–116. doi:

10.1037/0022-0167.48.1.111

Nelson, D. L., Castonguay, L. G., & Locke, B. D. (2011). Challenging stereotypes of eating and

body image concerns among college students: Implications for diagnosis and treatment of

diverse populations. *Journal of College Counseling*, 14, 158–172. doi: 10.1002/j.2161-

1882.2011.tb00270.x

Neumark-Sztainer, D. R., Croll, J., Story, M., Hannan, P. J., French, S. A., & Perry, C. (2002).

Ethnic/racial differences in weight-related concerns and behaviors among adolescent girls

and boys: Findings from project EAT. *Journal of Psychosomatic Research*, 53(5), 963-

974. doi: 10.1016/S0022-3999(02)00486-5

- Ng, I. S. F., Cheung, K. C. K., & Chou, K. (2013). Correlates of eating disorder in middle-aged and older adults: Evidence from 2007 British national psychiatric morbidity survey. *Journal of Aging and Health, 25*(7), 1-15. doi: 10.1177/0898264313494798
- Nicdao, E. G., Hong, S., & Takeuchi, D. T. (2007). Prevalence and correlates of eating disorders among Asian Americans: Results from the national Latino and Asian American study. *International Journal of Eating Disorders, 40*, S22-S26. doi: 10.1002/eat.20450
- Ohruai, J., & Nihei, Y. (2006). The change of resiliency with the recovery from eating disorders. *Tohoku Psychologica Folia, 65*, 95-98.
- Oktan, V. (2012). Hope as a moderator in the development of psychological resilience. *International Journal of Human Sciences, 9*(2), 1691-1701.
- Overeaters Anonymous. (1980). *Compulsive overeating and the OA recovery program*. Torrance, CA.
- Pacico, J. C., Bastianello, M. R., Zanon, C., & Hutz, C. S. (2013). Adaptation and validation of the dispositional hope scale for adolescents. *Psicologia: Reflexao e Critica, 26*(3), 488-492. doi: 10.1590/S0102-79722013000300008
- Peterson, C. B., Crosby, R. D., Wonderlich, S. A., Joiner, T., Crow, S. J., Mitchell, J. E., Bardone-Cone, A. M., Klein, M., & Le Grange, D. (2007). Psychometric properties of the eating disorder examination-questionnaire: Factor structure and internal consistency. *International Journal of Eating Disorders, 40*(4), 386-389. doi: 10.1002/eat.20373
- Pincus, H. A., Wakefield Davis, W., & McQueen, L. E. (1999). "Subthreshold" mental disorders: A review and synthesis on minor depression and other "brand names." *The British Journal of Psychiatry, 174*, 288-296. doi: 10.1192/bjp.174.4.288

- Polimeni, A., Austin, S. B., & Kavanagh, A. M. (2009). Sexual orientation and weight, body image, and weight control practices among young Australian women. *Journal of Women's Health, 18*(3), 355-362. doi: 10.1089/jwh.2007.0765
- Puchalski, C., Ferrell, B., Virani, R., Otis-Green, S., Baird, P., Bull, J.,...Sulmasy, D. (2009). Improving the quality of spiritual care as a dimension of palliative care: The report of the consensus conference. *Journal of Palliative Medicine, 12*(10), 885-904. doi: 10.1089/jpm.2009.0142
- Pumariega, A. J., Gustavson, C. R., & Gustavson, J. C. (1994). Eating attitudes in African-American women the essence. *Eating disorders: Journal of Treatment and Prevention, 2*, 5-16. doi: 10.1080/10640269408249094
- Ricca, V., Mannuci, E., Mezzani, B., Di Bernardo, M., Zucchi, T., Paionni, A., Placidi, G. P., Rotella, C. M., & Faravelli, C. (2001). Psychopathological and clinical features of outpatients with an eating disorder not otherwise specified. *Eating and Weight Disorders, 6*(3), 157-165. doi: 10.1007/BF03339765
- Richards, P. S., Berrett, M. E., Hardman, R. K., & Eggett, D. L. (2006). Comparative efficacy of spirituality, cognitive, and emotional support groups for treating eating disorder inpatients. *Eating Disorders: Journal of Treatment and Prevention, 14*, 401-415. doi: 10.1080/10640260600952548
- Richardson, G. E. (2002). The metatheory of resilience and resiliency. *Journal of Clinical Psychology, 58*, 307-321. doi: 10.1002/jclp.10020
- Rigsby, L. C. (1994). The Americanization of resilience: Deconstructing research practice. In M. C. Wang & E. W. Gordon (Eds.), *Educational resilience in inner-city America: Challenges and prospects* (pp. 85-94). Hillsdale, NJ: Erlbaum.

- Roberts, S. T., Calhoun, P. S., Beckham, J. C., Straits-Troster, K., Marx, C., Tupler, L., & Morey, R. (2007). *Resilience as a protective factor against the development of PTSD symptoms following combat exposure in OIF/OEF veterans*. Health Services Research & Development National Meeting, Arlington, VA.
- Roy, A., Sarchiapone, M., Carli, V. (2007). Low resilience in suicide attempters: Relationship to depressive symptoms. *Depression and Anxiety, 11*(3), 273-274. doi: 10.1080/13811110701403916
- Rutter, M. (1985). Resilience in the face of adversity: Protective factors and resistance to psychiatric disorder. *British Journal of Psychiatry, 147*, 598-611. doi: 10.1192/bjp.147.6.598
- Smith, P. R. (2009). Resilience: Resistance factor for depressive symptom. *Journal of Psychiatric and Mental Health Nursing, 16*(9), 829-837. doi: 10.1111/j.1365-2850.2009.01463.x
- Smith, F. T., Hardman, R. K., Richards, P. S., & Fischer, L. (2003). Intrinsic religiousness and spiritual well-being as predictors of treatment outcome among women with eating disorders. *Eating Disorders, 11*, 15–26. doi: 10.1080/10640260390167456-2199
- Snyder, C. R. (1994a). Hope and optimism. In V. S. Ramachandren (Ed.), *Encyclopedia of human behavior* (Vol. 2, pp. 535-542). San Diego, CA: Academic Press.
- Snyder, C. R. (1994b). *The psychology of hope: You can get there from here*. New York, NY: Free Press.
- Snyder, C. R. (1995). Conceptualizing, measuring, and nurturing hope. *Journal of Counseling and Development, 73*, 355-360. doi: 10.1002/j.1556-6676.1995.tb01764.x

