Addressing Eating Disorders In Schools:

Prevention and Identification

Efforts

by

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ABSTRACT

This study used survey methodology to assess how eating disorders of students ages 5-18 are addressed in Minnesota and Wisconsin public schools. School psychologists were asked questions regarding their knowledge of risk factors and early signs of disordered eating patterns, as well as if the school districts utilize screening procedures and referral systems. The amount of training school districts provide for school personnel concerning eating disorders was also assessed.

Results indicate schools are not well prepared in identifying and preventing eating disorders. This inference was supported by data indicating schools having a systematic plan (2%), screening instruments (0%), referral systems (35.9%), and access to prevention, identification, and referral tools (.05%) specific to eating disorders. Clearly, schools in this study do not appear prepared to address the needs of the students with eating disorders. School psychologists are in an optimal position to lead in the efforts of

identifying students who may be at risk or suffering from an eating disorder and also leading the developmentally appropriate prevention program for the employees in the school district.

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TABLE OF CONTENTS

Chapter 1: Introduction

The insistent pursuit to be thin along with self-destructive dieting behavior is a primary symptom of anorexia nervosa (Eliot, 2004). According to Eliot, girls have been socialized at a very early age to hate obesity and to have an extremely high expectation for thinness in order to be beautiful. School personnel need to be aware that this expectation causes many young girls, as well as boys, to struggle with their weight, and some may even believe it is necessary to restrict their eating or even use other means to attain their ideal physical appearance. Much of the research on eating disorders has focused on females; however, both females and males can be affected (Keca, 2004).

Estimating the prevalence of eating disorders can often be problematic due to various factors such as the secretive and shameful nature of the disorder (Imber-Black, 1993). It has been estimated that between 3-10% of young women between the ages of 15 and 29 will develop a clinically diagnosed eating disorder in their lifetime (Keca, 2004). Research also suggests an estimated 0.5% to 3.7% of females will suffer from anorexia nervosa in their lifetime, and an estimated 1.1% to 4.2% of females have had bulimia nervosa (National Institute of Mental Health [NIMH], 2001).

Females are not the only ones with such difficulties. Although females are much more likely to develop an eating disorder than are males, males account for 5 to 15% of people with anorexia nervosa, and an estimated 35% of males have had binge-eating disorders (Keca, 2004; NIMH, 2001).

Although these percentages may not seem alarming, it is known many adolescents struggle with eating, but do not meet diagnostic criteria for anorexia nervosa or bulimia nervosa (Striegel-Moore & Bulik, 2007). Many children and adolescents demonstrate

disordered eating behaviors, but their eating patterns would not qualify according to the Diagnostic and Statistical Manual of Mental Disorders: Fourth Edition-Text Revision (DSM-IV-TR; American Psychiatric Association, 2000). Current estimates suggest that disordered eating is a drastic problem, and may occur in 30% of girls and 16% of boys (Keca, 2004). According to Keca, disordered eating includes eating behaviors that may be undiagnosed, such as: restrictive dieting, excessive eating (binging), or behaviors, like purging, to rid the body of food.

Therefore, given the prevalence rates of eating disorders among children and adolescents, systems need to be in place to identify abnormal eating behaviors and prevent eating disorders. The earlier students receive services for these problems, the better the outcome. Unfortunately, the literature is limited on prevention efforts in the school, as well as evidence-based programs available for school psychologists.

School psychologists have an opportunity to lead prevention efforts, help teachers identify students at risk for eating disorders, and refer students for assistance. School psychologists need to be educated in this area due to the fact that eating disorders can be a complex problem caused by a variety and combination of behavioral, emotional, psychological, interpersonal, and social factors (National Eating Disorders Association, 2004). Unfortunately, to the detriment of students, school-based eating disorder prevention programs have been controversial across the nation due to the fear that eating disorders would be glamorized (Fingeret, Warren, Cepeda-Benito, & Gleaves, 2006).

Prevention refers to efforts made by school-based professionals to inform and educate all students, irrespective of their current eating behavior, in an effort to decrease the prevalence of eating disorders in the school. There have been mixed reports regarding

the importance and effectiveness of prevention programs targeting eating disorders. It is also questionable to some school based and other professionals as to what the school psychologists' role should be in working with students who may struggle with eating disorders.

Purpose of the Study

The purpose of this study is to determine whether school personnel, and more specifically, school psychologists, have the knowledge and understanding of eating disorders. That is, are they equipped with sufficient knowledge and background to serve this population of students in the schools?

In order to answer this question, school psychologists were examined to determine their awareness of the risk factors and early signs of disordered eating patterns. It is assumed that the more school psychologists know, and can identify the signs and symptoms of students with disordered eating, the better they would be at screening and/or referring these students more quickly to receive the help they need.

Next, the extent to which schools are including screening procedures for eating behaviors as a regular part of their services was examined. It is hypothesized that only a small percentage of schools use screening procedures to identify these students.

Another purpose was to examine if schools have a current referral system for students showing signs of problematic eating behavior; and, if so, which school members are involved in the plan and make the referrals. It is hypothesized few schools have a current referral system in place. For schools with a referral plan, it is hypothesized school psychologists, along with counselors, physical educators, and other school professionals,

such as the school nurse, would be involved in the referral plan or be involved in making the referrals.

Finally, the extent to which schools provide training of eating disorders and risk factors for teachers and staff was examined. It is hypothesized that about half of respondents will report they were trained in this area.

Given the above purposes, the following research questions were generated in order to gain insight to services for eating disorders in the schools:

1) To what extent are school psychologists aware of the risk factors and early signs of disordered eating patterns?

2) To what extent do schools utilize screening procedures, referral systems, and programs to address the needs of students with eating disorders?

3) To what extent do schools train teachers and other staff about eating disorders and their related risk factors?

4) Which school personnel are involved in identifying and providing services for students with problematic eating patterns?

5) In addressing eating disorders, do differences in the awareness levels and practices of school psychologists exist by state and gender?

Definition of Terms

Six terms are defined for clarity of understanding. These are:

Anorexia Nervosa: Anorexia nervosa refers to a condition when an individual refuses to maintain a minimally normal body weight, is intensely afraid of gaining weight, exhibits a significant disturbance in the perception of the shape or size of his or her body, and is amenorrheic (American Psychiatric Association [APA], 2000).

Bulimia Nervosa: Bulimia nervosa is diagnosed when the individual is excessively influenced by body shape and weight, binge eating and the inappropriate compensatory behaviors must occur, at least twice a week for three months (APA, 2000).

Disordered Eating- In this paper, disordered eating refers to deviant eating behavior, such as excessive or insufficient food intake, or binge eating, that is both diagnosed and undiagnosed (Keca, 2004).

Eating Disorder Not Otherwise Specified: This category is for disorders of eating that do not meet the criteria for any specific eating disorder. They may include some, but not all, of the diagnostic criteria for anorexia or bulimia.

Eating Disorders- In this paper, eating disorders refers to clinically diagnosed eating disorders including Anorexia Nervosa, Bulimia Nervosa, and an Eating Disorder Not Otherwise Specified as defined by the DSM-IV-TR (2000).

Identification- In this paper, identification refers to professionals taking notice of a student's qualities and behaviors that associate them with being at risk for, or having, an eating disorder.

Prevention- In this paper, prevention refers to efforts made by school-based professionals to inform and educate all students, irrespective of their current eating behaviors, to decrease the prevalence of eating disorders in the schools.

Weight fluctuation- A term used to describe gaining or losing weight in a short amount of time.

Chapter 2: Literature Review

This literature review will first explore the risk factors and early signs of disordered eating patterns. Second, prevention efforts and programs for eating disorders in the schools will be reviewed. Third, screening and identification procedures for schools and school psychologists will be discussed. Next, a review of the referral process for students with disordered eating behaviors in the schools will be presented. Lastly, the training and knowledge of teachers and staff regarding eating disorders will be reviewed.

Due to the high prevalence rates of eating disorders among school-aged persons, eating disorders cannot be ignored by school psychologists. Although adolescents are most commonly affected by eating disorders, these disorders are prevalent among people between the ages of 7 to over 25 (Phelps & Bajorek, 1991), a time during which most are attending school. Therefore, school personnel are in an optimal position to provide prevention programs to eliminate the impact of an eating disorder.

Eating disorders have been defined as a preoccupation with food and weight (National Eating Disorders Association, 2004). When children or adolescents are suffering, they are consumed with thoughts of food and body weight (Keca, 2004). This concentration takes their thoughts away from what they are learning in school. Moreover, Keca asserts that most types of dieting impair a person's ability to think and learn. Therefore, eating disorders are a problem and needs to be addressed in the schools.

Risk Factors and Early Signs

Available research documents the appearance of a "typical" eating disorder patient. Based on this work, a majority of patients are White, middle to upper-middle class, young women from North America or Europe (Striegel-Moore & Bulik, 2007).

