

**Disordered eating and psychological help-seeking: The role of perceptions of need**

by

**LeAnn Mills Waterhouse**

A dissertation submitted to the graduate faculty  
in partial fulfillment of the requirements for the degree of

**DOCTOR OF PHILOSOPHY**

Major: Psychology (Counseling Psychology)

Program of Study Committee:  
Lisa M. Larson, Major Professor  
Daniel Russell  
Norman Scott  
David Vogel  
Meifen Wei

Iowa State University

Ames, Iowa

2012

Copyright © LeAnn Mills Waterhouse, 2012. All rights reserved

## Table of Contents

List of Tables	iv
List of Figures	vi
Abstract	vii
Chapter 1. Introduction	1
Chapter 2. Review of the Literature	6
Chapter 3. Method	57
Chapter 4. Results	70
Chapter 5. Discussion	90
References	112
Tables	125
Appendix A Eating Attitudes Test-26	139
Appendix B Email Communications	140
Appendix C SONA Posting Form	142
Appendix D Informed Consent Form	143
Appendix E Demographic Questions	149
Appendix F Clinical Outcomes in Routine Evaluation – SF	147
Appendix G Illness Perception Questionnaire – Revised	148
Appendix H Sociocultural Attitudes Towards Appearance Questionnaire	153
Appendix I Decisional Balance Scale for Anorexia - Revised	155
Appendix J Attitudes Towards Seeking Professional Psychological Help	157
Appendix K Help-Seeking Behavior Items	158
Appendix L “Something Fishy” Homepage	159

Appendix M	Student Counseling Service Homepage	160
Appendix N	Debriefing Form	161
Appendix O	Institutional Review Board Approval of Study	162

### List of Tables

Table 1	Descriptive Statistics for Complete Sample	125
Table 2	Descriptive Statistics Split by Whether or Not Participant Meets Clinical Criteria	126
Table 3	Descriptive Statistics Split by Whether or Not Participant Wanted to View Online Eating Issues Information	127
Table 4	Descriptive Statistics Split by Whether or Not Participant Wanted to be Directed to Schedule a Counseling Appointment	128
Table 5	Correlations Among Demographics and Constructs	129
Table 6	Analyses with Constructs	130
Table 7	Hierarchical Multiple Regression Results with IPQ-R (insight) as a Moderator	131
Table 8	Binary Logistic Regression Model Results with IPQ-R (insight) as a moderator	131
Table 9	Binary Logistic Regression Variable Results predicting desire to view online information about disordered eating with IPQ-R (insight) as a Moderator	131
Table 10	Binary Logistic Regression Variable Results predicting desire to schedule a counseling appointment with IPQ-R (insight) as a Moderator	132
Table 11	Hierarchical Multiple Regression Results with SATAQ as a Moderator	132
Table 12	Binary Logistic Regression Model Results with SATAQ as a Moderator	132
Table 13	Binary Logistic Regression Variable Results predicting desire to view online information about disordered eating with SATAQ as a Moderator	133
Table 14	Binary Logistic Regression Variable Results predicting desire to schedule a counseling appointment with SATAQ as a Moderator	133
Table 15	Hierarchical Multiple Regression Results with DBS-Benefits as a Moderator	133
Table 16	Binary Logistic Regression Model Results with DBS-Benefits as a Moderator	134
Table 17	Binary Logistic Regression Variable Results predicting desire to view online information about disordered eating with DBS-Benefits as a Moderator	134

Table 18	Binary Logistic Regression Variable Results predicting desire to schedule a counseling appointment with DBS-Benefits as a Moderator	134
Table 19	Regression Results with DBS-Burdens as a Moderator	135
Table 20	Contributing Variables of Significant Regression Predicting ATSPPHS	135
Table 21	Binary Logistic Regression Model Results with DBS-Burdens as a Moderator	135
Table 22	Binary Logistic Regression Variable Results predicting desire to view online information about disordered eating with DBS-Burdens as a Moderator	136
Table 23	Binary Logistic Regression Variable Results predicting desire to schedule a counseling appointment with DBS-Burdens as a Moderator	136
Table 24	Regression Results with DBS- Functional Avoidance as a Moderator	136
Table 25	Binary Logistic Regression Model Results with DBS-Functional Avoidance as a Moderator	137
Table 26	Binary Logistic Regression Variable Results predicting desire to view online information about disordered eating with DBS-Functional Avoidance as a Moderator	137
Table 27	Binary Logistic Regression Variable Results predicting desire to schedule a counseling appointment with DBS-Functional Avoidance as a Moderator	138

**List of Figures**

Figure 1	Andersen and Newman's model of help-seeking behavior (1973)	8
----------	---	---

## **Abstract**

Although there has been a substantial amount of research done to examine general psychological help seeking, very little of this research has focused on disordered eating. Additionally, most research about disordered eating is conducted with women who are already seeking help. The present study examines the impact of a woman's perceived need on her willingness to seek help. Participants are 249 women at a large Upper Midwestern University who have reported mild to moderate eating issues. Multiple hierarchical regression and binary logistic regression were used to test moderation hypotheses on three measures of help-seeking (attitudes, desire to view online information about disordered eating, desire to schedule a counseling appointment). Moderation hypotheses were not supported, however results indicate that general psychological distress, perceived drawbacks to the disorder, and perceived functional avoidance did contribute to some models. Discussion emphasizes the need for a larger sample size, more research with participants who have disordered eating but are not yet in counseling, and importance of mean differences and correlations.

## Chapter 1. Introduction

Eating disorders like Anorexia and Bulimia are experienced by a frighteningly large percentage of college aged women. Research indicates that, at any one point, 5-15% of college aged women have symptoms consistent with the diagnosis of an eating disorder and an additional 20-35% report eating disorder traits that impact functioning (Meyer, 2001; Meyer, 2005; Prouty, Protinsky, & Canady, 2002). Despite the substantial number of college-aged women who struggle with disordered eating behaviors and attitudes, few women seek help for these concerns (Cachelin, Rebeck, Veisel, & Striegel-Moore, 2000; Meyer, 2001; Meyer, 2005). For example, Meyer (2005) sampled a group of 294 college women and found that, of the 32 women reporting significant disordered eating only 5 were currently in counseling for this concern. Additionally, of the additional 74 women with mild to moderate disordered eating behavior and attitudes, only 2 women were seeking therapy for this concern. In a recent 8-year longitudinal study, Stice, Marti, Shaw, and Jaconis (2009) found that 12% of girls have some form of eating disorder between the ages of 12 and 20

While the prevalence of the disorder alone is disturbing, the prevalence combined with the impact of the disorder is even more so. In a meta-analysis of 42 published articles, Sullivan (1995) reported a mortality rate of 5.6% per decade, or .56% per year. This means that every year approximately one out of every 200 people diagnosed with Anorexia Nervosa will die from the disorder. Even individuals who recover from an eating disorder can have long-standing physical concerns including heart, liver, and kidney problems, dental decay, irreversible bone loss, and mental health diagnoses.

There is a need for more research on eating disorders in general, and for eating disorder help-seeking in particular. One of the first steps to helping someone with an eating disorder is getting him or her in to treatment. Intervention and empirically supported treatment studies are valuable, however the information these researchers gather doesn't become helpful until the individual struggling is actually seeking help. Eating disorders are a relatively new diagnosis and were first put in the Diagnostic and Statistical Manual of Mental Disorders III in 1980; the "newness" of the disorder likely contributes to the shortage of research. When searching in PsychInfo for help seeking and depression ("help-seeking," "help seek" or "seek treatment" + "depression," all in the abstract) the search returns 415 peer reviewed journal articles. In contrast, when searching for help seeking and eating disorders ("help-seeking," "help seek" or "seek treatment" + "eating disorder" or "disordered eating," all in abstract) only 15 peer reviewed journal articles are found. Clearly there is a large disparity.

To compound this problem, much of the existing research that can be applied to help-seeking for an eating disorder includes only samples of women already in treatment (Cachelin et al., 2000; Cachelin, Striegel-Moore, & Regan, 2006; Keel et al., 2002; Goodwin & Fitzgibbon, 2002). Researchers sample groups of women who are currently in treatment to understand what helped them seek treatment or what kept them out of treatment in the past; only a few studies have sampled a group of women with eating concerns who are not currently in treatment to find predictors of their help-seeking attitudes, or intentions (Meyer, 2001; Meyer 2005).

