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# Promoting Progress to Assist Youth with Disordered Eating in School Mental Health

Bryn Elizabeth Schiele  
*University of South Carolina*

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PROMOTING PROGRESS TO ASSIST YOUTH WITH DISORDERED EATING IN  
SCHOOL MENTAL HEALTH

by

Bryn Elizabeth Schiele

Bachelor of Arts  
University of Texas at Austin, 2010

Master of Arts  
University of South Carolina, 2013

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Accepted by:

Mark D. Weist, Major Professor

Kimberly J. Hills, Committee Member

Bret R. Kloos, Committee Member

Nancy A. Lever, Committee Member

Lacy Ford, Senior Vice Provost and Dean of Graduate Studies

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## DEDICATION

It is with great pride that I dedicate this doctoral dissertation to my grandparents, James and Phyllis Mitchell. Their wisdom, perseverance and passion for intellectual growth continue to inspire me. I think of them and miss their presence daily, and wish they were both here to celebrate my completion of this project and degree.

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Lastly, I thank God for His countless blessings that have helped me become the person I am today.

## ABSTRACT

Disordered eating has become a significant issue among children and adolescents; nearly 14% of all youth displaying disordered eating patterns. Despite the prevalence of these disorders amongst school-age students, there is a deficit of empirical literature on the integration of eating disorder support services in schools, as well as a lack of knowledge and training of school mental health (SMH) professionals regarding the appropriate interventions for this population. While eating disorders have previously been considered as outside of the school mental health domain of practice (e.g., Judge, 2001), this view has changed and there exists a significant need to provide accessible identification and intervention services for these students in schools.

The present paper is a mixed methods research study conducted to examine the perspectives of those most closely linked to eating disorder services (i.e., adolescents in recovery from eating disorders, family members, SMH professionals), and their viewpoints regarding the integration of such services within a SMH framework. Current SMH services for youth with disordered eating and perspectives on their delivery were explored using qualitative methods of individual interviews. A purposeful sample of 14 participants was recruited from an eating disorder treatment facility in the southeastern United States. Eight adolescent females who received treatment for disordered eating while in primary or secondary schools and 6 of their respective mothers completed interviews. In addition, a quantitative survey was used to measure SMH professionals'

knowledge and training in disordered eating identification and intervention. The perspectives of these professionals on service provision and barriers to service delivery were explored. A national sample of 720 SMH professionals completed the survey, with 561 of those useable.

Qualitative and quantitative data were collected concurrently and analyzed separately, prior to converging the data strands to better understand SMH services for disordered eating. Qualitative analyses of interview data revealed the following themes regarding experiences of the adolescents and families that hindered or helped recovery: *Isolation, Perfectionism, Difficulties with Self-Acceptance and Comparison to Others, Uncertainty, Teacher Identification, Support in Recovery*. Half of the sample (N = 4) received school support while being treated for disordered eating, but school support was unrelated to disordered eating. Themes surrounding the benefits of including SMH services for this population included: *Increased Awareness, Support in Recovery, Family Involvement, and Linking to Resources*. The costs of including these services cited in interviews were: *Time Away from Academics, Need for Trained Professionals, and Not Enough Time for Training*.

Quantitative results suggested that the majority of SMH professionals have not received training in the identification and/or intervention of disordered eating. Conversely, most professionals demonstrated adequate knowledge of symptoms and risk factors of disordered eating, and reported encountering and working with students who exhibited disordered eating behaviors in the last year. Professionals indicated moderate to high importance of training in this domain, as well as a belief that work with youth with disordered eating falls within the SMH domain of practice. Data suggested that lack of

referrals, knowledge, skill and time impacted their ability to effectively identify and intervene.

The findings from this study provide a basis for researchers to understand the experiences of adolescents with disordered eating in the schools. This exploratory study aimed to spearhead further research on the development, evaluation and implementation of school-based intervention programs for youth with disordered eating. Implications for clinical practice and training were discussed, followed by limitations of the current study and future directions for research.

*Keywords:* eating disorders, school mental health, best practices

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## CHAPTER 1

### INTRODUCTION

Disordered eating has become a significant issue in today's society. Eating disorders, including Anorexia Nervosa (AN), Bulimia Nervosa (BN) and Binge Eating Disorder (BED), are considered some of the most prevalent, dangerous and difficult to treat mental health problems (Stice, 2002). Recent estimates suggest that 20 million women and 10 million men suffer from an eating disorder at some point in their lives (Wade, Keski-Rahkonene, & Hudson, 2011). Not only are these rates on the rise (Hudson, Hiripi, Pope Jr., & Kessler, 2007; Streigel-Moore & Franko, 2003; Wade et al., 2011), but also a significant majority of disordered eating cases go unreported due to the secretive nature of the disorders (Beglin & Fairburn, 1992). Research suggests that those who engage in high levels of disordered eating practices elect to not participate in research and surveys on disordered eating. Additionally, according to the *Diagnostic and Statistical Manual of Mental Disorders, 5<sup>th</sup> Edition* (DSM-5; American Psychiatric Association, 2013), prevalence rates often fail to include those who do not meet diagnostic criteria for an eating disorder (Fairburn & Bohn, 2005). A significant number of individuals fall within this category, with an estimated 10-20% of all females engaging in subclinical disordered eating practices.

While the prevalence of negative body image and disordered eating practices among adolescent females continues to increase, getting appropriate treatment presents a difficult challenge for students and families. Not only do individuals with disordered

eating exhibit decreased help-seeking behavior (Agras et al., 2004; Evans et al., 2011), but also issues such as cost (Agras, 2001), lack of insurance coverage (Cachelin & Striegel-Moore, 2006; Rome et al., 2003) and trouble accessing trained outpatient mental health practitioners (Robinson, Boachie & Lafrance, 2013; Wilson, Grilo & Vitousek, 2007) delay treatment and prolong the effects of symptoms. It has been estimated that up to 14% of all youth display disordered eating patterns, but fail to meet diagnostic criteria for an eating disorder (Chamay-Weber, Narring & Michaud, 2005), resulting in lack of treatment access. Additionally, only 50% of referrals for childhood onset eating disorder meet diagnostic criteria (Bryant-Waugh & Lask, 1995). Even if symptoms are severe enough to meet criteria, individuals with eating disorders are frequently described as “difficult to treat” (Kaplan & Garfinkel, 1999). This is due to the pervasive nature of the disorders, as well as high levels of comorbidity with depressive, anxiety, substance use and personality disorders (Touchette et al., 2011). If left untreated, the negative consequences of disordered eating are very significant.

The onset of eating disorders tends to occur in early to middle adolescence, with recent epidemiological estimates suggesting that AN, BN and BED onset around 12 years of age (Swanson et al., 2011). Body dissatisfaction is commonly endorsed by elementary (Dohnt & Tiggemann, 2006; Smolak, 2004), middle (Hausenblas, Downs, Fleming & Connaughton, 2002), and high school students (Bucchianeri, Arikian, Hannan, Eisenberg & Neumark-Sztainer, 2013; Croll, Neumark-Sztainer, Story & Ireland, 2002), with children as young as three years of age demonstrating negative and positive attitudes associated with weight (Cramer & Steinwert, 1998; Harriger, Calogero, Witherington & Smith, 2010; Holub, 2008; Spiel, Paxton & Yager, 2012). Of even greater concern,

adolescents are frequently cited as engaging in disordered eating behaviors, employing behaviors such as fasting or skipping meals, taking diet pills or laxatives, vomiting and binge-eating (Croll et al., 2002). Children as early as first and third grade have reported engaging in disordered eating behaviors to control their weight (Flannery-Schroeder & Chrisler, 1996; Ricciardelli & McCabe, 2001; Robinson, Chang, Heydel & Killen, 2001; Schur, Sanders & Steiner, 2000). Research suggests that age of onset significantly predicts negative life outcomes, with onset of disordered eating between the ages of 10 and 15 being associated with a 25-year reduction in lifespan (Norris, Bondy, Pinhas, Grange & Lock, 2011).

Unfortunately, less than 1/3 of all youth experiencing significant mental health needs receive intervention and support services across disorders (Leaf, Schultz, Kiser & Pruitt, 2003; Policy Leadership Cadre for Mental Health in Schools, 2001). The gap between child and adolescent mental health needs and available services has been documented by federal reports (see the Surgeon General's Report on Children's Mental Health, U.S. Public Health Service, 2000), and there has been wide-spread recognition of school service provision as key in the transformation of child and adolescent mental health services (President's New Freedom Commission, 2003). Thus, expanded school mental health (SMH) programs have emerged as a unique approach to provide mental health services for youth and families (Weist, Evans & Lever, 2003). SMH programs involve collaboration between schools and community-based mental health providers to provide a full range of mental health services (i.e., assessment, prevention, intervention) to the student population 'where they are' (Weist, 1997; Weist & Ghuman, 2002).

Given that disordered eating practices are commonly cited among school-age individuals, SMH professionals are in an ideal position to intervene (Shulman & Mulloy-Anderson, 2011). With eating disorders becoming increasingly more prevalent among children and adolescents (Ornstein et al., 2013), and emerging at younger ages, it is crucial that SMH professionals have the proper knowledge and skills to provide effective treatment. However, SMH professionals often do not feel adequately prepared or supported to provide such services. Furthermore, little attention has been paid to the role of school health and mental health professionals (i.e., school psychologists, counselors, social workers, nurses) with regard to the identification and intervention of disordered eating. The dearth of research within this domain further complicates whether disordered eating intervention is an appropriate role for SMH professionals.

#### *Statement of the Problem*

The early emergence and rise in disordered eating among children and adolescents is a significant public health issue that needs addressing. However, a significant gap exists between the mental health needs of such youth and the availability of evidence-based services to meet the rising need of disordered eating identification, prevention and intervention (Gowers & Bryant-Waugh, 2004; Gowers, 2008; Hart, Granillo, Jorm & Paxton, 2011). With less than half of individuals diagnosed with eating disorders accessing appropriate treatment (Eating Disorders Coalition, 2007), SMH services are in an ideal position for appropriate intervention. The severity of the academic, psychological, behavioral, familial and social negative outcomes associated with the disorders provides further evidence to suggest that attention must be paid to enhancing and increasing the availability of appropriate supports and interventions for

this population within the school system.

### *Purpose of the Study*

The need for studies to address the lack of appropriate services for students with eating disorders is critical. There is not only a deficit of empirical literature on the integration of eating disorder support services in schools, but also a lack of knowledge and training amongst SMH professionals (e.g., school psychologists, counselors, social workers, nurses) regarding the appropriate interventions for this population (Harshbarger et al., 2011; Jimerson & Pavelski, 2000; Miller & Jome, 2008). Furthermore, there is little to no research on the perspectives of key figures involved in intervention services for treatment of eating disorders.

This study was designed to help address the need for increased awareness of, and support for, individuals struggling with disordered eating within the school system. Utilizing a mixed methods design, this study investigated the perspectives of adolescent females and family members in relation to the current availability of identification, support and intervention services within the schools to help identify ways to increase such services. Interviews with youth who have experienced difficulties with eating disorders and their mothers provided an understanding of their unique experiences with SMH service provision and their desire for enhanced supports; information not obtainable via quantitative methods. Reviewing student and family history served to indicate themes in the experience of students with disordered eating.

Further, the results of this work may be utilized to delineate the manner by which identification and intervention services for individuals exhibiting symptoms of eating disorders can be feasibly and effectively integrated into schools. Secondly, this study

explored viewpoints of whether SMH programs have the capacity, knowledge and training to provide such services by surveying SMH service providers. SMH professionals are increasingly called on to provide access to quality mental health care by linking schools with local mental health systems (U.S. Department of Education Office of Elementary and Secondary Education, 2002). Furthermore, there is a consensus for the placement of mental health programs in schools to provide effective interventions for students with emotional distress where they are (Hoagwood & Erwin, 1997). Given the increasing responsibility of these professionals, as well as the increasing prevalence of disordered eating among children and adolescents, it is highly likely that these providers will encounter cases presenting with eating difficulties. Surveying SMH professionals on current practices, as well as frequency by which they encounter youth with disordered eating, enabled the estimation of the occurrence of disordered eating symptoms in schools. Evaluating the prevalence of disordered eating within the schools provided further evidence for the need for increased service provision for this population. Survey results include current practitioner knowledge of eating disorder symptoms and training on appropriate practices with this population. This information served to identify gaps in education and training that graduate programs may fill, to increase SMH professional knowledge and training that they may then be able to provide identification and direct intervention services.

### *Research Questions*

For the qualitative phase of the proposed study, research questions were:

1. What have been the experiences of individuals and families receiving treatment for disordered eating within the school system?

2. Have students received school services specific to disordered eating? If so, what are the most common practices delivered?
3. What are the perceived benefits of including services for youth with disordered eating in school mental health?
4. Are their perceived costs of including services for youth with disordered eating in school mental health? If so, what are they?

For the quantitative portion of the proposed study, the research questions were as follows; corresponding survey items and analytic techniques can be found in Appendix I.

1. Are SMH professionals knowledgeable of symptoms of anorexia, bulimia and binge eating disorder?
2. Do SMH professionals accurately identify precipitating and exacerbating factors of eating disorders?
3. What type of training have SMH professionals received regarding the identification and treatment of disordered eating in youth?
4. How important do SMH professionals believe training in disordered eating is?
5. What is the frequency of which SMH professionals encounter youth with disordered eating in need of services?
6. Who is more likely to intervene in a case of disordered eating in the schools?
7. What are the most common practices for SMH professionals when presented with a student with disordered eating?
8. Is advanced training in disordered eating associated with higher competence in treating disordered eating in youth?

9. Do SMH professionals believe that implementing school-based services for youth with disordered eating falls within the SMH domain of practice?
10. What are prominent barriers to SMH involvement in the identification and intervention of disordered eating?

### *Significance of the Study*

The rising prevalence of eating disorders among school-aged children and adolescents is of great concern. Much research suggests that, although concerns regarding body image and nutritional choices are considered normative during early and middle adolescence (Stice & Whitenton, 2002), these concerns are starting to arise at earlier ages and may be more concerning (Dohnt & Tiggemann, 2006; Smolak, Levine & Schermer, 1998; Wood, Becker & Thompson, 1996). Furthermore, engagement in disordered eating behaviors, such as binge eating, purging, dieting and exercising to lose weight, is frequently reported among children (Ricciardelli & McCabe, 2001) and adolescents (Neumark-Sztainer, Wall, Larson, Eisenberg & Loth, 2011). While body image concerns and dieting behaviors are more common among Caucasian females, there is evidence to suggest that there has been an increased prevalence in males (Mond, Mitchison & Hay, 2014; Strother, Lemberg, Stanford & Tuberville, 2012) and across racial groups (Franko, Becker, Thomas & Herzog, 2006).

Unfortunately, a substantial majority of children and adolescents who engage in disordered eating behaviors do not access treatment. Reasons behind lack of services have been speculated to include various individual, therapist, familial, and systems-level factors (Bell, 2003; Burket & Hodgins, 1993; Hart et al., 2011). The longer an individual goes without treatment, the more likely their symptoms will escalate and negatively

affect prognosis and long-term outcomes. Adverse outcomes associated with disordered eating are damaging and impact nearly every domain of life, including physiological (e.g., Rome & Ammerman, 2003; Thein-Nissenbaum, 2013), psychological (e.g., Berkman, Lohr & Bulik, 2007; Masuda, Price, Anderson & Wendell, 2010; Mond, Hay, Rodgers & Owen, 2009), social (e.g., Allen, Byrne, Oddy & Crosby, 2013; Mond et al., 2009) and academic (e.g., Joe, Joe & Rowley, 2009; Yanover & Thompson, 2008) domains.

Due to limited research and mixed findings, the specific impact of disordered eating on academic achievement is unclear. However, disordered eating has been shown to detrimentally impact on cognitive performance and executive functioning, with individuals with AN and obesity demonstrating deficits in set-shifting and decision-making (e.g., Brogan, Hevey & Pignatti, 2010; Cavedini et al., 2006; Fassino et al., 2002; Lopez et al., 2008). Further, malnutrition interferes with cognitive functioning, resulting in decreased attention span, difficulties with concentration and increased fatigue (Parker, 1989). Given the severity of both immediate and longstanding impacts of disordered eating, as well as negative direct effects on school performance and behavior, school professionals are in a unique position to become involved in the identification of eating disorders, as well as provision of prevention and intervention services. More specifically, SMH professionals may be best positioned to identify students displaying disordered eating symptoms, given previous training and experience in identifying and ameliorating other mental health difficulties. For instance, it has been suggested that school-based screening has resulted in a one-third increase in identification of mental health difficulties (Scott et al., 2009). Additionally, early identification and intervention by SMH

professionals has resulted in short- and long-term benefits for students at-risk for developing externalizing (e.g., Hayes, Giallo & Richardson, 2010; Winther, Carlsson & Vance, 2014) and internalizing disorders (e.g., Woods & Pooley, 2015).

## CHAPTER 2

### LITERATURE REVIEW

Disordered eating is described as regular engagement in destructive eating practices such as restricting, dieting, binging, skipping meals and compulsive eating (NEDC, 2011). The three most prominent eating disorders within the American Psychiatric Association within the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5; APA, 2013) are Anorexia Nervosa, Bulimia Nervosa and Binge Eating Disorder. Each disorder is differentiated by criteria specifying engagement in characteristic eating practices, frequency of disordered eating and cognitive perceptions regarding weight.

This review describes how, despite the astounding prevalence of such disorders and the need for effective treatments, students with disordered eating do not access appropriate services. Further, SMH programs often fail to focus on disordered eating and efforts are needed to enhance SMH service provision. First, this review focuses on behaviors associated with the predominant eating disorders by providing a description of each of the disorders, as well as a brief historical presentation. Additionally, information is presented regarding the prevalence of these disorders. Rates are discussed for different genders, ethnicities and socioeconomic groups, as well as for individual risk factors that increase the likelihood of developing disordered eating behaviors. Further, risk factors and warning signs associated with disordered eating practices are presented, as this information is useful in identifying students at risk and creating tailored interventions.

Subsequently, theorized etiological models of disordered eating including biological, psychological, familial and social/cultural factors are described to aid in understanding of the development of these disorders. Frequent comorbidities and associated outcomes are then reviewed to explicate the long-term effects of untreated disordered eating behavior.

As youth with disordered eating often experience long latency to service (Hart et al., 2011; Oakley Browne, Wells & McGee, 2006), this review covers issues related to decreased service receipt. How youth with disordered eating exhibit decreased help-seeking behavior is described, as well as difficulties accessing treatment that are associated with the professionals and methods involved in assessment and identification. Further, this review describes qualities of the standard services utilized to treat disordered eating to demonstrate their insufficiencies as the sole method of treatment and support the need for increased SMH program focus. The current state of SMH programs specific to service provision is explained, as well as hypothesized reasoning as to why disordered eating services are not more fully developed. The overarching aim of the following review is to demonstrate the notion that disordered eating is a compelling mental health need and critical avenue for SMH programs, supporting the proposed study.

### *Eating Disorders*

Anorexia Nervosa (AN) involves engagement in self-starvation and restrictive eating practices, resulting in excessive weight loss (Sours, 1974; Schiele, 2014). Individuals diagnosed with AN have a substantial fear of weight gain and subjectively consider themselves overweight despite significantly low body weight (i.e., less than that minimally expected given age, sex and physical health) and severe emaciation (Thomson et al., 2014). Within this category, distinctions are made between individuals who engage

in more restrictive eating behaviors and those who engage in compensatory behaviors (e.g., purging, use of laxatives or diuretics) following a binge-eating episode. Restricting and binge-eating/purging subtypes are included as research suggests that differences in presentation inform assessment and treatment (Stice & Peterson, 2009). For instance, engagement in binge/purge behaviors has been associated with higher rates of comorbidity and worse long-term prognoses (e.g., Deter & Herzog, 1994); however, these data have not been supported longitudinally (Eddy et al., 2001).

While AN is characterized by extreme control over food intake, Bulimia Nervosa (BN) involves a severe lack of control. To be diagnosed with BN, one must report recurrent episodes of binge eating that are characterized by consumption of an objectively large amount of food in a discrete or limited time period (American Psychiatric Association, 2013). Further, these episodes must involve a lack of control over consumption that makes one feel as though they cannot stop eating. Individuals with BN engage in recurrent compensatory behaviors to prevent weight gain from binges, including: self-induced vomiting; use of laxatives, diuretics or other dietary medications; fasting; or excessive exercise. While individuals with BN do not express significant fears of weight gain as seen in AN, body image and weight overwhelmingly influence self-esteem. BN is often more difficult to diagnose than AN, as individuals diagnosed with BN are typically within the normal weight range and engage in binge eating in secrecy.

Similar to BN, Binge-Eating Disorder (BED) is characterized by recurrent binge episodes involving overconsumption and lack of control, but without compensatory behaviors to compensate for caloric intake (Myers & Wiman, 2013). Episodes are associated with feelings of discomfort, embarrassment and disgust. Additionally,

individuals with BED eat when they are not hungry and continue to eat beyond satiety. BED was not added as an eating disorder until the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (DSM-5; APA, 2013) due to debate regarding its existence, chronicity and stability (Hudson et al., 2007).

DSM-5 also specifies criteria for feeding disorders, including Pica, Rumination and Avoidant/Restrictive Food Intake Disorder. If an individual presents with disordered eating that results in functional impairment but does not meet full diagnostic criteria of one of the aforementioned disorders, the categories of an Other Specified (OSFED) or Unspecified Feeding or Eating Disorder (USFED). The previously listed disorders do not involve practices to prevent weight gain, and as such, comprehensive reviews of each disorder have been excluded from this study.

### *Prevalence*

Epidemiological findings suggest that the prevalence of eating disorders is relatively low in the general population. Lifetime prevalence of AN, BN and BED are estimated between .6%-3%, 1%-3% and 2.8%-4% respectively (Hudson et al., 2007; Smink, van Hoeken, & Hoek, 2013). However, reported rates often fail to include individuals who exhibit disordered eating behaviors but do not meet full diagnostic criteria, suggesting that these are gross underestimates. For example, Machado and colleagues (2007) found in a nationwide community sample prevalence of eating disorder not otherwise specified (EDNOS) at 2.37% while rates of AN and BN were .39% and .30%.

Estimated prevalence among adolescents is reportedly similar to rates in adulthood, with lifetime prevalence of AN falling at .3%, BN at .9% and BED at 1.6%.

While prevalence estimates of eating disorders among children under 13 have not been calculated, serious eating disturbances and body image concerns do exist in this population. Davison and colleagues (2003) found that females between 5 to 7 years of age who indicated high weight concerns or body dissatisfaction engaged in greater dietary restraint and more frequently endorsed maladaptive eating attitudes. More recent investigation of 9- and 10-year-old females involved in the Pittsburgh Girls Study (Loeber et al., 2002) found that clinically significant anorexic behaviors were endorsed by 11% of the sample at age 9 and 7% at age 10 (DeLeel, Hughes, Miller, Hipwell & Theodore, 2009). Further, 35% of 9-year-olds and 38% of 11-year-olds reported poor body image. Given such prevalence rates, much work has focused on prevalence associated with various demographic factors, including gender, ethnicity and socioeconomic status.

*Gender.* Both AN and BN are more commonly diagnosed among females than males (Hoek, 2006). Estimated rates of AN and BN hover around .1-.3% among males, while much higher rates exist among females at 1-2% for AN and 2-3% for BN (Bulik et al., 2006; Hudson et al., 2007). However, it is estimated that 5-10% of all eating disorders occur in males (Rosen, 2010). Further, engagement in subthreshold binge eating is reportedly higher among males (.6% women versus 1.9% males), and diagnosis of any BED is comparable between genders, with rates in both estimated between 4-5% (Hudson et al., 2007). While prevalent in males, it has been argued that characteristics of eating disorders are quite different between genders. Striegel-Moore and colleagues (2009) found that men were more likely to report overeating while women were more likely to endorse losing control when eating. Additionally, women were significantly

more likely than men to report disordered eating behaviors such as body checking, avoidance, binge eating, fasting and vomiting. While some studies suggest that eating disorders do not differ substantially between males and females (e.g., Bramon-Bosch, Troop, & Treasure, 2000), others have found that eating disorders are expressed differently among males (Anderson & Bulik, 2004). Further, there are significant differences in associated factors, risks, comorbidities and potentially underlying reasons driving disordered eating behavior (Olivardia, Pope Jr, Borowiecki III & Cohane, 2004).

*Ethnicity.* The stereotypic belief regarding disordered eating behavior is that it arises most frequently among Western, Caucasian female individuals (Crago, Shisslak, & Estes, 1996; Wildes, Emery, & Simons, 2001). Sociocultural models of disordered eating posit that individuals of minority ethnic cultures are at lower risk for eating pathology than Caucasians due to less cultural pressure to match the thin ideal in non-White cultures (Stice, 1994). However, differences among groups remain unclear due to limited studies with diverse samples and mixed findings resulting from work that has been completed. While possibly more frequently identified among European, White individuals, it appears disordered eating is prevalent beyond this population (Striegel-Moore & Smolak, 2000). A number of studies report a high prevalence of BED, but minimal restrictive eating disorders (i.e., AN and BN) among Latino, Asian and African American females and males (Alegria et al., 2007; Nicdao, Hong, & Takeuchi, 2007; Taylor, Caldwell, Baser, Faison, & Jackson, 2007).

However, Marques and colleagues (2011) found similar 12-month and lifetime prevalence rates of AN, BN and BED across non-Latino White, Latina, Asian and African American women in the United States. Further, findings across males, females

and the overall sample did not reflect greater rates of disordered eating in the non-Latino White group. In fact, data suggest that Latino, Asian and African American individuals report more symptoms of binge eating and binge/purge patterns than their non-Latino White counterparts. This is consistent with findings from Alegria and colleagues (2007), where Latinos indicated higher rates of BED in comparison to the majority population.

While appearance concerns and emotional well-being are related to risk for disordered eating across ethnicities (Croll et al., 2002), research suggests that age of onset, education, acculturation, ethnic subgroup and body mass index (BMI) are correlated to presentation of eating pathology in ethnic minorities (e.g., Hudson et al., 2007; Nicdao et al., 2007; Taylor et al., 2007). It is commonly suggested that immigrants to Western cultures who identify strongly with Western values related to body image and dieting (i.e., value of a thin physique, normative dieting and media promotion of slender female body) report more disordered eating than those who identify with their culture of origin (White, 1992). However, the results of a meta-analysis investigating the role of ethnicity and culture in eating disturbance indicate otherwise (Wildes et al., 2001). Although evidence suggests few differences in prevalence, there are substantial differences among those who seek and access appropriate treatment (Marques et al., 2011). While 85% of a sample of minority females sought treatment for disordered eating, barely half had received treatment (Cachelin, Rebeck, Veisel, & Striegel-Moore, 2001). Such mixed findings necessitate further research with men and women of ethnic minorities. Franko and colleagues (2007) recommend the development of culturally-sensitive diagnostic criteria, as well as further epidemiological investigations of risk and treatment factors to better treat these populations.

*Socioeconomic Status.* Increased prevalence of disordered eating practices has also been associated with upper economic status. Early studies of AN, both case- and group-wise, indicated a strong association between disordered eating and high socioeconomic status (e.g., Crisp, Palmer & Kalucy, 1976; Kendell, Hall, Hailey, & Babigian, 1973; Morgan & Russell, 1975). Garfinkel and Garner (1982), however, stated that up until the early 1980s, no adequate investigation of AN existed. Despite significant methodological problems and questionable validity of these findings, the association between SES and disordered eating was regarded as a longstanding clinical truth (see Gard & Freeman, 1996).