- Snyder, C. R. (2002). Hope theory: Rainbows in the mind. *Psychological Inquiry*, 13(4), 249-275. doi: 10.1207/S15327965PLI1304_01
- Snyder, C. R., Harris, C., Anderson, J. R., Holleran, S. A., Irving, L. M., Sigmon, S. T., Yoshinobu, L. Gibb, J., Langelle, C., & Harney, P. (1991). The will and the ways: Development and validation of an individual-differences measure of hope. *Journal of Personality and Social Psychology*, 60, 570-585. doi: 10.1037/0022-3514.60.4.570
- Snyder, C. R., Irving, L., & Anderson, J. R. (1991). Hope and health: Measuring the will and the ways. In C. R. Snyder & D. R. Forsyth (Eds.), *Handbook of social and clinical psychology: The health perspective* (pp. 285-305). Elmsford, NY: Pergamon.
- Snyder, C. R., LaPointe, A. B., Crowson, J. J., & Early, S. (1998). Preferences of high- and low-hope people for self-referential input. *Cognition and Emotion*, 12, 807-823. doi: 10.1080/026999398379448
- Snyder, C. R., Rand, K. L., & Sigmon, D. R. (2002). Hope theory: A member of the positive psychology family. In C. R. Snyder & S. J. Lopez (Eds.), *Handbook of positive psychology* (pp. 257-276). New York, NY: Oxford University Press.
- Soanes, C., & Stevenson, A. (2006). Oxford dictionary of English (2nd ed.). Oxford, UK: Oxford University Press.
- Striegel-Moore, R. H., & Smolak, L. (2000). The influence of ethnicity on eating disorders in women. In Eisler, R. M. and Hersen, M. (Eds.), *Handbook of gender, culture, and health* (pp. 227-54). Mahwah, NJ: Lawrence Erlbaum.
- Striegel-Moore, R. H., Wilfley, D. E., Pike, K. M., Dohm, F., & Fairburn, C. G. (2000). Recurrent binge eating in Black American women. *Archives of Family Medicine*, 9, 83-87.

Surgenor, L. J., & Fear, J. L. (1997). Eating disorder in a transgendered patient: A case report.

International Journal of Eating Disorders, 24(4), 449-452. doi: 10.1002/(SICI)1098-108X(199812)24:4<449::AID-EAT14>3.0.CO;2-W

Swanson, S. A., Crow, S. J., Le Grange, D., Swendsen, J., & Merikangas, K. R. (2011).

Prevalence and correlates of eating disorders in adolescents. Results from the national comorbidity survey replication adolescent supplement. *Archives of General Psychiatry*. 68(7), 714–723. doi: 10.1001/archgenpsychiatry.2011.22

Sysko, R., Walsh, B. T., & Fairburn, C. G. (2005). Eating disorder examination-questionnaire as

a measure of change in patients with bulimia nervosa. *International Journal of Eating Disorders*, 37, 100-106. doi: 10.1002/eat.20078

Talleyrand, R. M. (2010). Eating disorders in African American girls: Implications for

counselors. *Journal of Counseling & Development*, 88, 319–324. doi: 10.1002/j.1556-6678.2010.tb00028.x

Thomas, A. J., Witherspoon, K. M., & Speight, S. L. (2004). Toward the development of the

stereotypic roles for Black women scale. *Journal of Black Psychology*, 30(3), 426-442. doi: 10.1177/0095798404266061

Treasure, J., Claudino, A. M., & Zucker, N. (2010). Eating disorders. *The Lancet*, 375(9714),

583-593. doi: 10.1016/S0140-6736(09)61748-7

Tsai, J., Harpaz-Rotem, I., Pietrzak, R. H., & Southwick, S. M. (2012). The role of coping,

resilience, and social support in mediating the relation between PTSD and social functioning in veterans returning from Iraq and Afghanistan. *Psychiatry*, 75(2), 135-149. doi: 10.1521/psyc.2012.75.2.135

- Tsai, C. Y., Hoerr, S. L., & Song, W. O. (1998), Dieting behavior of Asian college women attending a US university. *Journal of American College Health*, 46(4), 163-168. doi: 10.1080/07448489809595604
- Wade, T. D., Keski-Rahkonen A., & Hudson J. (2011). Epidemiology of eating disorders. In M. Tsaug and M. Tohen (Eds.), *Textbook in psychiatric epidemiology* (3rd ed., pp.343-360). New York, NY: Wiley.
- Wasson, D. H., & Jackson, M. (2004). An analysis of the role of overeaters anonymous in women's recovery from bulimia nervosa. *Eating Disorders*, 12, 337-356. doi: 10.1080/10640260490521442
- Waynor, W. R., Gao, N., Dolce, J. N., Haytas, L. A., & Reilly, A. (2012). The relationship between hope and symptoms. *Psychiatric Rehabilitation Journal*, 35(4), 345-348. doi: 10.2975/35.4.2012.345.348
- Weinberg, C. M. (2013). Hope, meaning, and purpose: Making recovery possible. *Psychiatric Rehabilitation Journal*, 36(2), 124-125. doi: 10.1037/prj0000011
- Wilson, G. T. (1993). Binge eating and addictive disorders. In C. G. Fairburn and G. T. Wilson: *Binge eating: Nature, assessment and treatment* (pp. 97-120). New York, NY: Guilford Press.
- Wilson, G. T., Nonas, C. A., & Rosenblum, G. D. (1993). Assessment of binge eating in obese patients. *International Journal of Eating Disorders*, 13(1), 25-33.
- Wingo, A. P., Wrenn, G., Pelletier, T., Gutman, A. R., Bradley, B., & Ressler, K. J. (2010). Moderating effects of resilience on depression in individuals with a history of childhood abuse or trauma exposure. *Journal of Affective Disorders*, 126, 411-414. doi: 10.1016/j.jad.2010.04.009

- Witcomb, G. L., Bouman, W. P., Brewin, N., Richards, C., Fernandez-Aranda, F., & Arcelus, J. (2015). Body image dissatisfaction and eating-related psychopathology in trans individuals: A matched control study. *European Eating Disorders Review*, 23, 287-293. doi: 10.1002/erv.2362
- Zhang, A. Y., & Snowden, L. R. (1999). Ethnic characteristics of mental disorders in five U.S. communities. *Cultural Diversity and Ethnic Minority Psychology*, 5, 134-146.