There is also reason to question whether research on other mental health disorders can generalize to eating disorders. Some mild disordered eating behavior is endorsed by

society (caloric or food group restriction, excessive exercise); this is not true in the same way for most other mental health disorders. Additionally, some existing research demonstrates that the experience of having an eating disorder is unique compared to other mental health diagnoses. Specifically, research on the experience of benefits and drawbacks of eating disorders has revealed a 3-factor solution (including benefits, drawbacks, and the disorder's function to avoid problems) where research with all other disorders has revealed a 2-factor solution to this construct (benefits and drawbacks, Cockell, Geller, & Linden, 2003). Clearly, the experience of having an eating disorder is different from the experience of having other disorders; it seems possible, then, that the choice to seek help or not seek help may also happen differently.

One model for help-seeking was developed in the 1970s by Anderson and Newman (1973) to better understand medical help-seeking. These authors suggest that three primary factors contribute to an individual's choice to seek help: predisposing characteristics, enabling resources, and need. When it comes to predicting help-seeking *behavior*, we primarily have information about the predisposing characteristics (primarily demographics; Parslow & Jorm, 2000; Wang et al., 2005a) and enabling resources (finances, support, health insurance; Carragher et al., 2010; Harman et al., 2004; Young et al., 2001; Vasiliadis et al., 2007); we don't have as much information about how need predicts help-seeking for a mental health concern.

According to Anderson and Newman's theory, need (evaluated and perceived) is an important predictive factor; if an individual does not have a problem (evaluated need) or doesn't believe they have a problem (perceived need) they will almost certainly not attend counseling for a problem. For individuals with an eating disorder, perceived need

seems particularly salient. If an individual believes that their behavior is “normal” or sanctioned by society, they will likely not perceive a need. Additionally, if an individual is not feeling distressed by the drawbacks of their disorder (or is enjoying the benefits of the disorder) they may not perceive a need for help. Finally, if an individual is aware that they are in distress, but have not yet gained insight into the fact that aspects of their distress (ex: depressed mood, avoidance of food, low self-esteem, obsessive thoughts) are linked, it seems unlikely they will seek help.

Much of the existing literature on help-seeking that examined need as a predictor, measured help-seeking behavior through a proxy, like intent, willingness, or attitudes about help-seeking (Meyer, 2001; Meyer, 2005). There is a need for research that examines behavior rather than self-report intent, willingness, or attitudes. The present study aimed to address several of the needs in the literature. First, this study intended to add to the literature on help-seeking behavior for an eating disorder; as opposed to self-report willingness/intent/attitudes, individuals actually demonstrated a desire (or lack of desire) to learn more about eating concerns or schedule a counseling appointment by clicking on a link. Second, this study examined the impact of perceived need on the relation between severity and help-seeking behavior. Individuals completed self-report measures about several factors related to perceived need (internalization of societal beauty norms, benefits and burdens of the disorder, insight into the fact that their varied symptoms are related to a core eating problem). Third, this study sampled women who were not in treatment and with varied eating concerns – ranging from fully fitting an eating disorder diagnosis to mild/moderate problems with eating behaviors and body image. In this way, the present study gathered more information about a frequently

targeted population - individuals who are not in treatment, but would likely benefit from counseling. Information gathered from this study can provide the field with information about who is and is not willing to seek help; it can also provide information that outreach coordinators and counselors can use to adjust perceptions of need and encourage counseling for eating concerns.

In the present study I hypothesized that the degree of eating concerns will predict three forms of help seeking (attitudes toward psychological help seeking, desire to learn about eating concerns and their treatment, and desire to learn about how to schedule a therapy appointment). Additionally, I hypothesized that five aspects of perceived need will moderate the relation between eating concerns and help seeking. Specifically, it was hypothesized that a greater reported value of insight about their eating concerns, burdens of the eating concerns, and awareness of the function the disorder serves to avoid discomfort would be related to reporting more willingness to seek help while greater reported benefits of their eating concerns and internalization of cultural beauty norms will be related to reporting less willingness to seek help.

## Chapter 2. Literature Review

The purpose of this literature review was to summarize the existing information on help-seeking behavior as it applies to general mental health concerns as well as a specific population of individuals at risk for an eating disorder and to summarize a category of person-related factors (perception of the disorder) that may be particularly impactful on help-seeking for individuals with disordered eating behavior/attitudes. There are five sections addressing help seeking in general, eating disorder background and help-seeking, internalization of societal beauty norms, decisional balance, and cognitive representations of the disorder.

### Help Seeking in General

Many individuals who need professional psychological help never choose to seek this help (Cachelin, Rebeck, Veisel, & Striegel-Moore, 2000; Meyer, 2001; Meyer, 2005). Researchers have begun to address this issue by exploring barriers and facilitative factors to seeking help. Because gathering information on actual behavior is quite challenging, much of the existing research predicts *attitudes* about help-seeking or reported *intent/willingness* to seek help, as these two constructs are theorized to be predictors of actual behavior. In this section of the review, I will explore predictors of help-seeking behavior and attitudes/intent separately. Predictors of help-seeking can fall into multiple categories. One model of help seeking suggests that help-seeking behavior can be predicted with information from three categories: predisposing characteristics, enabling resources, and need (Andersen, 1995, 1968).

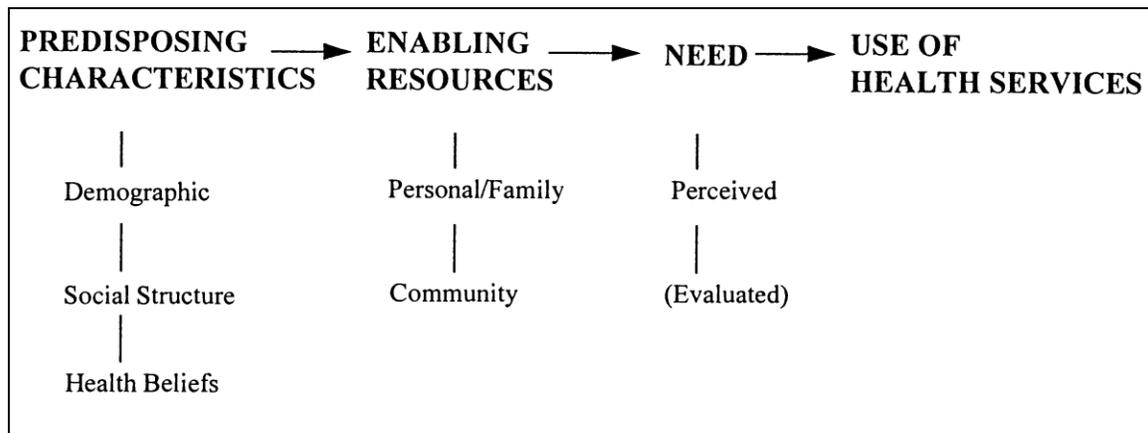
**Anderson's behavioral model.** To predict medical help-seeking, Andersen and Newman (1973) proposed a basic model including three constructs: predisposing

characteristics, enabling resources, and need. This model has been widely used and, in fact, applied to help-seeking for mental health at least as frequently as for physical health (Andersen, 1995). Throughout the years the model has been expanded beyond the original three predictors (grouped into “personal characteristics”) to include larger external factors – like the overall healthcare system, and outcome factors – like satisfaction and perceived health. Because the present study aims to predict initial help-seeking behavior (as opposed to more cyclical physical health help-seeking, as the most recent model predicts), this review will focus on the original model.

The first predicting factor proposed by Andersen and Newman (1973) is predisposing characteristics (see Figure 1). Three sub-categories comprised predisposing characteristics including demographics (age, gender), social structure (education, occupation, ethnicity), and health beliefs (attitudes, values, and knowledge regarding health and healthcare). The author suggested that demographic characteristics predicted medical help-seeking behavior because they could predict a person’s potential health problems – older people are more likely to seek health care, as they are also more likely to be ill. Predisposing characteristics discussed frequently in the mental health help-seeking literature are similar to those originally proposed in this medical model: age, gender, race/ethnicity, and occupation as well as constructs not originally included such as stigma of counseling, comfort with personal disclosure, and area of residence (rural vs. urban).