According to Striegel-Moore and Bulik, "a risk factor is a characteristic (e.g., allele), event (e.g., teasing), or experience (e.g., growing up in a culture that values extreme thinness) that precedes the onset of the outcome of interest (e.g., an eating disorder)" and that is more probable to an outcome than the general population (p. 183).

The greatest risk factors for eating disorders include a disturbance in body image, over-controlled or under-controlled eating, and lastly, taking extreme measures in order to control one's weight or shape (i.e., purging, over-exercising) (Striegel-Moore & Bulik, 2007). Some common signs include risky eating behaviors that signal a need for help. Risky eating behaviors may look like a binge-purge cycle or a gorging/vomiting cycle. Symptoms to watch for include when children or adolescents suddenly lose a noticeable amount of weight, become isolated from peers, or drastically raise their activity level or exercise habits (Peters, Swassing, Butterfield, & McKay, 1984). Although the presence of any one of these symptoms in isolation does not necessarily indicate an eating disorder, a combination of symptoms strongly suggests the possibility of one. In addition, other studies repeatedly show that factors such as thin-ideal internalization, body dissatisfaction, elevated body weight, and dieting can predict the risk of beginning or worsening one's eating pathology (Stice, 2002).

Culture can also play an important role as a risk factor. In some cultures, models of eating disorders arise from and are reinforced by the following sequence: exposure to the thin ideal (e.g., seeing models on television); internalization of the ideal (e.g., "I wish I were her"); and a discrepancy between self and the ideal (e.g., "I don't look like her") (Striegel-Moore & Bulik, 2007). These environmental or cultural factors can then lead to

being dissatisfied with one's body, which in turn can begin the cycle of restricting or over-eating.

Symptoms of eating disorders can also contrast by ethnicity. In a study conducted by Striegel-Moore et al. (2005), for example, purging behaviors without binge eating were significantly more common among White women. Other findings by Striegel-Moore and colleagues, however, found binge eating, without purging, was more common among the Black women.

Other factors come to play in understanding why only some individuals in this cultural climate (in the United States) have an eating disorder. These other variables include living in a high social class, feeling social pressure to be thin, experiencing elevated weight or obesity, being highly impulsive, being socially anxious, having certain personality traits (i.e., perfectionism), having differences in biological responses to starvation, and individual differences in the reward value of starvation or eating (Striegel-Moore & Bulik, 2007).

According to Striegel-Moore and Bulik (2007), research clearly shows anorexia nervosa and bulimia nervosa occur most often during adolescence and the start of the disorder is less common after this period. However, the onset of Binge Eating Disorder (BED), which is characterized by recurrent episodes of binge-eating, does not follow the same pattern, as the onset of BED can occur well into adulthood.

Given these trends, Striegel-Moore and Bulik (2007) have accumulated evidence to support both cultural and biological factors as contributors to the increased risk for the development of eating disorders or associated behaviors and attitudes. According to Striegel-Moore and Bulik, there is fairly strong support for biological factors (such as

those that contribute to the risk of developing anorexia nervosa). These early research findings indicate some groups may be at a higher risk for developing an eating disorder. Examples include children of mothers with anorexia nervosa and children with certain neonatal complications.

Cognitive factors may also contribute to the risk of developing an eating disorder. For example, Sancho and Arija (2009) conducted a study on the relationship between parents' cognitive and behavioral dimensions and the risk of eating disorders in their children in non-clinical adolescents. They collected data, and then followed-up two years later. Using logistic regression analyses, findings indicated some predictors were a mother's drive for thinness (on the Eating Disorder Inventory-2) and social insecurity. They also found the father's perfectionism was a risk factor in predicting eating disorders.

Although it may be difficult for school psychologists to have a primary role in identifying students struggling with eating disorders, they can be of great value to many who are directly involved with children on a daily basis, such as teachers, lunch staff, and other school personnel. For example, school psychologists can educate students, parents, and school-based professionals on the signs and symptoms, and assist them in prevention and intervention efforts (Peters et al., 1984; Phelps & Bajorek, 1991).

Prevention

Given the increasing rates of eating disorders over the past two decades, the detrimental affects of eating disorders on those who suffer, as well as their families, and the rise of the costs of health care associated with the treatment of eating disorders, it is paramount to direct our focus toward *preventing* eating disorders (Shisslak, Crago, Neal,

& Swain, 1987). Prevention efforts may be helpful in reducing or minimizing the effects of this growing problem. One way to do this is to educate our children in the school system about healthy eating so they are informed and aware of the risks associated with unhealthy eating behavior (Thompson, Smith, Hunt, & Sharp, 2006). According to many, prevention should be built in as part of a system that is available to all students, addresses the issue of eating disorders through education and awareness, and provides a screening technique to help identify youth who may be at risk for developing eating related problems.

Three types of prevention exist: primary, secondary, and tertiary (Kessler & Albee, 1975). Primary prevention includes efforts that target everyone and address concerns before they occur. The goal of primary prevention is to prevent problems from arising. One example would be to teach lessons on healthy eating to all students.

Secondary prevention aims to respond quickly to emerging problems in order to minimize long-lasting effects (Kessler & Albee, 1975). Secondary prevention efforts may include screening procedures. Screening is a process that helps identify children who are showing early signs of problems so they can receive some additional education and help *before* the problem requires intensive services.

According to Kessler and Albee (1975), tertiary prevention includes efforts aimed at providing intensive interventions for those who are impaired or have a disorder. An example may include providing direct services, such as counseling, to a student with depression. These various levels of prevention all have their own aim and each level looks different in practice.

According to Phelps and Bajorek (1991), schools should provide primary prevention services to prevent disordered eating among students, particularly adolescents who are most greatly affected by the disorder. However, in order to more effectively prevent disordered eating from emerging in the first place, elementary schools should include prevention efforts, such as including the topics of healthy eating and positive body image, to help students before they reach adolescence.

Many schools already have programs in place including required health education, physical education, and home economics classes (Shisslak, et. al., 1987). Shisslak and colleagues assert that a primary prevention program could be easily integrated into the curricula of these existing classes. However, it is crucial that those who provide the information and curriculum for prevention programs have a strong knowledge base in the areas of healthy nutrition, weight problems, and eating disorders among youth (Thompson, Smith, Hunt, and Sharp, 2006).

Scime, Cook-Cottone, Kane, and Watson (2006) developed a primary group prevention program, called "Girls' Group," for fifth-grade female students. This program included various components aimed at helping body image, self-esteem, coping, and competence. Using a constructivist project, the participants created a magazine to disseminate to peers and the community in order to share their knowledge and information about what was discussed and explored in their group regarding eating disorder prevention. The format of this group set up the opportunity for the girls to openly discuss their thoughts or feelings and learn various strategies they could use to improve their self-image and be more comfortable with their bodies. The ten week program was conducted by a licensed psychologist, a school counselor, and two graduate

students. The authors found that there was a significant decrease in body dissatisfaction and drive for thinness on pre- and post-tests among participants. Findings also indicated that participants significantly improved their ability to recognize media's influence on body image. Results from this study supported the notion that providing early prevention efforts may be effective in decreasing risks for disordered eating among preadolescent females.

The education provided by prevention strategies appears to be vital in reducing the incidence and severity of eating disorders (Peters, et al., 1984). For example, Fingeret, et al., (2006) conducted a meta-analysis to examine the benefits of prevention programs on eating disorders. Most programs investigated by Fingeret and colleagues focused on providing psycho-educational services to primarily female participants. Thirty-two published and 14 unpublished studies were included in their analyses. They found that eating disorder prevention programs had the largest positive effect on increasing participants' knowledge related to eating disorders. When symptoms of eating pathology, dieting behavior, and thin-ideal internalization were examined, positive, albeit small, effect sizes ranging from d =.17 to .21 at posttest and from d =.13 to .18 were found at the follow-up. These findings suggest that providing psychoeducation to non-clinical populations not only increased awareness, but demonstrated an improvement in symptoms of general eating pathology, dieting behaviors, and the internalization of a thin-ideal body standard immediately following intervention and for some period of time afterward. Taken together, the results of this meta-analysis are promising, indicating that prevention programs for eating disorders can be helpful for changing students' knowledge about healthy eating, and may even change actual eating behaviors. More

research should be conducted that can substantiate or refute the effects of prevention programs.

Stice and Shaw (2004) also analyzed the effectiveness of prevention programs on eating disorders. Based on their meta-analysis of 51 published and unpublished studies, they found larger effect sizes in studies that used any of the following aspects in their prevention programs: (a) high-risk participants, (b) an interactive program format, (c) participants over 15 years old, (d) female participants, (e) longer, multi-session programs, and (f) the use of validated scales (Stice & Shaw, 2004). Stice and Shaw also found the content of the program was less important than were the characteristics of the participants studied. They did find support for the hypothesis that programs utilizing psychoeducational content were less effective in achieving four out of seven outcomes. The Stice and Shaw study contradicted many of the previous findings about the psychoeducational effects of eating disorders.