Since the mid to late 1980's, a number of studies have investigated this relationship and obtained mixed findings regarding prevalence. Previous studies have demonstrated an inverse association between SES and weight (Rogers, Resnick, Mitchell, & Blum, 1997), but fail to consistently confirm the existence of a relationship between SES and disordered eating. Story and colleagues (1995) found that adolescent girls from higher SES families were more likely to diet and engage in unhealthy weight control practices. Further, Rogers and colleagues (1997) demonstrated a significant relationship between SES and subclinical self-induced vomiting with a sample of adolescent females. However, more recent research has found no such association. Wang and colleagues (2005) reported a significant relationship between body dissatisfaction and parental SES among a sample of Australian children and adolescents, but not regarding actual disordered eating practices. Discrepancies in research findings are hypothesized to be attributed to a referral bias, with individuals from higher SES groups being more likely to be identified, to access services and to participate in research.

### *Risk Factors*

With the prevalence of these disorders on the rise across groups, much research has examined factors that increase the likelihood of developing disordered eating with the aim to earlier identify or prevent their onset. A number of variables have been investigated that influence the development of eating disorders, with more than 30 variables being suggested as putative risk factors (for review see Jacobi, Hayward, de Zwaan, Kraemer & Agras, 2004). A risk factor is defined as a variable that impacts the development, course and maintenance of a disorder (Kraemer et al., 1997). Previous work indicates that risk factors for disordered eating include developmental, biological, psychological, social and familial factors. It has been suggested that the aforementioned factors are prospective predictors of subsequent disordered outcomes, or otherwise termed “causal risk factors” (Stice, 2002). However, it is unclear whether these factors, such as low self-esteem and depression, are preceding factors, symptoms, maintaining variables or consequences of disordered eating. As researchers are often unable to assume causality, investigation has focused on concurrent predictors, or variables commonly observed in those with the disorders but that have no established causal relationship (Littleton & Ollendick, 2003). For the purposes of this review, the most prominent causal and concurrent risk factors have been explored.

As previously stated, there is an increased prevalence of disordered eating among females. In fact, it has been argued that the best predictor that an individual will develop an eating disorder is being female (Hudson et al., 2007; Jacobi et al., 2004; Lindberg & Hjern, 2003; Striegel-Moore & Bulik, 2007). Although eating disorders are becoming more prevalent amongst males, data from a nationally-representative sample suggest 4%

of females are diagnosed with an eating disorder whereas 1% of males meet criteria (Merikangas et al., 2010). A variety of explanations have been suggested as to why females are at greater risk, with much focus being placed on sociocultural factors. The “thin-ideal” is the notion that the societal standard of beauty in Western cultures for women is well below the weight of the average woman, similar to women presented in fashion media (McCarthy, 1990; Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). Internalization of this unattainable ideal often results in body dissatisfaction and decreased self-esteem, as female’s self-esteem is often closely tied to this construct (Davies & Furnham, 1986).

Relatedly, the risk of developing disordered eating significantly increases with greater body dissatisfaction and weight concern. Body-image dissatisfaction involves subjective feelings of unhappiness associated with an aspect of one’s appearance (Thompson & Stice, 2001). As previously mentioned, internalization of socially accepted ideals of attractiveness results in discontent with one’s weight and physical appearance. These attitudes are further reinforced by the attitudes of significant others, such as parents and peers (Kandel, 1980). The benefits of attaining the thin-ideal are consequently socially reinforced, communicating to youth social benefits of thinness (e.g., social acceptance; Hohlstein, Smith, & Atlas, 1998). Internalization of this ideal results in decreased self-esteem as well as decreased satisfaction with body image, as the socially accepted ideal is virtually unattainable. Body-image dissatisfaction is believed to increase one’s risk for eating pathology because it often results in dieting for weight control and negative affect regarding self-evaluation (Thompson & Stice, 2001).

Beyond sex and body-image dissatisfaction, age is consistently cited as a risk factor for disordered eating. Given the physical changes associated with puberty, being of adolescent age is believed to significantly increase the risk of developing an eating disorder (Ackard, & Peterson, 2001; Killen et al., 1992). The highest incidence of disordered eating occurs during middle adolescence and early adulthood, with peak age of onset for AN between 19-20, BN between 16-20 and purging between 18-20 (Stice, Marti & Rohde, 2013). Both cross-sectional (Jones, Bennett, Olmsted, Lawson & Rodin, 2001; Swanson et al., 2011) and longitudinal (Neumark-Sztainer et al., 2011) research support the high prevalence of disordered eating among adolescent females, with rates remaining constant into early adulthood. Researchers have argued that biological and sociocultural changes that occur during adolescence for females explain the increased risk in this group. Traditional theories have emphasized physical changes associated with puberty (e.g., increased adiposity), which are followed by psychosocial outcomes (e.g., increased body dissatisfaction) and potentially result in disordered eating (Fornari & Dancyger, 2003; Klump, 2013). Pubertal timing is suggested to impact females more than males because increased adiposity for females associated with puberty is against the thin beauty ideal, whereas increased muscle mass for males is in line with the masculine ideal (Bulik, 2002; Fornari & Dancyger, 2003).

With respect to psychosocial variables, low self-esteem has consistently been suggested as a concurrent risk factor for disordered eating (Shea & Pritchard, 2007). Low self-esteem is reportedly influential in the development of disordered eating for AN (Fairburn et al., 1999; Jacobi, Paul, de Zwaan, Nutzinger, & Dahme, 2002; Jacobi et al., 2004), BN (Kendler et al., 1991; Shea & Pritchard, 2007; Vohs, Bardone, Joiner,

Abramson, & Heatherton, 1999) and BED (de Zwaan et al., 1994; Grilo, Masheb, Brody, Burke-Martindale, & Rothschild, 2005). Additionally, self-esteem is significantly associated with treatment outcomes (Baell & Wertheim, 1992; Fairburn, Peveler, Jones, Hope & Doll, 1993). In fact, pretreatment level of self-esteem has been indicated as the sole consistent predictor of treatment success for individuals with BN (Fairburn, Kirk, O'Connor, Anastasiades, & Cooper, 1987; Fairburn et al., 1993). Furthermore, previous research found high self-esteem to be the only predictor of treatment completion for individuals with AN (Halmi et al., 2005). While low self-esteem is consistently tied to body dissatisfaction, the exact nature of the relationship is unknown. There is some evidence to suggest that low self-esteem predicts and acts as a catalyst for body dissatisfaction (Gilbert & Meyer, 2005; Shea & Pritchard, 2007). Previous work by Silverstone (1992) implicated low self-esteem as a necessary prerequisite for disordered eating. However, other research has posited body dissatisfaction (due to thin-ideal internalization) as the cause behind low self-esteem (Paxton, Neumark-Sztainer, Hannan & Eisenberg, 2006; Tiggemann, 2005). There is also evidence to suggest that low self-esteem among patients with disordered eating is dependent on comorbid depression (Wilksch & Wade, 2004). As such, research has yet to determine the nature of the relationship between self-esteem and eating pathology.

Additional psychological risk factors that have been implicated as risk factors for disordered eating include perfectionism (Bardone-Cone, 2007; Franco-Paredes, Mancilla-Díaz, Vázquez-Arévalo, López-Augilar, & Álvarez-Rayón, 2005), neuroticism (Cassin, & von Ranson, 2005; MacLaren, & Best, 2009), and impulsivity (Boisseau, Thompson-Brenner, Eddy, & Satir, 2009; Fahy & Eisler, 1993; Wonderlich, Connolly, & Stice,

2004). Perfectionism involves the setting of unrealistically high standards that one rigidly adheres to and bases their self-worth on (Frost, Marten, Lahart & Rosenblate, 1990). Although previously conceptualized as a unidimensional construct, many researchers argue that it is better thought of as a multidimensional concept with adaptive and maladaptive features (Bieling, Israeli & Antony, 2004; Pearson & Gleaves, 2006). Individuals with AN have consistently demonstrated elevated levels of perfectionism when compared to healthy controls, while findings among those with BN and BED have been less consistent (for review see Bardone-Cone et al., 2007). Further, individuals with AN and BN are reported to have higher levels of perfectionism in childhood than non-disordered individuals (Fairburn, Cooper, Doll, & Welch, 1999; Fairburn, Welch, Doll, Davies, & O'Connor, 1997). Regarding the Big Five Model of Personality (i.e., a model of personality traits that includes subscales of Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness; Costa & McCrae, 1992) neuroticism, which is a trait characterized by anxiety, fear, moodiness, worry, envy, frustration, jealousy and loneliness, is the facet most consistently associated with disordered eating (MacLaren & Best, 2009). High levels of neuroticism reportedly increase the risk of an eating disorder, especially when in conjunction with low extraversion (Miller, Schmidt, Vaillancourt, McDougall, & Laliberte, 2006). Levels of impulsivity, which involves decreased forethought prior to acting, are reportedly different in those with AN in comparison to those with BN and BED (MacLaren & Best, 2009). While studies suggest individuals with AN are less impulsive than healthy controls (Claes, Vandereycken, & Vertommen, 2002; Fahy & Eisler, 1993), individuals with BN and BED demonstrate greater impulsivity (Claes et al., 2002). Results of a longitudinal study conducted by

Pearson, Zapolski and Smith (2015) suggest that impulsive actions predict early engagement in binge eating. However, studies on personality variables predominantly rely on self-report measure and have largely been correlational in nature. As such, the direction of causality is largely unknown.

Psychological disorders have also been suggested as concurrent risk factors. In particular, it has been suggested early-onset anxiety disorders may predispose one to develop an eating disorder (Bulik, Sullivan, Carter & Joyce, 1996; Godart, Flament, Lecrubier, & Jeammet, 2000). Deep and colleagues (1995) found, through retrospective study of recovered patients, that childhood anxiety disorders preceded the diagnosis of AN by roughly 5 years. More specifically, some research has postulated a possible causal relationship between Obsessive-Compulsive Disorder (OCD) in childhood and the development of disordered eating (Anderluh, Tchanturia, Rabe-Hesketh & Treasure, 2003; Kaye et al., 2004; Micali et al., 2011). Micali and colleagues (2011) found that this risk is specifically heightened for female children with OCD who have a family history of disordered eating. However, it may be that anxiety is secondary to eating pathology or that anxiety and disordered eating share a common vulnerability factor.

There is also some evidence to suggest that early-onset depressive symptoms are associated with early onset binge eating among children and adolescence (Pearson et al., 2015). Other research, however, has suggested that thin-ideal internalization and body dissatisfaction result in subsequent depression (McCarthy, 1990), the effects of starvation contribute to depression (Hughes et al., 2013) and depressed mood significantly improves when weight is restored (Meehan, Loeb, Roberto & Atia, 2006). Further, there is

diagnostic overlap between eating disorders and depression (e.g., decreased appetite, emotional lability, lethargy; American Psychiatric Association, 2000).

Personality dysfunction has also been suggested to increase the risk of disordered eating. The reported prevalence of personality disorders amongst individuals with AN ranges from 22% to 87% (Reas, Rø, Katerud, Hummelen, & Pedersen, 2013; Rosenvinge, Martinussen, & Østensen, 2000), and most commonly are Cluster C disorders (i.e., Avoidant, Dependent, Obsessive-Compulsive) followed by borderline personality disorder. Although the prevalence of personality disorders is unknown among individuals with eating disorders, restricting type AN is often associated with obsessive-compulsive personality features, while eating disorders involving impulsivity (e.g., AN binge/purge type, BN, BED) are often associated with impulsive personality features (Sansone, Levitt & Sansone, 2004). However, regarding comorbid psychological conditions, it is difficult to determine whether they precede the onset of the disorder, are outcomes of disordered eating or share an underlying causal mechanism.

In addition to individual risk factors, there is much research to suggest that a number of familial variables increase the likelihood that one will develop an eating disorder. The presence of a family history of disordered eating significantly increases the likelihood that an individual will develop an eating disorder. Relatives of probands with AN or BN have elevated proportions of AN and BN compared to relatives of unaffected controls (Lilenfeld et al., 1998; Strober, Freeman, Lampert, Diamond, & Kaye, 2000). Further, individuals with a first-degree relative with AN are reported to be 11 times more likely to be diagnosed with AN (Strober et al., 2000), while estimates of BN suggest that first-degree relatives of individuals with BN are between 4.4 (Strober et al., 2000) and 9.6

(Kassett et al., 1989) times more likely to develop the condition. BED also occurs at a higher frequency among family members of individuals with BED, although at a somewhat lower rate (between 1.9 to 2.2 times more likely; Hudson et al., 2006; Javaras et al., 2008; Lee et al., 1999).

There is also some evidence to suggest that specific parenting practices and family interaction patterns may increase the risk that one will develop an eating disorder. Minuchin and colleagues (1978) postulated the existence of a certain family structure associated with the development and maintenance of disordered eating behaviors. Minuchin suggested that “anorectic” family dynamics were characterized by enmeshment, rigidity, overprotectiveness and lack of conflict resolution; however, this model has not been supported in further research (Kog, Vertommen & Vandereycken, 1987). More recent work has focused on level of emotional expressivity (Felker & Stivers, 1994) and responsiveness (Lyke & Matsen, 2013) involved in familial interactions. Research suggests that family members of individuals with eating disorders exhibit difficulties in the experience and expression of appropriate emotion (McGrane & Carr, 2002). There is also much literature suggesting that poor or insecure attachment relationships increase the risk for disordered eating (see Ward, Ramsay, Turnbull, Benedettini, & Treasure, 2000). Others have argued that, rather than the dysfunctional family interactions and environment being instrumental in increased risk, the content of what is expressed, valued and modeled among family members (e.g., appearance critiques, parent weight control practices, comments about dieting) is the main familial risk variable (see Davis, Shuster, Blackmore & Fox, 2004).

## *Etiology*

There have been numerous attempts to explain the causal factors underlying disordered eating. Some have attempted to identify specific putative causes, as well as combinations of factors into theoretical hypotheses. However, given that it is nearly impossible to conduct experimental research involving manipulation of the suggested causal factor and researchers are unable to combine all potential factors into a model, research has yet to identify the specific causal pathway that results in disordered eating.

A number of gene studies have confirmed a link between genetics and eating disorders, suggesting that the disorders are highly heritable. Twin studies indicate that roughly 60% (Bulik et al., 2006) to 88% (Thornton, Mazzeo & Bulik, 2011) of the variance in risk for developing AN is due to genetics. Similarly, population-based studies of BN suggest heritability estimates between 54% and 83% (Bulik, Sullivan & Kendler, 1998; Wade et al., 2011), and 50% for BED (Bulik et al., 1998). Research suggests that the associated concerns, fears and preoccupations with weight and food are also highly heritable (Klump, McGue & Iacono, 2000).

There is some evidence to suggest neuroendocrine dysfunction as causal in the development of disordered eating. Researchers also speculate that neuronal functional differences, such as in the serotonin (5-HT) system, glucose metabolism and cerebral blood flow, are causative in the development eating disorders (for review see Kaye, 2008; Phillipou, Rossell, & Castle, 2013). However, as much of this work is conducted on individuals who have already been diagnosed with eating disorders, it is unclear as to whether these differences exist prior to the onset of eating pathology or are a result of nutritional deficiencies. Specific to females, researchers have begun to consider whether

the pubertal activation of ovarian hormone estrogen is causal in the development of disordered eating. Not only does estrogen drive many of the physical changes associated with puberty (Wilson, Foster, Kronenberg, & Larsen, 1998), but it is also proposed to impact the production, reception and transduction of serotonin (Klump & Culbert, 2007; Klump et al., 2010). However, this is early research with only a few relevant studies, underscoring the need for caution in forming conclusions.

Family systems theories suggest a number of functioning characteristics that may be influential in the development of disordered eating behavior. As previously mentioned Minuchin, Rosman and Baker (1978) describe the “anorectic” family as highly enmeshed and rigid, characterized by an overprotective attitude toward the child. Within these families, it was argued that there exists decreased conflict resolution and increased involvement of children in parental conflicts. While bulimic families also present with system dysfunction, they differ from anorectic families in that they are characterized by disorganization, conflict-escalation, ambivalent enmeshment, and lack of control and effective problem solving. Researchers speculate that dysfunctional family patterns result in difficulties with identity formation and self-control, leading to disordered eating behaviors (Polivy & Herman, 2002). This line of research, however, has received criticism for assuming that familial dysfunction is causal rather than in response to disordered eating behaviors (Treasure et al., 2008), as attempts to substantiate family patterns specifically linked to eating disorders resulted in null findings (e.g., Dare, Le Grange, Eisler, & Rutherford, 1994; Humphrey, 1989). Furthermore, Ward and colleagues (2000) propose that dysfunctional family characteristics are secondary to the

illness, rather than causal. While family functioning may influence disordered eating behaviors, it appears additional variables are necessary to understand their development.

Sociocultural theories (e.g., Szmukler & Patton, 1995) implicate the cultural value of the “feminine ideal,” as well as the communication of such ideal, in the development of disordered eating. It is suggested that, the ideal figure is difficult to maintain across cultures, indicating that in cultures where food is scarce the ideal body shape is more likely to be round (Polivy & Herman, 2002). Early sociocultural theorists focused predominantly on the culture of thinness where there is an abundance of food and resources. This culture was concentrated amongst individuals in upper socioeconomic groups where eating disorders were more frequently identified (Bruch, 1973; Garfinkel & Garner, 1982). The media have increasingly presented images in line with the “thin-ideal,” or the societal standard of beauty in Western cultures for women to be well below the weight of the average woman. As such, exposure to the female thin-ideal now occurs across groups and, simultaneously, eating disorders have risen in occurrence. Thus, much attention has shifted to the influence of the media as a causal variable. Tiggemann and Slater (2004) found that brief exposure to music videos containing thin ideal body images resulted in decreased mood and increased body dissatisfaction among women. Further, research suggests that amount of time spent watching soap operas, movies and music videos predicted body dissatisfaction and drive for thinness (Tiggemann & Pickering, 1996).

Sociocultural theories have also focused on peer influences as contributors to the development of eating disordered attitudes and behaviors (Shomaker & Furman, 2009). As individuals get older, peer networks and values become increasingly important, and

pressures from peers become highly salient during adolescence (Sullivan, 1953). Such theories suggest that social reinforcement perpetuates values and modeling promotes engagement in specific behaviors. Stice (1998) argues that peers communicate messages to support the thin ideal through encouragement to diet and comments regarding weight, resulting in the internalization of such values and eating pathology. Lieberman and colleagues (2001) found that peer pressure predicted eating behavior and body esteem among adolescent girls, and girls rated as more popular were more likely to engage in disordered eating behaviors.

Given the diversity in previously mentioned causes, it is likely that a combination of such factors accounts for disorder development. The biopsychosocial approach (e.g., Herpertz-Dahlmann, Seitz, & Konrad, 2011; Rodgers, Paxton & McLean, 2014) incorporates all aforementioned variables, as well as individual factors, into a single theoretical model. Specific to AN, Herpertz-Dahlmann and colleagues (2011) put forth a model suggesting that baseline vulnerability depends on genetic, prenatal and individual traits and cognitive style (e.g., obsessionality, perfectionism, deficits in social cognition) that interact with events occurring at puberty (e.g., brain development, hormones, life events, cultural values) and determine whether an individual diets. The weight-loss and starvation subsequently impacts brain development, causing neuropsychological changes and increased anxiety, depression and obsessionality. Alternatively, Rodgers and colleagues (2014) found evidence to support a model for the etiology of BN indicating that depression, low self-esteem, BMI, peer weight-teasing, and sociocultural pressure results in internalization of societal values and comparison of self to the thin-ideal.

Interaction of such risks is associated with increased body dissatisfaction and weight/shape concerns, resulting in subsequent dietary restraint and bulimic symptoms.

The Attuned Representation model is an additional biopsychosocial model that has been proposed, conceptualized from a positive psychology framework with an increased emphasis on use in prevention in schools (Steck, Abrams & Phelps, 2004). This model integrates risk factors associated with the onset of disordered eating (i.e., biological, psychological, and social) while addressing ongoing cultural factors (i.e., the ecological context in which the child develops) that moderate the risk, etiology and maintenance of such disorders (Cook-Cotone, 2006). This model involves two interactive systems: the self-system and the cultural system. The self involves physiological, emotional and cognitive components, while the cultural system is made up of familial, community and cultural systems (modeled after Bronfenbrenner's [1979] model). The self and cultural systems reciprocally influence each other, and healthy development is hypothesized to depend on adequate attunement between the self and surrounding ecological context.

Based on this model, Phelps, Johnston and Augustyniak (1999b) surveyed 830 females between 6<sup>th</sup> to 12<sup>th</sup> grade and found that physical self-concept, social self-concept, self-concept of competence and academic self-concept were all negatively associated with bingeing and purging behaviors. Based on these data, Phelps and colleagues (1999a) implemented a school-based eating disorder prevention program that addressed both resilience and risk factors. The program demonstrated effectiveness at reducing known risk factors and increasing protective factors. In an attempt to address the ecological context, Neumark-Sztainer and colleagues (1999) involved teachers in an

eating-disturbance prevention program to modify the school ecology. Student participation in the program resulted in fewer disordered eating behaviors and higher self-efficacy among overweight girls at two-year follow-up. While it is evident that there is support for a biopsychosocial etiology, models put forth are lacking in specificity and researchers have yet to agree on a comprehensive model that captures all relevant variables (Polivy & Herman, 2002).

#### *Current Identification, Assessment and Intervention Practices*

The psychological components are not often those first evident among individuals with eating disorders. There are significant physical side effects and outcomes associated with disordered eating. Long-term disordered eating is associated with conditions such as osteoporosis, cardiac arrhythmia, amenorrhea, esophageal strictures, and gastric ulcers (Carney & Andersen, 1996). As such, physicians are often the first to indicate the possible presence of an eating disorder and complete initial evaluations (Sim et al., 2010). However, physicians often report having received insufficient training in the assessment, diagnosis and treatment of disordered eating (Boulé & McSherry, 2002), as well as numerous barriers to the management and treatment of eating disorders (Clarke & Polimeni-Walker, 2004; Robinson et al., 2013). In fact, a study by Robinson and colleagues (2013) of Canadian physicians and psychologists revealed that 90% of the total sample had previously encountered a case involving disordered eating that they were unable to treat. Physicians cited inhibiting factors that included lack of skill, resources, patient cooperation and time. Despite being in a unique position to detect symptoms of disordered eating, formal screening tools are rarely utilized by primary care providers.

When disordered eating is suspected, physicians often monitor weight or refer to a psychologist for further evaluation.

After being designated as at-risk for the presence of an eating disorder, a comprehensive assessment should follow. A clinical assessment for disordered eating is multidimensional, involving medical, psychological, behavioral, nutritional, interpersonal and psychosocial factors (Stice & Peterson, 2007). Psychological, behavioral, interpersonal and psychosocial factors may be measured by a combination of standardized self- and parent-report measures and clinical interviews. A number of questionnaires exist, such as the Eating Disorder Examination – Questionnaire (EDE-Q; Fairburn & Beglin, 1994), the Eating Disorder Diagnostic Scale (EDDS; Stice, Telch, & Rizvi, 2000) and the Eating Disorder Inventory – 2 (EDI-2; Garner, 1991). However, questionnaires may provide an inaccurate assessment of symptoms due to difficulty understanding items (Fairburn & Beglin, 1994). As such, it is imperative that clinical interviews, such as the Eating Disorder Examination (Fairburn & Cooper, 1993) or the Eating Disorders Diagnostic Interview (EDDI; Stice, Burton, & Shaw, 2004) with adolescents, be used in conjunction with questionnaires.

Unfortunately, the assessment of youth with eating disorder symptoms carries a number of challenges. Except for the EDDI, none of the aforementioned measures have been evaluated with children. Furthermore, children may have difficulty in describing thoughts, feelings and behaviors, or may be hesitant to do so (Gowers & Bryant-Waugh, 2004). Additionally, a diagnostic feature of AN involves denial of the severity of the illness, suggesting that individuals with this disorder are not reliable self-reporters. Researchers emphasize that evaluation of disordered eating behaviors should not solely

be based on information provided by children and adolescents. The Children's Eating Behavior Inventory (CEBI; Archer, Rosenbaum, & Streiner, 1991) was designed for parents to complete, and evaluates eating and mealtime problems for children 2-12 years of age. While best practices for all assessments involve information obtained from multiple sources through multiple methods (Mash & Hunsley, 2007), clinical studies have displayed low concordance between parent and adolescent reports of symptoms. It is hypothesized that this is due to secrecy, minimization and hiding of symptoms (Couturier, Lock, Forsberg, Vanderheyden, & Yen, 2007; House, Eisler, Simic, & Micali, 2008; Salbach-Andrae et al., 2008; Swanson et al., 2014). Accurate diagnosis is imperative for appropriate referral and treatment, but the complexity of criteria and limitations associated with self-report data from children and adolescents make this a challenging process. Determination of the severity of symptoms is necessary to initiate treatment, which may involve outpatient therapy, residential treatment or inpatient hospitalization.

Once the presence of an eating disorder is indicated, treatment should begin. Given the secretive nature of disordered eating, those experiencing the disorder rarely seek treatment voluntarily. More frequently, it is parents, relatives or friends who are initiating the intervention. The primary psychological component of treatment typically involves individual therapy. Unfortunately, there is not a gold-standard treatment that has been found to be effective in treating eating disorders. Cognitive-behavioral therapy (CBT) is supported as the most efficacious psychological treatment for BN (Wilfley, Kass, Kolko & Stein, 2012), with the primary goal of eliminating the binge-purge cycle and modifying dysfunctional thoughts associated with weight and shape (Wilson et al.,

1997). CBT also has been effectively modified for use with adolescents with BN (Schmidt et al., 2007). Effectiveness of CBT has not been as consistently cited among individuals with AN nor BED. In contrast to individuals with BN, weight gain is a primary goal for those with AN and fear of weight gain often impacts motivation to begin and continue treatment (Garner et al., 1997). Additionally, for individuals with severe AN, low body weight may impact cognitive processes and psychological treatment may not be possible until progress has been made with the refeeding process.

Other forms of individual therapy that have received some support in the literature are Interpersonal Psychotherapy (IPT) and Dialectical Behavior Therapy (DBT). IPT, originally developed to treat adults with depression, is a brief therapy that aims to improve interpersonal functioning by associating symptoms with interpersonal difficulties and developing strategies to cope with these problems (Klerman, Weissman, Rounsaville, & Chevron, 1984). IPT has demonstrated efficacy in the treatment of BN (Fairburn et al., 1991) and BED (Wilfley, Frank, Welch, Spurrell & Rounsaville, 1998), but not AN, and has not yet been effectively modified for use with children and adolescents. DBT, on the other hand, has been successfully adapted for adolescents with eating disorders. DBT was originally developed by Linehan (1993a, b) to treat individuals with chronic emotional and behavioral dysregulation by reinforcing adaptive behaviors in a validating environment. It has been suggested that DBT is effective for youth with eating disorders because disordered eating behaviors are considered behavioral attempts to avoid or change painful emotions (MacPherson, Cheavens, & Fristad, 2013).

In addition to individual therapy, many eating disorder treatment facilities offer group therapy. Izydorczyk and Niziołek (2010) argue that group therapy is crucial to comprehensive treatment and that psychological group dynamics encourage growth in social behavior patterns and adolescent identity formation. Among inpatient facilities, these groups are often intended to process external conflicts when they arise between patients and facilitate support in recovery in the milieu. However, there is mixed evidence regarding the effectiveness of group therapy with this population. While group therapy settings can promote support amongst participants, this setting may result in increased stress, competition for thinness and learning of new habits (Espíndola & Blay, 2009; Tierney, 2008). Additionally, there has been some concern that extended group therapy may result in the development of a group identity in which the patients overidentify with having an eating disorder and the therapeutic process is hindered (Duncan & Kennedy, 1992). At this point, the research is unclear as to whether the negatives outweigh the support and cohesion associated with group therapy.