APPENDICES

Appendix A: Informed Consent

This letter is a request for you to take part in a research project to examine aspects of eating disorder recovery. This research project is being conducted in partial fulfillment of the requirements for a dissertation by Chelsey Morgan, M.S. in the Department of Counseling, Rehabilitation Counseling, and Counseling Psychology with the supervision of Dr. Christine Schimmel, an associate professor in the College of Education and Human Services. The purpose of this study is to assess specific psychological characteristics of females in recovery from a diagnosed eating disorder.

Your participation in this project is greatly appreciated and will take approximately 20 minutes to complete the following questionnaires. The questions are not timed; however, be sure to allocate sufficient time to complete the entire survey, as you will *not* be able to save and return to complete unfinished items at a later date. You may choose to skip any question that you do not wish to answer. If at any time, you decide to discontinue the survey, you may do so. However, please be aware that an incomplete questionnaire may not provide you with the opportunity to enter the drawing for one of several small gift cards.

At the conclusion of the study, you will have the opportunity to be redirected to a separate page and provide your email address in hopes of being granted one of several small gift cards. Providing an email address at the conclusion of the study is *not* required for participation; however, it is not possible to enter the drawing for a small gift card without providing an email address. If you choose to enter the gift card drawing please be aware that your name and email address as having completed the study will be provided to the researcher. While your name and email address will not be directly associated with your answers, complete anonymity is not possible due to entering the drawing; instead your answers still remain strictly confidential and will be secured stored. If you choose not to enter the gift card drawing your responses are completely anonymous as no identifying information will be requested from you.

All data will be reported in the aggregate. You must be 18 years of age or older, identify as female, and have been previously diagnosed with an eating disorder (anorexia nervosa, bulimia nervosa, binge-eating disorder, otherwise specified feeding and eating disorder, or an eating disorder not otherwise specified) at some point during your lifetime to participate. Your participation is completely voluntary. Your class standing will not be affected if you decide either not to participate or to withdraw. West Virginia University's Institutional Review Board acknowledgement and review of this research project is on file.

Some participants may report experiencing negative thoughts or feelings related to their eating disorder recovery experience. Participants may elect to discontinue the study at any time, if their discomfort is significant. Several resources related to mental health, eating disorders, and recovery are available:

Online Eating Disorder Provider Directories:

<http://www.nationaleatingdisorders.org/find-treatment/treatment-and-support-groups>

http://www.edreferral.com/easy_search.htm

Online Eating Disorder Resources:

<http://www.nationaleatingdisorders.org/>

<https://www.eatingdisorderhope.com/>

<http://www.something-fishy.org/>

Online Mental Health Provider Directories:

<https://therapists.psychologytoday.com/>

<http://www.networktherapy.com/directory/>

Online Mental Health Resources:

<http://www.mentalhealthamerica.net/finding-help>

<https://www.nimh.nih.gov/health/find-help/index.shtml>

<http://www.nami.org/>

Additionally, here are several toll free, confidential, telephone numbers at which you can reach someone for additional support:

National Suicide Prevention Lifeline: 1 (800) 273-8255 (TALK)

Available 24 hours a day, 7 days per week

You may also access Lifeline Crisis Chat at:

<http://chat.suicidepreventionlifeline.org/GetHelp/LifelineChat.aspx>

Available 24 hours a day, 7 days per week

National Eating Disorders Association: 1 (800) 931-2237

Available Monday-Thursday, 9:00am-9:00pm, and Friday, 9:00-5:00pm EST

If you are experiencing a crisis, text “NEDA” to 741741 to be connected with a trained volunteer at Crisis Text Line

I hope that you will participate in this research project, as it could be beneficial in understanding factors that impact eating disorder recovery. Thank you very much for your time. The researchers conducting this study are Dr. Christine Schimmel (Principal Investigator) and Chelsey Morgan, M.S. If you have any questions, concerns, or complaints about the research project, please contact, the Principal Investigator, Dr. Christine Schimmel (Chris.Schimmel@mail.wvu.edu) or Chelsey Morgan, M.S. (Chelsey.Morgan@mail.wvu.edu).

Please select a response below:

_____ I have read and understood this consent form, and I wish to proceed to the survey.

_____ I do not wish to participate in the survey.

Appendix B: Participant Invitation RequestPermission for Recruiting Participants through Treatment Center Alumni Networks
Introductory E-mail

Dear [coordinator of alumni network],

My name is Chelsey Morgan. I received my masters in Clinical Psychology at Emporia State University and am now earning my Ph.D. in Counseling Psychology at West Virginia University. Currently I am conducting my dissertation (under the supervision of Christine Schimmel, Ed.D.) in partial fulfillment of my doctoral degree. I am exploring dimensions of diversity among females in sustained eating disorder recovery. I intend to gather data strictly online through Qualtrics, and I am writing to request permission to recruit participants from the {-----} alumni network. The {-----} alumni network includes a diverse sample of females in recovery from an eating disorder, and their participation would be greatly appreciated.

The criteria for participation:

You must be 18 years or older, you must identify as female, and you must have been diagnosed with an eating disorder (anorexia nervosa, bulimia nervosa, binge-eating disorder, otherwise specified feeding and eating disorder, or an eating disorder not otherwise specified) at some point during your lifetime.

This study will be conducted through an online survey administered anonymously on Qualtrics. Participation is entirely voluntary, and participants may discontinue their participation at any point during the study. While each participant will complete multiple measures (estimated to require a maximum of 20 minutes per participant), consisting of forced-choice items. Additionally, participants who complete the study are eligible to provide an email address through a distinct link for the opportunity to enter a drawing for one of 100 electronic Starbucks gift cards (valued at 10 dollars). This study has been reviewed and I have received permission to conduct it from WVU's IRB (#1704563473).

If you have any questions, please do not hesitate to call or contact me through e-mail. Thank you very much for your time.

Sincerely,

Chelsey Morgan, M.S.

Chelsey.Morgan@mail.wvu.edu
(712) 260-2124

Christine Schimmel, Ed.D.

Chris.Schimmel@mail.wvu.edu
(304) 293-2266

Appendix C: Debriefing and Resources Form

Thank you for your participation in this study! Your thoughtful responses to the survey questions are greatly appreciated.

If you would like to be redirected to an external link for the opportunity to enter a drawing for one of 100, electronic, Starbucks gift cards (valued at 10 dollars), please click [here](#).