Ultimately, the question arises as to how we can best provide intervention and prevention within the schools. Keca (2004) gives three helpful tips in achieving this in regards to eating disorders in schools: 1) discipline those who harass peers based on body size; 2) ensure that information and plans are available to help those in need; and 3) encourage personnel to seek help as appropriate. According to Keca, it is important for teachers in the schools to have "zero tolerance" for comments about a student's weight. School should be a place where students are free from harassment. Further, school personnel should have information and access to resources that are available for students who may be struggling. Finally, according to Keca, teachers need to tell a member of the school student support team if they suspect a problem with a student's eating habits.

Keca's tips should be considered by school personnel as they plan to implement school-based prevention and intervention efforts for eating disorders.

Some teachers may think that bringing attention to these disorders may make an eating disorder seem more popular or glamorous. For those who have such concerns, a wellness approach may be preferred (Varnado-Sullivan & Horton, 2006). According to Varnado-Sullivan and Horton, a wellness approach to prevention programs focuses on overall issues of well-being, addressing self-esteem, problem solving, stress management, and goal setting, with no special attention on eating disorders. For example, a wellness week with lessons on healthy eating and exercising would be implemented, rather than conducting specific lessons on anorexia.

Phelps and Bajorek (1991) asserted that educators should focus on risk factors and societal pressures rather than on fasting and bingeing behaviors. Phelps and Bajorek have found that in order to be effective and include the most suitable methods a prevention program should include: a) information that examines society's view of attractiveness, b) the use of pictures to exemplify the cultural pressure to fit inappropriate norms, c) information that addresses normal body fat percentages and height-weight ratios, d) information on appropriate healthy eating, and e) the promotion of a healthy and physically active lifestyle. The Girls Group prevention program study discussed earlier (Scime, et al., 2006) included similar components; perhaps that is why it was effective. Providing material that focuses on more objective norms may foster more realistic expectations. Information on risk factors and societal pressures can open the door to discussions and allow a place for staff to answer questions, providing an opportunity to discredit the media images that our children and adolescents see on a daily basis.

The evidence thus far (Fingeret, et al., 2006; Peters, et al., 1984; Phelps & Bajorek, 1991; Scime, et al., 2006) suggests that increasing knowledge among non-clinical student populations may be an important step in helping children and adolescents from developing disordered eating difficulties. Therefore, programs that bring about awareness and information to the whole student population can be helpful.

Screening and Identification Procedures

Given the emerging research in this area, some positive effects of prevention programs have been found. However, some children will require; and, hopefully, benefit from, more specialized help. Furthermore, as children go through a prevention program and increase their knowledge about eating disorders, students may realize they are struggling and request services from school personnel. Therefore, it is important that schools have systems in place that allow personnel to identify, intervene, or appropriately refer students with questionable eating behaviors.

Assessments

Assessments administered in the school system are one way to identify students who may be at risk for, or suffering from, an eating disorder. Available eating disorder assessments are still relatively new, and they have only recently been used to identify students who are at risk or who are struggling with an eating disorder in the schools (Phelps & Bajorek, 1991). A range of assessments, including interviews, questionnaires, and other tools to use for screening or identification are available.

Many informal interviews are used regularly at treatment centers (Phelps & Bajorek, 1991). Interviews provide professionals with many details that could lead to a better understanding about the person and his/her struggles with eating.

Questionnaires are also used by psychologists and mental health professionals. According to Phelps and Bajorek (1991), questionnaires have many advantages because they provide more specific information and a quantitative understanding of the problem. Further, many questionnaires have reliability and validity data to support their use. Finally, questionnaires can easily be used in the schools.

Many questionnaires and inventories propose to identify at-risk individuals for eating disorders. The Eating Disorders Inventory (EDI; Garner, Olmsted, & Polivy, 1983) and the Eating Attitudes Test (EAT; Garner & Garfinkel, 1979) are the two standardized measures most widely used to assess the attitudes and behaviors characteristic of eating disorders (Phelps & Bajorek, 1991; Rosen, Silberg, & Gross, 1988). However, these measures should not be used in isolation to make a definitive diagnosis or to plan treatment. The EDI and the EAT were both created for adult women; however, they are now used with high school-aged adolescents. Among the two, the EAT has been most widely used for assessing eating disorders with adults and adolescents in a variety of cultures and samples (Sancho, Asorey, Arija, & Canals, 2005). Given the lack of norms and research with younger children, the EDI or the EAT should not be utilized with children in elementary schools.

The Eating Disorders Inventory-3 (EDI-3) is a self-report measure for English speaking individuals. The EDI-3 is the newest version of the Eating Disorders Inventory, and there is evidence that the revision is an improvement from the EDI-2 (Cumella, 2006).

The EDI-3 was assessed for reliability on the normative samples of three groups, a national adult clinical group, international adult clinical group, and a U.S. adolescent

clinical. The EDI-3 offers T-scores for its 12 scales and six composite scores (Cumella, 2006). The EDI-3 includes a symptoms checklist, which provides information concerning symptom frequency and history. It also provides a referral form, which is used to identify individuals in non-clinical settings who may need to be referred for a professional eating disorder evaluation. Thus, the EDI-3 may be a beneficial assessment tool for school psychologists to use when making decisions about referring students for intervention services. In addition, the EDI-3 may also be used as a screening tool for the school psychologist to decide if a referral is necessary. Despite these strengths, the EDI-3 may not be ideal to use with all students. According to Cumella, due to its length (91-items), it may not be best used as a screener for all students. Furthermore, the review by Cumella indicates this assessment lacks information concerning its use with males. However, considering the higher rate of eating disorders among women, this tool has been shown to be useful for the majority of those who suffer from an eating disorder. As such, school psychologists could use the EDI-3 with high school-aged adolescents.

Children's Eating Attitude Test (ChEAT) is an assessment instrument that was developed from the Eating Attitudes Test (Sancho, Asorey, Arija, & Canals, 2005; Smolak & Levine, 1994). Like the EAT-26, it is a 26-item self-report questionnaire. According to Smolak and Levine, the ChEAT is standardized and measures eating attitudes and behaviors in children under 15 years old. The internal consistency of the scale has been shown in studies to be adequate in grades three through eight, however, the scale seems to be somewhat more reliable with older children. It is very similar to the EAT-26, with a more simplified language. The ChEAT assesses various attitudes and behaviors that are associated with anorexia nervosa and bulimia nervosa. An example of

an item includes, "I stay away from eating when I am hungry" (Sancho et al., p. 341). Each item is rated on a Likert scale from 1 (always) to 6 (never) and the most symptomatic response is recoded to a score of 3, the next most symptomatic 2, and the next 1 for each question. The remaining three choices receive a score of 0 (Sancho et al.; Smolak & Levine). Therefore, ChEAT scores can range from 0 to 78.

Like other assessment tools described (e.g., EDI and EAT), the ChEAT does not allow a psychologist to diagnose an eating disorder. However, due to the 26 items, the ChEAT can be used as a screening and research instrument (Sancho et al., 2005). Smolak and Levine (1994) reported that the ChEAT is a promising instrument to measure disturbed eating attitudes and behaviors in middle school-age girls. In their work, Smolak and Levine found adequate internal reliability coefficients (e.g., 0.87) and moderate levels of concurrent validity coefficients.

Others have also examined the ChEAT's utility as a screening instrument and have found promising results. A modified version of the ChEAT was used in a study of Croatian adolescents (Knez, Munjas, Petrovečki, Paučić-Kirinčić, & Peršić, 2006). The study included 480 students from grades five to eight, ages 10 to 16 years, who fully completed a Croatian version of the ChEAT-26 questionnaire. Participation was voluntary, and the test was given during regularly scheduled school hours. Findings indicated that of the 480 Croatian students assessed, severely disturbed levels of eating attitudes and behaviors (scores of 20 or more) were present in 36 (7.5%), predominantly female, students. However, further research is needed to examine the extent to which these findings are affected by cultural specific factors to determine whether the ChEAT can be generalized to populations in the United States.

Based on available data, the ChEAT and the EDI-3 appear to be reasonable options for assessing children and adolescents in the schools. These questionnaires could be administered to identify students who are at risk for an eating disorder. School psychologists who choose to use these questionnaires should keep in mind that these instruments are not used to diagnose students. School psychologists also need to remember that eating disorders are a secretive and often shameful disorder that may cause the respondent not to answer truthfully. Therefore, it is important for school psychologists and other mental health providers to not put too much stock in one questionnaire. However, these questionnaires do provide a viable option for obtaining information from students who may not self-disclose during an in-person interview. Thus, these tools could provide a means to identify and subsequently to refer students to an eating disorder specialist who could get them the help they need. Some of these questionnaires may also be group administered in order to be easily administered in the schools if needed in a timely manner. For example, if several children are suspected of having eating difficulties during a prevention program, a school psychologist could ask teachers to refer those children and then have them complete the ChEAT or the EDI-3.