The second factor, enabling resources, includes both personal and community resources (Andersen and Newman, 1973, see Figure 1). In order to seek help, a helper (hospital, counselor, treatment facility) must be available. Personal resources are also

theorized to predict help-seeking behavior. These originally included health insurance, time off work, transportation, and money. Additional personal resources could include



*Figure 1.* Andersen and Newman's model of help-seeking behavior (1973)

psychological strength (needed to admit a problem, find treatment options, etc), and social support.

Need is the final predicting factor, and includes evaluated and perceived need (Andersen and Newman, 1973, see Figure 1). Evaluated need seems an obvious predictor – someone with no physical (or mental) health need ought not be seeking services. Additionally, if they do originally seek services, but learn that their concerns are not serious enough to warrant treatment, they will be unlikely to continue treatment. Perceived need, on the other hand, is a more complicated factor. Whether objectively true or not, if an individual does not believe he/she has problem, there would be no reason to seek help. Many diverse factors can contribute to perceived need, especially in the case of psychological help-seeking. Measured constructs have included severity of the disorder, frequency of symptoms, level of functioning, benefits and burdens of the disorder, and attribution of distress to an illness.

The remainder of this section will be divided into sections based on what is predicted (behavior or attitudes/intent) and further divided by the three predictors theorized by Andersen and Newman (1973).

***Behavior.*** Much of the help-seeking behavior literature comes from large epidemiological studies, where individuals are interviewed to determine any diagnoses and then asked about help they have sought for these problems. In these studies, “help-seeking” only includes seeking professional help for a psychological concern. This can include help from a general practice doctor, psychologist, psychiatrist, or other mental health professional. “Help-seeking” does not include visiting a doctor for non-mental-health issues or talking with friends or family about one’s mental health concerns.

As an example, one such study, specifically looking at help-seeking for depression, used latent class analysis to understand behavior (Carragher, Adamson, Bunting, and McCann, 2010). With a sample of over 7,000 individuals with a lifetime diagnosis of Major Depressive Disorder, the authors found that approximately one-third of the sample received very little to no help for their diagnosis. Additionally, they found that males were less likely to be in the partially- or highly-active treatment categories, as were racial/ethnic minorities, individuals in lower socioeconomic groups, and individuals without health insurance (Carragher, et al., 2010).

***Predisposing characteristics.*** A good portion of the literature on help-seeking behavior has focused on predisposing characteristics. Researchers have found that many demographic variables including biological sex, age, marital status, and race/ethnicity play a role in someone’s help-seeking behavior for a mental health concern (Carragher, et al., 2010; Parslow & Jorm, 2000; Wang et al., 2005a; Wang et al., 2005b).

*Biological Sex.* Gender has been shown to predict whether or not an individual seeks counseling. Women are more likely to seek counseling than men. In a survey of 10,641 adults, Andrews, Issakidis, and Carter (2001) found that women were 60% more likely to use mental health services than men (odds ratio = 1.6). In eight out of an additional nine epidemiological studies, sex was a significant predictor of whether or not a person had sought help for a mental health disorder in the past twelve months (Bergeron, Poirier, Fournier, Roberge, & Barrette, 2005; Bland, Newman, & Orn, 1997; Carragher, et al., 2010; Parslow & Jorm, 2000; Rhodes, Goering, To, & Williams, 2002; Sareen, Cox, Afifi, Yu, & Stein, 2005; Wang et al., 2005b; Young, Klap, Sherbourne, & Wells, 2001). The disorders included for study typically were mood disorder, anxiety disorder, and substance abuse. These nine studies included samples ranging in size from 1,092 to 125,000 adolescent and adult participants; most samples were approx 2,000 or approx 10,000 participants. Authors of these studies reported odds ratios, logistical regression, and and bivariate analyses. One of the nine studies found no significant effect of sex in a sample of 1,956 individuals with a mood disorder (Wang et al., 2005a).

*Age.* A second demographic variable predicting help-seeking that has been explored is age. Researchers have found age to have a significant effect. However, there is conflicting evidence about which age groups are most likely to seek help. Out of eight studies, reported in seven articles reviewed here, seven studies reported a significant effect of age (Bland et al., 2005; Carragher et al., 2010; Parslow & Jorm, 2002; Sareen et al., 2005; Wang et al., 2005a; Wang et al., 2005b). One, however, reported that age only a nearly significant effect ( $\chi^2 = 8.78, p = .07$ , Rhodes et al., 2002). Sample sizes ranged

from 1,964 to 125,493 adolescent and adult individuals. reported odds ratios, basic logistical regression, Pearson's correlations and bivariate analyses.

There is inconsistency in the literature with regards to the relation of age and help-seeking behavior. Some authors choose to examine age as a continuous variable while others choose to create categories. Additionally, researchers who examine age as a categorical variable rarely create the same categories. For example, one study breaks age into two groups of people under age 45 and those 45 and older (Bland et al., 1997) while another study divided the sample into quintiles (Rhodes et al., 2002). Of the seven studies that found significant relations between age and help-seeking behavior, three authors reported that "younger" people (either under age 45, or using age as a continuous variable) were more likely to seek help than "older" people, defined as either over age 45, over age 60, or using age as a continuous variable (Bland et al., 1997; Parslow & Jorm, 2000; Wang et al., 2005b) two authors found that individuals in the mid-range (age 30-50) were more likely to seek help than those either younger or older (Sareen et al., 2005; Wang et al., 2005a), and two authors reported that individuals age 46 or older were more likely to seek help than individuals under age 46 (Carragher et al., 2010; Wang et al., 2005a). While there is no distinct pattern to these inconsistent results, it does seem that in samples of individuals with general mental health concerns, being younger was related with a higher likelihood of seeking treatment (Parslow & Jorm, 2000; Wang et al., 2005b), while in samples of individuals with a mood disorder, being older was related with a higher likelihood of seeking treatment (Carragher et al., 2010; Wang et al., 2005a).

Two of these studies were reported in the same article, with different results (Wang et al., 2005a). Interestingly, there was a significant effect of age for participants

with Bipolar disorder such that the oldest group (age 46+) was most likely to seek help, however for participants with Major Depressive Disorder, individuals in the mid-age group (age 26-45) were most likely to seek help (Wang et al., 2005a).

*Marital Status.* Research demonstrates that, in general, individuals who are married are less likely to seek help than those who are not (Carragher, et al., 2010, Jackson et al., 2007). In six samples, authors of five articles reported a significant relation between marital status and mental-health help-seeking behavior (Bergeron et al., 2005; Parslow & Jorm, 2000; Rhodes et al., 2002; Sareen et al., 2005; Wells, Robins, Bushnell, Jarosz, & Oakley-Browne, 1994) and one reported no significant relation (Wang et al., 2005a). Samples ranged from 1,092 to 125,493 adolescent and adult participants; most samples were between 2,000 and 10,000 adult participants. Authors reported odds ratios, basic logistical regression, and Pearson's correlation statistics. Some researchers broke their sample down beyond married and unmarried participants to include divorced, separated, widowed, and co-habiting unmarried individuals.

Typically, authors reported that individuals who were divorced, separated, or widowed were more likely to seek mental health help than individuals who are married (Sareen et al., 2005). Two exceptions were found to the general empirical finding that those who were living with a partner were less likely to seek help than those who were living alone. The first, Wells and colleagues (1994), reported that individuals who were divorced, separated, or co-habiting for more than one year were more likely to seek help than individuals who were married or never married. In the second exception, Parslow and Jorm (2000) found that divorced individuals were no more or less likely to

seek help than married individuals, although they found that individuals who were separated or lived alone were more likely to have seen a psychologist.