Anonymity and Confidentiality:

If you choose to enter the drawing for one of 100 electronic, Starbucks gift cards (valued at 10 dollars), please be aware that your name and email address as having completed the study will be provided to the researcher. While your name and email address will not be directly associated with your answers, complete anonymity is not possible due to entering the drawing; instead your answers still remain strictly confidential and will be secured stored.

If you choose not to enter the drawing from one of 100 electronic Starbucks gift cards (valued at 10 dollars) your responses are completely anonymous as no identifying information has been requested from you. In addition, the secure survey software (Qualtrics) that collected your responses has been programmed to anonymize all data by removing respondents' IP addresses.

In order to maintain the quality of this study, please do not disclose research procedures to anyone who might participate in this study in the future as this could bias the results.

Final Report:

If you would like to receive a copy of a summary of the findings of this study when it is completed, please feel free to contact us at Chelsey.Morgan@mail.wvu.edu.

Useful Resources and Contact Information:

If you feel upset after having completed the study or find that some questions or aspects of the study triggered distress, talking with a qualified clinician and/or seeking additional support may help. In the case of an emergency or psychological crisis, please call 911 or visit the nearest emergency department.

Here are several eating disorder and mental health resources and directories that may assist you in locating treatment centers or clinicians. Many of the available resources also include directory links within their sites:

Online Eating Disorder Provider Directories:

<http://www.nationaleatingdisorders.org/find-treatment/treatment-and-support-groups>

http://www.edreferral.com/easy_search.htm

Online Eating Disorder Resources:

<http://www.nationaleatingdisorders.org/>

<https://www.eatingdisorderhope.com/>

<http://www.something-fishy.org/>

Online Mental Health Provider Directories:

<https://therapists.psychologytoday.com/>

<http://www.networktherapy.com/directory/>

Online Mental Health Resources:

<http://www.mentalhealthamerica.net/finding-help>

<https://www.nimh.nih.gov/health/find-help/index.shtml>

<http://www.nami.org/>

Additionally, here are several toll free, confidential, telephone numbers at which you can reach someone for additional support:

National Suicide Prevention Lifeline: 1 (800) 273-8255 (TALK)

Available 24 hours a day, 7 days per week

You may also access Lifeline Crisis Chat at:

<http://chat.suicidepreventionlifeline.org/GetHelp/LifelineChat.aspx>

Available 24 hours a day, 7 days per week

National Eating Disorders Association: 1 (800) 931-2237

Available Monday-Thursday, 9:00am-9:00pm, and Friday, 9:00-5:00pm EST

If you are experiencing a crisis, text “NEDA” to 741741 to be connected with a trained volunteer at Crisis Text Line

Appendix D: Demographic Information Questionnaire

Which of the following describes your gender identity?

Female

Transgender (Female → Male)

Male

Transgender (Male → Female)

Gender fluid/gender non-conforming

Custom _____

What is your age in years?

What do you primarily identify as your ethnicity?

African or African-American

Multiracial

Asian, Asian-American, or Pacific Islander

Native-American, American-Indian, or

European-American or Caucasian

Native Alaskan

Hispanic or Latina

Other _____

Which of the following do you identify as your sexual orientation?

Bisexual

Questioning

Heterosexual

Other _____

Lesbian

During your lifetime, have you been diagnosed with at least one of the following eating disorders: anorexia nervosa, bulimia nervosa, binge-eating disorder, an other specified feeding or eating disorder (OSFED), or eating disorder not otherwise specified (EDNOS)?

Yes

No

In this section, you are being asked to recall the number of months that have passed since you have experienced several symptoms. Please indicate the number of months that have passed since you have experienced each individual symptom. If you have never experienced a symptom, please leave that item blank (do not select the item). If less than one month has passed since you last experienced a symptom, please enter “0” in the blank provided and select the item.

As a guide, if several years have passed since you experienced a symptom the years to months equivalents are listed for you to reference: 1 year (12 months), 2 years (24 months), 3 years (36 months), 4 years (48 months), 5 years (60 months), 6 years (72 months), 7 years (84 months), 8 years (96 months), 9 years (108 months), 10 years (120 months).

____ Restricted your energy intake which led to maintaining a body weight that was significantly less than what was appropriate for your age, sex, developmental trajectory, and physical health.

____ Feared gaining weight or becoming fat, or engaged in persistent behavior to interfere with weight gain.

____ Had a distorted view of your body weight or shape.

____ Body weight or shape were very important in your view of your self, or self-esteem.

____ Engaged in recurrent episodes of binge-eating (eating much more than what others would consume in a given circumstance and experiencing a lack of control over what/how much you ate).

____ Engaged in recurrent inappropriate compensatory behaviors to prevent weight gain (e.g. vomiting, fasting, excessive exercise, or the misuse of laxatives, diuretics, or medication).

____ Felt distressed while binge-eating.

____ During binge-eating episodes, ate more quickly than normal, felt uncomfortably full, embarrassed, guilty, depressed, or was not physically hungry.

____ Consumed an excessive amount of food either after the evening meal has ended (whether or not you had slept yet). Felt distressed by your eating pattern or that it impaired your functioning.

Appendix E: IRB Approval

Acknowledgement Letter Exempt Initial Protocol Review

Action Date	06/29/2017
To	Christine Schimmel
From	WVU Office of Research Integrity and Compliance
Approval Date	06/29/2017
Expiration Date	06/28/2020
Subject	Acknowledgement Letter Exempt Initial Protocol Review
Protocol Number	1704563473
Title	Dimensions of Diversity in Sustained Eating Disorder Recovery in Females: A Study of the Predictive Power of Hope, Resilience, and Spirituality

The above-referenced study was reviewed by the West Virginia University Institutional Review Board IRB and was granted exemption in accordance with 45 CFR 46.101.

- This research study was granted an exemption because the Research involves educational tests, survey procedures, interview procedures or observation of public behavior and (i) information obtained is recorded in such a manner that human subjects cannot be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects responses outside the research could not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects financial standing, employability, or reputation [45 CFR 46.101(2)]. All exemptions are only good for three years. If this research extends more than three years beyond the approved date, then the researcher will have to request another exemption. The following documents have been acknowledged for use in this study and are available in the WVU+kc system:

Documents reviewed and/or approved as part of this submission:

Connor Davidson Resilience Scale.pdf: 2017-05-09-04:00

Debriefing and Resources Form.pdf: 2017-05-09-04:00

Demographic Information Questionnaire.pdf: 2017-05-09-04:00

Eating Disorder Examination Questionnaire.pdf: 2017-05-09-04:00

Expressions of Spirituality Inventory Revised.pdf: 2017-05-09-04:00

Informed Consent on Letterhead Updated 062817.pdf: 2017-06-28-04:00

Participant Invitation Request.pdf: 2017-06-28-04:00

Social Media Advertisement Updated 062817.jpg: 2017-06-28-04:00

Adult Dispositional Hope Scale.pdf: 2017-05-09-04:00

Documents for use in this study have been acknowledged and are available in the WVUkc system in the Notes and Attachments section of your protocol.