More recently, efforts have been made to develop comprehensive prevention programs that include specific screening methods as part of the prevention or intervention plan. Screening for Mental Health, a national nonprofit organization, initiated the National Eating Disorder Screening Program (NEDSP) on college campuses in the mid 1990s (D'Souza, Forman, & Austin, 2005). This particular screening program identified a high number of cases with resultant high referral rates (Austin, et al., 2001). Following the dissemination of the program on college campuses, it was adapted for and

implemented among high school students. This program included a self-report screening form and classroom educational supplies in order to promote healthy nutrition and an understanding of eating disorders.

According to Austin and colleagues (2001), the primary goal of the NEDSP high school level program was to provide schools with a screening tool and the resources to identify students with eating disorder symptoms so they could refer these students for professional help. Participating schools received a packet including anonymous screening forms, sample press releases for their community, an educational video, and a procedure manual discussing program implementation. The screening form included the EAT-26 with questions related to demographics and disordered eating behaviors. One hundred and fifty-two high schools from across the country implemented the screening program in the spring of 2000. Roughly 85% of participants were Caucasian. Results indicated that 30% of girls and 16% of boys reported eating disorder symptoms meeting NEDSP criteria for further clinical evaluation.

Another promising program is the Coordinated School Health Program (CSHP). The CSHP includes various resources including: health education, physical education, health services, nutrition services, health promotion for staff, counseling and psychological services, and family and community involvement (Thompson, Smith, Hunt & Sharp, 2006). This CSHP program brings together many members from the school and community to facilitate a widespread model to address prevention "head on." This model is a good example on how to plan and organize efforts to address disordered eating behaviors in the schools.

Several benefits have been identified to screen students who may struggle with their eating problems. Many individuals can become aware of their health and functioning as a result of screening efforts. Therefore, the education that screening can provide may improve the awareness of body image and dieting concerns and overall knowledge of healthy eating (D'Souza, Forman, & Austin, 2005).

A Referral System

School personnel are best positioned to notice the warning signs of disordered eating among their students. Changes in students' eating behaviors and drastic weight fluctuation are two common symptoms school personnel can identify easily (National Eating Disorders Association, 2004). Their daily interaction with students gives school personnel an opportunity to notice these changes and refer these students for further help and evaluation. Unfortunately, schools often do not have a referral system for students who show signs of problematic eating behaviors. Even further, some school personnel may have a system, but fail to share their referral system with their teachers and staff. For example, in one study, only a small number of senior high health teacher respondents, just over one-third (36%), indicated their school had a cooperative plan in place to deal with disordered eating issues in students (Thompson, Smith, Hunt, & Sharp, 2006).

Given the lack of a system or plan in place in many schools, it is of utmost importance that schools have a resource person who can manage and oversee referrals, prevention efforts, and problematic eating-related conditions. It is also important that teachers are made aware of the referral process and know who has the training and knowledge to consult and assist them with a student of concern.

Many essential pieces in planning school-based services need to be considered. Several members should be involved in a referral plan. According to Thompson, Smith, Hunt, and Sharp (2006), counselors, physical educators, and other school professionals, such as school psychologists, should be part of a plan in identifying students who show disordered eating symptoms. Thompson and colleagues suggest the school counselor could be an effective contact person when referring students with social and psychological issues related to eating concerns. Despite which school members are involved in the referral plan, it is imperative that school personnel are aware of the plan.

Training for Teachers and Staff

According to O'dea and Abraham (2001), teachers should receive training to improve their knowledge and awareness of eating disorders, as well as transform their perceptions and beliefs of eating disorder problems. Awareness will allow teachers and staff to have the ability to identify students at risk or those who already show symptoms of disordered eating behaviors.

Thompson, Smith, Hunt, and Sharp (2006) conducted a nationwide survey study that assessed health teachers' perceptions and teaching practices regarding disordered eating behaviors. Three hundred and thirty two surveys were returned (55% return rate) from senior high health teachers. The sample included primarily female (58%), White (94%) respondents who had a master's degree (41%). Results indicated that only 55% of respondents reported that they had been trained to address eating disorders in their teacher education program. An overwhelming 86% of respondents believed there was a need for more in-service training. Despite the clear need for more training, researchers have found that only 32.1% of teachers in middle/junior and senior high took part in staff

development opportunities to enhance their knowledge of dietary behaviors (Jones, Brener, & McManus, 2004). Possible barriers may include the availability and accessibility of these staff development opportunities. Professional development may be an area where school psychologists could help facilitate training in the schools.

Although school personnel may not have the background knowledge on eating disorders, school psychologists can be instrumental when addressing concerns with students and refer when necessary. School psychologists can even help educate other school personnel on how to help with these endeavors, and they can organize and implement training for teachers and other school personnel to identify eating disorders (Phelps & Bajorek, 1991). For instance, Phelps and Bajorek suggest a team-taught in-service program in which a school psychologist and the school nurse would present to staff on the topic of eating disorders. The in-service program could be delivered as a part of the regularly occurring in-service trainings in the schools. In-service programs may be the most beneficial in the schools and districts that have a noticeably higher prevalence rate of eating disorders. For those schools, in-service activities would give teachers the opportunity to gain knowledge on the disorder and assist them in identifying students exhibiting symptoms. If the teachers are trained to recognize the symptoms, they can then more easily refer children of concern to the school psychologist, the school nurse, or other school-based mental health providers.

Summary

Given the high prevalence rate of eating disorders among the K-12 school population, school personnel appear to need more information about the risk factors and symptoms associated with the condition. The available research to date suggests that

prevention programs, screening instruments, psychoeducational programs, and referral systems can be effective in responding to the needs of eating disordered youth in the schools. Survey research suggests that many school personnel are ill prepared in this area. Other results indicate most schools do not have system-wide plans in place to provide the education, training, and services needed to address this issue. As a result, more research is needed to determine what training is needed, which personnel should be involved in the training or referral process, and what programs are effective in dealing with disordered eating patterns among the K-12 school-age population.

Chapter 3: Methodology

The methods and procedures used in this study of Minnesota and Wisconsin's school psychologists' knowledge and understanding of eating disorders are explained in this section. A description of the respondents, instrumentation, and data analyses are also described.

Research Design

The approach to this study was quantitative, using a survey methodology. Primary goals were to assess the extent to which school psychologists were aware of the risk factors and early signs of disordered eating patterns, the extent to which schools are including screening procedures for eating behaviors, whether or not schools have a referral system for students showing signs of problematic eating behavior, and the amount of training provided by schools for staff concerning eating disorders and their related risk factors.

Data Collection Procedures

Data were collected from practicing school psychologists in Wisconsin and Minnesota through an internet survey during the spring months of 2009. E-mail addresses were acquired through an internet search of lists of practicing school psychologists in both states. For the state of Wisconsin, a list of practicing school psychologists was acquired from the Wisconsin Department of Public Instruction (DPI) website. From the original DPI list of 960 practitioners, every fourth name was selected, and e-mail addresses were acquired by searching the directory of each individual school psychologist's school. This procedure yielded 237 e-mail addresses in Wisconsin.

The e-mail addresses of Minnesota school psychologists were derived through different procedures. Given the Minnesota Department of Education (MN DoE) does not allow public access to e-mail addresses of practicing school psychologists on their website, participant e-mail addresses were selected through drawing a list of schools from the MN DoE's list of school districts. From that list, 253 e-mail addresses were obtained through an internet search of each individual school.

Between both Wisconsin and Minnesota, 65 e-mail addresses proved to be invalid, leaving a net sample of 459 practitioners. Completed surveys were submitted by Wisconsin practitioners (n = 75; 51%) and Minnesota practitioners (n = 71; 49%). Most of the respondents were female, Caucasian, and most worked in suburban school districts. Specific demographic data regarding the respondents can be found in Table 1, Appendix A.

Procedures

As described, 459 prospective participants were requested to complete a survey via e-mail in April of 2009. This e-mail request introduced the researcher and explained the purpose of the research (refer to Appendix B). The e-mail provided an estimated amount of time to complete the survey. Prospective respondents were informed that their participation was voluntary and explained that the survey was approved by the University of Wisconsin-Stout's Institutional Review Board (IRB). Participants were also informed they could e-mail their name and mailing address to be entered into a raffle for a $40.00 gift certificate to amazon.com if they chose to participate and would like to be entered in a raffle drawing. Lastly, participants were informed of any risk involved. An informed consent statement was included, and a link was provided to activate the survey.

One week later, a follow up e-mail was sent with a link to the survey inviting the non-responders to complete the survey. The survey closed on May 1, 2009.