*Race and Ethnicity.* In three epidemiologic studies, racial/ethnic minority individuals (including African American, Latino, and Asian participants) are less likely to seek professional help for a mental health problem than White individuals (Carragher et al., 2010; Miranda & Cooper, 2004; Wang et al., 2005b). Wang and colleagues (2005b) reported that, with a sample of 9,282 individuals, African American and Latino individuals were approximately half as likely to use any form of mental health services (odds ratio, OR = 0.5, 0.6 respectively). Examining a sample of 1,498 depressed adults Miranda and Cooper (2004) reported that general practice doctors were equally likely to recommend specialty mental health care to African American, Latino, and White individuals, but that White and minority individuals did not seek specialized care equally. Specifically, Latino and African American clients were less likely than White clients to take anti-depressants when prescribed (odds ratio, OR = 0.3 and 0.6 respectively, compared to White clients) and Latino clients were half as likely to seek specialty mental health care (odds ratio, OR = 0.5). It was suggested that this might be due to cultural values (rather than resources) such that Asian, Latino, and African American individuals choose to speak with a family member, religious leader, or other community member before “resorting” to seeing a professional helper.

*Summary.* Overall, research has typically demonstrated that predisposing characteristics like sex, marital status, age, and racial/ethnic background have a significant relation with help-seeking behavior. Specifically, women are more likely than men to seek psychological help (Carragher, et al., 2010; Parslow & Jorm, 2000),

participants who were living with a partner were less likely than unmarried participants to seek help (Carragher, et al., 2010, Jackson et al., 2007), and Caucasian participants were more likely to seek help than African American, Latino, or Asian participants (Carragher et al., 2010; Miranda & Cooper, 2004; Wang et al., 2005b). While age had a significant relation with reported help-seeking behavior, the age group most likely to seek help varied. A pattern that emerged suggests that in a sample of individuals with general mental health concerns, being younger was related with a higher likelihood of seeking treatment (Parslow & Jorm, 2000; Wang et al., 2005b), while in samples of individuals with a mood disorder, being older was related with a higher likelihood of seeking treatment (Carragher et al., 2010; Wang et al., 2005a).

*Enabling resources.* In addition to general predisposing characteristics – primarily demographic variables – Andersen and Newman (1973) theorized that enabling resources also impacted an individual’s choice to seek professional help. These include financial resources (income, health insurance) as well as general resources (education, time off work, etc). Focus has typically been on the relation of help-seeking behavior with whether or not an individual has insurance, household income, and education level; these constructs will be reviewed below. One challenging aspect of understanding the relation between help-seeking and enabling resources is that there is substantial intercorrelation between these constructs; individuals with more education frequently have a higher household income and are more likely to hold a job that provides health insurance.

*Health insurance.* Most existing research has found that whether or not an individual has health insurance predicts whether or not they have sought help. Authors of

three out of four studies reported that individuals who had health care were more likely to seek help than those without (Carragher et al., 2010; Harman, Edlund, & Fortney, 2004; Young et al., 2001). Harman and colleagues (2004) examined type of insurance and found that, in a sample of 1,347 depressed individuals, participants without insurance were less likely to seek help than those with private insurance (odds ratio = .41) and that individuals with Medicare were more likely to seek help than individuals with private insurance (odds ratio = 2.02).

Using a sample of 451 depressed adults, one study reported no significant difference in help-seeking behavior in individuals with and without health insurance (Vasiliadis, Lesage, Adair, Wang, & Kessler, 2007). However, using their original sample of 5,183 individuals, they reported that people without health insurance were twice as likely to have a diagnosis of depression and were also significantly more likely to report having an unmet need regarding psychological care (Vasiliadis et al., 2007). The authors suggest that this relation is connected to the established relationship between socioeconomic status and mental illness.

*Educational attainment.* Research generally demonstrates that individuals who have more education are also more likely to seek professional psychological help. Five out of six studies, published in five articles, reported that individuals with greater education are significantly more likely to seek professional help for a psychological problem (Carragher et al., 2010; Parslow & Jorm, 2000; ten Have et al., 2004; Young et al., 2001; Wang et al., 2005a). Authors found no significant difference in one sample (Wang et al., 2005a). Sample sizes ranged from 1,572 to 10,641 adult individuals and typically considered diagnoses of substance abuse, anxiety, and mood disorders.

Researchers used a variety of statistical techniques (odds ratios, regression) and some treated income as a categorical variable, whereas others treated it as a continuous variable.

Interestingly, Wang and colleagues (2005a) found that, for individuals with Major Depressive Disorder, educational attainment had no significant effect on help-seeking behavior, but that for individuals with Bipolar disorder, individuals with more education were more likely to seek help. In another study, the authors found that individuals with greater education were more likely to see a psychologist, but that education had no significant relation with use of a psychiatrist, general practice doctor, or other health professional to address mental health concerns (Parslow & Jorm, 2000).

*Income.* The impact of income on help-seeking behavior is not clear; researchers have found conflicting results. Two out of three studies found a significant relation between income and help-seeking behavior (Carragher et al., 2010; Parslow & Jorm, 2000), however the relation in these studies is still tenuous. One study found no significant effect (Wang et al., 2005b).

Carragher and colleagues (2010) found that individuals with a higher income were more likely to be in the partially-active treatment group (likely had seen a therapist), but that income had no significant relation with being in the highly-active treatment group (i.e., very likely had seen a therapist, probably had been hospitalized and/or visited an emergency room for mental health concerns). Specifically, they broke income up into \$20,000 increments and reported that, compared to individuals who make less than \$19,999 a year, all other income groups were more likely to be in the partially-active treatment seeking category (odds ratios, OR = 1.33 – 1.96). In another study, authors

found that individuals with higher income were more likely to have seen a psychologist, but that income had no relation with whether or not they had seen a psychiatrist, general practice doctor, or any other health professional to address mental health concerns (Parslow & Jorm, 2000).

*Summary.* Overall, research demonstrates that enabling resources have a significant relation with psychological help seeking behavior. Specifically, a consistent relation has been found between educational attainment and help seeking as well as health insurance and help seeking, while the relation between income and help seeking behavior is not as well established. Authors report that individuals with health insurance are typically more likely than individuals without to have sought psychological treatment (Carragher et al., 2010; Harman, Edlund, & Fortney, 2004; Young et al., 2001) and that individuals with more education were more likely than individuals with less education to have sought treatment (Carragher et al., 2010; Parslow & Jorm, 2000; ten Have et al., 2004; Young et al., 2001; Wang et al., 2005a). Regarding income, research indicates that there might be a relation with psychological help seeking behavior, but that this is inconsistent across practitioners (psychologist, psychiatrist, general practice doctor) and different degrees of help seeking (partially vs. highly active); one study found no significant effect (Carragher et al., 2010; Parslow & Jorm, 2000; Wang et al., 2005b)

*Need.* Finally, Andersen and Newman (1973) theorized that evaluated need and perceived need would predict an individual's help-seeking behavior. Most large epidemiological studies were unable to accurately assess an individual's perceived need, however these studies do sometimes assess for severity and comorbidity. These constructs will be reviewed below. In much of the medical field (where Andersen originally

developed his theory), perceived need can often be assumed; an individual who just had a stroke or who has the flu will almost certainly perceive a need for medical care. With psychological disorders, however, this assumption becomes more risky. Little research could be found examining the relation between *perceived* need and willingness to seek professional psychological help. Research examining the connection between evaluated need and help-seeking will be reviewed here.

*Severity.* Two studies reporting information about severity and help-seeking behavior were found (Bland, Newman, & Ohn, 1997; Wang et al., 2005a). In both of these, which were epidemiological studies of approximately 2,000 individuals, the authors reported that people who experienced more severe mental illness were more likely to have sought help. Specifically, Wang and colleagues (2005a) found that, in individuals with a mood disorder, treatment-seeking was more likely if the participant had a history of suicide attempts or reported that their mental illness severely interfered with life roles.

*Co-morbidity.* Four studies were located where authors examined the relation between co-morbidity and help-seeking for a mental health concern (Bergeron et al., 2005; Bland, Newman, & Ohn, 1997; Young et al., 2001; Wang et al., 2005a). Authors of all four studies reported a significant positive relation. Sample sizes ranged from 1,092 to 1,964 participants. Authors of two of the four studies reported more detailed information, specifically that individuals with comorbid depression and anxiety were more likely to seek professional mental health help than those with just one diagnosis (Young et al., 2001) and that individuals who had a chronic medical condition were more likely to use mental health services (Bergeron et al., 2005).

*Summary.* Overall, research indicates that degree of evaluated need is related to a history of help-seeking behavior. Specifically, individuals reporting greater severity of the disorder and/or comorbid disorders were more likely than those without severity or comorbid disorders to seek help (Bergeron et al., 2005; Bland, Newman, & Ohn, 1997; Young et al., 2001; Wang et al., 2005a).