There is a great deal of evidence to support the importance of family involvement in the treatment of eating disorders. A number of therapies exist that support parents directly in managing and dealing with disordered eating symptoms, including family-based treatment (FBT), otherwise known as the “Maudsley method” (Lock, le Grange, Agras & Dare, 2001), and behavioral family systems therapy (BFST). For children and adolescents with AN specifically, family-based intervention has demonstrated superiority to individual therapy alone (see Keel & Haedt, 2008). While it is clear that familial involvement is important for recovery, research has yet to determine the most effective manner in which they should participate. Parent skills training involving reflective

listening, change talk, behavior modification and problem solving among other things resulted in improvements in parent self-efficacy, psychological distress, anxiety and burden (Goodier et al., 2014). Intensive family treatment early on in the course of the disorder has also been shown to be beneficial (Eisler et al., 1997), as well as the inclusion of multiple family therapy formats (Le Grange & Eisler, 2009). However, holding individual therapy sessions with parents apart from their child has been found to be more effective among families with high levels of expressed emotion (Eisler, Simic, Russell & Dare, 2007; Le Grange, Eisler, Dare & Russell, 1992). Additionally, some researchers have found that family involvement should only begin once levels of eating disorder symptoms are low (Le Grange, Crosby & Lock, 2008) and is most effective for youth with a short duration of illness (Minuchin et al., 1978).

Youth with disordered eating are often referred to therapists who specialize in the treatment of eating disorders (Bardick et al., 2004). Children and adolescents are at decreased risk for chronic disordered eating when they have access to specialized treatments early in the course of an eating disorder (Minuchin et al., 1978). Adolescents who accessed treatment after more than three years of being ill responded poorly to both individual and family therapy (Treasure & Russell, 2011). However, one of the largest barriers to treatment is gaining access to such specialists. Thus, schools and SMH professionals are in an ideal position to identify and intervene with this population.

#### *Current School Service Provision*

For the most part, school-based identification, prevention and intervention programs have not focused explicitly on disordered eating. These programs have predominantly emphasized preventing or reducing obesity through education on the

importance of exercise, correct nutrition and having a healthy attitude regarding eating. A review completed by Doak and colleagues (2006) found that such approaches may be effective in building healthier habits, with 17 out of 25 school-based interventions resulting in decreased BMI. However, a number of methodological problems have been noted among most school interventions, including lacking a theoretical basis, parent involvement, outcome evaluation, program integrity and appropriate data analyses (Cole, Waldrop, D'Auria, & Garner, 2006; Thomas, 2006). Of those most effective, the programs emphasized social-cognitive theory, which focuses on the importance of social and environmental factors that influence psychosocial and behavioral risk factors for obesity (Gortmaker et al., 1999). Within this program, students were provided with and practiced cognitive and behavioral skills for behavior change.

As the rates of eating disorders continue to rise, some schools have focused on the universal prevention of disordered eating. Such programs are mixed-gender, and have been delivered by school counselors (Neumark-Sztainer, 1996; Stice, Shaw & Marti, 2007) and general education teachers (Favaro, Zanetti, Huon, & Santonastaso, 2005). Program lengths have ranged from one-time lectures to educational programs of 5-15 sessions to comprehensive school-based programs that link the school to the community. Of the more comprehensive, Allensworth and Kolbe (1987) developed a conceptual model for a school health program that has been suggested for use to develop a comprehensive eating disorder prevention program (Neumark-Sztainer, 1996). This type of program involves the following: staff training, modules on preventing disordered eating, integration of program material into existing curricula, individual and group

counseling for at-risk students, community referral system, healthy eating options at school, physical education modifications and community outreach opportunities.

While all primary prevention programs involve education of children, adolescents or school personnel, the topics of focus and participation of those involved vary from program to program. Early preventative programs predominantly involve passive pedagogical delivery of information surrounding what disordered eating is and associated negative outcomes (Shisslak, Crago & Neal, 1990). Unfortunately, it has been argued that providing students with information about eating disorders is more harmful than preventative (Carter, Stewart, Dunn, & Fairburn, 1997; O'Dea, 2000). However, more recent studies have found that programs targeting high-risk populations and risk factors shown to predict future onset of disordered eating (e.g., body dissatisfaction) versus the severity of disordered eating result in more positive outcomes and decrease the iatrogenic impact of earlier programs (Austin, 2000; Stice et al., 2007; Stice, Becker & Yokum, 2013).

Secondary prevention is considered the next tier of intervention, and involves screening and targeted intervention. The screening process aims to improve case identification and facilitate intervention through administration of a measure, such as the Eating Attitudes Test (EAT-26), to identify individuals with poor body image, unhealthy diet patterns or preoccupation with food and weight (Garner & Garfinkel, 1979). The National Eating Disorder Screening Program (NEDSP) was successfully implemented on college campuses in the mid 1990s, and roughly half of those who screened positive were referred to and saw a clinician within one month post screening (Jacobs, 1998). The same voluntary screening process was conducted in high schools nationwide in the spring of

2000, with similar positive results (D'Souza, Forman & Austin, 2005). Females in particular felt that the program increased their knowledge about eating disorders, changed their thoughts about body image and increased their discussion with friends surrounding disordered eating.

Although these procedures have yet to be incorporated into all middle and high schools, early identification of eating disorders has recently received legislative attention. Virginia Governor Bob McDonnell signed a bill into law requiring information about eating disorder to be sent home to parents of students in grades 5-12. Additionally, the Virginia Department of Education and Department of Health are required to develop a toolkit for eating disorder screenings. School-based eating disorder screenings have been shown to be cost-effective in the identification of students exhibiting disordered eating (Wright, Austin, Noh, Jiang, & Sonnevile, 2014). While screening helps to identify students, it does not remove barriers to trained specialists nor guarantee that those at-risk will receive treatment.

Targeted programs involve similar approaches as universal programs delivered to select high-risk groups. These may include adolescent females (e.g., Killen et al., 1992) or individuals who completed a screening process and scored above a pre-determined cut-off, suggesting that they are at-risk for an eating disorder. However, as very few schools have implemented eating disorder screening, there is little literature to support the inclusion of eating disorder intervention services in the schools. Rhyne-Winkler and Hubbard (1994) developed a comprehensive framework for a school wellness program focused on the prevention and intervention for disordered eating, involving staff and parent involvement, assessment, classroom guidance and small-group counseling

sessions. The school counselor is the leader within this framework, and meets regularly with school staff (e.g., physical education and health teachers, classroom teachers) to provide materials and explore how school staff can reinforce student learning. The counselor also visits each class to teach lessons on topics such as body-esteem and self-esteem, body image, perfectionism and locus of control. Small-groups are made up of children and adolescents who express a desire for participation, with separate groups for those who are overweight and of normal weight. However, no further research was found regarding implementation and evaluation of this framework. Additionally, despite the importance of individual therapy in the treatment of eating disorders, no literature was found to support individualized treatment within the school setting for this population.

*Is there a need for SMH Programs?*

*Potential Reasons Against SMH Programs for Disordered Eating.* While a number of articles have been written providing suggestions for serving youth with disordered eating in the schools (e.g., Hellings & Bowles, 2007; Jimerson & Pavelski, 2000), little work has been done to integrate services into the school setting. A predominant reason as to why school personnel do not intervene in cases where disordered eating is present may be due to lacking the training and skills necessary. School psychologists report limited access to appropriate methods and training regarding the identification and prevention of disordered eating (Fjelland, 2009). Although school counselors indicate disordered eating as a significant issue within their schools, they reported lacking competence in their ability to identify and assist students with disordered eating (Harshbarger et al., 2011; Price, Desmond, Price, & Mossing, 1990).

Given the medical complications associated with disordered eating, it has traditionally been viewed that these services are outside of the domain of practice for school personnel. In addition to reporting low knowledge of practices for youth with disordered eating, school psychologists cited significantly low need for knowledge of appropriate assessment strategies for eating disorders (Miller & Jome, 2008). The same sample of school psychologists also reported that evaluation of eating disorders was not an appropriate role and was more appropriate for mental health providers outside of the school; school counselors have expressed similar beliefs (Price et al., 1990).

*Potential Reasons for the Development of SMH Programs for Disordered Eating.*

The prevalence of disordered eating among primary and secondary school students is high, with 72% of a sample of school counselors having encountered students with AN or BN (Price et al., 1990). Given the frequency with which school staff witness disordered eating among school-age individuals, SMH professionals are in an ideal position to intervene (Schulman & Mulloy-Anderson, 2011). Not only would provision of SMH services for youth with disordered eating enable treating the student population ‘where they are’ (Weist, 1997; Weist & Ghuman, 2002), but also school staff have longer exposure to students and may be better adept at witnessing changes in behavior than outside practitioners. Further, children and adolescents may feel more comfortable working with school-related personnel than someone in a less familiar setting.

A further reason as to why SMH services are needed for youth with disordered eating is that treatment services for disordered eating are significantly underused (Brown & Keel, 2012; Hart et al., 2011; Swanson et al., 2011). Results from a national study of adolescents indicate that while the majority of adolescents receive some sort of treatment

for an emotional or behavioral problem, less than 30% receive treatment specifically for eating dysfunction (Swanson et al., 2011). Burket and Hodgkin (1993) found that 28% of referrals to an eating disorder clinic did not attend their first session. Further, between 20% and 50% involved in treatment for disordered eating drop out (Mahon, 2000; Schnicker, Hiller & Legenbauer, 2013).

Even when youth and their families seek treatment, they are often unable to use specialized services due to minimal insurance coverage. In many health insurance plans, the scope of benefits for eating disorders is minimal and the copayments are beyond what the family is able to afford (Rome et al., 2003). Insurance issues have resulted in decreased services provided by specialized programs for eating disorders, which pressures clinicians to delay admissions and advance discharge (Litt, 1999; Sigman, 1996; Zablocki, 1998). Thus, the provision of identification and intervention services for youth with eating disorders in the school setting may side step insurance barriers. However, due to limited funding for this work, many programs must rely on Medicaid or other insurance-based funding mechanisms or require fee-for-service reimbursement (Weist et al., 2012). This suggests that SMH programs may not fully eliminate fiscal difficulties in treatment access. Aside from monetary barriers, SMH services may initiate the process of recovery while an adolescent awaits approval for and admission to a more specialized facility. Provision of services in the school enables consistent delivery of care, and removes transportation and some financial barriers to care.

A further reason that SMH services are necessary for children and adolescents with disordered eating is the significant physical, social, cognitive and mental health consequences associated with eating dysfunction. Disordered eating has been shown to

negatively impact academic functioning. Research indicates that body image concerns, restrictive eating and bulimic symptoms significantly interferes with school attendance, attention paid in class and homework completion (Yanover & Thompson, 2008). Further, there is evidence to suggest that deficits in neurocognitive functioning and executive functioning are present among individuals with eating disorders (e.g., Allen et al., 2013; Tchanturia et al., 2012; Williamson, Muller, Reas, & Thaw, 1999). Eating disorders have also been associated with poor interpersonal problem-solving abilities and difficulties in establishing romantic relationships later on (e.g., Morrison, Doss, & Perez, 2009; Schutz & Paxton, 2007). If schools are to function as intended and children are to succeed, schools must address physical and mental health concerns (Weist, 1997). Given the significant impact that disordered eating has on overall functioning, it is imperative the SMH programs address eating disorders.

Lastly, depending on the severity of the illness, youth with disordered eating often require hospitalization or residential treatment. Once sufficient progress is made in recovery, these children and adolescents are allowed to return to school. However, after spending time in a residential facility, it can be difficult to transition back into the real world (Daily-Murphy, 2006). Thus, children and adolescent need support, accountability and structure to help maintain gains and encourage further recovery. The provision of SMH services is needed to help these students restrain from urges to engage in behaviors, deal with triggers (e.g., media content, peer comments), and manage their stress and emotions. Further, SMH clinicians can help students be accountable for meals and eat with the students early on when it may be difficult to eat in the cafeteria.

The need for services for youth with disordered eating provided in an educational setting is evident. Despite the increasing prevalence of eating disorders among children and adolescents, there is little to no literature on the provision of SMH services specific to disordered eating. As such, school staff with training to provide mental health services (i.e., school psychologists, school counselors, school social workers, SMH community-employed clinicians) may be untapped resources for dealing with this problem. However, the magnitude to which such school personnel are knowledgeable and capable of intervening with this population is unclear. Additionally, given the secrecy and stigma associated with disordered eating, there is no existing literature as to whether youth with eating disorders would make use of SMH services.

Therefore, the purpose of this mixed methods study was two-fold. The qualitative strand of this study explored the experiences of adolescents and their families in recovery from eating disorders, as well as their experiences with school-related services. Quantitatively, this study assessed the current the knowledge and skills of SMH staff to determine whether implementation of SMH services for youth with disordered eating is possible. The following section outlines the methods and procedures utilized in this study.

## CHAPTER 3

### METHODS

#### *Study Design*

This study was conducted to explore the need for increased identification and intervention for disordered eating by SMH professionals and develop recommendations for SMH programs to improve effective intervention strategies for this population. To fully answer the research questions, a mixed methods approach was utilized (Creswell & Clark, 2011). Mixed methods research is characterized by the collection and analysis of qualitative and quantitative data, drawing integrated inferences and conclusions to inform a program of study (Creswell & Clark, 2011; Tashakkori & Creswell, 2007). A key tenet of mixed methods research is that analysis of multiple perspectives utilizing qualitative and quantitative approaches results in the most comprehensive understanding of complex topics than either method alone, such as the experiences of youth, families and clinicians dealing with disordered eating. The purpose of the study was two-fold. While the qualitative strand explored the views of adolescents in recovery from eating disorders and their families on experiences with recovery and school-related services, quantitative methods were utilized to examine SMH professionals' knowledge, training and roles regarding eating disorder interventions.

Quantitative investigators utilize a positivist framework to conduct empirical research measuring and analyzing causal relationships between different variables (Sale, Lohfeld & Brazil, 2002). Positivism focuses on the identification of empirically-based,

objective facts and laws grounded in statistical relationships amongst variables (Ackroyd, 2004; McEvoy & Richards, 2006). The quantitative researcher selects specific variables through reduction, develops causal hypotheses and conducts statistical analyses utilizing reliable and valid measures. In order to prevent the investigator from influencing constructs of interest, research methods include blinding, standardized research protocols, objective measurement tools, random assignment and counterbalancing.

While quantitative research focuses on counts and measures of constructs, qualitative research concerns itself with characteristics, descriptions and metaphors (Berg, 2009). Qualitative approaches are based in interpretivist or constructivist paradigms, which emphasize how the world is socially constructed and deciphered (Blaikie, 2007; McEvoy & Richards, 2006). Qualitative research does not employ the statistical methodology associated with quantitative methods, but rather utilizes the interaction between the researcher, participants and constructs to facilitate understanding (Phillips, 1988). Participants are purposefully selected based on the domains of interest with methods including interviews, focus groups, participatory action research and ethnographic work. Data analysis concentrates on emergent themes and values with participants' perceptions of the world and results in contextual understanding of the topic of interest.

Combining these two approaches results in mixed methods research, which is based in a pragmatist worldview (Creswell & Clark, 2011). Pragmatism is pluralistic, or operates with multiple research methods and paradigms. Furthermore, it is real-world and practice oriented, focusing on the primary importance of the question being asked and the consequences of research rather than on specific methodology. Quantitative and

qualitative methods are compatible in that, despite their differences, the primary goal of each is to better understand the world (Sale et al., 2002). Further, there is a shared commitment to improvement of the human condition, dissemination of practical knowledge and rigor of scientific research (Reichardt & Rallis, 1994). The employment of both quantitative and qualitative methodologies enables better understanding of a research problem.

The methodology used in this study was that of a convergent parallel mixed methods design, consisting of two simultaneous but separate phases (Creswell & Clark, 2011). The rationale for this approach was that the qualitative and quantitative methods provided different but complementary data regarding the treatment of eating disorders within the schools. Synthesis of qualitative and quantitative findings enabled comprehensive understanding of a multifaceted issue. In this design, the purpose of the qualitative phase was to collect subjective data utilizing individual semi-structured interviews. Interviewing youth who have had difficulties with disordered eating and their families helped to gain an understanding of the perspectives of those who have most closely been linked to eating disorder services and their viewpoints on the integration such services within SMH. In the quantitative phase, data were collected using a web-based survey distributed to SMH providers. The goal of the quantitative methodology was to determine whether services for disordered eating are present and can be feasibly and effectively implemented within SMH services.

Within this convergent parallel design, priority was given to neither method, as the interviews with key informants provided varying perspectives on the issue of SMH service provision for youth with eating disorders and deeper understanding of true

experiences. Prior to administration of the semi-structured interviews, experts within the fields of eating disorders and qualitative research evaluated interview questions to determine appropriateness of interview protocols. Simultaneously, the quantitative component of the study was implemented utilizing a modified survey of SMH providers. The qualitative and quantitative methods then interfaced, with the integration of the results of both the qualitative and quantitative strands and their interpretation determined the outcomes of the study in its entirety.

### *Qualitative Phase*

*Participants.* For the qualitative portion, the primary researcher interviewed adolescent females who received services for disordered eating while in primary or secondary school, and their mothers. Participants were selected using purposive sampling (Berg, 2009) to obtain fully-informed answers to the interview questions. In qualitative research, the researcher emphasizes quality over quantity, selecting participants who can enable rich exploration of the topic of interest. A small sample size afforded the opportunity for in-depth exploration of experiences, patterns and themes.

Participants were recruited from a specialized eating disorders treatment facility in Columbia, SC. This non-profit, comprehensive eating disorder treatment facility provides treatment, prevention and education services using family-focused, evidence-based care. Services offered include residential, partial hospitalization (12 hours/day, 7 days/week), intensive outpatient (4 hours/day, 3 days/week for 8 weeks), outpatient and aftercare. To obtain participants farther along in recovery, participants were recruited from a weekly parent support group offered by the lead outpatient therapist. The researcher aimed to recruit eight daughter-mother dyads. However, due to low attendance

rates at the weekly parent support group, the resulting sample size consisted of 6 daughter-mother dyads and 2 additional adolescents. As the research questions are unrelated to the mother-daughter relationship, the researcher made the decision to include these adolescents, as their experiences are informative. In addition to having an eating disorder while in primary or secondary school, additional enrollment criteria for this study included:

- Able to understand study instructions
- Able to complete an individual interview
- Able to provide own consent to participate

Failure to meet all enrollment criteria resulted in exclusion from the study. Following IRB approval from the University of South Carolina (Appendix A) data collection began.

*Data Collection.* The qualitative phase of the study focused on identifying perspectives of key informants on eating disorder service provision. The primary technique involved conducting in-depth semi-structured in-person or telephone interviews with adolescent female participants with former ED and their respective mothers. Interview protocols were developed for each group, with 12 open-ended questions for the adolescent version and 15 open-ended questions for the parents. An eating disorder specialist, an expert in SMH and an expert in qualitative methods reviewed questions and revisions were integrated as suggested. Such an external audit aimed to enhance the credibility of the study. Further, both interview protocols were piloted with a volunteer member from each group.

Questions focused on parent and adolescent experiences receiving treatment for an eating disorder while in school and perceptions of need for support services in SMH.

Participants were also asked for suggestions for effective ways to integrate services in SMH such that youth with disordered eating will feel supported. Prior to the interview, all participants received a letter of invitation (see Appendix B) and a consent form for participation (see Appendix C), informing participants of safeguards to protect anonymity. Interviews occurred either in-person or via phone, and were audio recorded. In-person interviews were conducted in a private office at the eating disorders treatment facility. Prior to beginning the interview, all participants completed a brief demographic survey (see Appendix D). The interview lasted an average of 44 minutes, depending on the level of detail provided by the participant. Upon completion of the interview, participants were given the opportunity to provide feedback to determine perceptions of appropriateness of questions asked and were compensated for their time with a \$20.00 gift card. Interview protocols can be found in Appendix E.

The qualitative strand was descriptive, aiming to answer the research questions as to how the provision of school mental health services impacted this sample of adolescents with disordered eating. Descriptive qualitative methodology is frequently criticized for simplicity and lacking rigor (Milne & Oberle, 2005). However, it often results in greater consensus among researchers and lower-inference interpretation (Sandelowski, 2000). As such, the factual and uncomplicated nature of this methodology had utility with the population of interest for this study and allowed for triangulation with quantitative data.

*Data Analysis.* Interview data were transcribed word-for-word by the principal investigator into Microsoft Word. The principal investigator verified accuracy of transcriptions within 24 hours of transcription with audiotape playback. Transcripts were first manually coded for initial emergent themes. Following analysis and compilation of

initial emergent themes and categories, participants were asked to review and provide feedback on the appropriateness of the findings. Member checking (Creswell & Clark, 2011) following completion of interviews and data analysis served to enhance the credibility of the findings, and decreased the possible influence of research staff bias.

Data were then transferred into NVivo 10 qualitative data analysis software (QSR International Pty Ltd., 2014). The guiding theoretical framework for data analysis was thematic analysis, which is a qualitative descriptive approach used to identify, analyze and report patterns or themes with data (Braun & Clarke, 2006). The researcher employed a realist methodology, which is a philosophy of science founded upon a prior truths of the world with the knowledge that full understanding of reality is impossible as our perceptions are shaped by theoretical resources and investigative interests (McEvoy & Richards, 2006). The purpose of utilizing this methodology was to report the reality that participants experienced and to organize and describe their experiences rich detail. Within this process, the researcher took an active role in identifying themes throughout interviews with the goal of reflecting reality. With a realistic approach, the researcher was able to describe experience and meaning in a straightforward manner (Widdicombe & Woofit, 1995). Following transcription, the researcher then analyzed each interview transcript and developed preliminary, data-driven codes. Initial codes were applied to the interviews and notable quotes and excerpts were noted.

Analyses occurred across cases, which involved grouping together different participant responses to form common categories (Miles & Huberman, 1994). Data from individual interviews of adolescents and parents provided for mutually supported findings. Cross-case descriptive analysis was employed to enhance generalizability, and

deepen understanding and explanation (Miles & Huberman, 1994). Although some have argued that enhancing generalizability is inappropriate for qualitative studies, utilizing cross-case analysis improved the researcher's ability to determine the broad applicability of qualitative findings. Cross-case analysis also enabled reconciliation between individual case uniqueness and a general understanding across the experiences of adolescent females and mothers.

More specifically, the principal investigator employed variable-oriented strategy by examining themes that cut across cases. Rather than studying cases in depth, the researcher engaged in careful inductive descriptive coding to locate recurring themes across cases. Inductive analyses maximized the emergence of themes and patterns without restricting exploration to a particular theoretical perspective. Evaluating similarities and differences between all cases facilitated an understanding of how different roles within the treatment process impact perspectives of the participants on inclusion of disordered eating treatment within the schools. Content analysis then allowed the researcher to discover themes and patterns as well as core consistencies across cases.

Holistic codes were developed from the initial codes and transferred to NVivo. The principal researcher utilized an analyst-driven, theoretical process by coding for specific research questions. Codes were grouped into categories based on research questions and then further analyzed for emergent semantic themes within each research question. When using a semantic approach, the researcher does not aim to identify underlying ideas and assumptions, but rather focuses on what was explicitly stated by the participants. A theme is considered as something that describes something important about the data along the lines of research questions and involves a patterned response that

is consistent across the data set (Braun & Clarke, 2006). The researcher chose to quantify the qualitative data, otherwise known as quantizing (Creswell & Clark, 2011). Frequency analyses were conducted to identify how often codes and themes were indicated. The researcher aimed to provide a rich thematic description of all interview data in order to convey the important themes obtained in interviews. This method has been described as useful in an under-researched area in which participants' views are largely unknown (Braun & Clarke, 2006), as in the area of SMH services and disordered eating. The goal of this qualitative analysis was to identify the experiences of adolescent females and their mothers and convey their perspectives truthfully and realistically. As theory development was beyond the scope of this descriptive study, emergent themes were not further developed into a theory.

#### *Quantitative Phase*

*Participants.* The quantitative component of the study involved a national sample of SMH professionals (e.g., school psychologists, counselors, social workers, clinicians, nurses) utilizing simple random sampling/ comprehensive sampling. This procedure aimed to ensure that each element had an equal and independent chance of inclusion, as was attempted utilizing web-based distribution of the survey to the CSMH network, as well as numerous state-level school psychology, school counseling, school social work and school nursing associations. As previously described, SMH programs involve the provision of a continuum of mental health services by school-employed and community mental health professionals within programs involving family-school-community partnerships. The Center for School Mental Health (CSMH) at the University of Maryland, a federally funded national center for research, program and policy support,

and guidance for SMH, provided for connection with the National Community of Practice on Collaborative School Behavioral Health. Through this collaboration, survey invitations were distributed to members of the Quality and Evidence-Based Practice group, which has a primary aim of sharing information regarding quality improvement of SMH programs and disseminating evidence-based practices in SMH. A total of 720 SMH providers completed the survey; however, due to missing data, the final sample size was 561. Respondent characteristics and demographic findings are described in Chapter Four.

*Data Collection.* The quantitative phase of the study aimed to identify factors relating to SMH provision of services related to disordered eating. The quantitative data was predominantly obtained to support results of understand current knowledge and training of professionals, as well as feasibility and acceptability of implementation. This data was collected utilizing a modified version of a survey (Judge, 2001) originally intended for school psychologists. This survey was comprised of closed-ended questions covering knowledge of disordered eating, training and skills in providing services and the extent to which SMH professionals have engaged in intervention with this population. Further, SMH professionals were asked to rate feasibility and acceptability of proposed methods for integrating services for youth with disordered eating into current services. See Appendix F for cover letter and Appendix G for full survey.

Data collection for the quantitative strand took place over a seven-month time span from October 2014 to May 2015. To maximize the sample size and keep with the method utilized to develop the survey employed, the researcher followed a tailored design method using multiple ways to contact participants (Dillman, Smyth, & Christian, 2009). At the beginning of the study, two representatives from the CSMH network

contacted members to introduce the study and obtain support. Concurrently, the researcher emailed all state-level school health and mental health associations (i.e., school psychology, school counseling, school social work, school nursing). The study abstract was provided, along with contact information for any questions that the association may have. The researcher then made a second contact via email to organizations that failed to respond. Upon agreement from the organization, the researcher sent a copy of the study cover letter and link to the web-based survey. Respondents to the anonymous survey were provided the incentive of being put in a raffle to win \$100, \$75 or \$50. A list of the associations involved in the study may be seen in Appendix H. The final sample size of 720 participants was obtained.

*Instrument.* The survey used in this study is a modified version of a survey developed by Judge (2001) to evaluate knowledge and service provision by school psychologists specific to disordered eating. This was developed in accordance with the Tailored Design Method (TDM), outlined by Dillman (2000) as an appropriate method for maximizing response rates and minimizing error.

The initial portion of the survey focused on demographic information, such as respondent's age, gender, ethnicity, professional title and level of education completed. Further, respondents were asked questions specific to daily practice, such as years of experience employed as a SMH practitioner, location of employment, composition of student population and time spent in intervention service provision. The aforementioned information was requested in order to determine whether specific SMH practitioner characteristics are related to knowledge of eating disorders and training in evidence-

based interventions, as well as perception of need to implement such services within SMH.

The following section evaluated knowledge of eating disorders (e.g., central symptoms; associated physical, cognitive and behavioral features; risk factors; common comorbidities), as well as knowledge and training in key factors associated with providing services with this population. Further, SMH practitioners were surveyed regarding frequency with which they encounter youth with disordered eating and whether they have provided services for youth presenting with these difficulties. This portion included topics such as: number of referrals received related to disordered eating, prevalence of individuals with disordered eating on their case loads, extent to which disordered eating is problematic within their school, services provided when presented with an individual with disordered eating, and number of referrals made to community providers for this population. The following component of the survey focused on perceptions of feasibility in providing disordered eating services in SMH. Respondents were asked to rate feasibility of implementation of prevention and intervention services, as well as self-efficacy and competence in intervening youth with disordered eating. Lastly, respondents rated the presence or absence of possible facilitators and barriers to service implementation.

Prior to dissemination of the survey, the instrument was reviewed and pilot tested by a small sample of SMH providers. Feedback was elicited from the pilot sample to evaluate clarity and readability of the items, subsequently integrated and items were revised as needed prior to widespread distribution. Initial data served to enable evaluation of face and content validity, as well as internal consistency of items.