The Office of Research Integrity and Compliance is here to provide assistance to you from the initial submission of an IRB protocol and all subsequent activity. Please feel free to contact us by phone at 304.293.7073 with any question you may have. Thank you.

WVU Office of Research Integrity and Compliance

Date:06/29/2017

Signed:

A handwritten signature in black ink, appearing to read "Lilo Ast". The signature is fluid and cursive, with the first name "Lilo" being more prominent than the last name "Ast".

Lilo Ast
Senior Program Coordinator

Appendix F: Adult Dispositional (Trait) Hope Scale

Directions: Read each item carefully. Using the scale shown below, please circle the number that best describes YOU for each statement.

	Definitely False	Mostly False	Somewhat False	Slightly False	Slightly True	Somewhat True	Mostly True	Definitely True
1. I can think of many ways to get out of a jam.	1	2	3	4	5	6	7	8
2. I energetically pursue my goals.	1	2	3	4	5	6	7	8
3. There are lots of ways around any problem.	1	2	3	4	5	6	7	8
4. I can think of many ways to get the things in life that are important to me.	1	2	3	4	5	6	7	8
5. Even when others get discouraged, I know I can find a way to solve the problem.	1	2	3	4	5	6	7	8
6. My past experiences have prepared me well for my future.	1	2	3	4	5	6	7	8
7. I've been pretty successful in life.	1	2	3	4	5	6	7	8
8. I meet the goals that I set for myself.	1	2	3	4	5	6	7	8

Appendix G: Connor-Davidson Resilience Scale

The Connor-Davidson Resilience Scale is copyrighted (Connor & Davidson, 2003) and is not available for public use. For questions regarding the use of the CD-RISC, please contact Dr. Jonathan Davidson at mail@cd-risc.com.

Appendix H: Eating Disorder Examination-Questionnaire

Instructions: The following questions are concerned with the past four weeks (28 days) only. Please read each question carefully. Please answer all the questions. Thank you.

Questions 1 to 12: Please indicate the appropriate length of time for each question. Remember that the questions only refer to the past four weeks (28 days) only.

On how many of the past 28 days....

1. Have you been deliberately trying to limit the amount of food you eat to influence your shape or weight (whether or not you have succeeded)?

No days 1-5 days 6-12 days 13-15 days 16-22 days 23-27 days Every day

2. Have you gone for long periods of time (8 waking hours or more) without eating anything at all in order to influence your shape or weight?

No days 1-5 days 6-12 days 13-15 days 16-22 days 23-27 days Every day

3. Have you tried to exclude from your diet any foods that you like in order to influence your shape or weight (whether or not you have succeeded)?

No days 1-5 days 6-12 days 13-15 days 16-22 days 23-27 days Every day

4. Have you tried to follow definite rules regarding your eating (for example, a calorie limit) in order to influence your shape or weight (whether or not you have succeeded)?

No days 1-5 days 6-12 days 13-15 days 16-22 days 23-27 days Every day

5. Have you had a definite desire to have an empty stomach with the aim of influencing your shape or weight?

No days 1-5 days 6-12 days 13-15 days 16-22 days 23-27 days Every day

6. Have you had a definite desire to have a totally flat stomach?

No days 1-5 days 6-12 days 13-15 days 16-22 days 23-27 days Every day

7. Has thinking about food, eating, or calories made it very difficult to concentrate on things you are interested in (for example, working, following a conversation, or reading)?

No days 1-5 days 6-12 days 13-15 days 16-22 days 23-27 days Every day

8. Has thinking about shape or weight made it very difficult to concentrate on things you are interested in (for example, working, following a conversation, or reading)?

No days 1-5 days 6-12 days 13-15 days 16-22 days 23-27 days Every day

9. Have you had a definite fear of losing control over eating?

No days 1-5 days 6-12 days 13-15 days 16-22 days 23-27 days Every day

10. Have you had a definite fear that you might gain weight?

No days 1-5 days 6-12 days 13-15 days 16-22 days 23-27 days Every day

11. Have you felt fat?

No days 1-5 days 6-12 days 13-15 days 16-22 days 23-27 days Every day

12. Have you had a strong desire to lose weight?

No days 1-5 days 6-12 days 13-15 days 16-22 days 23-27 days Every day

Questions 13 to 15: Please indicate the appropriate length of time for each question. Please note that for these questions the term “binge eating” means eating what others would regard as an unusually large amount of food for the circumstances, accompanied by a sense of having lost control over eating.

13. Over the past 28 days, on how many days have you eaten in secret (i.e. furtively)? Do not count episodes of binge eating.

No days 1-5 days 6-12 days 13-15 days 16-22 days 23-27 days Every day

14. On what proportion of the times that you have eaten have you felt guilty (felt that you’ve done wrong) because of its effect on your shape or weight? Do not count episodes of binge eating.

No days 1-5 days 6-12 days 13-15 days 16-22 days 23-27 days Every day

15. Over the past 28 days, how concerned have you been about other people seeing you eat? Do not count episodes of binge eating.

No days 1-5 days 6-12 days 13-15 days 16-22 days 23-27 days Every day

Questions 16 to 22: Please indicate the appropriate number for each of the following questions. Remember that the questions only refer to the past four weeks (28 days) only.