**Attitudes and Intent.** While researchers are typically primarily interested in help-seeking *behavior*, they often examine attitudes about therapy or intent to seek therapy as a proxy. For this reason, much of what we know about more complicated correlates of help-seeking is in the attitude/intent to seek help literature. Here I will briefly summarize findings that are relevant to the present study including level of distress, and anticipated risks/benefits of seeking help.

**Level of distress.** Four articles were found examining the relation between level of distress and help-seeking attitudes or intent. Two articles reported a significant positive relation (Hepworth & Paxton, 2007; Vogel & Wei, 2005) and two articles reported a significant negative relation (Tishby et al., 2001; Wilson & Deane, 2010). In a qualitative study, Hepworth & Paxton (2007) interviewed 63 women with past or present bulimic behavior. The authors reported that degree of psychological distress was one of the factors frequently mentioned by women when asked about what would (or did) prompt them to seek help. Other factors mentioned included symptom severity, interference with life roles, and health problems (Hepworth & Paxton, 2007).

Authors of a second study, sampling 355 college students, reported that distress positively contributed to student help seeking intentions (Vogel & Wei, 2005). Specifically, authors used structural equation modeling to examine the relationship

between attachment, distress, and help seeking and found that anxiously attached individuals were more likely than avoidant attachment individuals to acknowledge distress and seek help and that individuals with insecure attachment (both groups) reported less social support than those with secure attachments, which contributed to their distress and then to their help-seeking intentions (Vogel & Wei, 2005).

Conversely, authors of a third study reported that, in a sample of 1500 Israeli high school students, there was a negative relation between level of distress and willingness to seek help in one of the groups (Tishby et al., 2001). Specifically, authors reported that there was no significant relation between level of distress and willingness to seek help in the general group, but that in a subgroup of depressed and suicidal adolescents, there was a negative relation between these two variables (Tishby et al., 2001). In the final article, Wilson and Deane (2010) seek to explain this unexpected relation between level of distress and willingness to seek help in depressed or suicidal individuals. The authors sampled a group of 302 Australian University students and found that higher levels of suicidal ideation were related to lower intentions to seek help from friends, family, or professional providers. Additionally, they found moderation effects such that higher levels of depression symptoms strengthen this negative relation (Wilson & Deane, 2010). As depression involves a slowing-down of the body as well as feelings of hopelessness and worthlessness, it may be that these depression symptoms have a unique effect on the relation between level of distress and willingness to seek help.

***Anticipated Outcomes.*** There are both positive and negative outcomes that may be related to seeking professional help; the balance between the risks and benefits to help-seeking has been found to contribute to an individual's willingness to seek

counseling. Anticipated risk has been defined as an individual's perception of danger in sharing personal information with another person (Vogel & Wester, 2003). Two studies were found examining the anticipated risks of therapy and help-seeking intentions (Deane & Chamberlain, 1994; Deane & Todd, 1996). Authors of both studies reported that individuals with higher fearfulness of treatment were also less likely to express willingness to seek treatment. Study methods were similar in both articles, however one examined a sample of 263 college students (Deane & Chamberlain, 1994) and the other examined a community sample of 107 with a mean age of 40 (Deane & Todd, 1996). Authors measured distress using the Hopkins Symptom Checklist –21, measured treatment expectations with the Psychotherapy Questionnaire, and measured help-seeking with a single item about likeliness of seeking help from a psychologist if the individual had personal problems (Deane & Chamberlain, 1994; Deane & Todd, 1996).

Researchers have also examined expected anticipated risks and benefits together and found that both benefits and risks impact intentions and attitudes about therapy (Vogel, Wester, Wei, & Boysen, 2005). Vogel and colleagues reported results from two studies on this topic in one article. Authors administered measures of treatment fears, anticipated risks and benefits of counseling, and intent to seek therapy to a group of 354 college students. Results indicated that both anticipated risks and anticipated benefits significantly predicted intentions to seek help for interpersonal issues such that individuals who perceived fewer risks and/or greater benefits were more likely to seek help (Vogel et al., 2005). In the second study, authors surveyed 1,128 college students with measures on anticipated risks and benefits as well as type of psychological concern.

Again, authors found that anticipated outcomes were associated with the decision to seek professional psychological help (Vogel et al., 2005).

### **Eating Disorders**

This section of the literature review will provide an overview of the relevant eating disorder literature. Sections will include information about the prevalence and course of eating problems, symptomology, diagnosis of the disorder, and help-seeking for eating problems.

**Prevalence and Course of Disorder.** Eating disorders are quite prevalent. In fact, it has been reported that 17.9% of women will, at some point in their lives, have a diagnosable eating disorder (Kjelsas, Bjornstrom, & Gotestam, 2003). In a recent 8-year longitudinal study, Stice, Marti, Shaw, and Jaconis (2009) found that 12% of girls will have some form of eating disorder between the ages of 12 and 20. Additionally, several studies including samples of undergraduate women have reported that 11%-17% of the sample reports symptoms severe enough to suggest a diagnosis of an eating disorder (Meyer, 2001; Meyer 2005; Prouty, 2002). Further, an additional 25%-33% of women report some degree of disordered eating and/or body image concerns which may interfere with their daily functioning (Meyer, 2001; Meyer 2005).

Although not all sub-threshold eating disorder behavior progresses to an eating disorder, there is substantial evidence that symptoms increase and become more severe over time (Shisslak, Crago, & Estes, 1995). Once a full diagnosis has been reached, many people never fully recover. For Anorexia Nervosa (AN), it is estimated that 40% of individuals diagnosed with the disorder recover fully, 30% show some improvement, and 20% experience a chronic course of illness (Steinhausen, Rauss-Mason, & Seidel, 1991).

Anorexia Nervosa also has a concerning mortality rate. In a meta-analysis of 42 published articles, Sullivan (1995) reported a mortality rate of 5.6% per decade, or .56% per year. This means that every year approximately one out of every 200 people diagnosed with AN will die from the disorder.

**Symptomology of Eating Disorders.** Currently, the Diagnostic and Statistical Manual of Mental Disorders – 4<sup>th</sup> Edition , Text Revision provides diagnostic criteria for three eating disorders: Anorexia Nervosa (AN), Bulimia Nervosa (BN), and Eating Disorder Not Otherwise Specified (EDNOS, American Psychiatric Association [DSM-IV-TR], 2000). The diagnosis of EDNOS is given to individuals with a variety of eating concerns including Binge Eating Disorder (BED) as well as individuals with symptoms consistent with AN or BN which do not yet meet full criteria for a diagnosis. Each of these three diagnoses (AN, BN, and EDNOS) will be discussed individually below.

**Anorexia Nervosa.** The core symptom of Anorexia Nervosa (AN) is that the individual refuses to maintain (or reach, if still growing) an acceptable weight - specifically at least 85% of expected weight (American Psychiatric Association [DSM-IV-TR], 2000). An individual *must* have a low body weight to meet criteria for AN. In addition to a low body weight, a diagnosis of AN requires that the individual demonstrate amenorrhea (no menstrual cycle for at least three months) as well as a strong fear of gaining weight or getting fat. The final diagnostic criteria for AN is that the individual report that their body size/shape has an unusually large impact on their self-evaluation, that they deny the seriousness of their low body weight, or that they have a distorted perception of their body size or shape. In addition to the general diagnosis of Anorexia Nervosa, an individual receives one of two subtype diagnoses: restricting type or binge-

eating/purging type (American Psychiatric Association [DSM-IV-TR], 2000). This subtype differentiates between individuals who are underweight and binge and purge and those who only restrict their food intake.

Individuals with Anorexia Nervosa often present with additional psychological and physical symptoms. Psychological issues can include depressive symptoms (e.g., depressed mood, withdrawing socially, feeling irritable, trouble sleeping, and decreased interest in sex), obsessive-compulsive symptoms (e.g., preoccupation with thinking about food, hoarding food or recipes), perfectionism, low self-esteem, constrained emotion and need for control (American Psychiatric Association [DSM-IV-TR], 2000). These individuals may also present with symptoms consistent with one or more personality disorders. Individuals who fit the binge-eating/purging AN subtype are more likely than those who fit the restricting subtype to report impulse control issues such as alcohol abuse, to be sexually active, to have a history of suicide attempt(s), and to meet criteria for Borderline Personality Disorder (American Psychiatric Association [DSM-IV-TR], 2000).