Reliability, or the precision by which a measure assesses a construct, of the survey was evaluated to decrease error related to measurement. Reliability estimates are utilized to evaluate stability of measure over time, equivalence of items within the test and equivalence across raters (Kimberlin & Winterstein, 2008). Internal consistency was demonstrated to be strong, with Cronbach's alpha calculated at 0.88 overall. Although this survey was previously used, the original survey developer did not estimate reliability of the measure. The Cronbach's alpha estimated indicates high internal consistency and suggests overall reliability of the survey with this sample. Validity refers to the extent to which a measure accurately evaluates the construct of interest. Content validity was established by survey questions undergoing review by experts within the field of eating disorder treatment.

The survey was web-based through Qualtrics, a web-based software program that is used in academic settings for the development of online surveys. Invitations with the survey cover letter were distributed to all members of the CSMH national network, as well as state-level school health and mental health organizations who expressed an interest in involvement. Of the 200 organizations contacted, a total of 50 state-level organizations expressed interest in involvement and distributed the cover letter to their email listserv. In accordance with TDM (Dillman et al., 2009), an advisor to the network notified CSMH members of the importance of their involvement in this study preceding the availability of the survey online. The opening page of the survey was an informed consent form in accordance with IRB and ethical regulations, prompting notation of agreement to participate. Participants were provided with contact information for the principal investigator to voice any questions, comments or concerns. Upon completion of

the survey, all subjects were offered the opportunity to enter a raffle for one of three gift cards for \$100, \$75 and \$50.

*Data Analysis.* Prior to analyses, data were screened to evaluate for key assumptions in univariate tests (Tabachnick & Fidell, 2007). Assessment of the presence of significant outliers, skewness or kurtosis helped ensure normality of sampling distribution of the independent variables. Given the large sample size, however, data were robust to violating the assumption of normality. In examining the data, it appeared that an assumption of multivariate analysis of variance (MANOVA), the assumption of homogeneity of variance, had been violated. The assumption of homogeneity of variance is that the variance of each of the populations is equal. The  $F$  statistic is typically robust to violations of this assumption as long as group sizes are equal or as long as the larger variance is associated with the smaller group (Tabachnick & Fidell, 2007). Due to these violations, the investigator chose to force the continuous variable of competence into categorical form and conduct a chi-square test.

Data analytic procedures and methods varied depending on the research question. Data were stored and analyzed utilizing the Statistical Package for Social Sciences software (SPSS), version 22. Refer to Appendix I for a list of research questions, survey items, and proposed methods of data analyses. Low overall knowledge of symptoms, as well as precipitating and exacerbating factors, of eating disorders among SMH professionals was hypothesized. Additionally, it was hypothesized that few SMH professionals have received specific training in disordered eating. These hypotheses were based on previous research in which school professionals endorsed limited access to appropriate methods and training regarding the identification and prevention of

disordered eating (Fjelland, 2009). Limited completion of graduate coursework on disordered eating was also hypothesized, as well as more frequent endorsement of training experiences in inservice and conference sessions. However, endorsement of high importance regarding training in disordered eating was predicted, based on previous research that obtained similar results (Harshbarger et al., 2011; Price, Desmond, Price, & Mossing, 1990).

Regarding the frequency of disordered eating, it was hypothesized that greater than 50% of SMH professionals would have encountered students with disordered eating. This was based on previous research in which the majority of a sample of school counselors indicated encountering a student with disordered eating (Price et al., 1990). It was expected that SMH professionals would be the most likely to intervene in the case of an eating disorder; however, it was also hypothesized that the most frequently endorsed intervention approach among SMH professionals would involve indirect services, such as the provision of an outside intervention referral. Regarding training and competence in treating disordered eating, it was hypothesized that those who had engaged in more advanced training would rate themselves as more skilled in intervention. Based on previous work with school psychologists (Miller & Jome, 2008) and school counselors (Price et al., 1990), it was hypothesized that greater than 50% of the sample would indicate that disordered eating services do not fall within the SMH domain of practice. It was also predicted that there would be differences in ratings of competence amongst different professionals. More specifically, individuals employed within community agencies (i.e., clinical/community/counseling psychologist, clinical social worker, licensed professional counselor, licensed social workers) would be more supportive of the

inclusion of disordered eating services in SMH. Lastly, based on previous research (Judge, 2008), it was hypothesized that greater than 50% of the sample would report barriers to the inclusion of disordered eating services in the school. Further, the most highly identified barriers would be lacking time, limited skills and knowledge, and low perceived need.

#### *Mixed Method Data Analysis*

Following completion of qualitative and quantitative data analyses, the researcher combined the data for methodological triangulation to enable meaningful interpretation. The researcher examined results from both data sources to determine how the qualitative data enhanced interpretation of the relationships established amongst quantitative variables. Further, the researcher evaluated whether perspectives of SMH professionals indicated through quantitative measures are consistent with experiences of the adolescent females and their mothers who provided the qualitative interviews.

#### *Ethical Considerations*

Given the sensitive nature of the topic of interest and the intrusion on human subjects, a number of ethical issues were addressed through each phase of the study. Prior to study initiation, a proposal for permission to conduct research with human subjects was filed with the Institutional Review Board at the University of South Carolina. This application provided a description of the proposed study including participants, methodology, analyses and significance of findings. The study was approved as expedited (Appendix A).

All participants who completed the interview and survey measures provided informed consent/asset and were informed the their rights and the protection of those

rights. Participants involved in interviews indicated consent to involvement via signature, as well as consent for audiotaping to authorize the use of audiotapes to assist in transcription and data analysis. Survey participants confirmed having read statements regarding consent prior to survey completion. Participants were also informed that summary data will be shared with the scientific community, but that individual information will remain confidential.

In order to ensure anonymity, all identifying information was numerically coded and physical data (e.g., consent forms, demographic questionnaires) were stored in a locked file cabinet within a secured university lab space. Electronic data (e.g., interview tapes) were stored within a password-protected file on a password-protected computer in the primary investigator's office.

## CHAPTER 4

### RESULTS

This study was conducted in order to investigate the current status of SMH services for disordered eating in children and adolescents. Research data were drawn from individual interviews and survey questionnaires. The purpose of this section is to present research findings obtained in this study as they relate to the research questions presented in Chapter Three. Qualitative findings are presented first, followed by quantitative findings from surveys with school mental health professionals. The preliminary section describes the demographic characteristics of interview participants, which comprised of adolescent females and their mothers. Following this section is a description of emergent themes within each research question. Quantitative findings are then presented, with demographic data of survey respondents presented first, followed by results of quantitative analyses. A complete discussion of the findings from this study is presented in Chapter Five.

#### *Qualitative Results*

*Participant Demographics.* The total qualitative sample size was 14 individuals, comprised of 8 females in recovery from disordered eating and 6 mothers. Two of the 8 females in recovery did not have mothers willing to complete the study. Due to the nature of the study and focus of the study on the experience of adolescents with disordered eating in schools, the researcher chose to include these individuals. All participants

(100%) identified as female and Caucasian. The females in recovery ranged in age from 15 to 24 ( $M = 19$ ,  $SD = 3.07$ ), with 7 (87.5%) currently enrolled in high school or college. The sample of mothers ranged in age from 47 to 58 ( $M = 50.5$ ,  $SD = 4.03$ ), all of who completed high school and a higher education degree. All mothers (100%) were currently married and 50% ( $N = 3$ ) were employed outside of the home. See Table 4.1 and Table 4.2 for more specific demographic information.

*Qualitative Research Findings.* Findings from the qualitative portion of this mixed methods study are displayed in question and answer format, with prominent themes organized by different research questions. Questions are presented first, followed by themes that emerged from the adolescent interviews and then the parent interviews. Quotes from individual interviews are provided as exemplars to depict the personal experiences through the viewpoint of the participants.

*Question 1: What have been the experiences of individuals and families receiving treatment for disordered eating within the school system?*

Two categories emerged from interviews with adolescents and mothers: (1) experiences that delayed treatment and recovery and (2) experiences that supported in recovery from an eating disorder.

*Personal Experiences that Delayed Recovery*

*Isolation.* A prominent theme within this category was that of isolation and decreased social support. All 8 adolescents described withdrawing from friends and family as a common experience when they had an eating disorder. Some of the young females indicated that fatigue from malnutrition made it difficult to socialize with friends. Conversely, some indicated choosing to exclude themselves because they wanted to keep

their eating disorder a secret. For example, one participant stated, "...but like there's no look to (an eating disorder) so nobody knew and I just didn't have anyone to talk to about it. Not that I really wanted to talk to anyone about it, like it was this big secret to me and I wanted to keep it that way." Consistent across participants was a feeling of being misunderstood and that their friends did not "get it." One said, "I really isolated myself a lot and the friends that I did, like, try to tell, 'Oh, I have an eating disorder,' didn't really understand. So it was like they kind of pushed me away too. So I found it easier just to isolate myself and not tell anyone about it." Another participant said, "And you know with my friends, I withdrew completely, and a couple of them were, you know, a few were trying to help, but you know I was like 13 so of course they had no idea what was going on. They were just thinking, 'Why isn't she eating?'" They just couldn't process in their heads why I wasn't eating and stuff like that."

Parents reported similar observations of isolation and reduced social support. Additionally, all 6 mothers reported changes in their daughter's social activities following the onset of an eating disorder. While the adolescents reported withdrawal from social support because friends did not understand, parents described changes in socialization as "caused" by the eating disorder. For example, one parent said, "The true NAME, without the eating disorder, is very friendly, outgoing, funny, enjoys being social with family and friends. And then the eating disorder took over and she became isolated from family and friends, to the point where now, she has only has a couple close friends that have really stood by her. But even with them, she doesn't ever get out socially." Half of the sample of mothers also described social isolation as a result of anxiety and avoidance. One

mother stated, “She wouldn’t socialize, and she wouldn’t go to anyone’s house because she didn’t know what they were going to eat.”

All mothers (N = 6) also indicated frustration in the lack of support provided by mental health and school professionals. Furthermore, 50% (N = 3) reported going to multiple professionals, both in and outside of the school, before they received assistance. One mother explained, “I don’t begrudge the support that is given to someone with cancer, to a child with cancer. I don’t begrudge that, but it is, I just wish that, you know the same level of support were extended. And I saw an interesting article yesterday written by a pediatrician at Veritas about how he used to treat children with cancer and now he treats children with eating disorders and there are more similarities than he ever realized.”

*Perfectionism.* A theme communicated by both adolescents and parents was maladaptive perfectionism. Three adolescents reported receiving positive attention and feedback from classmates for weight loss, which encouraged continual striving for decreased caloric intake. For instance, one adolescent reported, “I came back to school after losing some weight and I think that’s what kind of started the compliments, and that is what made me realize I could get all of this attention for being skinny.” Another parent explained, “She was doing well in school and then, of course, getting good feedback for the weight that she was losing, so in a perfectionist’s world everything seemed great.” Additionally, two parents noted that increased pressure academically coincided with the development of an eating disorder. For example, one parent said, “(The year her eating disorder began) was the year she started making straight A’s and, you know, she had to

have that 95 or higher in that class or she wasn't good enough. But she didn't want to weigh 95 pounds, you know.”

Three parents also indicated self-blame for their daughter's perfectionism. They reported that in hindsight they felt as though their encouragement, although intended as supportive, ended up being harmful. For example, one parent explained, “... I feel like with her I was like, ‘you've got to do your best, you've got to do 100%’ you know? But sometimes you can get by with 95%, you know. It's okay, you know. And so it almost makes me think I was trying to make her be perfect, but I didn't mean to be doing that; it just kind of came across that way.”

*Difficulties with Self-Acceptance and Comparison to Others.* Another theme communicated by all adolescents interviewed (N = 8) was difficulty with self-acceptance and comparing themselves to others. Seven of 8 adolescents (87.5%) reported comparing their bodies to those of their immediate friends and other girls at their schools. Social body comparison also seemed to be interrelated with a perfectionistic mentality. For example, one adolescent reported, “I just knew that I didn't like the way I looked and I felt like everyone around me was perfect and I felt like I had this really disgusting looking body.” Six adolescents (75%) denied any negative comments from friends or classmates about weight, dieting or appearance. Furthermore, only one female interviewed (12.5%) indicated that the media (i.e., the portrayal of thin models) fostered body image concerns.

Additionally, 7 adolescents (87.5%) reported global feelings of inadequacy and inferiority in comparison to other females their age. Difficulties with comparison appeared to result in internal personal shame, despite the lack of any actual social stigmatization. One adolescent explained, “I just compared myself to every girl that I saw

and I felt like I was never good enough. Even though I was, and I knew that I should have been happy with who I was.” All individuals who endorsed feelings of inadequacy (N = 7) indicated that, in hindsight, they should not have viewed themselves in such a flawed manner and that self-acceptance has facilitated recovery.

Three of the females (37.5%) reported that school fostered an environment of disordered eating behaviors and social comparison. Two of these individuals reported being weighed at school and one described the school cafeteria as an environment where no one eats. For example, one adolescent explained, “Well having my eating disorder in school, what also played a part is in gym every semester they would weigh you. And that each semester, um well from semester to semester, I saw my weight and then that would pressure me as we got closer to the next semester to get the weight to be a certain amount less. It was definitely something I felt was under my control, when it wasn’t.”

*Uncertainty.* A theme shared by 5 of the 6 mothers (83.3%) and 7 of the 8 adolescents (87.5%) was uncertainty on the part of the school staff of how to approach disordered eating with a student. It was acknowledged that, despite the prevalence of these disorders, there is minimal awareness of students experiencing disordered eating. Additionally, one mother (16.6%) and two adolescents (25%) reported that stereotypical views regarding the physical appearance commonly associated with disordered eating (e.g., emaciated, frail) impacted the school’s understanding of the severity of the situation. For example, one mother said, “The school, you know, the school has mixed recognition about (eating disorders). We were of course up front with our concerns, but she looked healthy. She just looked fit and healthy.”

Two mothers (33.3%) and one adolescent (12.5%) also described lack of training and experience of school professionals as impacting the support and guidance received from the school. For instance, one mother explained, “The school had an interim head of the high school of the upper school at that time and maybe he wasn't as skilled or experienced in knowing what to do, and it might have been handled differently by the previous head who had seen this many times. But you know it was they just weren't quite sure what to do.” Furthermore, these two mothers described a lack of understanding of how to generally approach these individuals. Aside from limited training, they acknowledged the limited scientific knowledge of how to support these individuals, given the difficult and complex nature of the disorders. One mother explained, “They did a lot to try to help her reintegrate into the school but it wasn't really known what to do. So um you know do you pretend nothing has happened? Do you explain to the class what is going on? And that, on a simple level, do you attempt to educate the students and say, ‘Don't say you look good, say its good to see you’? Some of those triggers, how to avoid some of those triggering things?”

#### *Experiences that Helped Treatment and Recovery*

*Teacher Identification.* A strong theme that was indicated by 3 mothers (50%) and 4 adolescents (50%) was that teachers and school counselors were involved in identification of disordered eating. Both mothers reported being contacted by one or more of their daughter's teachers regarding behavior at school that was concerning and related to disordered eating. One mother explained, “Actually her teachers at school are the ones that came to me. I had two of the teachers that pulled me aside and told me that they felt like she was bulimic. I guess they had watched signs of not only how she was responding

in the classroom but then they saw what was happening when she went to lunch, and her eating habits and always having to go to the bathroom afterward. So they're the ones that actually identified it and got us on the right track in ninth grade." It was further explained that identification by the teacher was what led to treatment seeking by the adolescent and her mother.

One adolescent reported being monitored by her school counselor and early attempts at intervention. She explained, "Since she was the guidance counselor for my school, like I would see her a lot. And one day I had passed out in school and I guess while I was still waking up and they were asking me all of these questions. (The guidance counselor) had said that throughout the cheer season, she had been watching me and noticed my uniform getting baggier and baggier. She was like, 'Did you eat? When is the last time you ate?' And I admitted, 'Oh 3 days ago.'" The counselor reportedly provided psychoeducation on disordered eating and referral information to a professional eating disorder specialist.

*Support in Recovery.* A theme communicated by 6 adolescents (75%) and 4 mothers (66.6%) was support from the school while seeking treatment. In particular, these individuals communicated that the school individualized the student's academic program while the adolescent was in a treatment program that took them out of school. One adolescent explained, "The teachers and the guidance counselor made sure I stayed on track at school and we went to school for like an hour or two on like the week days so they would like send me all my work and we would send it back. We typically have end-of-quarter exams and like they count as like a percentage of our grade but they made it so

that I didn't have to take exams that quarter when I was in treatment. Instead they made up different assignments for me so they made it work for me.”

Furthermore, 3 adolescents (37.5%) and 2 mothers (33.3%) stated that school staff made efforts to support the student socially while the student was in treatment. Teachers and school counselors provided education to the students in the school about disordered eating involving forum for students to ask questions and learn appropriate ways to approach the student once they returned from treatment. One adolescent explained, “The school overall was really great. I know for a fact that one teacher, I can’t remember her name, but she had a class meeting or something and she had been like, ‘So NAME is coming home and just treat her normally.’ So the kids were just able to ask questions like, ‘What do we say? What do we do? How do we act?’ And so, that was nice, and that was appreciated and I think it was a really good idea to be able to.”

*Question 2: Have students received school services specific to disordered eating? If so, what are the most common practices delivered?*

Four of the eight adolescents who participated in the study received some form of SMH services specific to disordered eating at least once. Three adolescents reported working with the school counselor at their high schools and one worked with the school nurse. One adolescent reported meeting with the school counselor in the few weeks after relapsing and prior to returning to treatment. She explained, “I told her I had been (in treatment) for a long time before and I felt like I was failing because I had to go back into treatment or was going to go back into treatment and she told me, ‘You know sometimes you have to let feelings of failure go so you can be happy and be healthy.’ And that really helped.”

While the other three females indicated speaking with the aforementioned professionals regularly, they reported that the focus of their meetings was rarely the eating disorder. One adolescent reported that the focus of sessions was anxiety and another described sessions as focusing on “general things.” The other individual was unsure the focus of meetings and frequently questioned if the counselor knew about her eating disorder. She explained, “What is really weird is, like I kept wondering, ‘Does she know why I am here?’ Because we wouldn't even really talk about my eating disorder most of the time or my feelings toward my body. We didn't even really talk about (my eating disorder) that much. She was just like, ‘What is going on in your life?’ but, not like eating disorder stuff ... I mean she would occasionally bring up you know, ‘So how are you feeling about your body this week?’ You know, simple questions, but she just wouldn't talk about it that much so I would always wonder if she even knew about my eating disorder.”

The rest of the sample (N = 4) indicated that their middle and high schools had guidance counselors, but meeting with the guidance counselor was reserved for academically-related issues. Additionally, 50% of the adolescents (N = 4) perceived that the counseling professionals at their schools did not have the training necessary to intervene in the case of an eating disorder. For example, one said, “In middle school they had counselors but they weren't really trained to deal with (an eating disorder) so they like wouldn't know what to do if you went to them about (an eating disorder).” Additionally, another adolescent said, “So I think if I were to walk into the guidance office and say, ‘I think I have an eating disorder,’ I don't think they would like know what to do with me. I don't think they would know like what to say. I think they might

possibly say stuff that would like completely turn me off from trying to get help, or might trigger me and completely turn me off.”

When asked whether they would have used SMH services if they had been available, 40% of the adolescents who had not received SMH services specific to disordered eating (N = 2) indicated that they would have chosen to. The remaining 60% (N = 3) reported that they are unsure if they would have used them at the time, but would currently use them. For example, one adolescent said, “I don't know because I was so deep in my eating disorder that I didn't want help. But if I did, it would have been better because I would have sought help sooner if I like had the service at school.” Another adolescent explained, “Probably not at the time. But I do think it is a really good idea to have so that then education can be done to like the teachers or the principal. They'd then know how to handle that. Like I may not have voluntarily, but I know my parents would have made me, and it's better than going to some teachers.” Unwillingness to see a school professional voluntarily was reiterated by parents. For example, one parent said, “Um I don't think she would have (met with a school professional) because I don't think she really thought she had an illness at that point. I think today, though, if she was struggling with something and if she was comfortable and trusted her, I think she would go to her and seek advice.”

*Question 3: What are the perceived benefits of including services for youth with disordered eating in school mental health?*

The total sample of adolescents (N = 8) and mothers (N = 6) interviewed reported that SMH services for youth with disordered eating would be beneficial. Themes that

emerged from their responses included: (1) Increased Awareness; (2) Support in Recovery; (3) Family Involvement and Education; and (4) Linking to Resources.

*Increased Awareness.* Four adolescents (50%) and 3 mothers (50%) indicated that a benefit of SMH services for youth with disordered eating would be increased awareness amongst students and school staff. There was discussion of the fact that, while a number of adolescents engage in disordered eating behaviors, few recognize the severity of their actions. One adolescent said that SMH services “really would help because it would help I guess educate people more because a lot of people have eating disorders and don't know they have an eating disorder so that would help people like identify what is going on.”

It was also discussed that increased awareness would decrease stereotypical views of eating disorders and could potentially decrease stigmatization associated with the disorders. Participants indicated that, with increased awareness, students might feel more supported and comfortable seeking out school staff to discuss what they are struggling with. One adolescent explained, “Most people just assume (someone with an eating disorder) is skin and bones, and that's what I thought that I was going to come into treatment to. That everyone was just going to be skin and bones. But there's no look to (an eating disorder) so nobody knew and I just didn't have anyone to talk to about it. If there was more awareness, people like me would have had someone to talk to.”

Lastly, all mothers interviewed (100%) and 7 adolescents (87.5%) indicated that SMH services might help school staff be more aware of the signs and symptoms of the disorders. If school professionals were to provide support services, teachers could have a person to contact to express concerns regarding a student's behavior. One mother said, “First of all I think just information needs to be put out there. A lot of teachers in the

schools or sports leaders, need to understand what (eating disorders) are or signs of triggers and symptoms to be looking for. I think they need to be made more aware so that if there is a psychologist in the school and if they saw these signs they could go to them and say, ‘Hey I am concerned about a student’ since I feel like the teachers are the ones that are with them every day.’”

*Support in Recovery.* Another theme that emerged from discussing benefits of SMH services for youth with disordered eating was the provision of support while the student is in recovery. Seven adolescents (87.5%) supported SMH services because they could provide a person for the student to speak with during the day if they felt triggered or needed someone to listen. These individuals specified that rather than needing specific and tailored treatment for disordered eating at school, they would have benefited from having a counseling adult to talk to. For instance, one adolescent explained, “They don’t have to know like every single thing about eating disorders but just for them to like really listen and be supportive, because I felt like at my school, just when I tried to like talk about it, nobody was really listening to me. They knew the situation was like happening, but I felt like they were more concerned with like the school’s reputation than with actually helping me.”

Additionally, two of the adolescents (25%) suggested that SMH services could be beneficial for this population by providing accountability and support during snack and meal times at school. They described school as a difficult environment to follow a specified meal plan in early on in recovery. These individuals recommended that school staff be available to eat with the student and encourage them through that component of recovery. One adolescent stated that school staff could “be able to, like if it were lunch

time or something, be able to send a kid to them and then they could eat the lunch together, and try to like work through it so like, ‘Why don’t you want to eat it?’”

All mothers (N = 6) also indicated that inclusion of SMH services could provide families with support while their child is in recovery. Half of these individuals (N = 3) reported feelings of isolation and loneliness while their child was in treatment. They suggested that provision of school-based services could afford an additional professional (i.e., school counselor, psychologist, social worker, nurse) for the parent to speak with and learn from. For example, one parent said, “For families I think it could provide a very important support system, whether it be a professional, in their family or a close friend that they feel like they can talk to. I myself did not have support like that.”

*Family Involvement.* A theme that emerged in conversation with 3 adolescents (37.5%) and all 6 mothers (100%) were the critical need for family involvement and the idea that SMH services could provide that service. Two adolescents and all mothers acknowledged a lack of parental understanding of how to approach disordered eating and that school staff could help parents through meetings, such as IEP meetings. For instance, one of the adolescents explained, “You know, because my parents were really kept out of the loop, you know not just because of what I was asking my therapist to do, but like my therapist just wasn't keeping in contact and my mom even to this day still gets really frustrated because she isn't kept in the loop, so she is left out of the loop so they would just ask professionals, ‘What can I do? What can I say?’ Things would probably have been a lot easier throughout the process with that support.”

Further, one of the mothers reported experiencing significant difficulties finding local family therapy for disordered eating. She described the school as an ideal location

to provide such support for families before, during or after school. She explained, “I mean (family services) would be great... I think today, you can’t get family therapy outside of school. There are not enough therapists that do family therapy and it is a struggle in this city. We tried. We couldn't get it. And family therapy is considered the most useful tool for treating adolescents with eating disorders, with specifically AN, but we’re now finding it with bulimia too. But, at the time, the biggest tool to treat AN was family therapy and we couldn't get it except maybe once a month in this city. So it would be great in the schools too.”

*Linking to Resources.* A benefit of SMH services shared by 3 adolescents (37.5%) and 2 mothers (33.3%) was that professionals could connect students and families with resources for treatment. One parent explained that schools could be instrumental in the identification of disordered eating, given amount of time spent with the students on an everyday basis. She said, “What I’d love to tell folks in the school to share is, here are some classic signs (of disordered eating) and if you suspect this is who you can call for help. You don’t have to know all of this yourself. But if you see these signs then you may want to contact someone who knows. To identify it you have to see the student over a period of time, the individual over a period of time.”

One adolescent also explained that inclusion of SMH services might help link students to resources before their disorder gets to a level requiring a higher level of care. For example, she explained, “There are resources online and stuff like workbooks I had from treatment that are online and I’m sure you can like print them off. They like health statistics on like what you’re doing to your heart and stuff.” One parent (16.6%) who had done significant research on school resources for disordered eating, suggested specific

resources that schools could use to help this population. She advised, “They need to have the (National Eating Disorder Association school) toolkits or anything that’s a reliable source and be willing to speak to the family about it. It’s not easy, I’m sure to come up and be able to speak to someone that his or her child might have this problem. But they need to get the resources out there and learn as much as you can.”

*Question 4: Are their perceived costs of including services for youth with disordered eating in school mental health? If so, what are they?*

Only three adolescents (37.5%) and 2 mothers (33.3%) interviewed reported potential costs of including SMH services for youth with disordered eating. Themes that emerged from these responses included: (1) Time away from academics; (2) Needing trained professionals; and (3) Lacking time for training.

*Time Away from Academics.* A theme that emerged regarding potential costs of including SMH services for this population was decreased attention to academics. One mother (25%) expressed concern that a focus on disordered eating services, specifically those that involve the families, may take time away from academics for the students. She stated, “Um well definitely family services are needed. I don't know necessarily if it is the schools job for that. I feel like for the school it should be more focused on the kids and trying to keep them going and focus on their education.... I just don't know if I feel that the school should have to offer that.”

*Need for Trained Professionals.* Another theme that emerged from discussing costs of including SMH services for this population was the need for trained individuals. Three adolescents (37.5%) indicated a need for a trained professional to speak with about disordered eating. Further, they suggested that speaking to an untrained individual could

have the potential to “turn off” the adolescent from seeking further help. For instance, one adolescent explained, “But you know if who was providing services had been someone, you know, kind of like the one I had that was the Dean of Women that really just had no idea what was going on, then I might have just turned the other way. I mean I am not saying that you have to be a specialist in eating disorders, but I feel like whoever would be that higher power that would help, they need to have some knowledge of eating disorders.” Their responses suggested the need for trained individuals to be the ones providing support services for this population.

*Not Enough Time for Training.* Lastly, a theme that emerged from the interview of one parent was limited time to train school professionals. She expressed recognition that schools have competing responsibilities regarding the multiple health and mental health issues schools are being called upon to address. She explained, “So yes I think school awareness is good, but I feel badly for the schools. There is a lot they need to be aware of. I went to the mental health advocacy day at the statehouse and suicide prevention was there and they have a program to educate schools about suicide. And I thought, ‘Well that is important too!’”