Instrumentation

An online survey was created to use as the instrument in the study (refer to Appendix C). The survey allowed participants to skip any questions, or they were given an option to not respond. The survey was created in order to answer the following research questions:

1. To what extent are school psychologists aware of the risk factors and early signs of disordered eating patterns?
2. To what extent do schools utilize screening procedures, referral systems, and programs to address the needs of students with eating disorders?
3. To what extent do schools train teachers and other staff about eating disorders and their related risk factors?
4. Which school personnel are involved in identifying and providing services for students with problematic eating patterns?
5. In addressing eating disorders, do differences in the awareness levels and practices of school psychologists exist by state and gender?

Data Analyses

To answer research questions one, two, three, and four, descriptive statistics of related questions were computed. To answer research question five, comparisons of responses using t-test and chi-square analyses were used. A probability value of less than or equal to .05 was adopted to determine statistically significant differences between the groups.

Chapter 4: Results

This study sought to understand the extent to which school psychologists were aware of the risk factors and early signs of disordered eating patterns and to determine which schools utilized procedures to screen for problematic eating behaviors. Referral systems for students who show signs of problematic eating behavior, the amount of training provided by schools for staff concerning eating disorders and risk factors, and which school personnel are involved in identifying and providing services for students with problematic eating patterns were other areas under investigation. Differences in the awareness levels and practices of school psychologists by state (between Wisconsin and Minnesota) and gender were also examined. This chapter presents the findings organized by each research question.

Research Question 1: To What Extent Are School Psychologists Aware of the Risk Factors and Early Signs of Disordered Eating Patterns?

In order to address this question and have a better understanding of school psychologists knowledge and understanding of the risk factors or early signs of eating disorders, respondents were asked to identify, from a given list, risk factors, signs, and symptoms associated with eating disorders (see Appendix C). Respondents were also asked to rate how knowledgeable they were about the risk factors, signs, and symptoms of eating disorders.

Respondents were asked to rate their knowledge on two items using a 5-point Likert scale (*1 = Have very limited or no knowledge about risk factors, 3 = Have some knowledge of risk factors, 5 = Am very knowledgeable of risk factors)*. Respondents were then asked to identify risk factors and/or group memberships and signs/symptoms

associated with eating disorders. Finally, respondents were asked to indicate which school personnel have some expertise in eating disorders. The survey consisted of five total knowledge questions (refer to items 2, 3, 4, 5, & 20 in Appendix C). These questions were based on past research on the risk factors and early signs of disordered eating patterns (Peters, Swassing, Butterfield, and McKay, 1984; Striegel-Moore & Bulik, 2007).

Results indicated school psychologists generally believed they were "somewhat aware/knowledgeable" about the signs/symptoms ($M = 3.42$; $SD = .78$) and risk factors/group membership ($M = 3.24$; $SD = .77$) of disordered eating (see Table 4, Appendix A). When given a list of risk factors/group memberships of eating disorders, results indicated most school psychologists (70% or more) were able to accurately identify 10 of the 11 variables (see Table 5, Appendix A). Of the items listed, the most frequently identified risk factors included: being Caucasian (74.5%; $n = 114$), being middle or upper middle socio-economic status (74.5%; $n = 114$), being female (96.1%, $n = 147$), participating in highly competitive athletic activities (79.1%; $n = 110$), and having a mother or close family member with an eating disorder (74.5%; $n = 114$).

When given a list of signs and symptoms of eating disorders to choose from, most school psychologists (70% or more) were able to accurately identify 10 out of 11 of these variables (see Table 6, Appendix A). Of the items listed, the most frequently identified signs and/or symptoms included: weight loss (98.7%; $n = 151$), binge eating (96.7%, $n = 148$), damaged teeth and gums (96.1%, $n = 147$), over-evaluations of thinness, weight, or shape (96.1%, $n = 147$), secretive behaviors (94.8%, $n = 145$), and severe dietary restriction (90.8%, $n = 139$).

When asked, "Of the personnel with whom you work, who of the following have some expertise in eating disorders? (Choose all that apply)," most (81.7%; $n = 125$) of the school psychologists identified their school nurse and 64.1% ($n = 98$) identified themselves. School counselors (60.1%, $n = 92$) and school social workers (46.4%, $n = 71$) were next on the list. Only 5.2% ($n = 8$) chose a teacher, and very few (4.6%, $n = 7$) selected their principal and/or vice principal as having some expertise in eating disorders.

Research Question 2: To What Extent Do Schools Utilize Screening Procedures, Referral Systems, and Programs To Address the Needs of Students With Eating Disorders?

School psychologists were asked if their schools used a systematic plan or program to prevent eating disorders/problems among students by indicating "yes" or "no." Respondents who answered "yes" were then asked a series of questions regarding the prevention plan or program. These questions asked the respondents to describe their prevention plan/program (by choosing from a list of general characteristics of prevention programs) and to chose the screening instruments their school personnel used to identify students who may have been at risk for eating disorders, if any (e.g., EDI). The respondents were also asked to indicate if their school had a referral system (or systematic plan) for students who showed signs of problematic eating behavior and whether their school had access to specific prevention, identification, or referral resources (e.g., EAT). Respondents were then asked to identify available community resources to help them with their prevention/identification programming efforts (e.g., funding for programming).

Results indicated that the schools generally lacked systematic plans to identify and provide services to these students. Only 2.0% ($n = 3$) of school psychologists reported their school had a systematic plan, 0% ($n = 0$) indicated they had access to screening instruments, 35.9% ($n = 55$) reported they have referral systems in their schools, and only 0.5% ($n = 8$) of school psychologists reported they had access to prevention, identification, and referral tools. Refer to Table 7 (Appendix A) for more specific data.

Research Question 3: To What Extent Do Schools Train Teachers and Other Staff About Eating Disorders and Their Related Risk Factors?

Respondents were asked to indicate their participation in trainings related to eating disorders. Results indicated that most schools did not provide training or in-service workshops on eating disorders and their related risk factors. Only 6.5% ($n = 10$) reported their schools did provide such training.

Research Question 4: Which School Personnel Are Involved in Identifying and Providing Services for Students with Problematic Eating Patterns?

Respondents were asked several questions related to the role of school personnel in identifying and providing services for students with eating disorders. Questions included: (a) Who in your school(s) is(are) responsible for coordinating the prevention plan or program, (b) which school members are involved in the referral plan, and (c) who typically refers students suspected of an eating problem (refer to items 8, 13, and 14 in Appendix C).

Survey results indicated school psychologists reported very few school personnel coordinate prevention efforts. A list of options was given, and the following were chosen:

Less than one percent of school psychologists (.7%; $n = 1$), 1.3% ($n = 2$) of school counselors, 1.3% ($n = 2$) school nurses, 1.3% ($n = 2$) school social workers, and 0% principal/vice principals, and 0% under the category of "other" were identified as having a role in coordinating prevention efforts. See Table 8 (Appendix A) for more specific data.

School psychologists were also asked to identify school-based personnel involved in the referral plan. Almost one quarter (24.8%; $n = 38$) chose school psychologists, 29.4% ($n = 45$) chose school counselors, 32.7% ($n = 50$) chose school nurses, 19% ($n = 29$) chose school social workers, 17% ($n = 26$) chose the principal/vice principal, 20.9% ($n = 32$) chose a teacher, and 2.8% ($n = 4$) chose "other." See Table 9 (Appendix A) for more specific data.

Research Question 5: In Addressing Eating Disorders, Do Differences in the Awareness Levels and Practices of School Psychologists Exist by State and Gender?

Lastly, this study examined differences in addressing eating disorders, as well as differences in the levels of awareness and practices of school psychologists by state (between Wisconsin and Minnesota) and gender (see Tables 10 and 11, in Appendix A).

When analyzing differences by state, findings indicated more Wisconsin school psychologists reported they had been to a professional training or in-service workshop on eating disorders and related risk factors than the Minnesota group ($X^2(1, n = 145) = 5.022, p < .05$). Results also indicated more Wisconsin school psychologists indicated school counselors had some expertise in eating disorders than the Minnesota group ($X^2(1, n = 146) = 6.107, p < .05$). Lastly, more Minnesota school psychologists indicated school social workers had some expertise in eating disorders than the Wisconsin group ($X^2(1, n$

= 146) = 4.533, $p < .05$). Refer to Table 12 (Appendix A) for specific percentages by item.

Finally, when looking at differences in the responses by gender, results indicated the male respondents differed from the female responses on three items. Findings indicated more females than males chose adolescence ($X^2(1, n = 150) = 5.227, p < .05$), being of the male gender ($X^2(1, n = 150) = 4.736, p < .05$), and participating in highly competitive athletics ($X^2(1, n = 150) = 10.542, p < .05$) as risk factors or group memberships associated eating disorders. More females also chose excessive exercise ($X^2(1, n = 150) = 15.452, p < .05$), damaged teeth and gums ($X^2(1, n = 150) = 15.452, p < .05$), Amenorrhea ($X^2(1, n = 150) = 6.238, p < .05$), brittle nails and hair ($X^2(1, n = 150) = 6.513, p < .05$), Lanugo ($X^2(1, n = 150) = 8.312, p < .05$), and depression ($X^2(1, n = 150) = 9.778, p < .05$) as signs or symptoms of anorexia and bulimia (See item 5; Appendix B). Lastly, more males than females said they had training or took a class on eating disorders in graduate school ($X^2(1, n = 149) = 6.000, p < .05$). Refer to Table 13 (Appendix A) for specific percentages by item.