Over the past 28 days...	Not at all		Slightly		Moderately		Markedly
16. Has your weight influenced how you think about (judge) yourself as a person?	0	1	2	3	4	5	6
17. Has your shape influenced how you think about (judge) yourself as a person?	0	1	2	3	4	5	6
18. How much would it have upset you if you had been asked to weigh yourself once a week (no more, or less, often) for the next four weeks?	0	1	2	3	4	5	6
19. How dissatisfied have you been with your weight?	0	1	2	3	4	5	6
20. How dissatisfied have you been with your shape?	0	1	2	3	4	5	6
21. How uncomfortable have you felt seeing your body (for example, seeing your shape in the mirror, in a shop window reflection, while undressing or taking a bath or shower)?	0	1	2	3	4	5	6
22. How uncomfortable have you felt about others seeing your shape or figure (for example, in communal changing rooms, when swimming, or wearing tight clothes)?	0	1	2	3	4	5	6

Appendix I: Expressions of Spirituality Inventory-Revised

This is a questionnaire which concerns your experiences, attitudes, beliefs, and lifestyle practices pertaining to spirituality. Below are several statements. Read each statement carefully. Using the five point scale described below, rate the extent to which you agree with each statement as it applies to you and put your response in the space provided. There are no right or wrong answers. Please respond to every statement and respond as honestly as possible.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. Spirituality is an important part of who I am as a person	0	1	2	3	4
2. I have had an experience in which I seemed to be deeply connected to everything	0	1	2	3	4
3. It always seems that I am doing things wrong	0	1	2	3	4
4. It is possible to communicate with the dead	0	1	2	3	4
5. I believe that going to religious services is important	0	1	2	3	4
6. Spirituality is an essential part of human existence	0	1	2	3	4
7. I have had an experience in which I seemed to transcend space and time	0	1	2	3	4
8. I am not comfortable with myself	0	1	2	3	4
9. I believe witchcraft is real	0	1	2	3	4
10. I feel a sense of closeness to a higher power	0	1	2	3	4
11. I am more aware of my lifestyle choices because of my spirituality	0	1	2	3	4

12. I have had a mystical experience	0	1	2	3	4
13. Much of what I do in life seems strained	0	1	2	3	4
14. It is possible to predict the future	0	1	2	3	4
15. I see myself as a religiously oriented person	0	1	2	3	4
16. I try to consider all elements of a problem, including its spiritual aspects, before I make a decision	0	1	2	3	4
17. I have had an experience in which I seemed to merge with a power or force greater than myself	0	1	2	3	4
18. My life is often troublesome	0	1	2	3	4
19. I do not believe in spirits or ghosts	0	1	2	3	4
20. I see God or a Higher Power present in all the things I do	0	1	2	3	4
21. My life has benefited from my spirituality	0	1	2	3	4
22. I have had an experience in which all the things seemed divine	0	1	2	3	4
23. I often feel tense	0	1	2	3	4
24. I think psychokinesis, or moving objects with one's mind, is possible	0	1	2	3	4
25. I practice some form of prayer	0	1	2	3	4
26. I believe that attention to one's spiritual growth is important	0	1	2	3	4

27. I had had an experience in which I seemed to go beyond my normal everyday sense of self	0	1	2	3	4
28. I am an unhappy person	0	1	2	3	4
29. It is possible to leave your body	0	1	2	3	4
30. I believe that God or a Higher Power is responsible for my existence	0	1	2	3	4
31. This questionnaire appears to be measuring spirituality	0	1	2	3	4
32. I responded to all statements honestly	0	1	2	3	4

CURRICULUM VITAE

Chelsey L. Morgan

107 North 3rd Street, Shippenville, PA 16254 | 712.260.2124 | ChelseyLynnMorgan@gmail.com

Education

DOCTOR OF PHILOSOPHY | WEST VIRGINIA UNIVERSITY | SUMMER 2018

- Program of Study: Counseling Psychology (APA-Accredited)
- Doctoral Internship: Grand Valley State University Counseling Center (APA-Accredited; 2000 hours)
- Dissertation Topic: Dimensions of Diversity in Sustained Eating Disorder Recovery: A Study of the Predictive Power of Hope, Resilience, and Spirituality
- Proposed: December 2016; Defended: April 2018

MASTER OF SCIENCE | EMPORIA STATE UNIVERSITY | MAY 2013

- Program of Study: Clinical Psychology
- Clinical Internship: Mental Health Center of East Central Kansas (750 hours)

BACHELOR OF ARTS | NORTHWESTERN COLLEGE | MAY 2011

- Program of Study: Psychology
- Thesis: Personality, Goal Orientation, Age, and Gender as Predictors of Critical Thinking and Epistemological Beliefs

Clinical Experience

DOCTORAL PSYCHOLOGY INTERN | GRAND VALLEY STATE UNIVERSITY COUNSELING CENTER | JULY 2017-JULY 2018

- APA-Accredited Internship in Health Service Psychology
- Conduct weekly triages, intake assessments, daytime crisis assessment and intervention, and consultation
- Provide career, individual, and group counseling and outreach programming within a brief model
- Administer and interpret psychological assessments and career assessments, and integrate the results within five integrated reports
- Respond to after-hours crisis during on-call rotation every six weeks for one full week
- Provide clinical supervision for Master of Social Work intern, serve as a liaison to the athletics department, assess the multicultural development and sensitivity of the counseling center, and complete a service utilization program evaluation research project
- Participate in didactic experiences and supervision on a variety of topics including multicultural seminar, psychiatric seminar, psychological assessment seminar, career counseling and assessment, clinical seminar/case conference, and supervision of supervision

**GRADUATE ASSISTANT | CARRUTH CENTER FOR PSYCHOLOGICAL AND PSYCHIATRIC SERVICES
| AUGUST 2014-MAY 2015; AUGUST 2015-MAY 2016; AUGUST 2016-MAY 2017**

- Conducted weekly triages, intake assessments, daytime crisis assessment and intervention, and consultation
- Provided individual, group, and couples counseling, substance use counseling, and outreach programming within a short-term model

DOCTORAL ASSESSMENT PRACTICUM | CARRUTH CENTER FOR PSYCHOLOGICAL AND PSYCHIATRIC SERVICES | AUGUST 2015-DECEMBER 2015

- Administered, scored, and interpreted learning disorder and attention-deficit/hyperactivity disorder assessments with current university students which resulted in seven integrated reports

DOCTORAL HYBRID PRACTICUM | CARRUTH CENTER FOR PSYCHOLOGICAL AND PSYCHIATRIC SERVICES | MAY 2015-JULY 2015

- Administered, scored, and interpreted learning disorder and attention-deficit/hyperactivity disorder assessments to incoming athletes and current university students which resulted in three integrated reports
- Conducted weekly triages, intake assessments, daytime crisis assessment and intervention, and consultation
- Provided individual counseling within a short-term model

CLINICAL INTERN | MENTAL HEALTH CENTER OF EAST CENTRAL KANSAS | MAY 2012-MAY 2013

- Conducted weekly intake assessments and treatment and discharge planning with hospitalized clients
- Provided individual therapy
- Administered, scored, and interpreted personality, intellectual, and functional assessments to children and adults which resulted in five integrated reports

CLINICAL UNDERGRADUATE INTERN | ASPEN RANCH | MAY 2010-AUGUST 2010

- Observed and participated in therapeutic daily activities at a residential treatment facility for adolescents with addictions
- Learned from staff within the departments of recreational therapy, equine therapy, academic, clinical psychotherapy, and residential living

Academic Achievements

JOHN AND BARBARA PISAPIA DOCTORAL RESEARCH AWARD | WEST VIRGINIA UNIVERSITY | JULY 2017-JUNE 2018

- Awarded to one doctoral student in the College of Education and Human Services at West Virginia University to financially support dissertation research.