### *Quantitative Results*

*Participant Demographics.* As discussed in Chapter Three, invitations to complete the web-based survey were emailed to members of the CSMH network, as well as 13 state school psychology associations, 12 state school social work associations, 10 state school counseling associations and 14 state school nurse associations. A total of 720 individuals who received an invitation completed the survey through Qualtrics. Of that total, 159 respondents did not complete the survey in its entirety, resulting in a drop out

rate of 22%. A final sample size of 561 was obtained after discarding cases with missing data.

Demographic characteristics of respondents are described in detail in Table 4.3. Respondents were predominantly female (91.8%) and Caucasian (92.2%), and had 1-5 years of experience working in the schools (29.8%). Most respondents were School Nurses (N = 164), School Psychologists (N = 163) and School Counselors (N = 113), and held a Masters Degree (40.8%). Finally, the typical respondent was employed in an Elementary (28.0%), Elementary/Middle (23.7%) or High School (22.3%) in a non-metropolitan urban setting (49.2%) with more than 70% of students on free/reduced lunch (23.0%).

#### *Quantitative Research Findings.*

*Question 1: Are SMH professionals knowledgeable of symptoms of Anorexia, Bulimia and Binge Eating Disorder?*

Participants were asked to differentiate symptoms of different eating disorders. They were instructed to identify which behavioral and cognitive symptoms were associated with Anorexia Nervosa, Bulimia Nervosa, Binge Eating Disorder, all or none, as well as a combination of the aforementioned disorders. Responses are described in more detail in Table 4.4.

Most respondents correctly identified symptoms of AN. Majority of respondents indicated that decreased food intake (67.9%), cold intolerance (64.2%), lanugo hair (60.4%), emaciation (61.0%) and amenorrhea (58.1%) are symptoms of AN. Additionally, a significant majority of respondents also correctly identified overeating as a symptom of BN and BED (70.8%) and preoccupation with food as a symptom of all

eating disorders (77.5%). Survey respondents most frequently misidentified the symptoms of distorted body image (64.7%), self-injurious behavior (61.1%) and fear of weight gain (58.8%) as being associated with all eating disorders. Moreover, more than half of the sample misidentified decreased appetite as a symptom of AN (56.3%); however, this symptom is not common to any eating disorder.

*Question 2: Do SMH professionals accurately identify precipitating and exacerbating factors of eating disorders?*

Survey respondents were provided a list of factors and asked to indicate which were known to exacerbate Anorexia Nervosa, Bulimia Nervosa and Binge Eating Disorder in children and adolescents. Regarding AN, the majority of respondents correctly identified perfectionistic tendencies (95.2%), anxiety (93.6%), low self-esteem (91.6%), obsessive tendencies (87.5%), personal ineffectiveness (84.5%), societal pressures (82.2%), depression (80.0%), dependence on others for approval (77.9%) and pathological family tendencies (56.0%) as precipitating or exacerbating factors. However, the majority of respondents misidentified the item of genetic disposition for AN, with only 36.5% indicating that this precipitates eating disorders.

For BN, the majority of respondents correctly identified low self-esteem (90.4%), anxiety (83.8%), societal pressures (82.7%), personal ineffectiveness (80.9%), depression (80.9%), dependence on others for approval (76.6%), obsessive tendencies (72.0%), perfectionistic tendencies (67.4%), low internal locus of control (62.2%) and pathological family tendencies (52.0%) as precipitating or exacerbating factors. As with AN, most respondents misidentified the precipitating factor of a genetic predisposition; only 30.5% noted role of a genetic predisposition for BN.

Lastly, regarding BED, the majority of respondents correctly identified anxiety (85.2%), low self-esteem (84.8%), depression (82.5%), personal ineffectiveness (78.1%), low internal locus of control (72.5%), obsessive tendencies (66.7%), societal pressures (64.0%), dependence on others for approval (56.7%), and pathological family tendencies (54.2%) as precipitating or exacerbating factors. Most frequently misidentified factors for binge eating disorder were genetic predisposition (62.6%), perfectionistic tendencies (57.8%), and neglect (52.0%). Majority of participants responded that the aforementioned factors were not associated with binge eating disorder. Further findings regarding precipitating and exacerbating factors of eating disorders may be found in Table 4.5.

*Question 3: What type of training have SMH professionals received regarding the identification and treatment of disordered eating in youth?*

Survey respondents were asked whether they had received training specific to disordered eating identification and/or intervention. The majority of respondents had not received training specific to the identification (66.8%) or treatment (77.9%) of eating disorders. Of the 33.2% (N = 186) who had been trained in eating disorder identification, respondents had received training through the following: mandated graduate coursework (24.2%), a continuing education course (22.6%), a conference session (19.4%), other agency inservice (9.1%), elective graduate coursework (7.0%), other (7.0%), all listed (4.3%), intensive conference workshop (3.8%) and school inservice training (2.7%). Similarly, for eating disorder intervention services, 22.1% (N = 124) who indicated receipt of training also reported education through the following: mandated graduate coursework (20.7%), a conference session (17.4%) and a continuing education course (16.5%), other (14.9%), elective graduate coursework (13.2%), other agency inservice

training (9.9%), intensive conference workshop (5.0%) and school inservice training (2.5%).

*Question 4: How important do SMH professionals believe training in disordered eating is?*

Survey respondents were asked to rate their perception of the importance of training in eating disorder services on a scale of 1 (not important) to 5 (extremely important). Although less than half of the sample had received training in the identification and intervention of disordered eating, the average rating of the sample was 3.97 (SD = 0.89), with the majority of respondents rating training as moderately (37.5%) to very important (32.1%). Only 3.7% (N = 21) rated training as somewhat important and 0.7% (N = 4) rated training as not important at all. See Table 4.6 for further results.

*Question 5: What is the frequency of which SMH professionals encounter youth with disordered eating in need of services?*

Survey participants were asked to rate, on a scale from 1 (not at all problematic) to 5 (extremely problematic), the extent to which disordered eating is problematic at their schools. Regarding anorexia nervosa, respondents rated an average of 2.44 (SD = 0.93), with the majority of respondents rating anorexia as somewhat problematic (43.0%). Results were similar for bulimia nervosa and binge eating disorder. Most participants rated bulimia as somewhat problematic at their schools (40.8%), with an average rating of 2.39 (SD = .90). For binge eating disorder, an average rating of 2.44 (SD = .97) was provided, with 40.3% of the sample rating the disorder as somewhat problematic in their schools. For more specific ratings, see Table 4.7, Table 4.8 and Table 4.9. However, a majority of the sample reported encountering a student with disordered eating since

working at their respective school (64.7%), with 66.1% (N = 240) of that group reportedly encountering a student with disordered eating in the last year. Furthermore, 59.2% of the sample (N = 332) indicated that they previously worked with students who exhibited disordered eating behaviors.

The most frequently reported services provided included provision of an outside referral (N = 236) and family consultation (N = 141). Of the individuals who have encountered a student with disordered eating, most report encountering between 2-4 (49.6%) or 5-7 (20.1%) students. Only 29.8% (N = 99) of those who reported previous work with students with disordered eating were involved in reintegrating the student into the school. Despite having encountered students with disordered eating, only 20% of the sample (N = 112) reported receiving a referral specifically to evaluate or treat students with disordered eating. See Table 4.10 for further results of number of students and Table 4.11 for rates of service provision.

*Question 6: Who is most likely to intervene in a case of disordered eating in the schools?*

A total of 173 SMH professionals indicated that their school provides some level of intervention in cases of disordered eating. Survey respondents were asked to indicate what school team members are involved in cases where a student exhibits disordered eating. The most frequently selected professionals by that sample of SMH professionals (N = 173) were school counselors (N = 131), school nurses (N = 104) and school social workers (N = 83). The most infrequently selected school professionals were school principals (N = 24) and special education teachers (N = 22). Further, only 11 respondents reported that they were uncertain of who would intervene in the case of an eating disorder and no respondents provided the response that “no one” intervenes in cases of disordered

eating. See Table 4.12 for more detailed results. When asked who assumes primary responsibility of intervening, the most frequently selected choice was “none” (69.9%). Of specific professionals, 31.2% (N = 54) of the sample indicated that the school counselor takes primary responsibility and 22.5% (N = 39) selected the school social worker as assuming primary responsibility. See Table 4.13 for further results.

*Question 7: What are the most common practices for SMH professionals when presented with a student with disordered eating?*

Survey respondents were asked to indicate the types of services that they have previously provided when working with students with disordered eating. Of those who reported previously working with students with disordered eating, 226 respondents endorsed previous provision of consultation, 181 conducted assessment, 174 provided intervention services, and 100 provided prevention services (see Table 4.14).

More specifically, the most frequent intervention strategies used by respondents include parent consultation (82.2%), student education (72.6%), referral for medical evaluation (65.4%), teacher consultation (54.5%), and parent education (51.5%). Small group discussion was less frequently reported (32.8%). Of individual therapy strategies, most respondents endorsed individual cognitive-behavioral therapy (25.6%) and individual interpersonal therapy (17.8%). For group therapy strategies, use was infrequently endorsed, with group cognitive-behavioral (6.0%) and group interpersonal (4.0%) therapies provided the most frequently. Family therapy was similarly rare, with family cognitive-behavioral (5.1%) and family behavioral (3.6%) endorsed most frequently out of the family therapies listed.

Survey respondents were also asked to indicate the effectiveness of different intervention strategies used on a scale from unsure (0), not effective (1), somewhat effective (2) and very effective (3). Other than family psychodynamic and family interpersonal therapy, the majority of respondents rated the therapeutic techniques previously used as somewhat effective. For the most frequently used techniques, the following were rated as somewhat effective: parent consultation (N = 188); student education (N = 196); medical referral (N = 119); teacher consultation (N = 135); and parent education (N = 125). For individual therapy, 63.5% (N = 54) who previously utilized CBT rated it as somewhat effective, 72.9% (N = 43) who used interpersonal therapy rated it as somewhat effective, 75.4% (N = 43) who used behavioral therapy rated it as somewhat effective, and 70.0% (N = 14) who used psychodynamic therapy rated it as somewhat effective. For more detailed results regarding service use and effectiveness, see Table 4.15.

*Question 8: Is advanced training in disordered eating associated with higher competence in treating disordered eating in youth?*

As specified previously, the collected data violated the assumption of homogeneity of variance. Due to unequal sample sizes and greater variance in the smaller group (trained professionals), this research question was modified. The continuous variable of competence was forced into categorical form to conduct a nonparametric chi-square test to examine the relation between receipt of training in intervention delivery for disordered eating and rating of personal competence. The relation between receipt of training in intervention for disordered eating and competence in intervening in cases of AN was significant,  $X^2(2, N = 561) = 40.17, p < .001$ . SMH professionals who received

training in intervention were more likely to rate higher levels of competence in treatment of AN than those who had not received treatment.

The relation between having received of training in intervention for disordered eating and competence in intervening in cases of BN was also significant,  $X^2 (2, N = 561) = 46.01, p < .001$ . SMH professionals who received training in intervention were more likely to rate higher levels of competence in treatment of BN than those who had not received treatment. Lastly, the relation between having received of training in intervention for disordered eating and competence in intervening in cases of BED was significant,  $X^2 (2, N = 561) = 38.88, p < .001$ . SMH professionals who received training in intervention were more likely to rate higher levels of competence in treatment of BED than those who had not received treatment.

*Question 9: Do SMH professionals believe that implementing school-based services for youth with disordered eating falls within the SMH domain of practice?*

Survey respondents were asked to indicate their opinion as to whether school mental health clinicians should work with students with disordered eating. A significant majority (83.8%;  $N = 470$ ) indicated that work with students with disordered eating falls within the SMH domain of practice and that school-based services should be provided for this population.

*Question 10: What are prominent barriers to SMH involvement in the identification and intervention of disordered eating?*

The final component of the survey directed respondents to indicate what barriers they have encountered to conducting identification and intervention services for students with disordered eating. The average number of barriers to service provision with this

population was between 3 and 4 ( $M = 3.15$ ,  $SD = 2.20$ ), with a range of 0 to 10. The most frequently reported barriers were lack of referrals ( $N = 286$ ), limited knowledge of appropriate interventions ( $N = 246$ ), limited skill in appropriate interventions ( $N = 230$ ), limited knowledge of appropriate assessment ( $N = 217$ ), not a perceived school need ( $N = 211$ ) and lack of time due to other responsibilities ( $N = 209$ ). See Table 4.16 for more detailed results.

Table 4.1

*Demographic Characteristics of Adolescents in Recovery from ED*

Adolescent	Age	Race	Education Level
1	20	Caucasian	Completed/Enrolled in High School
2	24	Caucasian	Completed/Enrolled in College
3	18	Caucasian	Completed/Enrolled in High School
4	15	Caucasian	Completed/Enrolled in High School
5	17	Caucasian	Completed/Enrolled in High School
6	20	Caucasian	Completed/Enrolled in College
7	22	Caucasian	Completed/Enrolled in College
8	16	Caucasian	Completed/Enrolled in High School

Table 4.2

*Demographic Characteristics of Mothers of Adolescents in Recovery from ED*

Parent	Age	Race	Marital Status	Education Level
1	52	Caucasian	Single	Bachelor's Degree
2	48	Caucasian	Married	Bachelor's Degree
3	47	Caucasian	Married	Associate's Degree
4	49	Caucasian	Married	Graduate Degree
5	58	Caucasian	Married	Graduate Degree
6	49	Caucasian	Married	Graduate Degree

Table 4.3

*Demographic Characteristics of Survey Respondents*

Variable	Frequency	Percentage
Gender		
Female	515	91.8
Male	46	8.2
Race		
African American	18	3.2
American Indian	1	0.2
Caucasian	517	92.2
Chinese	2	0.4
Hispanic	10	1.8
Japanese	2	0.4
Samoan	1	0.2
Biracial	10	1.8
Current Position		
Clinical/Counseling/Community Psychologist	14	--
Clinical Social Worker	26	--
Licensed Professional Counselor	8	--
Faculty/Researcher	6	--
School Counselor	114	--
School Psychologist	163	--
School Nurse	164	--
School Social Worker	45	--
Other	21	--
Level of Education		
BA/BS	78	13.9
MA/MS	229	40.8
Certificate/Specialist	113	20.1
Ed.D.	15	2.7
Psy.D./Ph.D.	44	7.8
Other	82	14.2
Years of Experience		
1-5 years	167	29.8
6-10 years	107	19.1
11-15 years	67	11.9
16-20 years	75	13.4
21-25 years	49	8.7
More than 25 years	96	17.1
Type of School District at which Employed		
Metropolitan	168	29.9
Non-Metropolitan Urban	276	49.2
Rural	112	20.0
Frontier	5	0.9

Grade Level Served		
Preschool	8	1.4
Elementary (Grades K-5)	157	28.0
Elementary/Middle (Grades K-8)	133	23.7
Middle (Grades 6-8)	62	11.1
Middle/High (Grades 6-12)	50	8.9
High (Grades 9-12)	125	22.3
Alternative Elementary	3	0.5
Alternative Elementary/Middle	5	0.9
Alternative Middle	1	0.2
Alternative Middle/High	9	1.6
Alternative High	8	1.4
Percentage on Free/Reduced Lunch		
< 10%	55	9.8
10-20%	50	8.9
20-30%	50	8.9
30-40%	56	10.0
40-50%	50	8.9
50-60%	52	9.3
60-70%	47	8.4
> 70%	129	23.0
Unknown	72	12.8

*Note.* Percentages for current position were excluded as a number of survey respondents reported holding more than one position (N = 72).

Table 4.3

*SMH Ability to Differentiate Between Disorders*

Factor	Frequency of Identification (%)							
	None	AN	BN	BED	AN + BN	AN + BED	BN + BED	All
Decreased Appetite	99 (17.6)	<b>361</b> (56.3)	6 (1.1)	6 (1.1)	55 (9.8)	12 (2.1)	3 (0.5)	64 (11.4)
Decreased Food Intake	13 (2.3)	381 (67.9)	5 (0.9)	4 (0.7)	71 (12.7)	34 (6.1)	2 (0.4)	51 (9.1)
Weight Loss	6 (1.1)	181 (32.3)	1 (0.2)	1 (0.2)	<b>185</b> (33.0)	8 (1.4)	1 (0.2)	178 (31.7)
Preoccupation with Food	15 (2.7)	14 (2.5)	5 (0.9)	24 (4.3)	21 (3.7)	15 (2.7)	32 (5.7)	435 (77.5)
Fear of Weight Gain	9 (1.6)	48 (8.6)	3 (0.5)	3 (0.5)	163 (29.1)	5 (0.9)	0 (0.0)	<b>330</b> (58.8)
Overeating	8 (1.4)	6 (1.1)	2 (0.4)	94 (16.8)	10 (1.8)	0 (0.0)	<b>397</b> (70.8)	44 (7.8)
Impulsivity	30 (5.3)	10 (1.8)	16 (2.9)	92 (16.4)	5 (0.9)	2 (0.4)	<b>265</b> (47.2)	141 (25.1)
Rigidity	23 (4.1)	<b>234</b> (41.7)	11 (2.0)	7 (1.2)	113 (20.1)	4 (0.7)	10 (1.8)	159 (28.3)
Emaciation	19 (3.4)	<b>342</b> (61.0)	15 (2.7)	6 (1.1)	101 (18.0)	9 (1.6)	6 (1.1)	63 (11.2)
Weight Control Practices	16 (2.9)	46 (8.2)	47 (8.4)	19 (3.4)	129 (23.0)	3 (0.5)	45 (8.0)	<b>256</b> (45.6)
Perfectionism	14 (2.5)	154 (27.5)	5 (0.9)	2 (0.4)	139 (24.8)	8 (1.4)	0 (0.0)	<b>239</b> (42.6)
Substance Use	90 (16.0)	42 (7.5)	30 (5.3)	44 (7.8)	45 (8.0)	5 (0.9)	50 (8.9)	<b>255</b> (45.5)
Self-Injurious Behavior	48 (8.6)	32 (5.7)	17 (3.0)	13 (2.3)	89 (15.9)	5 (0.9)	14 (2.5)	<b>343</b> (61.1)
Distorted Body	10	73	3	3	103	5	1	<b>363</b>

Image	(1.8)	(13.0)	(0.5)	(0.5)	<i>(18.4)</i>	(0.9)	(0.2)	<b>(64.7)</b>
Cold Intolerance	54 (9.6)	<b>360</b> <b>(64.2)</b>	9 (1.6)	4 (0.7)	80 (14.3)	4 (0.7)	1 (0.2)	49 (8.7)
Dental Erosion	11 (2.0)	24 (4.3)	<b>269</b> <b>(48.0)</b>	9 (1.6)	98 (17.5)	1 (0.2)	63 (11.2)	86 (15.3)
Knuckle Abrasions	75 (13.4)	57 (10.2)	<b>277</b> <b>(49.4)</b>	12 (2.1)	61 (10.9)	3 (0.5)	46 (8.2)	30 (5.3)
Lanugo Hair	62 (11.1)	<b>339</b> <b>(60.4)</b>	17 (3.0)	6 (1.1)	91 (16.2)	4 (0.7)	2 (0.4)	40 (7.1)
Amenorrhea	13 (2.3)	<b>326</b> <b>(58.1)</b>	4 (0.7)	3 (0.5)	141 (25.1)	6 (1.1)	1 (0.2)	67 (11.9)

---

*Note.* Correct responses are italicized and majority responses are bolded.

Table 4.5

*Correct and Incorrect Responses to Factors which Precipitate and/or Exacerbate Eating Disorders*

Factor	Correct Response	Identified as Factor (%)	
		Yes	No
Anxiety	Yes		
AN		525 (93.6)	36 (6.4)
BN		470 (83.8)	91 (16.2)
BED		478 (85.2)	83 (14.8)
Teenage Pregnancy	No		
AN		60 (10.7)	501 (89.3)
BN		72 (12.8)	489 (87.2)
BED		79 (14.1)	482 (85.9)
Poverty	No		
AN		90 (16.0)	471 (84.0)
BN		101 (18.0)	460 (82.0)
BED		212 (37.8)	349 (62.2)
Personal Ineffectiveness	Yes		
AN		474 (84.5)	87 (15.5)
BN		454 (80.9)	107 (19.1)
BED		438 (78.1)	123 (21.9)
HIV/AIDS	No		
AN		32 (5.7)	529 (94.3)
BN		18 (3.2)	543 (96.8)
BED		26 (4.6)	535 (95.4)
Obsessive Tendencies	Yes		
AN		491 (87.5)	70 (12.5)
BN		404 (72.0)	157 (28.0)
BED		374 (66.7)	187 (33.3)
Neglect	No		
AN		177 (31.6)	384 (68.4)
BN		183 (32.6)	378 (67.4)
BED		269 (48.0)	292 (52.0)
Insomnia	No		
AN		131 (23.4)	430 (76.6)
BN		118 (21.0)	443 (79.0)
BED		179 (31.9)	382 (68.1)
Pathological Family Tendencies	Yes		
AN		314 (56.0)	247 (44.0)
BN		292 (52.0)	269 (48.0)
BED		304 (54.2)	257 (45.8)
Perfectionistic Tendencies	Yes		
AN		534 (95.2)	27 (4.8)
BN		378 (67.4)	183 (32.6)
BED		237 (42.2)	<b>324 (57.8)</b>

Depression	Yes		
AN		449 (80.0)	112 (20.0)
BN		454 (80.9)	107 (19.1)
BED		463 (82.5)	98 (17.5)
Dislike of School	No		
AN		148 (26.4)	413 (73.6)
BN		197 (35.1)	364 (64.9)
BED		233 (41.5)	328 (58.5)
Low Self-Esteem	Yes		
AN		514 (91.6)	47 (8.4)
BN		507 (90.4)	54 (9.6)
BED		476 (84.8)	84 (15.2)
Single Parent Homes	No		
AN		105 (18.7)	456 (81.3)
BN			
BED		148 (26.4)	413 (73.6)
Dependency on Others	Yes		
AN		437 (77.9)	124 (22.1)
BN		430 (76.6)	131 (23.4)
BED		318 (56.7)	243 (43.3)
Societal Pressures	Yes		
AN		461 (82.2)	100 (17.8)
BN		464 (82.7)	97 (17.3)
BED		359 (64.0)	202 (36.0)
Low Internal Locus of Control	Yes		
AN		283 (50.4)	278 (49.6)
BN		349 (62.2)	212 (37.8)
BED		407 (72.5)	154 (27.5)
Genetic Predisposition	Yes		
AN		205 (36.5)	<b>356 (63.5)</b>
BN		171 (30.5)	<b>390 (69.5)</b>
BED		210 (37.4)	<b>351 (62.6)</b>

---

Table 4.6

*Ratings of Importance of Eating Disorder Specific Training*

---

Rating	Frequency	Percentage
1 (not important)	4	0.7
2 (somewhat important)	21	3.7
3 (moderately important)	145	25.8
4 (very important)	211	37.6
5 (extremely important)	180	32.1

---

Table 4.7

*Ratings of Problematic Anorexia Nervosa*

---

Rating	Frequency	Percentage
1 (not at all problematic)	79	14.1
2 (somewhat problematic)	241	43.0
3 (moderately problematic)	165	29.4
4 (very problematic)	66	11.8
5 (extremely problematic)	10	1.8

---

Table 4.8

*Ratings of Problematic Bulimia Nervosa*

---

Rating	Frequency	Percentage
1 (not at all problematic)	88	15.7
2 (somewhat problematic)	229	40.8
3 (moderately problematic)	187	33.3
4 (very problematic)	49	8.7
5 (extremely problematic)	8	1.4

---

Table 4.9

*Ratings of Problematic Binge Eating Disorder*

---

Rating	Frequency	Percentage
1 (not at all problematic)	92	16.4
2 (somewhat problematic)	226	40.3
3 (moderately problematic)	160	28.5
4 (very problematic)	72	12.8
5 (extremely problematic)	11	2.0

---

Table 4.10

*Frequency Encounter Youth with Disordered Eating*

---

Number of Students	Frequency	Percentage
0	200	35.7
1	53	9.4
2 – 4	180	32.1
5 – 7	73	13.0
8 – 9	22	3.9
10+	33	5.9

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Table 4.11

*Involvement with Students with Disordered Eating*

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Service	Frequency
Provided Outside Referral	236
Provided Direct Intervention Services	141
Family Consultation	264
Other	58

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*Note.* N= 332. Respondents were able to select more than one response.

Table 4.12

*Rank Order of Frequency of School Personnel Who Intervene*

Ranking	Personnel	Frequency
1	School Counselor	131
2	School Nurse	104
3	School Social Worker	83
4	School Psychologist	75
5	SMH Clinician	53
6	General Education Teacher	30
7	Principal	24
8	Special Education Teacher	22
9	<i>Uncertain</i>	<i>11</i>
10	Other	6
11	No One	1

*Note.* N = 173. Respondents were able to select more than one school personnel involved in primary intervention.

Table 4.13

*Rank Order of School Personnel Who Take Primary Responsibility of Intervention*

---

Ranking	Personnel	Frequency	Percentage
1	<i>None</i>	392	69.9
2	School Counselor	54	9.6
3	School Social Worker	39	7.0
4	SMH Clinician	21	3.7
5	<i>Uncertain</i>	19	3.4
6	School Nurse	17	3.0
7	School Psychologist	15	2.7
8	Other	3	0.5
8	Special Education Teacher	1	0.2

---

Table 4.14

*Common Practices for SMH Professionals with Students with Disordered Eating*

Ranking	General Services	Frequency
1	Consultation	226
2	Assessment	181
3	Intervention	174
4	Prevention	100

*Note.* N = 226. Respondents were able to endorse more than one practice.

Table 4.15

*Rank Order of Services Used and Effectiveness*

Rank	Service	Used (%)		Effectiveness (%)		
		Yes	No	Not	Somewhat	Very
1	Parent Consultation	273 (82.2)	59 (17.8)	31 (11.4)	188 (68.9)	54 (19.8)
2	Student Education	241 (72.6)	91 (27.4)	34 (14.1)	196 (81.3)	11 (4.6)
3	Refer for Medical Evaluation	217 (65.4)	115 (34.6)	23 (10.6)	119 (54.8)	75 (34.6)
4	Teacher Consultation	181 (54.5)	151 (45.5)	24 (13.3)	135 (74.6)	22 (12.2)
5	Parent Education	171 (51.5)	161 (48.5)	20 (11.6)	125 (73.1)	26 (15.2)
6	Teacher Education	131 (39.5)	201 (60.5)	13 (9.9)	94 (71.8)	24 (18.3)
7	Small Group Discussion	109 (32.8)	223 (67.2)	11 (10.1)	77 (70.6)	21 (19.3)
8	Individual CBT	85 (25.6)	247 (82.8)	8 (9.5)	54 (63.5)	23 (27.1)
9	Individual Interpersonal Therapy	59 (17.8)	273 (82.2)	6 (10.2)	43 (72.9)	10 (16.9)
10	Individual Behavior Therapy	57 (17.2)	275 (82.8)	6 (10.5)	43 (75.4)	8 (14.0)
11	Individual Psychodynamic Therapy	20 (6.0)	312 (94.0)	1 (5.0)	14 (70.0)	5 (25.0)
11	Group CBT	20 (6.0)	312 (94.0)	2 (10.0)	15 (75.0)	3 (15.0)
12	Family CBT	17 (5.1)	315 (94.9)	1 (5.9)	12 (70.6)	4 (23.5)
13	Group Interpersonal	15	317	1	11	3

	Therapy	(4.5)	(95.5)	(6.7)	(73.3)	(20.0)
14	Family Behavior Therapy	12 (3.6)	320 (96.4)	3 (25.0)	7 (58.3)	2 (16.7)
15	Other	11 (3.3)	321 (96.7)	4 (36.4)	5 (45.5)	2 (18.2)
16	Group Behavior Therapy	10 (3.0)	322 (97.0)	1 (10.0)	6 (60.0)	3 (30.0)
17	Family Interpersonal Therapy	9 (2.7)	323 (97.3)	2 (22.2)	3 (33.3)	4 (44.4)
18	Family Psychodynamic Therapy	6 (1.8)	326 (98.2)	3 (50.0)	2 (33.3)	1 (16.7)
19	Group Psychodynamic Therapy	5 (1.5)	327 (98.5)	0 (0.0)	3 (60.0)	2 (40.0)

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Table 4.16

*Rank Order of Prominent Barriers to SMH Services*

Ranking	Barrier	Frequency
1	Lack of Referrals	286
2	Limited Knowledge of Appropriate Interventions	246
3	Limited Skill in Appropriate Interventions	230
4	Limited Knowledge of Appropriate Assessment	217
5	Not a Perceived Need	211
6	Lack of Time Due to Other Responsibilities	209
7	Limited Skill in Appropriate Assessment	188
8	Lack of Support from School Staff	85
9	Not a Contractual Obligation	51
10	Other	46

*Note.* N = 561. Respondents were able to endorse more than one barrier.