Chapter 5: Summary and Discussion

Introduction

This chapter summarizes the findings and implications of results on school psychologists' knowledge, practice, and training as it relates to eating disorders. Important research findings are highlighted, along with limitations of this study. Implications for practice are also addressed.

Important Research Findings

Results indicated school psychologists generally believe they are "somewhat aware/knowledgeable" about the signs and symptoms of disordered eating. When asked to identify risk factors, signs and symptoms of eating disorders, the majority of participants were able to identify all pertinent variables. These results may be surprising considering only 6.5% of respondents indicated their school provided training or in-service workshops on eating disorders and their related risk factors.

Of the signs and symptoms, two appeared to be the most difficult for some of the respondents to identify: amenorrhea, and lanugo. Only 73.2% of respondents identified amenorrhea, while only 62.1% identified lanugo; indicating 26.8% and 37.9%, respectively, were incorrect. Of the options given, lanugo and amenorrhea are technical terms more commonly used by medical personnel. As such, the school psychologists may not be familiar with these terms.

One interesting finding was that most schools do not have screening and referral systems in place to address the needs of this population of students. Current estimates suggest that disordered eating is a significant problem, and may occur in 30% of girls and

16% of boys (Keca, 2004). Due to the reported prevalence of the disorder, it is concerning that systems are not in place within the schools to address this problem.

Other results indicated that only 2.0% of school psychologist indicated their school had a systematic plan for these students. Further, no school psychologists reported they had access to screening instruments to help with this population of students. Interestingly enough, only .05% of school psychologists identified they have access to the prevention, identification, and referral tools listed on the survey. According to the research, given the increasing rates of eating disorders over the past two decades, it is paramount to direct our focus toward *preventing* eating disorders (Shisslak, Crago, Neal, & Swain, 1987). Given the need for prevention and the lack of screening and referral tools, there appears to be a gap between what *should* be happening and available to these students, compared to the *realities* of current practice in the schools. Perhaps this is due to the lack of funding, time, or the resources required. Another possibility is that eating disorders are so secretive in nature that practitioners are not taking on this issue in the schools, but rather leaving it to the medical community to address. Whatever the reason, it is an issue that needs to be brought to the attention of those in the schools. As Keca (2004) asserted, when children or adolescents are suffering, they are consumed with thoughts of food and weight. Their preoccupation with food and weight can divert their thoughts away from what they are learning in school. Ultimately, children are at school to learn, and eating disorders can get in the way of that learning.

Survey results also indicate that most school psychologists (81.7%) identified the school nurse as someone in the school with expertise on eating disorders. After the school nurse, they identified themselves (school psychologists) as having some expertise

(64.1%). This is a fairly large number of school psychologists who believe they have some expertise, and therefore, could very well be of assistance in linking a student with resources to help address this problem.

Only a few differences were found between the practitioners from Wisconsin and Minnesota. More Wisconsin school psychologists reported they had been to a professional training or in-service workshop on eating disorders and their related risk factors. This outcome may have been due to the number of local trainings and professional development opportunities available in their position or in their area.

A few differences according to the state were found on who they identified as having some expertise on eating disorders. More Wisconsin school psychologists indicated school counselors have some expertise; while more Minnesota school psychologists indicated school social workers have some expertise. This may be due to the availability of these positions in their building, as well as the number of school counselors and/or school social workers in the state.

Survey results also indicated a few group differences by gender. Interestingly, more males reported they had received training or took a class on eating disorders during graduate school than did the females (69% versus 45.6%, respectively). Women also were better at identifying the following risk factors: adolescence and engaging in highly competitive athletics. Further, females were more likely to correctly identify the following signs/symptoms of eating disorders: excessive exercise, damaged teeth and gums, amenorrhea, brittle nails and hair, lanugo, and depression. Perhaps females are more knowledgeable about eating disorders because they occur more frequently in the female population. As such, female school psychologists may be more likely to know or

have contact with someone who has struggled with an eating disorder. Further, perhaps this knowledge was derived from female-oriented publications or magazines that addressed this topic.

Limitations of the Study

There were a few limitations to this study. The sample of respondents was restricted to two Midwestern states. This was done due to the close proximity to the researcher. A national sample would have been more beneficial as it would have provided a national perspective on practices in the schools related to eating disorders. A national sample would have also been better in generalizing the results to all school psychologists across the nation.

Another limitation to this study was the difference in the selection methods by state. As mentioned earlier in chapter three, a comprehensive list of school psychologists was obtained from the Wisconsin Department of Public Instruction. Since there is not a similar list available from the Minnesota Department of Education, a different method of obtaining names and e-mail addresses was used. It is not known if the difference in the method of choosing school psychologists impacted the findings in any way. However, post hoc chi-square analyses yielded no significant differences in the samples on the demographic items. As such, it is not likely that the group differences were due to demographic differences between the samples.

Another limitation of this study was related to one question of the survey (question 5, see Appendix B) when participants were asked, "What signs/symptoms are you aware of that are often associated with anorexia-nervosa and bulimia? (Choose all that apply)." No distracter items were provided on the list. All listed signs and/or

symptoms have been associated with an eating disorder diagnosis (Peters, Swassing, Butterfield, and McKay, 1984; Striegel-Moore & Bulik, 2007). It may have been beneficial to have included some distracting items in the list for participants to choose from, similar to question 4, in order to get a better idea of participant knowledge and levels of understanding in this area.

Implications for Future Research

A lack of knowledge about eating disorders as it relates to the practice of school psychologists exists. School psychologists are involved in many aspects in the school setting, addressing a variety of educational, behavioral, and psychological issues in the schools. There is not an abundant amount of research that gives us a clear understanding on how schools, and more specifically school psychologists, are addressing eating disorders. Future research on students struggling with eating disorders in the schools today and the role school psychologists are playing will be beneficial to our practice. It would also be helpful to better understand the barriers involved when addressing the problem of eating disorders in the schools. More research related to what is deemed as "best practice" compared to what is actually occurring in the schools would be very beneficial in identifying where the profession is and where it needs to be.

Implications for Practice

School-based professionals have the opportunity to get to know the children and adolescents in their schools in a unique way. School systems are in charge of educating children and teaching them discipline, as well as providing rules and boundaries for children from which to learn. School personnel have a unique opportunity as they are surrounded by the same children, five days of the week. Over time, many children come

to look up to school personnel and view them as important sources of support. This daily interaction with students is one reason why school personnel have the opportunity to notice changes in behaviors, mood, appearance, and, specifically, eating habits. Schools can bring about awareness, as well as screen for eating disorders among students who may be showing these signs of disordered eating. Although school personnel may not have the background information necessary to identify or provide interventions for eating disorders, school psychologists are in a perfect position to address these concerns and refer when necessary. Further, school psychologists can help educate other school personnel on how to help with these endeavors.

Results indicate that most schools do not have screening tools available. In addition, findings indicate most schools do not have a referral system in place for these students. It is important to bring awareness to this issue and help school personnel, more specifically school psychologists, understand their role and responsibility with this population of students.

It also appears that mental health providers in the schools may need more resources and/or knowledge regarding tools, intervention systems, and screening tools to utilize with this population of students.

Lastly, it appears that school psychologists were fairly knowledgeable regarding the signs and symptoms of eating disorders. Therefore, school psychologists may need to provide professional development opportunities in the schools to help teachers and other school personnel identify these signs and symptoms so they can make referrals for students who may be struggling with eating disorders.

Summary

Overall, the results of this study indicate that schools are not well prepared to address the needs of students with eating disorders. Very few school psychologists indicated their school had a systematic plan, screening instruments available, or access to prevention, identification, and referral tools. Although school psychologists appear to be fairly knowledgeable regarding risk factors, signs and symptoms, very few were involved in coordinating prevention efforts or participated in the referral plan.

Due to the highly detrimental affects associated with eating disorders (Shisslak, Crago, Neal, and Swain, 1987), practitioners cannot ignore or be unprepared in identifying eating disorders. School psychologists need to become acquainted with evidence-based prevention and intervention practices because they are in an optimal position to lead schools forward in identifying and preventing eating disorders in children and adolescents.