Physically, individuals with AN are often struggling; they are literally starving themselves. Common physical concerns (examined with laboratory blood tests) include anemia, dehydration, and problems with liver and heart functioning. Individuals may also complain of abdominal pain, constipation, cold intolerance, low blood pressure, swelling of the hands and feet, feeling lethargic, or feeling excess energy (American Psychiatric Association [DSM-IV-TR], 2000).

***Bulimia Nervosa.*** The core symptom of Bulimia Nervosa (BN) is bingeing and purging (American Psychiatric Association [DSM-IV-TR], 2000). A diagnosis of BN

requires that an individual eat an unusually large amount of food in a constrained time period, while feeling an inability to stop eating, and then perform some sort of inappropriate compensatory behavior (vomiting, excessive exercise, use of laxatives/diuretics, or fasting) at least twice a week for three months (American Psychiatric Association [DSM-IV-TR], 2000). Additional symptoms include that the individual's views-of-self are largely impacted by their weight and/or body shape and that the binge/compensatory behaviors do not occur exclusively during an episode of Anorexia Nervosa. As in AN, there are two diagnostic subtypes for Bulimia Nervosa: purging type and non-purging type. Purging involves a behavior to unnaturally remove food from the body (e.g. self-induced vomiting or misusing laxatives, diuretics, or enemas). Individuals who do not purge use other types of compensatory behaviors like fasting or exercise. Individuals with BN are typically (but not exclusively) in the normal weight range (American Psychiatric Association [DSM-IV-TR], 2000).

In addition to the core Eating Disorder symptoms, individuals with BN often present with other mental and physical health problems. Psychological concerns include mood disorders (Dysthymic Disorder or Major Depressive Disorder), Anxiety Disorders, Substance Abuse/Dependence, and Borderline Personality Disorder (American Psychiatric Association [DSM-IV-TR], 2000). While the related physical problems in Anorexia Nervosa are nearly always related to the individual's low body weight, physical problems in Bulimia Nervosa are almost always related to purging. These potential health problems include fluid and electrolyte imbalance, metabolic problems, loss of dental enamel, calluses or scars on the hand from inducing vomiting, and cardiac and skeletal

problems if the individual uses syrup of ipecac to induce vomiting (American Psychiatric Association [DSM-IV-TR], 2000).

***Eating Disorder Not Otherwise Specified.*** As with most disorders in the DSM-IV-TR, there is a Not Otherwise Specified category for individuals who have symptoms of, but do not fully meet criteria for, an Eating Disorder (American Psychiatric Association [DSM-IV-TR], 2000). The APA offers research criteria for one increasingly common EDNOS, Binge-eating Disorder (BED). Diagnostic criteria are similar to those for BN, however the individual must not use any compensatory behaviors and their bingeing must occur twice a week for at least six months (as opposed to three months in BN). Additional criteria state that the individual must report distress regarding their eating and report specific characteristics of their bingeing behavior (ex: eating more rapidly, until uncomfortably full, when not hungry, eating alone because of embarrassment, and feeling depressed, guilty, or disgusted after a binge) (American Psychiatric Association [DSM-IV-TR], 2000).

Additional examples of EDNOS are offered in the DSM-IV-TR, however it is made clear that this is not an inclusive list. Several of these examples essentially require that an individual meet all except one criteria for a full diagnosis (ex: meet all criteria for AN except have continued menstruation; meet all criteria for BN except behavior happens less frequently, an individual who uses inappropriate compensatory behavior but does not binge). Other examples involve problem eating behaviors not included as criteria for AN or BN, such as repeatedly chewing and spitting out – but not swallowing – large amounts of food (American Psychiatric Association [DSM-IV-TR], 2000). Individuals with a diagnosis of EDNOS are a very heterogeneous group.

**Diagnosis and Measurement of Eating Disorders.** As with most mental health disorders, diagnosis of an eating disorder in a clinical setting frequently involves an interview and a pen-and-paper or computerized assessment. The client may also be asked to keep a record of his or her eating (for example, keeping a food journal to record behavior and emotions), meet with a physician for a physical and lab work, and/or meet with a nutritionist.

In a research setting, however, accurate diagnosis becomes more challenging, primarily because the diagnostic interview is frequently time and cost prohibitive when a large sample is called for. Assessment in research typically involves a self-report questionnaire (with results reported on a continuum, categorically, or with a variety of subscales), however some use a brief interview process. At least one example of each type of self-report measure will be discussed below.

One of the most common assessments used, the Eating Attitudes Test (EAT-26, Garner, Olmsted, Bohr, & Garfinkel, 1982) contains 26 items and results are shown on a continuum. This measure is based on the original Eating Attitudes Test, which contained 40 items and was developed in 1979 by Garner & Garfinkel. In the EAT-26, participants are asked to endorse items on a six-point Likert scale ranging from “never” to “always” where responding to an item with the lowest three options (never, rarely, and sometimes) earns a score of 0, and responding with the highest three option (often, usually, always) earns 1-3 points, respectively. Research has demonstrated that a cut-off of 20 points most reliably differentiates individuals with a diagnosable eating disorder from those not meeting criteria for a diagnosis (Alvarez-Rayon et al., 2004; Garner, Olmstead, Bohr, & Garfinkel, 1982; Mintz & O’Halloran, 2000).

The Questionnaire for Eating Disorder Diagnosis (Q-EDD, Mintz, O'Halloran, Mulholland, & Schneider, 1997) is one example of a measure that provides categorical results. In this self-report questionnaire, participants respond to 50 items. These are scored using a flow chart that assigns each participant to one of three categories: asymptomatic, symptomatic, or eating disordered. Individuals are assigned to the asymptomatic group if they have reported no eating disorder symptoms, to the symptomatic group if they have indicated some eating disorder symptoms but not enough to meet DSM-IV eating disorder criteria, and to the eating disordered group if they report significant symptoms consistent with a DSM-IV diagnosis. The authors reported moderate test-retest reliability ranging from .54 to .64 over a one- to three-month period. Interscorer agreement was 100% over 100 protocols (Mintz et al., 1997).

The Eating Disorder Diagnostic Scale (EDDS, Stice, Telch, & Rizvi, 2000) is a second example of a measure that provides categorical results. Participants respond to 22 items, each of which asks about a specific diagnostic criterion for Anorexia Nervosa, Bulimia Nervosa, or Binge Eating Disorder. For some items, individuals respond on a six-point Likert scale (from "not at all" to "extremely") and for other items, individuals simply answer "yes" or "no." The measure also includes open-ended questions about height and weight. The authors provide scoring criteria, so that researchers can create categories of participants (AN, BN, BED, and no diagnosis).

Unlike many self-report measures, the EDDS uses a scoring algorithm where a diagnosis of Anorexia preempts a diagnosis of Bulimia, which preempts a diagnosis of Binge Eating Disorder. Individuals who report a body mass index (BMI) less than 17.5, based on weight and height report and report amenorrhea would be put in the Anorexia

group. Individuals who are on hormonal contraception that meet low weight criteria are coded as amenorrheic, because hormonal contraception can result in a regular menstrual cycle even for individuals who would not be menstruating normally. Individuals who fit criteria for the Bulimia group must report (a) regular eating binges marked by loss of control and consumption of large amounts of food, (b) regular use of compensatory behaviors, indicated by a summed response of 8 or more on four items about compensatory behaviors, and (c) undue influence of body weight or shape on self-evaluation. Individuals who reported (a) regular eating binges, (b) endorse at least three specific criteria of binge eating such as eating more rapidly than normal or binging when not hungry, (c) marked distress regarding eating and (d) absence of any compensatory behaviors.