## CHAPTER 5

### DISCUSSION

This mixed methods study sought to explore and describe the experiences of adolescent females who experienced disordered eating while in primary or secondary school. Qualitative data from adolescent females who received treatment for an eating disorder while in school and their mothers were converged and analyzed with quantitative data from SMH professionals to assess SMH services for youth with eating disorders. This chapter discusses the qualitative and quantitative findings of this study along with implications and recommendations for clinical practice. Limitations of the study and future research directions are then shared.

#### *Summary and Purpose of the Study*

The purpose of this mixed methods study was to establish the need for increased awareness of, and support for, individuals struggling with disordered eating within the school system. Utilizing a concurrent parallel design, this study combined qualitative and quantitative methods to gain a complete understanding of youth, families and professionals in the school system in relation to disordered eating support services. Qualitatively, the researcher investigated perspectives of adolescent patients in recovery and family members through interviews in relation to the current availability of support services within the schools and proposed ways to increase such services. Quantitative methods were concurrently implemented with SMH professionals to explore viewpoints of whether SMH programs have the capacity, knowledge and training to provide

disordered eating support services. Qualitative and quantitative data were collected and analyzed separately prior to converging the data strands. Convergence of separate data strands enabled a more complete analysis of the constructs of interest due to the complexity of the topic (Creswell & Plano-Clark, 2011).

This chapter examines the findings from the converged data strands and perspectives that each strand provided to better understand the research questions involved in this study. Each of the following sections combines findings from qualitative and quantitative data strands to explore the experiences of adolescents with eating disorders in the schools, the current status of disordered eating service delivery, the training and knowledge of school professionals, the benefits of SMH services for students with disordered eating, and the costs and barriers to SMH services for with disordered eating.

### *Discussion of Findings*

#### *Experiences of Adolescents with Eating Disorders in Schools.*

A primary objective of this study was to understand the experiences of adolescents with disordered eating in the schools. To this end, SMH professionals were asked to indicate the number of students that they have encountered and worked with in the schools who have exhibited disordered eating. More than 50% of the SMH professionals who completed a survey reported encountering a student who engaged in disordered eating behaviors since working for the school system. Additionally, a similar percentage indicated that they have worked with a student who exhibited disordered eating behaviors. This finding is consistent with previous research indicating that disordered eating behaviors are a frequent practice amongst children (e.g., Flannery-

Schroeder & Chrisler, 1996; Ricciardelli & McCabe, 2001; Robinson, Chang, Heydel & Killen, 2001; Schur et al., 2000; Tanofsky-Kraff et al., 2007) and adolescents (e.g., Croll et al., 2002; Neumark-Sztainer et al., 2011). Furthermore, it indicates that perspectives conveyed by the adolescent females in recovery and their mothers may be more commonly shared than previously believed. This suggests that it is important to understand the perspectives and school experiences of school-aged adolescent in the context of recovery from disordered eating.

Qualitative participants were individually interviewed and asked questions regarding their experiences while a student with disordered eating. Participants reported decreased social support, difficulties with perfectionism and social comparison, and uncertainty from school staff on how to approach the situation as hindrances to their recovery. Consistent with previous research that individuals with eating disorder symptoms indicate lower perceived levels of social support and deficient social networks (Tiller et al., 1997), feelings of isolation and the absence of social support emerged as significant themes in this sample. Previous research suggests that key social support networks significantly impact onset, trajectory of, and recovery from disordered eating (Cockell, Zaitsoff, & Geller, 2004; Meno, Hannum, Espelage, & Low, 2008). A study of women who recovered from anorexia nervosa also indicated that lack of social support impeded recovery (Beresin, Gordon, & Herzog, 1989). Conversely, positive life influences, such as friends, teachers, coaches and family, have been demonstrated as serving a powerful role for individuals in recovery from disordered eating (Marcos & Cantero, 2009; Pettersen & Rosenvinge, 2002).

As the school environment is a major socialization setting for children and adolescents, it is imperative that school staff work to enhance social support for this population. Arkell and Robinson (2008) found that individuals with anorexia nervosa indicated that their eating disorder resulted in difficulties with interpersonal relations, but also that their eating disorder served to comfort them and made interpersonal avoidance easier. As such, it may be advantageous for school professionals to include these students in social skills groups or support groups to enable interpersonal growth and provide for adaptive, approach coping rather than turning back to the eating disorder. A qualitative study focusing on relapse and recovery from anorexia nervosa found that maintaining healthy changes after treatment was strongly associated with the availability and support of friends and family (Federici & Kaplan, 2008). Additionally, as previous research has demonstrated, poorer interpersonal problem solving abilities amongst individuals with disordered eating (Morrison et al., 2009; Schutz & Paxton, 2007), social skills interventions may be helpful for this population. Support from school professionals may also facilitate student involvement in non-eating disorder related, extra-curricular activities, which have been suggested as influential in seeking recovery.

Despite the need for social support, the use of group therapy and small group discussion were very infrequently reported by this sample of SMH professionals. Of the 332 professionals who had previously provided services specific to disordered eating, 32.8% provided small group discussion, 6.0% provided group cognitive-behavioral therapy and 4.5% provided group interpersonal therapy. Findings from the current study, in conjunction with previous research, indicate that support from peers and school staff is needed to support for students with disordered eating in recovery. As such, it may be

beneficial for schools to include support groups for this population. While research has not been conducted on treating individuals with disordered eating in schools, a number of studies have been completed regarding peer support programs to prevent disordered eating. McVey and colleagues (2003) found that a 10-session group led by a public health nurse resulted in increased weight-related esteem and decreased dieting. Similarly, Abascal and colleagues (2003) delivered a targeted, classroom-based, 8-week prevention program to both a low- and high-risk group of female high school students. Both groups improved knowledge of eating disorders, nutrition and exercise at postintervention, but the high-risk group felt more positive about their experience and demonstrated significant improvements in attitudes and behaviors related to disordered eating at postintervention. This suggests that the inclusion of targeted student support groups may be beneficial for students with disordered eating.

This study also highlighted the role that perfectionism plays in the onset and course of disordered eating, which is a well-known risk and maintenance factor (e.g., Bardone-Cone, 2007; Fairburn et al., 1999; Franco-Paredes, Mancilla-Díaz, Vázquez-Arévalo, López-Augilar, & Álvarez-Rayón, 2005). Qualitative findings indicated that maladaptive perfectionism and strong achievement orientation fostered the development of an eating disorder. Further, results suggest that receiving attention for weight loss delayed treatment seeking and recovery. However, there is some evidence to suggest that some degree of perfectionism can help spearhead recovery. In a qualitative study by Federici and Kaplan (2008) on relapse and recovery from anorexia nervosa, some participants reported using that personality trait to facilitate healthy change and growth.

Perfectionism has been conceptualized as adaptive (normal) or maladaptive (neurotic) (Hamachek, 1978). Both types of perfectionism involve setting high goals and personal standards. However, individuals with adaptive perfectionism retain the ability to be satisfied with their performance, while those with maladaptive perfectionism set unattainable goals and are unable to be pleased with their performance. Previous research suggests that individuals with eating disorders score higher on measures of maladaptive perfectionism than age-matched controls, but no differences in adaptive perfectionism were observed (Ashby, Kottman & Schoen, 1998). With the amount of exposure school staff has to students, they are in an ideal position to identify maladaptive perfectionism and intervene. Interestingly, SMH providers surveyed in the current study did not consistently cite perfectionism as implicit in all eating disorders.

Kottman and Ashby (2000) discussed ways maladaptive perfectionism manifests in the classroom and the role that school counselors specifically can provide assistance; however, these suggestions may apply to any helping professional within the school system. Students exhibiting maladaptive perfectionism may not complete work and may avoid class participation due to fears of mistakes and incorrect answers. Use of cognitive-behavioral therapy strategies, such as identifying automatic thoughts, restructuring distortions, working on goal-setting and learning progressive relaxation techniques, have been effective in challenging maladaptive perfectionistic attitudes (e.g., Arpin-Cribbie et al., 2008; Ferguson & Rodway, 1994). Additionally, Nugent (2000) advised teachers to work on cognitive restructuring in the classroom for individuals with maladaptive perfectionism. She recommended that teachers create a supportive and nurturing learning environment in which students understand that making mistakes is a part of the learning

process. Additionally, she encouraged teachers to teach students how to realistically select, plan, reach and evaluate goals so that students retain their high achievement orientation but in a productive and healthy way. The aforementioned strategies can be utilized by any SMH professional in the school and can be incorporated into individual, group and family therapy sessions.

Relatedly, individuals in this study reported difficulties with self-acceptance and social comparison. Self-criticism, or the tendency to blame oneself when life events do not occur as desired, has been described as a depressive personality style related to disordered eating (Beck, 1964; Blatt, 1995). In fact, research suggests that self-criticism mediates the relationship between perfectionism and disordered eating (Dunkley & Grilo, 2007). This finding is consistent with previous research suggesting that individuals with disordered eating who relapsed indicated that severe self-criticism was a hindrance to recovery (Federici & Kaplan, 2008). Additionally, maladaptive perfectionists exhibit high levels of self-criticism and tend to focus exclusively on negative or less than perfect qualities.

Self-criticism and social comparison have been implicated as triggers in the dietary changes (Muir, Wetheim & Paxton, 1999) and the onset of disordered eating. Comparison to others is related to the promotion and internalization of the thin-ideal, a well-known risk factor for the onset of disordered eating (e.g., Thompson & Stice, 2001). The highly social context of schools provides for a unique context for intervention. A number of self-esteem and body image interventions have been evaluated in school settings (e.g., Dalgas-Pelish, 2006; Richardson & Paxton, 2010). A self-esteem intervention implemented by Dalgas-Pelish (2006) with fifth and sixth grade children

resulted in the most positive changes for female participants. Richardson and Paxton (2010) implemented a school-based self-esteem and body image intervention with seventh grade females. After three 50-minute sessions, the intervention group reported significantly more positive outcomes on topic knowledge, risk factors for body dissatisfaction, body image, dietary restraint and self-esteem maintained at post-intervention and three-month follow-up. These findings suggest that school-based interventions can be effectively implemented to target self-esteem and body image.

Positively, a significant majority of those interviewed indicated current self-acceptance as they move through recovery. This finding is consistent with previous qualitative research suggesting that self-acceptance in recovery results in more adaptive functioning and changes to dysfunctional self-criticism (Espíndola & Blay, 2009) and high self-esteem is predictive of treatment acceptance and completion (Halmi et al., 2005). In a qualitative study on maintaining change post-treatment for disordered eating, experiences that increased positive emotions and self-esteem were identified as helpful in maintaining healthy changes (Cockell et al., 2004). This suggests that if school staff can foster a school environment of self-acceptance this may help to decrease the occurrence of disordered eating behaviors and assist youth with disordered eating in recovery. Additionally, decreasing activities such as gym weigh-ins and encouraging healthy eating behaviors may further facilitate this process.

Uncertainty of how to support these individuals emerged as a common theme and hindrance to the recovery process. This was echoed by the sample of SMH professionals who completed the survey. Limited knowledge of and skill in appropriate assessment and intervention strategies for disordered eating were three of the most frequently indicated

barriers to service delivery. As hypothesized, few SMH professionals reported receiving specific training in the identification and intervention of disordered eating. However, majority of survey respondents correctly selected symptoms of, and factors that exacerbate, anorexia nervosa, bulimia nervosa and binge eating disorder in children and adolescents. This finding is consistent with previous work done with a sample of school psychologists (Judge, 2001), as well as in the eating disorder treatment community, but inconsistent with research hypotheses. Furthermore, majority of the sample surveyed endorsed high importance of training in this area and need for SMH professionals to work with this population.

Eating disorders have been described as unpredictable and difficult to treat (Ben-Tovim et al., 2001; Matz & Frankel, 2005; Williams & Leichner, 2006). Challenges treating disordered eating include health consequences, psychological comorbidities, mortality and suicide attempt rates, interpersonal difficulties with therapists, and Western sociocultural values (see Warren, Crowley, Olivardia & Schoen, 2009). Furthermore, there is an absence of a strong body of research in the child and adolescent eating disorder treatment literature (Gowers & Bryant-Waugh, 2004). Although treatment for eating disorders often includes inpatient, residential, or day programs, research comparing treatment outcomes from hospital programs and outpatient therapy suggested no significant differences (Lock, 2010). While some work has been published on the types of services advised for working with this population in the schools (e.g., Bardick et al., 2004), minimal work has been done to specifically evaluate outcomes from these approaches. Therefore, uncertainty in approaching this topic is consistent with research

school-based on identification and treatment of disordered eating, which is minimal to date.

Despite the occurrence of such hindering factors, qualitative participants indicated that teacher identification of disordered eating and school support in recovery furthered their recovery process. These findings support the notion that schools are a prime location for early identification of disordered eating, given the large number of children and adolescents who are potentially at risk (Neumark-Sztainer, 1996). Furthermore, these findings support the role that teachers and SMH professionals can play in evaluating affective, behavioral and cognitive difficulties commonly associated with disordered eating. If collaborative efforts are made between schools and community agencies, school professionals may be able to overcome typical barriers to treatment by connecting students and families with resources in the community. Käsälä (2010) found that, although teachers reported encountering youth with disordered eating, they were unsure of what practices to employ in such situations. The findings from the current study suggest that school professionals have the potential to play a powerful role and, if provided with appropriate information and training, can serve an unmet need.

An additional theme conveyed by the adolescents and their mothers was school staff support while receiving treatment for an eating disorder. This was also reported by the sample of SMH professionals, with greater than 80% advocating for provision of school-based support services for this population. It was indicated by 59.2% of the total SMH professional sample that they previously worked with students who exhibited disordered eating behaviors, with 29.8% of those individuals reporting involvement in reintegrating the student into the school. SMH professionals, although lacking knowledge

and training, are in a unique position to provide early intervention, treatment referral and support in recovery (Bardick et al., 2004). Previous research on disordered eating attitudes and behaviors suggests their presence in 27% of adolescent females aged 12-18 (Jones et al., 2001). Given the high-risk status of students in middle and high schools, it would seem an excellent use of resources for SMH professionals to provide support to individuals with disordered eating.

*School Services for Youth with Disordered Eating.* An additional objective of this study was to determine the current status of school-based services for youth with disordered eating. SMH participants indicated that Anorexia Nervosa, Bulimia Nervosa and Binge Eating Disorder are somewhat problematic at their schools. Previous work with school psychologists suggested moderately problematic disordered eating among school-aged students (Judge, 2001), which is reasonable given the early age of onset of these disorders (Swanson et al., 2011). However, given that 28% of the sample reported exclusively working in an elementary school and 23.7% indicated working in an elementary/middle school, it might be that significance was rated lower because of the age group with which most of the sample works with.

Interestingly, despite lower ratings on problematic disordered eating, a majority of the sample reported encountering a student with disordered eating since working at their respective school, consistent with research hypotheses. Of the professionals who encountered a student with disordered eating, most report encountering between 2-4 or 5-7 students. Only 20% of the sample reported receiving a referral specifically to evaluate or treat students with disordered eating, which may be due to disordered eating being secondary to other concerns. It also is possible that other school professionals may not

deem the treatment of disordered eating within the domain of school mental health practice, as has been previously suggested (Judge, 2001). Furthermore, roughly 50% of the sample of SMH professionals cited lack of referrals as a barrier to work with this population.

However, slightly more than half of the SMH professionals who completed the survey reported provision of SMH services to a student with disordered eating. According to the sample of respondents, school counselors, social workers and nurses are typically called upon as primary interventionists in cases of disordered eating. Despite SMH practitioner apparent training in and knowledge of mental health concerns, only 30.6% indicated that these professionals provide intervention services in cases of disordered eating. The most frequently reported services provided included provision of an outside referral and family consultation, as hypothesized. Half of the qualitative sample of adolescent females reported receiving SMH services; however, only one of these individuals spoke with their counselor regularly about disordered eating. The lack of clarity as to what treatment is most efficacious for disordered eating combined with the dearth of controlled studies on the treatment of eating disorders in children and adolescents (e.g., Bulik, Berkman, Brownley, Sedway & Lohr, 2007) may negatively affect SMH professionals' motivation to increase their capacity to provide this type of service.

Inpatient or residential facilities are usually recommended for medically and psychologically unstable individuals, as they provide the most structured and comprehensive treatment (Funari, 2013). Day treatment and intensive outpatient programs provide intense structure and support for those who do not require acute care.

Although referral to a specialized program is often recommended, there is no empirical evidence to suggest that one treatment setting is more effective than any other (Fairburn, 2005). Furthermore, provision of an outside referral does not necessarily overcome the barriers that adolescents and families often encounter when seeking disordered eating services. Therefore, early detection and primary or secondary prevention intervention through the schools may help prevent the development of more chronic and severe disordered eating and help families overcome difficulties such as insurance coverage and specialized services (Rome et al., 2003).

Family therapy has received the most research attention regarding the treatment of disordered eating in younger adolescent samples (see Keel & Haedt, 2008). Family-based interventions have demonstrated superiority over individual therapy for adolescents with anorexia nervosa, but findings are unclear amongst adolescents with bulimia nervosa; no controlled treatments of children or adolescents with binge eating disorder have been conducted. Despite the frequent use of this mode of therapy in treating disordered eating, no more than 6% of this sample reported usage of family therapy. However, parent and family consultation was rated as frequently used by this sample of SMH professionals, with 67% of the sample rating this technique as somewhat effective.

Less than 30% of those who reported previous work with students with disordered eating were involved in reintegrating the student into the school. This suggests either that students whom they have encountered with disordered eating may not have received treatment outside of the school or reintegration services have not been a component of their service delivery model. When students have been removed from the school environment for treatment, it is expected that they will encounter challenges as they

adjust back to their daily routine (i.e., socially, academically, physically). In fact, Kaplan (2015) acknowledged that disordered eating and going through chemotherapy have similar impacts on children and adolescents, both resulting in physical manifestations and daily challenges while battling a chronic illness. Carney and Scott (2012) recommend consideration of creative solutions, as well as special services and accommodations depending on the student's needs. It also may be that SMH professionals typically are called upon for students who have concerns that are negatively impacting their educational progress and, given the high-achieving nature of students with disordered eating, these professionals may be less likely to be involved in transition services for this population. For example, Dura and Bornstein (1989) found that school achievement was higher than predicted by IQ for school-age females with anorexia nervosa. Thus, students with disordered eating may not be identified as struggling, necessitating less support from SMH professionals.

*Benefits of SMH Services for Disordered Eating.* An additional objective of this study was to examine the perspectives of adolescent females, mothers and SMH professionals regarding the benefits of including services for this population in SMH programs. The entire qualitative sample expressed support for the benefits of SMH services for youth with disordered eating. Additionally, the majority of the sample of SMH professionals rated the importance of SMH services for youth with disordered eating between very and extremely important.

There is a known under-identification of internalizing disorders, including eating disorders, due to their 'hidden' nature. A benefit of including school-based disordered eating services proposed by adolescents and their mothers was increased awareness of

these disorders among students. Although the sample of SMH professionals rated AN, BN and BED as somewhat problematic within their schools, responses in the interviews with adolescents suggest that they are more common than school professionals are aware. For example, one adolescent indicated that she was unaware of the prevalence of difficulties with disordered eating among adolescents until she returned to school after receiving treatment. Weight and body image dissatisfaction and attempts to control weight are considered normative among adolescents (Ackard et al., 2003; Neumark-Sztainer et al., 2011), making it the third most common chronic illness after obesity and asthma. High school screening programs, such as the National Eating Disorders Screening Program, resulted in increased knowledge and awareness of disordered eating amongst high school girls and boys (D'Souza et al., 2005). Programs such as these have the potential to increase awareness among students and school faculty. Research suggests that increased awareness and early detection may shorten the interval between onset of symptoms and treatment.

Additionally, providing SMH services for youth with disordered eating may link students and families to treatment resources in the community. Consistent with this finding, SMH professionals reported that a common service provided for adolescents with disordered eating was an outside referral. A significant percentage of individuals with disordered eating do not receive treatment (Hudson et al., 2007; Striegel-Moore, Leslie, Petrill, Garvin & Rosenheck, 2000), with upwards of 49% of high school students failing to receive treatment for disordered eating behaviors (Meyer, 2001). Reasons behind underuse of services include difficulties with insurance coverage (Becker, Franko, Nussbaum & Herzog, 2004; Cachelin & Striegel-Moore, 2006), subthreshold clinical

presentation (Eddy, Doyle, Hoste, Herzog, & Le Grange, 2008; Fisher, Schneider, Burns, Symons & Mandel, 2001), secrecy (D'Abundo & Chally, 2004), minimization of illness severity (Becker et al., 2004), and limited awareness of resources (Hepworth & Paxton, 2007; Mond et al., 2007). Provision of school services circumvents these barriers in a number of ways. Although it would be necessary to demonstrate an academic impact of the disordered eating behaviors, SMH professionals may be able to sidestep the difficulty posed by lack of insurance or inadequate insurance coverage. Furthermore, SMH professionals may not be restricted by the need to demonstrate that students meet diagnostic criteria, given that many students are functionally impaired but have a subthreshold condition. Lastly, the school might be an ideal environment to monitor students eating and behavioral patterns and ensure that students engage in treatment, as teachers and other professionals supervise them throughout the day.

Both mothers and adolescents interviewed indicated that a benefit of SMH services for youth with disordered eating would be increased family involvement and support. The mothers in this sample acknowledged that SMH services would both provide education for the parents and support for the family through the student's recovery. Relatedly, the sample of SMH professionals endorsed family consultation and education as some of the most frequently utilized practices. As previously stated, family services are consistently implicated as key in the treatment of disordered eating among children and adolescents. Family involvement been associated with reduced psychological and medical symptoms, in younger patients with AN in particular (Eisler et al., 1997; Eisler, Simic, Russell & Dare, 2007; Lock, Couturier & Agras, 2006). Additionally, family involvement has been associated with lower attrition rates. The

difficult aspect of managing disordered eating in an outpatient setting is that it places primary responsibility onto the family, resulting in stress, strain and dysfunctional changes in family interactions (Zabala, Macdonald & Treasure, 2009).

Caregivers of individuals with disordered eating indicate high levels of psychological distress, burden and expressed emotion, which are associated with decreased effectiveness of family therapy (Zabala et al., 2009). Additionally, dysfunctional family patterns have been implicated in the cause and maintenance of these disorders (Tozzi, Sullivan, Fear, McKenzie & Bulik, 2003). For instance, Treasure and colleagues (2008) found that shared traits, such as anxiety, compulsivity and abnormal eating behaviors may inadvertently play a role maintaining the disordered eating behaviors. Although parents have historically been blamed for their children's disordered eating behaviors (e.g., Field et al., 2001; Hodges, Cochrane & Brewerton, 1996; Pike & Rodin, 1991; Strober & Humphrey, 1987), recent research emphasizes the importance of including parents as partners and resources through treatment (Le Grange, Lock, Loeb & Nicholls, 2010; Lock, Le Grange, Agras & Dare, 2001).

It was reported by each of the mothers that they perceived a lack of support from individuals involved in their child's treatment. A hypothesized benefit of including SMH services for youth with disordered eating was support for the family through the treatment process. Given the amount of time that adolescents spend at school each day, the provision of school-based services for this population may ease parents' distress and concerns. Consistent with these findings, previous research on the impact of disordered eating on families suggested that increased involvement and integration of families in the treatment process might alleviate some distress (Hillegge, Beale & McMaster, 2006).

Psychoeducation and family involvement has been associated with lower rates of distress and expressed emotions during the treatment process (Uehara, Kawashima, Goto, Tasaki & Someya, 2001). Thus, family support through SMH services has the potential to enhance therapeutic outcomes and decrease attrition rates commonly seen among adolescents with disordered eating.

Another theme that emerged in conversation with the adolescents and their mothers was that the provision of SMH services for this population would offer support in recovery. A number of adolescents acknowledged that the inclusion of SMH services would provide an outlet for students during the school day and allow them to seek support when feeling ‘triggered.’ Rates of individuals who fail to engage in treatment, as well as dropout from treatment, for disordered eating are very high. Burket and Hodgkin (1993) found that 28% of individuals referred for services specific to disordered eating ‘did not show.’ Up to 70% who attend their first session reportedly drop out and prematurely terminate outpatient treatment (Mahon, 2000; Swan-Kremeier, Mitchell, Twardowski, Lancaster & Crosby, 2005). Factors associated with drop out include greater body dissatisfaction and restrictive eating patterns (McKisack & Waller, 1996), personality characteristics such as impulsivity (Peake, Limbert & Whitehead, 2005), and lower social functioning and more severe mental health symptoms (Killaspy, Banerjee, King & Lloyd, 2000). Furthermore, premature withdrawal from therapy is a significant risk factor for relapse in the first year post-hospitalization for individuals with AN (Baran, Weltzin & Kaye, 1995). As such, this population is in need of support as they progress through recovery and would benefit from accountability from professionals who can provide support throughout the school day. The inclusion of SMH services, therefore,

has the potential to decrease the prevalence of clinical disordered eating practices amongst students, shorten time span between identification and intervention, and decrease the likelihood of relapse.

*Potential Costs of SMH Services for Disordered Eating.* An additional objective of this study was to examine the perspectives of adolescent females, mothers and SMH professionals regarding the potential costs of and barriers to including services for this population in SMH programs. Few adolescents and mothers indicated that they perceived any negatives to the implementation SMH services for youth with disordered eating. However, themes that emerged from interviews included that services for disordered eating could take time away from academics, the need for professionals specifically trained in disordered eating services to intervene and the time necessary to train SMH professionals to work with this population.

One mother indicated that provision of family-specific services related to disordered eating might be above and beyond the school's responsibilities. However, it is well known that there is an unmet need for children's mental health services and the schools often function as a de facto mental health setting for children and adolescents (Burns et al., 1995). In regards to family services, it appears that family education and consultation are, in fact, some of the most frequently utilized services by the sample of SMH professionals surveyed. Additionally, greater than 80% of the sample indicated that SMH professionals should work with this population and only 9% of the sample indicated that a barrier to service delivery for this population is that the services are not a contractual obligation.

Although family services are not directly related to academics, the provision of comprehensive school health services aims to improve health, mental health, achievement and overall quality of life by treating the whole child (Flaherty et al., 1998).

Furthermore, it has been suggested that school absences may be related to underlying mental health needs and family problems (DeSocio & Hootman, 2004). Knowing the association between poor academic functioning and mental health difficulties among children and adolescents, the importance of family involvement in treatment disordered eating, and the ever-expanding role of schools in providing effective mental health interventions for children and adolescents, it appears that family services falls within the domain of SMH services.