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Appendix A

Table 1

Total Respondent Demographics (N = 153)

Demographic	*n*	%
Gender		
Male	34	23.4%
Female	111	76.6%
State of Employment		
Minnesota	71	48.3%
Wisconsin	75	51.0%
Other	1	.7%
Years of Experience		
1 to 5 years	39	26.7%
6 to 14 years	55	37.7%
15+ years	52	35.6%
Degree		
Master's Degree	64	42.4%
Education Specialist	72	47.7%
Doctorate	14	9.3%
Other	1	.7 %
Ethnicity		
White/Caucasian	146	98.0%
Other	3	2.0%
School District		
Urban	35	23.3%
Suburban	81	54.0%
Rural	34	22.7%

Note. Respondent sample ranged from 145-151 by item.

Table 2

Minnesota Respondents (N = 71)

Demographic	*n*	%
Gender		
Male	16	22.5%
Female	55	77.5%
Years of Experience		
1 to 5 years	23	32.4%
6 to 14 years	27	38.0%
15+ years	21	29.6%
Type of School Building		
Elementary School	45	63.4%
Middle School	31	43.7%
High School	21	29.6%
K-12 Building	10	14.1%
Ethnicity		
White/Caucasian	67	97.1%
Other	2	2.9%
School District		
Urban	15	21.4%
Suburban	48	68.6%
Rural	7	10.0%
Certification		
NCSP	33	46.5%
Not NCSP	38	53.5%

Note. Respondent sample ranged from 69-71 by item. Some categories resulted in over 100% due to instructions to check all that apply.

Table 3

Wisconsin Respondents (N = 75)

Demographic	*n*	%
Gender		
Male	18	24.3%
Female	56	75.7%
Years of Experience		
1 to 5 years	16	21.3%
6 to 14 years	28	37.3%
15+ years	31	41.3%
Type of School Building		
Elementary School	52	69.3%
Middle School	29	38.7%
High School	23	30.7%
K-12 Building	13	17.3%
Ethnicity		
White/Caucasian	74	98.7%
Other	1	1.3%
School District		
Urban	19	25.3%
Suburban	31	41.3%
Rural	25	33.3%
Certification		
NCSP	26	34.7%
Not NCSP	49	65.3%

Note. Respondent sample ranged from 74-75 by item. Some categories resulted in over 100% due to instructions to check all that apply.

Table 4

Levels of Knowledge/Awareness (N = 153)

Awareness Factors	Mean	*SD*
Risk factors	3.24	.77
Signs and symptoms	3.42	.78

Note. The higher the mean score, the greater the knowledge. Mean scores were based on ratings ranging from 1 = "very limited or no knowledge" to 5 = "very knowledgeable."

Table 5

Endorsed Risk Factors and Group Memberships (N = 153)

Factors	*n*	Percentages
Low SES	15	9.8%
Caucasian	114	74.5%
African American	10	6.5%
Middle or Upper SES	114	74.5%
Adolescence	144	94.1%
Late Adulthood	20	13.1%
Male	47	30.7%
Female	147	96.1%
Competitive Athletics	110	71.9%
Perfectionistic Traits	149	97.4%
Family Member with Eating Disorder	114	74.5%

Table 6

Endorsed Signs and Symptoms (N =153)

Factors	*n*	Percentages
Excessive Exercise	142	92.8%
Weight Loss	151	98.7%
Damaged Teeth and Gums	147	96.1%
Severe Dietary Restrictions	139	90.8%
Amenorrhea	112	73.2%
Brittle Nails and Hair	133	86.9%
Over-evaluations of Thinness/Weight	147	96.1%
Binge Eating	148	96.7%
Secretive Behaviors	145	94.8%
Lanugo	95	62.1%
Depression	133	86.9%

Table 7

Practices and Programs in the Schools (N = 153)

Type of Program	*n*	Percentages
Systematic Plan	3	2.0%
Screening Instruments	0	0%
Referral Systems	55	35.9%
Access to Prevention, Identification, and Referral Tools	8	.05%

Table 8

School-based Personnel Who Coordinate Prevention Efforts (N =153)

School Personnel	*n*	Percentages
School Psychologist	1	.7%
School Counselor	2	1.3%
School Nurse	2	1.3%
School Social Worker	2	1.3%
Principal/Vice Principal	0	0%
Other	0	0%

Table 9

School-based Personnel Involved in the Referral Plan (N =153)

School Personnel	*n*	Percentages
School Psychologist	38	24.8%
School Counselor	45	29.4%
School Nurse	50	32.7%
School Social Worker	29	19%
Principal/Vice Principal	26	17%
Teacher	32	20.9%
Other	4	2.8%

Table 10

Levels of Knowledge/Awareness by State (N = 224)

Type of Knowledge	MN		WI	
	Mean	*SD*	Mean	*SD*
Risk Factors	3.20	.62	3.28	.88
Signs and Symptoms	3.41	.75	3.44	.83

Note. The higher the mean score, the greater the knowledge. Mean scores were based on ratings ranging from 1 = "very limited or no knowledge" to 5 = "very knowledgeable." No significant differences by state were found.

Table 11

Levels of Knowledge/Awareness by Gender (N = 224)

Type of Knowledge	Male		Female	
	Mean	*SD*	Mean	*SD*
Risk Factors	3.17	.81	3.25	.74
Signs and Symptoms	3.31	.79	3.44	.78

Note. The higher the mean score, the greater the knowledge. Mean scores were based on ratings ranging from 1 = "very limited or no knowledge" to 5 = "very knowledgeable." No significant differences by gender were found.

Table 12

Significant Differences by State (N = 153)

Item	MN	WI
Been to a professional training or presentation	40.8%	58.7%
Identified school counselors as having expertise in eating disorders	50.7%	70.7%
Identified school social workers as having expertise in eating disorders	53.5%	36.0%

Table 13

Significant Differences by Gender (N = 153)

Mode of Preparation	Male	Female
Adolescence is a risk factor	86.1%	96.5%
Male gender is at-risk group	16.7%	36.0%
Engaging in highly competitive athletics is a risk factor	50.0%	78.1%
Excessive exercise is a sign/symptom	77.8%	97.4%
Damaged teeth and gums is a sign/symptom	88.9%	98.2%
Amenorrhea is a sign/symptom	47.2%	81.6%
Brittle nails and hair is a sign/symptom	75.0%	91.2%
Lanugo is a sign/symptom	41.7%	68.4%
Depression as a sign/symptom	72.2%	92.1%
Received training or took a class on eating disorders during graduate school	69.4%	45.6%

Appendix B

Consent to Participate In UW-Stout Approved Research

April 1, 2009

Dear School Psychologist:

I am writing today to request your participation in an online survey about **eating disorder prevention and intervention efforts** at your school. I am conducting this survey as part of my final research requirements for an Education Specialist Degree in School Psychology at the University of Wisconsin-Stout.

While your participation in this research is entirely voluntary, I hope that you will choose to participate in this study. Completion of the survey should take no more than 15-20 minutes.

Although much as been written about eating disorders in clinical settings, very little information is available about school-based assessment, prevention, and intervention efforts. Furthermore, there is little work on school psychologists' perspectives regarding this issue. In order to best meet the needs of students who struggle with eating disorders, it is vital to gain information from those working directly in the schools. The purpose of this study is to gather information from school psychologists about their knowledge of eating disorders and eating disorder behaviors, and to identify current efforts related to the prevention and intervention of these problems among youth.

Spring is often a very busy time for school psychologists! As such, we would be grateful to you for taking the 15-20 minutes needed to complete and return the survey. As a token of our appreciation, we are offering a raffle for a **$40 GIFT CERTIFICATE FOR Amazon.com**. If you choose to participate and would like to be entered in a raffle drawing, please email your name and address to fjellandl@uwstout.edu.

If you choose to participate, please complete the following survey. All responses will remain confidential, and only group results will be reported. Your answers will not be matched with your name. Participation will not affect your relationship with our university or your school district. Completing the survey will not result in any harm, although some people may feel uncomfortable answering some of the questions. Furthermore, you may choose to stop at any time during your participation.

Thank you in advance for your help! Please feel free to contact me at fjellandl@uwstout.edu with any questions regarding this study, or you may contact my thesis advisor, Jackie Weissenburger at weissenburgerj@uwstout.edu or (715) 232-1088.