The Eating Disorder Examination (EDE, Fairburn & Cooper, 1993) is an interview measure. Subjects are asked a variety of standardized questions designed to make a differential diagnosis of an eating disorder based on DSM-IV criteria. Based on factor analysis, there are four subscales including restraint, eating concern, shape concern, and weight concern. The EDE has been shown to have good validity and reliability. Alpha coefficients for each subscale were acceptable (Restraint: .71-.75, Eating Concern: .75-.90, Weight concern: .67-.70; and Shape concern: .70-.82; Byrne, Allen, Lampard, Dove, & Furstland, 2009). Additionally, reported test-retest reliability was satisfactory (>.70 over a 7-day period, .50-.88 over a 14-day period) for subscales. Interrater correlations are typically greater than .90 (Byrne et al., 2009). Finally, eating disordered individuals have been shown to score higher than non eating disordered

individuals on all subscales and eating disordered individuals who show improvements in behavior also show improvements in subscale scores (Byrne et al., 2009).

Another measure that is commonly used both in research and clinical settings is the Eating Disorder Inventory (EDI, Garner & Olmsted, 1984), which is currently in the third edition. The EDI-3 (Garner, 2004) assesses for symptoms which are directly connected to an eating disorder diagnosis (such as body dissatisfaction, drive for thinness, and thoughts about bingeing/purging) as well as symptoms that are experienced in a range of mental health concerns such as depression, anxiety, perfectionism, low self esteem, and interpersonal insecurity. Participants respond on a four-point Likert scale and the assessment includes 91 items and 12 subscales. When given as a complete measure, the EDI-3 can help a clinician gain a big picture understanding of the client's personality and eating disorder symptomology. Researchers can choose to use just one or two of the ED-specific subscales to gather information about a participant.

*Summary.* There are a variety of measures with acceptable reliability and validity that can be used to assess for disordered eating behavior, some of which provide categorical information and some that provide results on a continuum. The Eating Disorder Examination (EDE, Fairburn & Cooper, 1993) is a strong categorical measure of disordered eating behavior, but can be cost- and time-prohibitive due to the need to individually interview each participant. Stice, Telch, and Rizvi (2000) offer the Eating Disorder Diagnostic Scale (EDDS), a self-report measure that provides similar categorical results as the EDE, but requires much less time for the researcher. The Eating Attitudes Test (EAT, Garner, Olmsted, Bohr, & Garfinkel, 1982), on the other hand, assigns each participant a score on a continuum, with a cutoff above which most

individuals would fit an eating disorder diagnosis. The Eating Disorder Inventory (EDI Garner & Olmsted, 1984) includes subscales that measure behavior and cognitions about eating and exercise as well as subscales to measure personality traits often observed in individuals with significant eating concerns. Certain subscales of this measure can be used to assess severity of eating issues and others are very useful in treatment (EDI-3, Garner, 2004). The present study will include the Eating Attitudes Test-26 because it defines eating concerns on a continuum and does not assume severe pathology.

**Help Seeking for Eating Disorders.** While we have a plethora of data regarding help-seeking behavior for other forms of mental health concerns (primarily related to depression, anxiety, or substance abuse) we do not have large epidemiological studies to help us understand correlates of help-seeking behavior for an eating disorder. We do, however, have several studies that aim to understand a few constructs related to help-seeking behavior, most of which are correlational. In the longitudinal studies, all participants have been identified as needing treatment for eating problems (and referred) before the first contact. In this section, three factors related to help-seeking for an eating disorder are included: ethnicity, comorbidity, and perceptions of need.

***Ethnicity.*** Two studies were located that examined the relation of ethnicity and treatment seeking behavior for an eating disorder (Cachelin, Rebeck, Veisel, & Striegel-Moore, 2000; Cachelin, Striegel-Moore, & Regan, 2006). Authors of one study reported no significant difference in ethnicity between the group who had sought treatment and the group who had not (Cachelin, Rebeck, Veisel, & Striegel-Moore, 2000). The authors administered the Eating Disorder Examination (EDE, Fairburn & Cooper, 1993) to a group of community women and found 61 women who met criteria for an eating

disorder. As the sample was small and thus significance difficult to reach, it seems important to report that the treatment-seeking group included twice as many Latina women, two more African-American women, and one fewer Caucasian woman than the non-treatment seeking group (Cachelin et al., 2000). The authors also reported no significant differences between the treatment seeking and non-treatment seeking groups on body mass index, socioeconomic status or insurance coverage, ethnic identity/acclutuaration, or specific ED diagnosis (Cachelin et al., 2000). The authors, however, reported that individuals in the treatment group reported significantly more distress related to bingeing, had earlier first experiences with overeating, and earlier onset of regular overeating when compared to the non-treatment seeking group (Cachelin et al., 2000). It was reported that, while 85% of the sample wanted treatment for an eating problem, only 8% of the sample had received treatment for an eating disorder; an additional 49% had received treatment for another concern (Cachelin et al., 2000).

In contrast, in a 2006 article it was reported that there was a significant effect of ethnicity on treatment seeking for an eating disorder with a community sample of 190 women with eating disorders; 80 of these women were Mexican American and 110 were European American (Cachelin, Striegel-Moore, & Regan). The authors used the Structured Clinical Interview for DSM-IV-TR (SCID-IV-TR; First, Spitzer, Gibbon, & Williams, 2001) to assess for any Axis I disorder; participants who met criteria for an Axis I disorder were then administered the Eating Disorder Examination, 12<sup>th</sup> edition, which provided a specific eating disorder diagnosis. Using logistic regression, the authors found that a model including SES, ethnicity, age of onset, presence of psychiatric comorbidity before onset, and type of disorder (AN, BN, BED) significantly

distinguished between individuals who had and had not sought treatment. Ethnicity was the strongest predictor ( $z=8.14$ ,  $p < .001$ ) such that European American women were 2.74 times more likely to have sought treatment than Mexican American women (Cachelin, Striegel-Moore, & Regan, 2006).

The authors also examined the impact of acculturation on treatment-seeking behavior. Because only Mexican American women were given the acculturation assessment, a second logistic regression was performed where the ethnicity variable was replaced by acculturation. This model of seven predictors was nearly significant,  $\chi^2(7) = 13.54$ ,  $p = .06$ . While the model did not reach significance, authors reported that acculturation contributed significantly ( $z=4.1$ ,  $p = .04$ ) such that women with a higher degree of acculturation were 1.75 times more likely to have sought treatment than women with a lower degree of acculturation (Cachelin, Striegel-Moore, Regan, 2006). The authors also reported that individuals with Bulimia and more frequent purging, longer duration of the disorder, and psychiatric comorbidity were more likely to be in the treatment-seeking group than individuals with any other diagnosis and fewer symptoms (Cachelin, Striegel-Moore, Regan, 2006).

**Comorbidity.** Two studies were found that directly examined the relation of comorbidity and treatment-seeking (Goodwin & Fitzgibbon, 2002; Keel et al., 2002). In one article, it was reported that individuals with more severe pathology and comorbidity were more likely to seek treatment. Using a longitudinal method (interview to diagnose and then every six months for five years) and a sample of 246 individuals diagnosed with AN or BN, the authors reported that over 95% of the sample had received some form of ED treatment (Keel et al., 2002). Additionally, the authors reported that individuals with

comorbid mood disorders, personality disorders, and/or a lower Global Assessment of Functioning (GAF) score were more likely to have received treatment for a longer period of time; individuals with Anorexia Nervosa were more likely than those with Bulimia Nervosa to have received inpatient treatment (Keel et al., 2002).

Authors of a second study specifically examined the impact of social anxiety on help-seeking for an eating disorder (Goodwin & Fitzgibbon, 2002). The authors administered assessments (the EDI, Garner & Olmsted, 1984; Bell Object Relations Inventory, BORI; Bell, Billington, & Becker (1986) to a group of 28 individuals presenting at an outpatient eating disorder clinic for a first assessment appointment. Researchers compared two groups of individuals: those who had returned for their recommended first therapy appointment and those who never returned to the clinic. They found that individuals who did not engage in treatment had significantly higher scores on the Insecure Attachment subscale (measuring social anxiety about being liked, fears and sensitivity to rejection, easily hurt by others) of the Bell Object Relations Inventory ( $F=8.29$ ,  $df = 1$ ,  $p < .05$ ), but that there were no other significant differences between these groups including diagnosis or severity. While it seems that comorbidity can increase an individual's willingness to seek treatment, in some circumstances certain psychopathology can also decrease an individual's ability to seek help.