Another potential barrier that was cited to the implementation of SMH services for youth with disordered eating was the need for trained professionals to work with this population. A number of adolescents and mothers interviewed indicated that they encountered professionals in the schools who lacked understanding of disordered eating. Furthermore, the adolescents reported that receiving services from professionals who had limited knowledge and training dissuaded them from pursuing further treatment. This finding was echoed by SMH professionals, with limited knowledge of, and skill in, appropriate interventions and limited knowledge of appropriate assessment endorsed as some of the most frequent barriers to service provision. The majority of survey respondents had not received training specific to the identification nor treatment of eating disorders. This supports that a lack of training is associated with decreased school-based service provision for this population (Fjelland, 2009; Harshbarger et al., 2011; Price et al., 1990). Due to sample size and statistical limitations of the data, researchers of the

current study were unable to examine whether particular professionals or training methods were associated with increased service provision. However, research findings indicated that SMH professionals who received training in ED intervention were more likely to rate higher levels of competence in intervention. Thus, it is logical to assume that increased training for these professionals would increase school service provision as SMH professionals would feel more skilled to intervene effectively.

Given that a large proportion of SMH professionals have not received training in disordered eating identification and intervention, a barrier and cost to implementation of these services is the time necessary for training. This was a potential barrier suggested by adolescents and mothers interviewed. However, majority of SMH professionals correctly identified symptoms of AN, BN and BED, as well as precipitating and exacerbating factors of the aforementioned disorders. This suggests that SMH professionals are knowledgeable of eating disorders but are unsure of how to identify the disorders and what steps to take in the case of an eating disorder. Additionally, the majority of the sample of SMH professionals rated the importance of SMH services for youth with disordered eating between very and extremely important. A consistent area where professionals are lacking in knowledge, however, is the genetic predisposition associated with disordered eating.

### *Implications of the Study*

Results of this mixed-methods study have several implications. Findings regarding current provision of services suggest that, while SMH professionals have some level of involvement with students with disordered eating, there is limited awareness of the need for these services in schools. Additionally, qualitative findings and previous

research indicate a greater need for support services. Moreover, although a significant amount of literature exists on the prevalence of disordered eating amongst school-age children and adolescents, only a few articles have investigated how SMH programs can support this population. Therefore, an intended purpose of this exploratory study was to provide awareness of the need for services for youth with disordered eating disorders and encourage further research into their functional use.

Furthermore, research conducted on services for youth with disordered eating in the schools has predominantly focused on the roles that each professional may serve (e.g., school counselor, psychologist, nurse). Each of the school mental health disciplines have unique core competencies and understanding of these roles is essential for interdisciplinary collaboration. Flaherty and colleagues (1998) acknowledge that benefits of a comprehensive team of SMH professionals include shared decision-making and responsibility, support, broader expertise and awareness of clinical issues. In sum, a collaborative team such as this would enable more effective treatment planning for youth with disordered eating and higher quality service delivery. Findings from the current study support the involvement of various SMH professionals, including school psychologists, counselors, clinicians, social workers and nurses, in implementing school identification and intervention programming. Furthermore, the fact that most SMH professionals cited none of the professionals as taking primary responsibility in a case of disordered eating highlights the need for collaborative work to ensure comprehensive service delivery.

Relatedly, the current data support the need for collaboration and partnerships between community organizations and schools. A significant proportion of SMH

professionals surveyed provided outside medical referrals to students they encountered with disordered eating. Additionally, four adolescents and three mothers interviewed indicated that school professionals provided referrals to treatment resources in the community. As specialized treatment is often needed for youth with disordered eating, it is imperative that SMH professionals be knowledgeable of referral resources in their area. This is of particular importance if the schools do not provide any level of intervention services, which was a common theme for adolescents, mothers and SMH professionals.

Interview participants cited significant benefits to the inclusion of SMH services for youth with disordered eating. Additionally, SMH professionals endorsed the provision of services for population as moderately important. This suggests that SMH services would be useful for numerous children and adolescents. However, the variability in services provided suggests that SMH programs are unsure of the best approach to intervention. For instance, although individual and family therapy services are the most commonly supported intervention services for youth with disordered eating, less than 25% of SMH professionals who had worked with youth with disordered eating indicated their implementation. Relatedly, a common theme expressed among adolescents and their mothers was uncertainty from school professionals in regards to handling their child's situation. However, given the limited receipt of training in identification and intervention services in this particular sample, it is not expected for all professionals to be aware of evidenced-based interventions for this population. These findings further reinforce the need for training in identification and intervention for disordered eating, as well as controlled investigations of effective training methods for SMH professionals.

Furthermore, the limited acknowledgement of inservice training on disordered eating in schools suggests increased awareness of and training in this topic.

### *Recommendations for Clinical Practice*

While little work has been done on the provision of school-based disordered eating interventions, a number of researchers have evaluated the effectiveness of school-based prevention and screening programs; findings have been mixed. Interestingly, there is some evidence to support the effectiveness of an obesity prevention curriculum in decreasing disordered weight-control behaviors (Austin et al., 2007). After participating in a two-year intervention aiming to promote healthful nutrition and physical activity, and reduce overweight, researchers found significantly lower reports of disordered eating practices among middle school females. Additionally, a school-based program aimed at preventing eating disturbance, particularly unhealthy dieting and binge eating, found moderate effects on nutrition knowledge, meal patterns and prevention unhealthy dieting and binge behaviors (Neumark-Sztainer, Butler & Palti, 1995). However, it has been postulated that there may be iatrogenic effects associated with prevention programs for disordered eating (Carter et al., 1997). Although researchers found increased knowledge and decreased engagement in target behaviors at postintervention, effects disappeared at 6-month follow-up. Also, there was increased dietary restraint compared with baseline.

Neumark-Sztainer (1996) proposed a comprehensive school-based program to prevent and intervene in cases of disordered eating. Components of the recommended program include staff training, classroom interventions, individual counseling and small group work with high-risk students, referral systems and outreach activities. O’Dea and Maloney (2009) further explicated an approach such as this from a Health Promoting

Schools Framework. Not only would programs such as these address barriers to SMH service delivery for individuals with disordered eating, but also these would enable multiple points of intervention for high-risk individuals. Furthermore, these programs incorporate interdisciplinary work and development of community partnerships; components indicated as effective by the samples of the current study. Additionally, research findings of the current study suggested that various SMH professionals have training in the identification and/or intervention of disordered eating. This indicates that each professional can play a unique role and that a team of SMH professionals can collaborate and optimize their roles to best serve the needs of students with disordered eating.

In developing intervention programming, findings from the current study suggest that interpersonal and intrapersonal factors be addressed. Qualitative participants cited factors such as perfectionism, self-esteem and lack of social support as hindering their progress in recovery. As such, results support the investigation of peer support and self-esteem interventions to influence disordered eating behaviors and practices (see O’Dea, 2004). For instance, McVey and colleagues (2003) implemented a school-based peer support program designed to improve body esteem and self-esteem, and decrease negative eating attitudes and behaviors. Not only did this intervention result in the desired changes, but it also impacted the adolescent females’ relationships with each other and changed the “negative body image culture” at the school. There is much evidence to suggest that school-based interventions with strong self-esteem components may be effective in decreasing disordered eating behaviors.

A particularly interesting finding of this study was the limited involvement of SMH practitioner in reintegrating students following eating disorder treatment. A majority of the adolescents interviewed received residential or partial-hospitalization treatment for their eating disorders, which necessitated brief medical leaves from school. While all adolescents indicated teacher support for work completion, only two adolescents reported support SMH professionals through school reentry. Furthermore, a minority of the survey respondents indicated previous involvement in reintegrating a student back into school following treatment for disordered eating. This finding was unexpected, given the medical complications of disordered eating and that students often withdraw from school for a period of time (Funari, 2013). Low service provision rates and qualitative comments from adolescents suggest that these supports are needed.

Scott and Carney (2011) suggest that SMH professionals hold a conference with the student, their parents and a team to ease the student's transition back to school. It is likely that the student will experience anxiety surrounding classwork, social pressures and triggers to disordered eating, and would benefit from professional support. As previously mentioned, a theme that emerged amongst the experiences of adolescents was that of perfectionism. SMH professionals may be able to work on developing strategies to help the student in the classroom and as they resume their workload. Scott and Carney (2012) also suggest creative solutions such as lunch support, flexible scheduling or a 504 plan to help them catch up on missed work. This may also provide an opportunity to facilitate social support and work on interpersonal effectiveness, which were themes that arose in the adolescent interviews as necessary to support recovery.

### *Limitations*

Given the exploratory nature of the design, a number of challenges are implicit in this investigation. As each had the potential to threaten the validity of the resulting findings, various strategies were employed to manage and minimize the impact of following factors.

There were risks within data collection related to sampling and selection of appropriate individuals to be involved in the study. This was managed in two different ways. Within the qualitative strand of the proposed study, multiple-case sampling (Miles & Huberman, 1994) was utilized to enhance confidence, stability and replicability of findings. Comparison across a range of cases strengthened the resulting assertions of why services for youth with eating disorders are necessary and how they are feasible. A limitation within the quantitative strand is that of a non-response error (Dillman et al., 2009). This sort of error posits that, due to differences between those who completed the survey and those who did not, the results may be biased. This potentially limits the generalizability of research findings, as there were a number of school professional organizations that did not respond to an invitation to participate. Furthermore, utilizing the email listserv of each organization to contact members is subject to errors, such as non-receipt, which impacted survey completion. Although the principal investigator was unable to control for such an error, distribution of the survey to a nationally representative sample of SMH professionals minimized the chance and impact of low completion. Despite this limitation, the size of the obtained sample and representativeness of SMH professionals included enhances generalizability of findings.

Qualitative findings may be subject to different interpretations, questioning the credibility of the outcomes (Lincoln & Guba, 1985). However, the utilization of multiple methods to study the same phenomenon and the convergence of findings increased the principal investigator's belief that outcomes are valid and not due to individual interpretation or researcher biases (Bouchard, 1976; Campbell & Fiske, 1959). Triangulation, a term coined by Webb and colleagues (1966), provided for the most persuasive evidence of such research and occurs when two or more measurement processes confirm the existence of a theme or idea. Within the current study, the constructs of interest were subject to data within-method triangulation, as well as between-method triangulation (Denzin, 1978).

Within the qualitative strand of the study, interviews with individuals with various viewpoints allowed for data triangulation. According to Denzin (1978), triangulation results in convergence, inconsistency or contradiction of research findings. Obtaining the perspectives of informants who play various roles through the treatment of eating disorders enabled comprehensive coverage of the topic of interest and decreased the likelihood of potential biased sources. Methodological triangulation or between-method triangulation was utilized by integrating qualitative and quantitative findings during interpretation of outcomes to decrease bias inherent in a single data source and aimed to converge on true understanding of eating disorder service provision within SMH programs.

A potential limitation of this study was the size and composition of the qualitative sample. As described previously, the sample of adolescents and their mothers were exclusively Caucasian females. Additionally, the sample was restricted to adolescents and

their mothers who reside in the southeastern United States. The research team decided to focus on the experience of adolescent females, based on higher rates of eating disorders among this sex. However, the racial and ethnic composition of the qualitative sample was based on the population of individuals who receive treatment and were referred by the eating disorder specialist involved in the study. The exclusivity of the sample to Caucasian females decreases the generalizability of findings. As this is a burgeoning area of research, however, it is important to first understand the majority experience. Thus, recommendations for future research with males, and racial and ethnic minorities are provided.

A final limitation of this study was that the principal investigator was unable to determine whether enhanced training in identification and/or treatment of disordered eating was associated with increased competence in service delivery. Due to the greater variance in response amongst the smaller, trained group of SMH professionals, assumptions of homogeneity were violated and MANOVA was no longer appropriate. This suggests that there is greater variance in ways that those with training respond to individuals with disordered eating and could be due to the fact that they all are doing different things. While a limitation of the current study, this variance supports the need more training in effective methods of identification and treatment for youth with disordered eating.

#### *Future Research*

The primary purpose of this study was to explore the experiences of those closely linked to school mental health services for disordered eating, and determine the effectiveness of such approaches. As previously stated, there is a dearth of research

regarding SMH services for youth with disordered eating, suggesting a need for future research in this area. Additionally, given comments from qualitative and quantitative participants regarding the importance of this type of study, future research on these services is critical. As some of the limitations associated with the qualitative strand involved small sample size, future research should aim to replicate these findings with a larger, more diverse sample of adolescents. If replication is not possible, work is needed to understand the experiences of adolescent males and racial and ethnic minorities with disordered eating in the schools.

Findings of this study highlighted the importance of interdisciplinary collaboration and partnerships within the community. It would be beneficial for future researchers to investigate ways to build community partnerships and SMH teams to address concerns, such as disordered eating, in an attempt to determine feasibility and acceptability. In order to capitalize on expanded SMH services for this population, it is necessary that research focus less on traditional roles of SMH professionals and more on collaboration and teamwork. Thus, future research is warranted to investigate the different and essential roles of each professional and how to capitalize on training and resources. For instance, investigation is needed as to if and how services vary by profession. Knowledge such as this can help SMH teams make use of the differential training of various school professionals. Additionally, future research may look into how interdisciplinary teams can structure school-based services for this population, as well as create connections with community resources.

Findings suggested the importance of SMH professionals in the identification of youth with disordered eating and provision of community referrals. Roughly half of the

adolescent sample reported involvement of school professionals in getting treatment. Furthermore, a majority of the SMH professionals who completed the survey indicated that they had been involved in assessing for the presence of disordered eating. Previous research suggests that screening middle and high school students for eating disorders is an effective method and may prevent further progression of behaviors (Austin et al., 2008; D'Souza et al., 2005). Rees and Clark-Stone (2006) found that using specific screening strategies, such as having students complete a self-report questionnaire (EDE-Q), resulted in higher rates of case identification than relying on teachers and nurses to identify, and providing students with leaflets. Future work is needed on the most effective methods of implementing screening programs and connecting high-risk students with resources, either in the schools or community.

While involved in assessment, nearly 70% of the sample of SMH professionals had not received training in identification of disordered eating. With the importance of early identification, future research is needed on the implementation of school-based screening and prevention programs and the involvement of SMH professionals. Although this study focused on identification and intervention, the reported efficacy of prevention programs (e.g., Austin et al., 2007; Stice et al., 2007) suggests a need for an increased focus on efficacious components of prevention programs. Relatedly, it would be beneficial to conduct research on how much training is needed for SMH professionals, as well as cost- and time-effective, intensive trainings for identifying disordered eating.

Findings from the current study suggested that adolescents have received support from school professionals, but that school-based intervention services are not common practice. Half of the adolescent sample reported speaking with school professionals on a

somewhat regular basis, but the focus was rarely disordered eating. In support of this finding, only 25% of the SMH professionals who reported previous involvement with a student with disordered eating indicated delivery of individual cognitive-behavioral interventions; even less of the sample reported provision of group and family interventions. Thus, work is needed on the types of interventions that can be successfully implemented in schools with this population, as well as the training necessary for SMH professionals. Future research should address important mechanisms of change in individual and family therapy, and the effectiveness of different school-based interventions.

### *Summary*

This study explored the provision of school mental health services for youth with disordered eating. Using a mixed-methods convergent parallel design, findings from this study demonstrated the current status of school-based services for youth with disordered eating and the need for increased support for this population. Qualitative analyses of interview data revealed the following themes regarding *Isolation, Perfectionism, Difficulties with Self-Acceptance and Comparison to Others, and Uncertainty* that hindered recovery, while *Teacher Identification, and Support in Recovery* helped recovery. While only half of the sample received any school support while being treated for disordered eating, the sample cited *Increased Awareness, Support in Recovery, Family Involvement, and Linking to Resources* as benefits of service delivery. The costs of including these services were *Time Away from Academics, Need for Trained Professionals, Not Enough Time for Training*; however much of the qualitative sample struggled to find any costs at all.

Furthermore, results indicated a lack of training and knowledge of appropriate interventions amongst SMH professionals. Relatedly, lack of knowledge and training were cited as frequent barriers to identification and treatment provision. Overall, qualitative and quantitative findings are consistent with literature to date regarding service provision for this population. The research and practice implications of this study suggest that work is needed to evaluate the effectiveness of SMH services for youth with disordered eating through controlled trials. Additionally, findings from this study suggest that training of SMH professionals and interdisciplinary collaboration regarding service provision for this population warrants further study.

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## APPENDIX A – INSTITUTIONAL REVIEW BOARD APPROVAL



OFFICE OF RESEARCH COMPLIANCE

### INSTITUTIONAL REVIEW BOARD FOR HUMAN RESEARCH APPROVAL LETTER for EXPEDITED REVIEW

This is to certify that the research proposal: **Pro00036044**  
Entitled: *Promoting Progress to Assist Female Youth with Eating Disorders in School Mental Health*  
Submitted by:

Principal Investigator: Bryn Schiele  
College: College of Arts & Sciences  
Department: Psychology  
Address: 1512 Pendleton Street, Barnwell  
Columbia, SC 29208

was reviewed and approved by the University of South Carolina Institutional Review Board (USC IRB) by **Expedited** review on **9/30/2014** (category 7).

Approval is given for a one-year period from **9/30/2014** to **9/28/2015**. When applicable, approved consent /assent documents are located under the "Stamped ICF" tab on the Study Workspace screen in eIRB.

#### PRINCIPAL INVESTIGATORS ARE TO ADHERE TO THE FOLLOWING APPROVAL CONDITIONS

- The research must be conducted according to the proposal/protocol that was approved by the USC IRB
- Changes to the procedures, recruitment materials, or consent documents, must be approved by the USC IRB prior to implementation
- *If applicable*, each subject should receive a copy of the approved date stamped consent document
- It is the responsibility of the principal investigator to report promptly to the USC IRB the following:
  - Unanticipated problems and/or unexpected risks to subjects
  - Adverse events effecting the rights or welfare of any human subject participating in the research study
- Research records, including signed consent documents, must be retained for at least (3) three years after the termination of the last IRB approval.
- No subjects may be involved in any research study procedure prior to the IRB approval date, or after the expiration date. For continued approval of the research study, an update of the study is required prior to the expiration date. The PI is responsible for initiating the Continuing Review process. At the time a study is closed, a Continuing Review report form is to be used for the final report to the USC IRB in order to formally close the research study.

The Office of Research Compliance is an administrative office that supports the University of South Carolina Institutional Review Board. If you have questions, contact Arlene McWhorter at [arlenem@sc.edu](mailto:arlenem@sc.edu) or (803) 777-7095.

Sincerely,

A handwritten signature in blue ink, appearing to read "Lisa M. Johnson".

Lisa M. Johnson  
IRB Manager

## APPENDIX B – INTERVIEW PARTICIPATION LETTER



DEPARTMENT OF PSYCHOLOGY

09/15/2014

Dear Parent and Adolescent:

I am writing to invite you to participate in a research study of the level of support that these youth received at schools. Further, I am interested in gaining the perspective of those who have experienced an eating disorder while in school as to whether such supports can be feasibly integrated into school mental health services. My hope is to better inform other researchers, school clinicians and school staff regarding the experience of disordered eating of adolescent females, and ways to improve supports. The general purpose of this research project is to investigate the experiences of youth with eating disorders in school, as well as ways in which support services could be effectively implemented. Information from parents of adolescents will provide an additional perspective, and inform how clinicians may effectively work with this youth population and their families.

This study seeks the involvement of both adolescent females and their parents. For an adolescent to be eligible for this study, the youth must be female and have experienced disordered eating while in primary or secondary school. In order to be eligible for this study, you must be the parent of an adolescent female who experienced disordered eating while in school (elementary, middle or high school). Your child does not currently have to be enrolled in primary or secondary school, but only have had to received treatment for an eating disorder while in primary or secondary school.

***What does the study involve?***

If you agree to participate, you will be asked to take part in one interview that will last about 1 hour. If you participate, each participant will receive \$25 for completing the interview.

These interviews will focus on understanding yours and your daughter's experiences, as well as your perspectives on the status of school support services for youth with disordered eating. We will use questions with open-ended responses. Each interview will be audiotaped. Your confidentiality will be maintained and participant names will not be recorded in any of the data. All interviews will be audio-recorded, and will be secured in a locked filing cabinet without identifiable information. All participants will have the right to schedule a secondary meeting with me, as well as to examine transcripts of the interviews in which you participate. If desired, each transcript will be prepared for your review within five days after the interview.

Please remember that participation in the study is completely voluntary and confidential, and know that we will make every effort to protect research participants' privacy.

***Questions?***

If you have any questions, you may reach me 803-216-1424. Please feel free to contact me if you are undecided about participating and want to get more information.

***Schedule a time to meet***

If you are interested in participating in the study, please call the principal investigator to determine eligibility and arrange for a time to meet.

**Contact: Bryn E. Schiele  
803-216-1424**

Thank you for considering participating in the study.

Sincerely,

Bryn E. Schiele, M.A.

Principal Investigator

Mark D. Weist, Ph.D.

Faculty Advisor

## APPENDIX C – INTERVIEW CONSENT FORMS

**ID#:** \_\_\_\_\_

**Date:** \_\_\_\_\_

### CONSENT FORM

#### **Introduction**

You and your daughter are being asked to participate in a research study. This study is part of a doctoral dissertation in school psychology through the University of South Carolina. The following consent form provides participants a description of the research, an explanation that participation is voluntary and description of the risks and benefits of participation in order to help you make an informed decision regarding participation. Please ask as many questions as necessary in order to understand what is involved in participation.

**Principal Investigator:** Bryn E. Schiele, M.A.

**Dissertation Chair:** Mark D. Weist, Ph.D.

#### **Purpose of Research**

The purpose of this study is to investigate the experiences of adolescent females who experience an eating disorder while in secondary schools. The aim of the study is to understand ways that supports and services for youth with eating disorders can be effectively implemented in school mental health.

#### **Study Procedures**

If you choose to participate in the current study, you and your daughter will each be involved in this study for a period of 45 to 60 minutes during an individual interview. Prior to the interview, you will be asked to complete a brief survey to provide personal demographic information and history of diagnoses. During the interview, you and your daughter will be asked to explore her experiences with an eating disorder while in secondary school. You both will be asked about the support provided by school staff and your thoughts on the school's involvement. Finally, interviews will involve discussion of your perspectives on the inclusion of support services for youth with eating disorders in school mental health programs.

**For IRB Staff Use Only**  
University of South Carolina  
IRB Number: Pro00036044  
Date Approved 9/30/2014  
Version Valid Until: 9/28/2015

The interviews will be audiotaped to ensure accurate transcription and analysis of interview discourse. The principal investigator and members of the research team will be responsible for data transcription and all audiotapes will be destroyed immediately following completion of data analysis for the study. In order to protect privacy, participants will be assigned a unique number for identification rather than use of names.

### **Confidentiality**

You have the right to confidentiality. All information obtained in this study will remain confidential, unless otherwise required by law. The principal investigator is the only research member who will know you are a participant in the study. Measures will be taken to protect identifiable information. All hard data will be kept in a locked file-cabinet and digital files will be password protected. Personally identifying information will be kept separate from study data, to decrease the likelihood that connections will be made. The researcher alone will transcribe interview audio recordings, and all audio files will be destroyed following data analysis. However, these steps and precautions cannot completely ensure your identity will remain anonymous.

If you provide information that you are going to seriously harm yourself or another person, or information regarding sexual or physical abuse of another, the Principal Investigator is required to inform the proper authorities.

The results of this study may be published in scientific journals or discussed in conferences using aggregated data. No information will be included that may reveal your identity. Individual quotations may be used as examples in publications and conference presentations

### **Potential Risks**

There is no cost to you other than the time you spend sharing your experiences and perspectives with the principal investigator. The current study will not involve any foreseeable physical or emotional risk than you would experience in everyday life. Some of the questions may bring up emotional distress and may be uncomfortable for you. You have the option to skip any question you prefer not to answer and may withdraw from the interview at any time. You may withdraw from the study at any time without penalty. If you find any questions upsetting, please inform the principal investigator. The principal investigator is a trained mental health specialist and is available to assist in processing emotional stress. Additionally, if you are not currently receiving therapeutic services and would like a referral, the principal investigator will refer you to clinicians with expertise in treating eating disorders.

An additional risk is the potential for others to identify you as a participant through descriptors utilized in the study. In order to address this risk, names will not be utilized, all identifiable information will be removed and the principal investigator will complete all interview transcription.

For IRB Staff Use Only  
University of South Carolina  
IRB Number: Pro00036044  
Date Approved 9/30/2014  
Version Valid Until: 9/28/2015

**Potential Benefits**

Discussion of your experiences will help the principal investigator learn more about the support provided for youth with eating disorders in the schools. The information gathered from this study will help develop intervention services for those with eating disorders. You will be compensated \$20 for participation.

**Participant Rights**

Your participation in this study is completely voluntary. You have the right to withdraw your consent and discontinue participation at any time without penalty.

---

I agree to participate in this interview being conducted as part of the dissertation requirements for Bryn Schiele. I understand the risks and benefits associated with involvement, and that this information will remain confidential. I understand I can request to withdraw and discontinue without penalty at any time.

**Print Adolescent Name:** \_\_\_\_\_

**Signature of Adolescent:** \_\_\_\_\_

**Print Parent Name:** \_\_\_\_\_

**Signature of Parent:** \_\_\_\_\_

**Signature of Person Obtaining Consent:** \_\_\_\_\_

<p>For IRB Staff Use Only University of South Carolina IRB Number: Pro00036044 Date Approved 9/30/2014 Version Valid Until: 9/28/2015</p>
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## APPENDIX D – INTERVIEW DEMOGRAPHIC QUESTIONNAIRES

**ID#:** \_\_\_\_\_

**Date:** \_\_\_\_\_

### Adolescent Questionnaire

Please complete the following demographic information. Your responses will be kept confidential and remain separate from data collected during the interview.

1. What is your date of birth? \_\_\_\_\_

2. Are you currently in school?

Yes

No

If so, what grade are you in? \_\_\_\_\_

3. Racial/ethnic identity:

African-American or Black

American Indian or Alaska Native

Asian Indian

Caucasian

Chinese

Filipino

Hispanic

Japanese

Korean

Native Hawaiian

Samoan

Vietnamese

Other \_\_\_\_\_

4. What is your highest level of school completed?

Completed/Enrolled Middle School

Completed/Enrolled High School

Completed/Enrolled Technical School

Completed/Enrolled College

ID#: \_\_\_\_\_  
Date: \_\_\_\_\_

### Parent Questionnaire

Please complete the following demographic information. Your responses will be kept confidential and remain separate from data collected during the interview.

1. Age: \_\_\_\_\_
2. Racial/ethnic identity:
  - African-American or Black
  - American Indian or Alaska Native
  - Asian Indian
  - Caucasian
  - Chinese
  - Filipino
  - Hispanic
  - Japanese
  - Korean
  - Native Hawaiian
  - Samoan
  - Vietnamese
  - Other \_\_\_\_\_
3. Education level (check one):
  - Highest Grade Completed: \_\_\_\_\_
  - Completed GED
  - Completed High School Diploma
  - Some College
  - Completed 2-Year Degree/Technical School
  - Completed 4-Year Degree
  - Completed Graduate/Professional School
4. Are you currently enrolled in any education program?
  - Yes
  - NoIf so, what type of program? \_\_\_\_\_
5. Are you employed?
  - Yes
  - NoIf so, what is your job? \_\_\_\_\_
6. Relationship Status:
  - Married
  - Divorced
  - Widowed
  - Separated
  - Never been married
  - A member of an unmarried couple

## APPENDIX E – QUALITATIVE INTERVIEWS

### Qualitative Interview - Adolescents

#### Introduction

Thank you for your willingness to participate in this interview about the experiences of adolescent girls with eating disorders and their families. If you have any questions about what I am asking, please do not hesitate to ask questions. If there is something you don't want to answer, please say so. First, I want to get to know you a bit more. Please tell me about yourself.

#### Ice Breakers

1. What do you like to do for fun? What are your hobbies?
2. What is something I wouldn't know about you by just looking at you?
3. If you are in school, what grade are you in?
  - a. How long have you attended the school you are currently at?
  - b. How does it compare to other schools you have attended in the past?