CLINICAL PSYCHOLOGY DEPARTMENT AWARD | EMPORIA STATE UNIVERSITY | MAY 2013

- Awarded to one graduate in the clinical psychology program on the basis of faculty nominations, program involvement, and academic achievement.

GRADUATE TEACHING ASSISTANT UNIVERSITY AWARD FOR EXCELLENT TEACHING | EMPORIA STATE UNIVERSITY | MAY 2013

- Awarded to two graduate teaching assistants across the university annually on the basis of an individual's philosophy of teaching, teaching portfolio, student course evaluations, and faculty observations.

LINDSKOOG CLINICAL SCHOLARSHIP | NORTHWESTERN COLLEGE | MAY 2011

- Awarded to one graduating senior pursuing clinical or counseling psychology as the primary course of graduate studies.

OUTSTANDING MAJOR IN PSYCHOLOGY | NORTHWESTERN COLLEGE | MAY 2011

- Awarded to one graduating senior in the department of psychology on the basis of faculty nominations, academic achievement, and department involvement.

Teaching Experience

GRADUATE TEACHING ASSISTANT | WEST VIRGINIA UNIVERSITY | AUGUST 2013-JULY 2014

- Full responsibility for up to four sections of in-seat First-Year Seminar (each semester)
- Created and engaged in lectures, quizzes, grading, mentoring, and tutoring undergraduate students
- Assisted with undergraduate programs for academic advancement, including First-Year Academy, Mid-Year Academy, Mountaineer Success Academy, and the Preparing to Achieve Student Success program
- Advised at-risk incoming students who were provisionally admitted to the university with course selection

ADJUNCT INSTRUCTOR | EMPORIA STATE UNIVERSITY | JUNE 2013-AUGUST 2013

- Full responsibility for one online section of Introductory Psychology
- Created and engaged in lectures, discussions, examinations, research reports, and grading

GRADUATE TEACHING ASSISTANT | EMPORIA STATE UNIVERSITY | FALL 2011-MAY 2013

- Full responsibility for two sections of in-seat Introductory Psychology or Developmental Psychology each semester
- Created and engaged in lecture material, examinations, and grading
- Assisted students in Experimental Research Methods & Inferential Statistics by aiding students in selecting appropriate statistical tests, editing research reports, conducting research in accordance with APA style
- Organized and maintained record of participants for the university research pool

TEACHING ASSISTANT | NORTHWESTERN COLLEGE | FALL 2010-SPRING 2011

- Assisted with grading of assignments, quizzes, papers, and exams for the courses of general psychology, helping skills, Christ & psychology, learning and cognition, industrial/organizational psychology, and advanced research design/advanced statistics

Research Experience

RESEARCH THERAPIST | WEST VIRGINIA UNIVERSITY | OCTOBER 2016-MAY 2017

- Primary Investigator (PI): Sarah Addicks, M.S., M.P.H.
- Attended a motivational interviewing workshop to improve motivational interviewing skills and assisted the PI with data collection for a dissertation project
- Conducted brief intake assessments, and administered psychodiagnostic assessments

- Provided psychoeducation about infant development, and completed individual motivational interviewing therapy sessions with participants

STATISTICAL AND APA STYLE CONSULTANT | WEST VIRGINIA UNIVERSITY | JUNE 2016-MAY 2017

- Primary Investigator (PI): Jeri Kirby, M.A.
- Provided feedback and guidance regarding appropriate statistical analyses and APA style to an instructor completing a dissertation project in the department of political science
- Assisted with data entry, variable coding, and statistical analyses

FACULTY DIRECTED RESEARCH | WEST VIRGINIA UNIVERSITY | FALL 2013-DECEMBER 2015

- Primary Investigator (PI): Jeff Daniels, PhD
- Collaboratively conducted qualitative research on a team of graduate students in accordance with the criminal justice information services (CJIS) division of the FBI
- Assessed offender motives and officer perceptions within law enforcement officers ambushes

FACULTY DIRECTED RESEARCH | WEST VIRGINIA UNIVERSITY | SPRING 2014-SUMMER 2014

- Primary Investigators (PIs): Jeannie Sperry, PhD, and Kimberly Foley, PhD
- Collaboratively reviewed video recordings of medical student-patient interaction
- Analyzed verbal and nonverbal empathy exhibited within patient interactions, and coded variables

FACULTY DIRECTED RESEARCH | EMPORIA STATE UNIVERSITY | SPRING 2012

- Primary Investigator (PI): John Wade, PhD
- Selected by the PI to lead a team of graduate student researchers
- Conducted qualitative research on clinical training and supervision of psychology graduate students

FACULTY DIRECTED RESEARCH | EMPORIA STATE UNIVERSITY | SPRING 2012

- Primary Investigator (PI): John Wade, PhD
- Conducted qualitative research with a team of graduate students on cultural factors that impact an individual's perception of psychological health and well-being

THESIS | NORTHWESTERN COLLEGE | FALL 2010

- Primary Investigator (PI): Chelsey Bohr
- Quantitatively assessed factors of personality, goal orientation, age, and gender as predictors of critical thinking and epistemological beliefs within an academic setting, primarily among young adults

FACULTY DIRECTED RESEARCH | NORTHWESTERN COLLEGE | FALL 2008-SPRING 2011

- Primary Investigator (PI): Laird Edman, PhD
- Conducted quantitative research with a team of undergraduate students on topics of behavior and perception congruence, persistence, ego depletion, moral reasoning, epistemological beliefs, academic achievement, and religiosity

Relevant Experience

LEADWELL TRAINER | PEER-BASED MENTORING OUTREACH | AUGUST 2016-MAY 2017

- Trained 10 undergraduate students desiring who serve as mentors within a peer-based outreach program
- Provided a five-hour training to student mentors regarding appropriate communication on topics of health behaviors
- Met monthly with student mentors to review and process health behaviors of concern in a group setting