Sincerely,

Lindsay Fjelland, M.S.Ed.
School Psychology Graduate Student
UW-Stout Educational Specialist Candidate

Jackie Weissenburger, Ph.D.
Director, School of Education
University of Wisconsin Stout

Informed Consent:
I understand that by completing the online survey, I am giving my informed consent as a participant in this study. I understand the basic nature of the study and agree that any potential risks are exceedingly small. I also understand that the potential benefits that might be realized from the successful completion of this study. I am aware that the information is being sought in a specific manner so that only minimal identifiers are necessary and so that confidentiality is guaranteed. I realize that I have the right to refuse to participate and that my right to withdraw from participation at any time during the study will be respected with no coercion or prejudice. Additionally, I understand that the results of the study will only be reported on a group basis. Questions or concerns about participation in the study or subsequent complaints should first be addressed to the researcher or research advisor, Lindsay Fjelland or Jackie Weissenburger, and second to

Sue Foxwell, Director, UW-Stout Institutional Review Board for the Protection of Human Subjects in Research, 152 Vocational Rehabilitation Bldg., Menomonie, WI 54751, 715-232-2477, foxwells@uwstout.edu.group basis. Questions or concerns about participation in the study or subsequent complaints should first be addressed to the researcher or research advisor, Lindsay Fjelland or Crystal Cullerton-Sen, and second to Sue Foxwell, Director, UW-Stout Institutional Review Board for the Protection of Human Subjects in Research, 152 Vocational Rehabilitation Bldg., Menomonie, WI 54751, 715-232-2477, foxwells@uwstout.edu.

Appendix C

This research has been approved by the UW-Stout IRB as required by the Code of Federal Regulations Title 45 Part 46.

Eating Disorder Prevention and Intervention Survey

Please take less than 10 minutes to complete the following questions. Please answer honestly and to the best of your knowledge.

1. On a scale from 1 to 5, to what extent do you think eating disorders are a problem among children and adolescents at your school(s)?

1	2	3	4	5
Not really a problem		Somewhat a problem		It is a big problem

2. On a scale from 1 to 5, how knowledgeable are you about risk factors associated with eating disorders?

1	2	3	4	5
Have very limited or no knowledge about risk factors		Have some knowledge of risk factors		Am very knowledgeable of risk factors

3. On a scale from 1 to 5, how knowledgeable are you about the signs and symptoms of eating disorders?

1	2	3	4	5
Have very limited or no knowledge about signs and symptoms		Have some knowledge of signs and symptoms		Am very knowledgeable of signs and symptoms

4. What risk factors and/or group memberships are you aware of that are associated with eating disorders? (i.e., anorexia-nervosa, bulimia) (Choose all that apply):

☐ Low socioeconomic status (SES)
☐ Caucasian
☐ African American
☐ Middle or upper middle SES
☐ Adolescence
☐ Late adulthood
☐ Male
☐ Female
☐ Participation in highly competitive athletic activities
☐ Perfectionist traits
☐ Mother or close family member has eating disorder

5. What signs/symptoms are you aware of that are often associated with anorexia-nervosa and bulimia? (Choose all that apply):

☐ Excessive exercise
☐ Weight loss
☐ Damaged teeth and gums
☐ Severe dietary restriction
☐ Amenorrhea
☐ Brittle nails and hair
☐ Over-evaluations of thinness, weight, or shape
☐ Binge eating
☐ Secretive behaviors
☐ Lanugo (baby-fine hair covering the body)
☐ Depression

6. Does your school currently have and use a systematic plan or program for preventing eating disorders/problems among students? **(If you answer No, skip to #11)**

☐ Yes ☐ No ☐ I choose not to respond

7. Which items describe your prevention plan/program? (Choose all that apply):

☐ Secondary prevention efforts (programs provided to high-risk individuals)
☐ Universal screening programs to identify students at risk for eating disorders
☐ Programs that include interactive/hands-on activities
☐ Special attention paid to female students
☐ Programs comprised of multiple sessions
☐ Programs that use validated instruments to evaluate program effectiveness

8. Who in your school(s) is(are) responsible for coordinating the prevention plan or program? (Choose all that apply):

☐ School psychologist
☐ School counselor
☐ School nurse
☐ School social worker
☐ Principal/Vice principal
☐ Other, please specify _____

9. What is the type of involvement of the school psychologist in the systematic plan or program for preventing eating disorders/problems among students? (Choose all that apply):

☐ Consults with personnel regarding school policies on eating disorders
☐ Organizes/implements in-service training on eating disorders to school staff
☐ Provides resources on healthy eating available for students
☐ Assists in implementing curricula on healthy eating
☐ Implements universal screening measures to identify at-risk students
☐ Organizes/implements Eating Disorders Awareness Month
☐ Other, please specify: _____

10. What screening instruments are used to identify students who may be at risk for eating disorders, if any? (Choose all that apply):

☐ Eating Disorder Inventory (EDI)/Eating Disorder Inventory 3 (EDI-3)
☐ Eating Attitudes Test (EAT)
☐ Eating Attitudes Test 26 (EAT-26)
☐ Children's Eating Attitudes Test (ChEAT)
☐ None
☐ Other, please specify: _____

11. Please check if your school currently has a referral system (or systematic plan) for students who show signs of problematic eating behavior? **(If you answer No, skip to #16)**

☐ Yes ☐ No ☐ I choose not to respond

12. What is your level of involvement, as the school psychologist, related to student referrals because of eating disorders?

1 Not Involved (Not involved with any eating disorder referrals)	2	3 Somewhat Involved (I do some of the work with students referred for possible eating disorders)	4	5 Very Involved (I am the "go to" person for referrals, consultation, and recommendations for students with possible eating disorders)

13. Which school members are involved in the referral plan? (Choose all that apply):

☐ School psychologist
☐ School counselor
☐ School nurse
☐ Other, please specify: _____
☐ Principal/Vice principal
☐ Teachers
☐ School social worker

14. Who typically refers students suspected of an eating problem? (Choose all that apply):

☐ School psychologist
☐ School counselor
☐ School nurse
☐ Parent/guardian
☐ Principal/Vice principal
☐ Teachers
☐ School social worker
☐ Other, please specify: _____

15. How are referrals typically made? (Choose all that apply):

☐ Pre-referral meetings
☐ Problem solving meetings with staff
☐ Teacher referrals
☐ Other, please specify: _____
☐ IEP meetings
☐ Parent referrals
☐ Staff meetings

16. Have you ever been to a professional training or presentation on eating disorders (e.g., at a local, state, or national conference or convention)?

☐ Yes ☐ No

17. Does (do) your school(s) provide training or in-service workshops on eating disorders and related risk factors to teachers/staff?

☐ Yes ☐ No

18. Did you receive training or take a class that covered eating disorders during graduate school?

☐ Yes ☐ No

19. Does (do) your school(s) have access to the following prevention, identification, or referral resources? (Choose all that apply):

☐ Eating Disorder Inventory (EDI)/Eating Disorder Inventory 3 (EDI-3)
☐ Children's Eating Attitudes Test (ChEAT)
☐ Eating Attitudes Test 26 (EAT-26)
☐ Eating Attitudes Test (EAT)
☐ Do not have access
☐ Other, please specify: _____

20. Of the personnel with whom you work, who of the following have some expertise in eating disorders? (Check all that apply):

☐ School psychologist
☐ School counselor
☐ School nurse
☐ Other, please specify: _____
☐ Principal/Vice principal
☐ Teachers
☐ School social worker

21. About how many pre-referral, problem solving meetings did you attend in the last year?

_____

22. About how many pre-referral, problem solving meetings involved a student struggling with eating problems?

_____

23. Please choose those community resources you have available to help you with your prevention/identification programming efforts in this area (Choose all that apply):

☐ Funding for programming
☐ Time for programming
☐ Programs related to healthy lifestyles, eating, and/or exercise
☐ Staff to implement programming
☐ District and administrator support to implement programming
☐ Do not have community resources available

24. Please include your comments on the struggles or successes you have had with assessment, prevention, and intervention efforts for addressing eating disorders in your school(s): _____
_____
_____
_____
_____

Please answer the below demographic questions:

25. Your years of experience as a school psychologist: _____

26. Your years of experience in a related field (e.g., mental health counselor, school counselor, social worker): _____

27. Your highest degree: _____

28. Your graduate school: _____

29. Your state of employment: _____

30. Your gender:

☐ Male ☐ Female

31. Your ethnicity:

☐ White/Caucasian ☐ Black/African American
☐ Asian American ☐ Pacific Islander
☐ Native American ☐ Hispanic/Latino
☐ Other, please specify: _____

32. Your employment status:

☐ Full time ☐ Part time

33. Approximately, how many students are in your district or agency?

☐ 1-500 ☐ 501-1000 ☐ 1001-1500 ☐ 1501-2000
☐ 2001-2500 ☐ 2501-3000 ☐ 3000+

34. Approximately, what is the psychologist to student ratio in your district or agency? (If you are unsure, please take your best guess):

☐ 1:500 ☐ 1:501-1000 ☐ 1:1001-1500 ☐ 1:1501-2000
☐ 1:2001-2500 ☐ 1:2501-3000 ☐ 1:3000+

35. Please characterize the type of school district in which you work:

☐ Rural ☐ Suburban ☐ Urban

36. Please indicate the type of school building(s) in which you work (Choose all that apply):

☐ Elementary ☐ Middle School ☐ High School ☐ K-12

37. Please indicate your type of certification or licensure (Choose all that apply):

☐ NCSP ☐ State certified as a school psychologist
☐ Other, please specify: _____

38. How many schools do you serve? _____