#### Interview

1. What was school like for you prior to receiving treatment?
2. What do you believe contributed to or triggered the start of an eating disorder?
3. What was the process like when you sought treatment?
  - a. Who suggested treatment for you?
  - b. Were school personnel involved in helping to identify your eating disorder or in making a referral to a program for help?
4. Where have you received treatment?
5. What was it like for you to have an eating disorder while in school?
6. What kinds of school mental health services are/were available at your middle or high school?
  - a. *If available:*
    - i. How did you learn about these services?
    - ii. Were they offered to you? If so, how?
  - b. *If not available or offered:*
    - i. Would you have used them if they were available at your school?
7. Have you ever received school mental health services from a school psychologist, counselor, social worker, clinician or teacher for disordered eating?
  - a. *If so:*
    - i. What was the focus of each session?
    - ii. How frequently did you meet with the school mental health clinician?

- iii. How long was the time period that you were in treatment for an eating disorder?
8. Do you believe that school supports would be beneficial for youth with eating disorders?
9. What suggestions would you offer a school mental health clinician to improve their ability to identify and intervene with youth with eating disorders?
10. What advice would you give to a friend experiencing an eating disorder while in school?
11. What advice would you give to family members of an adolescent experiencing an eating disorder?
12. What other questions would help to understand the experiences of adolescents with eating disorders in the schools?

Thank you for your openness and willingness to participate in this interview. Let me know if you know of any other adolescents who have experienced disordered eating in school and if you would be open to referring them for participation in this study. I have copies of study letters outlining the study with my contact information provided for you to give to those you know who might be interested in participating. Please do not discuss particular details of the study with them since I want to be able to explain it to them directly, and as outlined in the letter, I will be available to answer any questions they may have.

## Qualitative Interview - Parents

### Introduction

Thank you for your willingness to participate in this interview about the experiences of adolescent girls with eating disorders and their families. If you have any questions about what I am asking, please do not hesitate to ask questions. If there is something you don't want to answer, please say so. First, I want to get to know you a bit more. Please tell me about yourself.

### Ice Breakers

4. How would you describe your relationship like with your daughter?
5. What are your feelings regarding her education overall?

### Interview

13. What were your daughter's academic experiences like in school prior to receiving treatment?
  - a. What about her social experiences?
  - b. What about emotional experiences?
14. What factor(s) do you believe contributed to or triggered your daughter to develop an eating disorder?
15. How was your daughter identified and referred for treatment?
  - a. Did you suggest treatment for your daughter? If not, who provided the referral?
  - b. Were school personnel involved in her referral? If so, how?
16. What is the name of the program where your daughter received treatment?
  - a. Where is this program located?
17. What kind of treatment program was your daughter involved in? Such as residential, partial hospitalization, intensive outpatient, outpatient
18. Can you describe how you were involved in your daughter's treatment?
19. What was it like for you daughter in school when she was struggling with an eating disorder?
20. Were school mental health services offered and available at your daughters middle or high school?
  - a. If so, has your daughter ever received school mental health services to help address her eating disorder??
    - i. *If so:*
      1. What was the focus of treatment?
      2. How frequently did your daughter meet with the school mental health clinician?
      3. How long did your daughter receive services?
      4. Were you involved in school supports?
    - b. If not, had school services been available, do you believe your daughter would have used them?
21. Do you believe that school supports would be beneficial for youth with eating disorders?

22. Do you believe family services should be provided in the schools for youth with eating disorders?
23. What suggestions would you offer a school mental health clinician to improve their ability to identify and intervene with youth with eating disorders?
24. What professionals at the schools do you believe could assist youth with eating disorders?
25. What advice would you give to an adolescent girl struggling with disordered eating?
26. What advice would you give to the family of an adolescent girl struggling with disordered eating?
27. What other questions would help to understand the experiences of adolescents and their families with eating disorders in the schools?

Thank you for your openness and willingness to participate in this interview. Please let me know if you know of any other parents whose daughters have experienced disordered eating in school and if you would be open to referring them for participation in this study. I have copies of study letters outlining the study with my contact information provided for you to give to those you know who might be interested in participating. Please do not discuss particular details of the study with them, and as outlined in the letter, I will be available to answer any questions they may have.

## APPENDIX F – SMH SURVEY INVITATION LETTER



DEPARTMENT OF PSYCHOLOGY

Dear School Mental Health Professional,

You are invited to participate in an anonymous survey to provide your perspectives on the inclusion of eating disorder services in school mental health, including barriers and recommendations.

Your participation involves answering questions about your current position, populations you serve, knowledge and training in eating disorders, and your previous experiences with youth with eating disorders. Additionally, you will be asked to note your perspectives and suggestions on integrating disordered eating and school mental health services in schools.

By completing the survey, you are indicating your consent to participate in this study. It should take approximately 10 to 15 minutes to complete. Please let us know if you have any questions or concerns.

Thank you very much for your help!

Sincerely,

Bryn E. Schiele, M.A.  
School Psychology Doctoral Student

Mark D. Weist, Ph.D.  
Professor and Faculty Advisor

## APPENDIX G – SMH SURVEY

### Survey for Mental Health Clinicians Working in Schools regarding Youth with Eating Disorders

Thank you for your willingness to complete this anonymous survey regarding school mental health services for youth with eating disorders. By completing this anonymous survey, you are conveying consent. Please tell us about yourself:

1. Please indicate your gender:
  - Female
  - Male
  
2. Please indicate the descriptor(s) which best describe your race or ethnicity:
  - African-American or Black
  - American Indian or Alaska Native
  - Asian Indian
  - Caucasian
  - Chinese
  - Filipino
  - Hispanic
  - Japanese
  - Korean
  - Native Hawaiian
  - Samoan
  - Vietnamese
  - Other \_\_\_\_\_
  
3. What is your current position? Select one of the following:
  - Clinical/Counseling/Community Psychologist
  - Clinical Social Worker
  - Licensed Professional Counselor
  - Faculty/Researcher
  - School Counselor
  - School Psychologist
  - School Social Worker
  - Other (please specify) \_\_\_\_\_
  
4. What level of professional training do you have in your field?
  - BA/BS
  - MA/MS
  - Certificate/Specialist

- Ed.D
- Psy.D./Ph.D.
- Other (please specify): \_\_\_\_\_

5. At what level are you currently working? Select all that apply.

- State level
- District level
- Building level

6. How many years of experience do you have in your field?

- 1-5 years
- 6-10 years
- 11-15 years
- 16-20 years
- 21-25 years
- More than 25 years

7. For the school(s) at which you are/have been employed:

a. Please indicate the level of the school(s). (If working in multiple schools, please select the type of school in which you spend most of your time or have the closest connection to.)

- Preschool
- Elementary (grades K-5)
- Elementary/Middle (grades K-8)
- Middle (grades 6-8)
- Middle/High (grades 6-12)
- High (grades 9-12)
- Alternative Elementary (grades K-5)
- Alternative Elementary/Middle (grades K-8)
- Alternative Middle (grades 6-8)
- Alternative Middle/High (grades 6-12)
- Alternative High (grades 9-12)

b. Please indicate the setting of your school. Select one of the following:

- Metropolitan (more than 250,000 residents or located in a metropolitan area)
- Non-metropolitan urban (more than 2,500 but less than 250,000 residents)
- Rural (area with less than 2,500 residents)
- Frontier (less than 7 people per square mile)

This survey will take approximately 10-15 minutes to complete. Please answer all questions to the best of your ability.

<b>Knowledge of Eating Disorders</b>		
1. Please indicate whether you have received training specific to the identification of eating disorders:		
<input type="checkbox"/> YES		
<input type="checkbox"/> NO		
<b>**If you responded "no" to this question, please skip to item #3</b>		
2. Please indicate the nature of your training (check all that apply)		
a. School Inservice training	<input type="checkbox"/> YES	<input type="checkbox"/> NO
b. Other agency inservice training	<input type="checkbox"/> YES	<input type="checkbox"/> NO
c. Mandated graduate coursework	<input type="checkbox"/> YES	<input type="checkbox"/> NO
d. Elective graduate coursework	<input type="checkbox"/> YES	<input type="checkbox"/> NO
e. Continuing education course	<input type="checkbox"/> YES	<input type="checkbox"/> NO
f. Conference session	<input type="checkbox"/> YES	<input type="checkbox"/> NO
g. Intensive conference workshop	<input type="checkbox"/> YES	<input type="checkbox"/> NO
h. Other (please specify):	<input type="checkbox"/> YES	<input type="checkbox"/> NO
3. Please indicate whether you have received training specific to the treatment of eating disorders:		
<input type="checkbox"/> YES		
<input type="checkbox"/> NO		
<b>**If you responded "no" to this question, please skip to item #5</b>		
4. Please indicate the nature of your training (check all that apply)		
a. School inservice training	<input type="checkbox"/> YES	<input type="checkbox"/> NO
b. Other agency inservice training	<input type="checkbox"/> YES	<input type="checkbox"/> NO
c. Mandated graduate coursework	<input type="checkbox"/> YES	<input type="checkbox"/> NO
d. Elective graduate coursework	<input type="checkbox"/> YES	<input type="checkbox"/> NO
e. Continuing education course	<input type="checkbox"/> YES	<input type="checkbox"/> NO
f. Conference session	<input type="checkbox"/> YES	<input type="checkbox"/> NO
g. Intensive conference workshop	<input type="checkbox"/> YES	<input type="checkbox"/> NO
h. Other (please specify):	<input type="checkbox"/> YES	<input type="checkbox"/> NO
5. Please rate on a scale of 1 to 5 how important you think it is it is for school mental health clinicians to receive specific training regarding eating disorders.		
<i>not important at all</i> <i>moderately important</i> <i>extremely important</i>		
<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
6. Please indicate which of the following items are symptoms of anorexia and bulimia nervosa, and binge eating disorder. (Note: more than one item may be selected per description):		
<i>a. Decreased appetite</i>		
<input type="checkbox"/> Anorexia	<input type="checkbox"/> Bulimia	<input type="checkbox"/> Binge Eating
<i>b. Decreased food consumption</i>		

<input type="checkbox"/> Anorexia	<input type="checkbox"/> Bulimia	<input type="checkbox"/> Binge Eating
<i>c. Weight loss</i>		
<input type="checkbox"/> Anorexia	<input type="checkbox"/> Bulimia	<input type="checkbox"/> Binge Eating
<i>d. Preoccupation with food</i>		
<input type="checkbox"/> Anorexia	<input type="checkbox"/> Bulimia	<input type="checkbox"/> Binge Eating
<i>e. Fear of weight gain</i>		
<input type="checkbox"/> Anorexia	<input type="checkbox"/> Bulimia	<input type="checkbox"/> Binge Eating
<i>f. Periods of excessive overeating</i>		
<input type="checkbox"/> Anorexia	<input type="checkbox"/> Bulimia	<input type="checkbox"/> Binge Eating
<i>g. Impulsivity</i>		
<input type="checkbox"/> Anorexia	<input type="checkbox"/> Bulimia	<input type="checkbox"/> Binge Eating
<i>h. Rigidity</i>		
<input type="checkbox"/> Anorexia	<input type="checkbox"/> Bulimia	<input type="checkbox"/> Binge Eating
<i>i. Emaciation</i>		
<input type="checkbox"/> Anorexia	<input type="checkbox"/> Bulimia	<input type="checkbox"/> Binge Eating
<i>j. Compensatory weight control practices</i>		
<input type="checkbox"/> Anorexia	<input type="checkbox"/> Bulimia	<input type="checkbox"/> Binge Eating
<i>k. Perfectionism</i>		
<input type="checkbox"/> Anorexia	<input type="checkbox"/> Bulimia	<input type="checkbox"/> Binge Eating
<i>l. Co-existing substance use</i>		
<input type="checkbox"/> Anorexia	<input type="checkbox"/> Bulimia	<input type="checkbox"/> Binge Eating
<i>m. Self-injurious behaviors</i>		
<input type="checkbox"/> Anorexia	<input type="checkbox"/> Bulimia	<input type="checkbox"/> Binge Eating
<i>n. Distorted body image</i>		
<input type="checkbox"/> Anorexia	<input type="checkbox"/> Bulimia	<input type="checkbox"/> Binge Eating
<i>o. Cold intolerance</i>		
<input type="checkbox"/> Anorexia	<input type="checkbox"/> Bulimia	<input type="checkbox"/> Binge Eating
<i>p. Dental erosion</i>		
<input type="checkbox"/> Anorexia	<input type="checkbox"/> Bulimia	<input type="checkbox"/> Binge Eating
<i>q. Knuckle abrasions</i>		
<input type="checkbox"/> Anorexia	<input type="checkbox"/> Bulimia	<input type="checkbox"/> Binge Eating
<i>r. Lanugo hair (layer of downy hair on skin)</i>		
<input type="checkbox"/> Anorexia	<input type="checkbox"/> Bulimia	<input type="checkbox"/> Binge Eating
<i>s. Amenhorrea (cessation of menstruation)</i>		
<input type="checkbox"/> Anorexia	<input type="checkbox"/> Bulimia	<input type="checkbox"/> Binge Eating
5. Which of the following factors most often precipitate and/or exacerbate <b>anorexia</b> in children and adolescents (please check all that apply)?		
<input type="checkbox"/> Anxiety	<input type="checkbox"/> Teenage pregnancy	<input type="checkbox"/> Poverty
<input type="checkbox"/> Feelings of personal ineffectiveness	<input type="checkbox"/> HIV/AIDS	<input type="checkbox"/> Obsessive tendencies
<input type="checkbox"/> Neglect	<input type="checkbox"/> Insomnia	<input type="checkbox"/> Pathological family tendencies
<input type="checkbox"/> Perfectionistic tendencies	<input type="checkbox"/> Depression	<input type="checkbox"/> Dislike of school

<input type="checkbox"/> Low self-esteem	<input type="checkbox"/> Single-parent households	<input type="checkbox"/> Dependency on others for approval
<input type="checkbox"/> Societal pressures	<input type="checkbox"/> Low internal locus of control	<input type="checkbox"/> Genetic predisposition
6. Which of the following factors most often precipitate and/or exacerbate <b>bulimia</b> in children and adolescents (please check all that apply)?		
<input type="checkbox"/> Anxiety	<input type="checkbox"/> Teenage pregnancy	<input type="checkbox"/> Poverty
<input type="checkbox"/> Feelings of personal ineffectiveness	<input type="checkbox"/> HIV/AIDS	<input type="checkbox"/> Obsessive tendencies
<input type="checkbox"/> Neglect	<input type="checkbox"/> Insomnia	<input type="checkbox"/> Pathological family tendencies
<input type="checkbox"/> Perfectionistic tendencies	<input type="checkbox"/> Depression	<input type="checkbox"/> Dislike of school
<input type="checkbox"/> Low self-esteem	<input type="checkbox"/> Single-parent households	<input type="checkbox"/> Dependency on others for approval
<input type="checkbox"/> Societal pressures	<input type="checkbox"/> Low internal locus of control	<input type="checkbox"/> Genetic predisposition
7. Which of the following factors most often precipitate and/or exacerbate <b>binge eating disorder</b> in children and adolescents (please check all that apply)?		
<input type="checkbox"/> Anxiety	<input type="checkbox"/> Teenage pregnancy	<input type="checkbox"/> Poverty
<input type="checkbox"/> Feelings of personal ineffectiveness	<input type="checkbox"/> HIV/AIDS	<input type="checkbox"/> Obsessive tendencies
<input type="checkbox"/> Neglect	<input type="checkbox"/> Insomnia	<input type="checkbox"/> Pathological family tendencies
<input type="checkbox"/> Perfectionistic tendencies	<input type="checkbox"/> Depression	<input type="checkbox"/> Dislike of school
<input type="checkbox"/> Low self-esteem	<input type="checkbox"/> Single-parent households	<input type="checkbox"/> Dependency on others for approval
<input type="checkbox"/> Societal pressures	<input type="checkbox"/> Low internal locus of control	<input type="checkbox"/> Genetic predisposition
<b>Prevalence of Eating Disorders</b>		
8. Please rate on a scale of 1 to 5 the extent to which you perceive anorexia and bulimia to be problems for students in your school/district:		
<i>not important at all</i>	<i>moderately important</i>	<i>extremely important</i>
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
<input type="checkbox"/> 4	<input type="checkbox"/> 5	
9. Since working at the school/district, have you encountered students with disordered eating?		
<input type="checkbox"/> YES	<input type="checkbox"/> NO	
<b>**If you responded "no" to this question, please skip to item #13</b>		
10. Have you encountered a student with an eating disorder in the last year?		
<input type="checkbox"/> YES	<input type="checkbox"/> NO	
11. How many students have you encountered with disordered eating?		
<input type="checkbox"/> 1	<input type="checkbox"/> 2-4	<input type="checkbox"/> 5-7
<input type="checkbox"/> 8-9	<input type="checkbox"/> 10+	

12. How were you involved with this student (Please select all that apply)?						
<input type="checkbox"/> Provided an outside referral		<input type="checkbox"/> Consulted with family				
<input type="checkbox"/> Provided direct intervention services		<input type="checkbox"/> Other				
<input type="checkbox"/> No Response						
<b>Interventions with Students with Eating Disorders</b>						
13. Does your school system provide intervention services for students with eating disorders? (i.e., individual or group therapeutic services)						
<input type="checkbox"/> YES			<input type="checkbox"/> NO			
<b>**If you responded "no" to this question, please skip to item #16</b>						
14. Who typically intervenes in your school system in cases of eating disorders (check all that apply)?						
<input type="checkbox"/> School Counselor		<input type="checkbox"/> School Psychologist		<input type="checkbox"/> SMH Clinician*		
<input type="checkbox"/> Social Worker		<input type="checkbox"/> Principal		<input type="checkbox"/> School Nurse		
<input type="checkbox"/> General Education Teacher		<input type="checkbox"/> Special Education Teacher		<input type="checkbox"/> Other		
<input type="checkbox"/> Uncertain			<input type="checkbox"/> No One			
15. Of those checked in item 14, who assumes the <i>primary responsibility</i> for intervening in cases of eating disorders (please check only one)?						
<input type="checkbox"/> School Counselor		<input type="checkbox"/> School Psychologist		<input type="checkbox"/> SMH Clinician*		
<input type="checkbox"/> Social Worker		<input type="checkbox"/> Principal		<input type="checkbox"/> School Nurse		
<input type="checkbox"/> General Education Teacher		<input type="checkbox"/> Special Education Teacher		<input type="checkbox"/> Other		
<input type="checkbox"/> Uncertain			<input type="checkbox"/> No One			
16. Do you think that school mental health clinicians should work with students with eating disorders?						
<input type="checkbox"/> Yes			<input type="checkbox"/> No			
17. Have you ever received referrals specifically to evaluate or treat students with disordered eating?						
<input type="checkbox"/> Yes			<input type="checkbox"/> No			
18. Have you ever worked with students who exhibited disordered eating behaviors?						
<input type="checkbox"/> Yes			<input type="checkbox"/> No			
<b>** If you responded "no" to both questions 17 and 18, proceed to item 21</b>						
19. Please indicate the types of services you have provided with regard to eating disorders:						
<input type="checkbox"/> Assessment			<input type="checkbox"/> Intervention			
<input type="checkbox"/> Prevention			<input type="checkbox"/> Consultation			
20. Please indicate which of the following intervention strategies you have used with students with disordered eating. For those that you <i>have and have not used</i> , please also indicate their level of effectiveness.						
		USED		EFFECTIVENESS		
				<i>Not</i>	<i>Somewhat</i>	<i>Very</i>
a. Student education		Yes	No	1	2	3
b. Small group discussion (e.g., body image, self-esteem,		Yes	No	1	2	3

healthy eating)					
c. Teacher consultation	Yes	No	1	2	3
d. Parent consultation	Yes	No	1	2	3
e. Teacher education	Yes	No	1	2	3
f. Parent education	Yes	No	1	2	3
g. Individual therapy					
Cognitive-Behavioral	Yes	No	1	2	3
Behavioral	Yes	No	1	2	3
Psychodynamic	Yes	No	1	2	3
Interpersonal	Yes	No	1	2	3
h. Group therapy					
Cognitive-Behavioral	Yes	No	1	2	3
Behavioral	Yes	No	1	2	3
Psychodynamic	Yes	No	1	2	3
Interpersonal	Yes	No	1	2	3
i. Family therapy					
Cognitive-Behavioral	Yes	No	1	2	3
Behavioral	Yes	No	1	2	3
Psychodynamic	Yes	No	1	2	3
Interpersonal	Yes	No	1	2	3
j. Refer for Medical Evaluation	Yes	No	1	2	3
k. Other (please specify):	Yes	No	1	2	3
21. At what point would you deem it necessary to refer students with eating disorders to an outside agency for services?					
<input type="checkbox"/> Immediately upon referral to you			<input type="checkbox"/> When your attempted intervention failed to modify behavior after two weeks		
<input type="checkbox"/> When your attempted intervention failed to modify behavior after more than two weeks			<input type="checkbox"/> If the student's weight was dangerously low		
<input type="checkbox"/> When there are additional psychological concerns			<input type="checkbox"/> When there are additional medical concerns		
<input type="checkbox"/> When there are significant related family stressors			<input type="checkbox"/> Other (please specify)		
22. How skilled or trained do you feel to intervene when referred students with concerns regarding disordered eating?					
<i>not prepared at all</i>		<i>moderately prepared</i>		<i>extremely prepared</i>	
1	2	3	4	5	
23. Which of the following strategies do you feel competent to employ with regard to disordered eating (please check all that apply):					
<input type="checkbox"/> Primary prevention			<input type="checkbox"/> Secondary prevention		
<input type="checkbox"/> Parent consultation			<input type="checkbox"/> Teacher education		
<input type="checkbox"/> Parent education			<input type="checkbox"/> Teacher consultation		
<input type="checkbox"/> Individual cognitive therapy			<input type="checkbox"/> Individual behavior therapy		
<input type="checkbox"/> Individual CBT			<input type="checkbox"/> Individual interpersonal therapy		




Thank you for completing the survey on Disordered Eating and SMH Services!

If you would like to be entered in a drawing to receive a gift card for \$100, \$75 or \$50, please provide your contact information below (please note that this information will be separated from your other responses so they remain anonymous):

Name \_\_\_\_\_

Email Address \_\_\_\_\_

Daytime Phone Number \_\_\_\_\_

## APPENDIX H – SMH ORGANIZATION PARTICIPANTS

### School Mental Health Organization Participants

#### *National*

- Center for School Mental Health

#### *State-Level*

- Alaska
  - Alaska School Counseling Association
  - Alaska School Psychologists Association
- Arizona
  - Arizona Association of School Psychologists
  - Arizona School Counselors Association
- California
  - California Association of School Social Workers
- Delaware
  - Delaware Association of School Psychologists
- Florida
  - Florida Association of School Social Workers
- Georgia
  - Georgia Association of School Nurses
- Idaho
  - School Social Workers of Idaho
- Illinois
  - Illinois Association of School Nurses
- Indiana
  - Indiana Association of School Psychologists
- Iowa
  - Iowa School Counselor Association
  - Iowa School Social Workers Association
- Kansas
  - Kansas School Nurse Organization
- Kentucky
  - Kentucky Association for Psychology in the Schools
  - Kentucky School Nurse Association
- Louisiana
  - Louisiana School Nurses Organization
- Maryland
  - Maryland School Counselor Association

- Michigan
  - Michigan Association of School Psychologists
  - Michigan Association of School Social Workers
- Minnesota
  - Minnesota School Counselors Association
- Mississippi
  - Mississippi School Social Work Association
- Missouri
  - Missouri Association of School Psychologists
  - Missouri School Nurse Association
- Montana
  - Montana Association of School Nurses
  - Montana Association of School Psychologists
- Nebraska
  - Nebraska School Nurse Association
  - School Social Work Association of Nebraska
- New Hampshire
  - New Hampshire School Nurse Association
- New Jersey
  - New Jersey Association of School Psychologists
- New York
  - New York State Association of School Nurses
  - New York State School Counselor Association
- North Carolina
  - North Carolina School Psychology Association
  - School Nurses Association of North Carolina
- North Dakota
  - North Dakota Counseling Association
- Ohio
  - Ohio Association of School Nurses
  - Ohio School Counselor Association
  - Ohio School Psychology Association
  - Ohio School Social Work Association
- Rhode Island
  - Rhode Island School Counselor Association
- South Carolina
  - South Carolina School Psychology Association
- South Dakota
  - South Dakota School Counseling Association
- Tennessee
  - Tennessee Association of School Nurses
  - Tennessee Association of School Social Work
- Texas
  - School Social Work Association of Texas

- Utah
  - Utah School Nurse Association
- Washington
  - Washington Association of School Social Workers
- West Virginia
  - West Virginia Association of School Nurses
- Wisconsin
  - Wisconsin School Social Workers Association
- Wyoming
  - Wyoming School Psychology Association

## APPENDIX I – QUANTITATIVE RESEARCH QUESTIONS AND DATA ANALYSES

Research Question	Corresponding Survey Question(s)	Data Analyses
Are SMH professionals knowledgeable of symptoms of anorexia, bulimia and binge eating disorder?	4. Please indicate which of the following items are symptoms of anorexia and bulimia nervosa, and binge eating disorder.	Percentages of correct and incorrect responses by disorder
Do SMH professionals accurately identify precipitating and exacerbating factors of eating disorders?	5-7. Which of the following factors most often precipitate and/or exacerbate <b>anorexia, bulimia and binge-eating disorder</b> in children and adolescents (please check all that apply)?	Percentages of correct and incorrect responses by disorder
What type of training have SMH professionals received regarding the identification and treatment of disordered eating in youth?	2. Please indicate the nature of your training (check all that apply)	Percentages of training experiences
How important do SMH professionals believe training in disordered eating is?	3. Please rate on a scale of 1 to 5 how important you think it is for school mental health clinicians to receive specific training regarding eating disorders.	Mean, percentage and standard deviation
What is the frequency of which SMH professionals encounter youth with disordered eating in need of services?	8. Please rate on a scale of 1 to 5 the extent to which you perceive anorexia and bulimia to be problems for students in your school/district 9. Since working at the school/district, have you encountered students with disordered eating? 11. How many students have you encountered with disordered eating? 18. Have you ever worked with students who exhibited disordered eating behaviors?	Mean, percentage and standard deviations

<p>Who is most likely to intervene in a case of disordered eating in the schools?</p>	<p>14. Who typically intervenes in your school system in cases of eating disorders (check all that apply)? 15. Of those checked in item 14, who assumes the <i>primary responsibility</i> for intervening in cases of eating disorders (please check only one)?</p>	<p>Percentages of endorsed professionals</p>
<p>What are the most common practices for SMH professionals when presented with a student with disordered eating?</p>	<p>19. Please indicate the types of services you have provided with regard to eating disorders: 20. Please indicate which of the following intervention strategies you have used with students with disordered eating. For those that you <b>have and have not used</b>, please also indicate their level of effectiveness. 24. Which of the following strategies do you feel competent to employ with regard to disordered eating (please check all that apply)?</p>	<p>Percentages of endorsed practices</p>
<p>Is advanced training in disordered eating associated with higher competence in treating disordered eating in youth?</p>	<p>2. Please indicate the nature of your training (check all that apply) 22. How skilled or trained do you feel to intervene when referred students with concerns regarding disordered eating?</p>	<p>Chi-Square Analyses</p>
<p>Do SMH professionals believe that implementing school-based services for youth with disordered eating falls within the SMH domain of practice?</p>	<p>16. Do you think that school mental health clinicians should work with students with eating disorders?</p>	<p>Percentages of yes and no responses</p>
<p>What are prominent barriers to SMH involvement in the identification and intervention of disordered eating?</p>	<p>23. Please indicate which of the following are barriers to your involvement with students with disordered eating (check all that apply):</p>	<p>Percentages of endorsed barriers</p>