SEXUAL ASSAULT RESPONSE TEAM | UNIVERSITY OUTREACH | SEPTEMBER 2016-MAY 2017

- Met monthly with a multi-disciplinary team concerned with developing and implementing appropriate policies and procedures regarding the sexual assault reporting process
- Reviewed recent reports of sexual assaults involving students
- Followed-up to ensure affected individuals are receiving ongoing care, including obtaining access to varying levels of antibiotics and medications

CARRUTH CENTER FOR PSYCHOLOGICAL AND PSYCHIATRIC SERVICES | ADMINISTRATIVE SPECIAL PROJECTS | AUGUST 2014-MAY 2016; AUGUST 2016-MAY 2017

- Assisted the clinical director with various administrative special projects
- Managed and organized data regarding the use of after-hours crisis services, reviewed and edited potential policies and procedures, and researched and created upcoming presentations

MONONGALIA COUNTY CHILD ADVOCACY CENTER | DIRECT AND INDIRECT SERVICE VOLUNTEER | SEPTEMBER 2013-MAY 2015

- Volunteered in both direct and in-direct client service capacities
- Engaging clients and their siblings in age-appropriate play in the waiting room
- Collaborated with the development coordinator to organize and plan fundraising events
- Documented the activities and media coverage of the Monongalia County Child Advocacy Center

WEST VIRGINIA PSYCHOLOGICAL ASSOCIATION | STUDENT ADVOCACY COMMITTEE | AUGUST 2013-DECEMBER 2013

- Collaborated and communicated with committee members to coordinate congressional advocacy efforts to address mental health in the public
- Attended bi-annual lobby day events, and spoke with congressional representatives regarding the current state of licensure laws and the effect it has on consumers

PSI CHI SECRETARY | EMPORIA STATE UNIVERSITY | AUGUST 2012-DECEMBER 2012

- Organized bi-monthly cabinet meetings, and recorded and reported meeting minutes
- Corresponded and collaborated with the department of psychology and faculty advisors to organize events

ADMISSIONS, HONORS, AND RETENTION COMMITTEE | NORTHWESTERN COLLEGE | AUGUST 2010-MAY 2011

- Served on a college-wide committee concerned with addressing issues regarding admissions standards, an honors program, and retention rates
- Communicated with committee members to discuss and resolve issues regarding standards for admission, honors students, and retention rates

- Organized annual scholarship days for admitted students

ACADEMIC SUPPORT CENTER TUTOR | NORTHWESTERN COLLEGE | AUGUST 2009-MAY 2011

- Provided academic support for the courses of general psychology, developmental psychology (childhood), developmental psychology (adulthood), and advanced research design/advanced statistics
- Led large group study sessions prior to each exam and provided individual tutoring on an as-needed basis

Posters

- Addicks, S. H., McNeil, D. W., & **Morgan, C. L.** (2018, April). Prenatal lactation-focused Motivational Interviewing for enhancing breastfeeding outcomes: Feasibility and preliminary findings. Poster session presented at the Society of Behavioral Medicine. New Orleans, LA.
- **Bohr, C.** (2014, December). Referring Students to the Carruth Center: Graduate Teaching Assistant Training. West Virginia University, Morgantown, WV.
- Hawkins, T., Howsier, J., & **Bohr, C.** (2014, November). De-escalating Challenging Behaviors. West Virginia University, Morgantown, WV.
- **Bohr, C.** (2013, October). The Use of the MMPI-2 Clinical Scales with Eating Disorders. West Virginia Psychological Association, Charleston, WV.
- **Bohr, C.**, Martens, A., Duckett, K., Kessell, B., & Fleet, K. (2012, November). Setting the Stage for Graduate School Success. Nebraska Psychological Society/Psychological and Educational Research in Kansas, Hastings, NE.
- Martens, A., **Bohr, C.**, Warusavitharana, S. D., Cunningham, M., Penny, K., & Wade, J. (2012, November). A Strength Based Perspective: Integrating Cultural Wisdom with Positive Psychology. Nebraska Psychological Society/Psychological and Educational Research in Kansas, Hastings, NE.
- Grover, C., Martens, A., DuBois, A., O'Brien, M., Pratt, K., Louderback, M., Martin, T., Tuttle, E., Sleiman-Haider, S., & **Bohr C.** (2011, October). General Psychology Semantic Diagrams: Before and After. Psychological and Educational Research in Kansas, Fort Hays, KS.
- **Bohr, C.**, & Edman, L. (2011, May). Personality, goal orientation, age, and gender as predictors of critical thinking and epistemological beliefs. The 23rd Annual Convention of the Association for Psychological Science, Washington, D.C.
- Edman, L., **Bohr, C.**, Culver, T., Maurer, D., McConnel, K., Ott, M., Reno, C., Rubel, B., & Thompson, E. (2011, April). Behavior Congruence: An examination of study habits, health activity, sexual experience, and devotional practices. The Siouxland Social Science Research Conference, Sioux City, IA.

Presentations

- **Bohr, C.** & Webb, B. (2015, August). *Consensual qualitative research methodology in law enforcement officer ambushes*. In J. A. Daniels (Chair), Law enforcement officer ambushes: The psychology of officers and offenders. Symposium conducted at the meeting of the American Psychological Association, Toronto, ON.
- **Bohr, C.** (2014, December). Referring students to the Carruth Center (CCPPS). Presented at a Training Seminar for Working with Academically At-Risk First-Year Students. West Virginia University, Morgantown, WV.
- **Bohr, C.**, Powers, C., & Burk, C. (2012, September). Tips on using the ESU Participant Research Pool on Blackboard. Presented at Professional Development Session. Emporia State University, Emporia, KS.

Demonstrations

- **Bohr, C.** (2012, June). Motion Afterimage and Binocular Depth Perception. Demonstrated at Emporia State University Summer Showcase. Emporia State University, Emporia, KS
- **Bohr, C.** (2011, October). Paradoxical Relativity in Temperature. Demonstrated at Homecoming Demonstrations in Psychology. Emporia State University, Emporia, KS.

Memberships

- American Psychological Association: Division 17, Graduate Student Affiliate (2011-Current)
- Psi Chi: The International Honor Society in Psychology, Student Affiliate (2012-Current)
- West Virginia Psychological Association, Student Advocacy Coordinator (2013)
- Association for Psychological Science, Student Affiliate (2011)