***Perception of need.*** Two studies were found which examined an individual's perceived need for therapy (Meyer, 2001; Meyer, 2005). In the first study, Meyer reported that individuals with substantial disordered eating behavior who were not currently in treatment attributed their choice to not seek treatment to a belief that their behaviors did not warrant therapy (2001). This study, which sampled 248 college

students, aimed to examine the relation between attitudes toward seeking help, eating disorder diagnoses, and reasons for not seeking treatment. Meyer (2001) determined that 38 individuals were eating disordered (defined as meeting diagnostic criteria for an eating disorder), an additional 78 were symptomatic (defined as reporting some eating disorder symptoms), and 122 were asymptomatic (defined as not reporting notable eating disorder symptoms).

Help-seeking behavior was assessed with three yes/no items regarding (1) whether they believed they needed to seek professional counseling for their eating concerns, (2) whether they had received counseling for these concerns in the past, and (3) whether they were currently seeing a therapist for these concerns. Two participants (in the symptomatic group) reported that they were currently in counseling and two additional participants (also in the symptomatic group) reported a history of treatment. No one in the eating disordered group reported current or past treatment. When asked about whether they believed they needed treatment, 23% of the eating disorder group and 6% of the symptomatic group said “yes,” 37% of the eating disorder group and 28% of the symptomatic group said “maybe,” and 40% of the eating disorder group and 66% of the symptomatic group said “no” (Meyer, 2001).

To assess general attitudes toward seeking professional psychological help, participants were administered the Attitudes Toward Seeking Professional Psychological Help – Short form (ATTSPPH-SF), a 10-item self-report measure of attitudes toward traditional counseling. Individuals in the diagnostic categories (eating disordered, symptomatic, asymptomatic) reported statistically equivalent attitudes on this measure

(Meyer, 2001). The author did not report analyses including the participants' perceived need for counseling and their attitudes toward counseling.

Finally, Meyer (2001) assessed reasons why participants were not currently in counseling. For participants in the eating disordered category, most common responses were "don't want anyone to know" (40%), "problem not worrisome enough to me" (32%), and "don't believe I have a problem at all" (24%). Individuals in the symptomatic group reported similar reasons including "problem not worrisome enough to me" (50%), "don't believe I have a problem at all" (35%) and "don't want anyone to know" (21%). Meyer also reported that participants were least likely to cite "fear of therapy" or "lack of awareness of help available" as reasons for not attending counseling (Meyer, 2001).

In her 2005 study, Meyer aimed to understand the impact of treatment anxiety, psychological defenses, and agreement with societal norms of beauty on help seeking for eating concerns. The Q-EDD was administered to 294 undergraduate college women; results of the assessment indicated that 11% of the sample (32 participants) met criteria for the eating disordered group, an additional 25% (74 participants) met criteria for the symptomatic group, and 64% (188 participants) were categorized in the asymptomatic group. Help-seeking behavior was assessed with two yes/no questions (1) "are you currently seeing a counselor/psychotherapist for your dieting/body image concerns or eating disturbance?" and (2) "Do you feel that you need counseling or therapy for your dieting habits, body image concerns, or eating disturbance?" (Meyer, 2005).

Five of the 32 eating disordered participants and two of the 74 participants in the symptomatic group reported currently being in therapy for eating concerns. The author determined, through Fisher's Exact Test, that individuals in the eating disordered group

were significantly ( $p < .05$ ) more likely than those in the symptomatic group to be in therapy (Meyer, 2005). Additionally, the participants' belief that they need therapy for eating concerns was examined. It was found that 56% of the eating disordered group and 39% of the symptomatic group believed they needed treatment for their eating concerns. Conversely, 44% of the eating disordered group and 61% of the symptomatic group denied that they needed treatment for their eating problems (Meyer, 2005). The percentage of participants in each group that believed they need treatment was noticeably different in this study compared to the prior study (Meyer, 2001). Some of this disparity may be due to the fact that in one study participants were given a "maybe" option about their need for treatment and in the other study were only given "yes" or "no" options.

In addition to degree/type of eating disorder and treatment seeking beliefs, Meyer (2005) assessed the participants' degree of immature defenses (using the Defense Style Questionnaire, DSQ-40; Andrews, Singh, & Bond, 1993), their thoughts about therapy (using the 19-item Thoughts About Psychotherapy Scale, TAPS; Kushner & Sher, 1989), and the degree to which they endorse societal beauty norms (using the Beliefs About Attractiveness Scale-Revised, BAA-R; Petrie, Rogers, Johnson, & Diehl, 1996). Meyer analyzed differences between the groups' scores on these three scales (2005). She reported significant findings of a MANOVA (Wilks's Lambda = .90,  $F(3, 291) = 5.45$ ,  $p = .0001$ ). Two follow-up ANOVAs were significant. First, it was reported that the symptomatic group scored significantly higher than the asymptomatic group on the Immature Style Defense Scale of the DSQ-40; the ED group mean on this scale was between the asymptomatic and symptomatic group's means and was not significantly different from either group. Second, it was reported that individuals in the symptomatic

and eating disordered groups endorsed beliefs that individuals must be thin, fit, and attractive to be successful, valuable, and/or happy significantly more strongly than individuals in the asymptomatic category (Meyer, 2005).

The author also reported that participants who indicated that they did not believe they needed treatment were also less likely to endorse societal beauty norms; this finding was the opposite of what was hypothesized (Meyer, 2005). To better understand this finding, further analyses were run. It was found that individuals who indicated they did not believe they needed treatment reported significantly higher levels of immature defenses. Meyer suggested that perhaps these individuals use immature defenses (such as denial) to down-play the degree to which their own body image is impacted by their endorsement of societal beauty norms (Meyer, 2005).

*Summary.* Overall, both studies indicate that an individual's perception of their need for treatment is often inconsistent with an objective, clinical assessment of their need for treatment (Meyer 2001; Meyer 2005). Many participants in the eating disordered and symptomatic groups indicated that they did not believe their behaviors and attitudes about food and their body warranted therapy. Additionally, it was reported that individuals who indicated they did not need treatment were less likely to strongly endorse societal beauty norms and were more likely to report higher levels of immature defenses (Meyer, 2005).

### **Internalization of Thin-Ideal**

Western society sends relatively strong, explicit messages about what is and is not beautiful; for women, small body size is often seen as a requirement for beauty. Some researchers have hypothesized that internalization of these societal messages may

contribute to development of an eating disorder. In this section of the literature review, I will discuss the construct of internalization and related theory as well as discuss relevant research involving the construct.

**Internalization and related theory.** A common belief about eating disorders is that individuals begin negative eating behavior, at least in part, to become thinner, and that these individuals want to be thin in order to measure up to a societal standard of beauty. In this way, a high degree of internalization of the thin-ideal can strengthen other negative constructs related to eating disorders including negative affect, body image dissatisfaction, and dieting (Stice, 2001).

Measurement of internalization of the thin-ideal began near the end of the last century, when the Sociocultural Attitudes Towards Appearance Questionnaire (SATAQ) was developed (Heinberg, Thompson, & Stormer, 1995; Stice, Schupak-Neuberg, Shaw, & Stein, 1994). In addition to measuring *internalization* of societal beauty norms, some questionnaires also measure *awareness* of societal beauty norms. These two constructs are different in that awareness suggests that the individual can label current norms of beauty and may or may not agree with these norms while internalization suggests that the individual has taken these beliefs on as his or her own self-standards.

Several theories have incorporated thin-ideal internalization as one causal factor in the development of an eating disorder. One of these, social reinforcement theory, states that individuals internalize beliefs that are held by significant others (Kandel, 1980). According to this theory, family, friends, and the media have provided reinforcement for the thin-ideal through words or actions (teasing, criticism, avoidance, praising dieting,

etc) that clearly communicate the benefits of thinness, such as acceptance, happiness, and beauty (Hohlstein, Smith, & Atlas, 1998).

Stice and Agras (1998) offer the sociocultural or dual-pathway model. In this theory, the authors suggest that thin-ideal internalization leads to negative emotionality and dieting, which increase the risk for eating disorder behavior – particularly bulimic behavior. Research support for this theory will be discussed in the next section.

A third theory including internalization of societal beauty norms is objectification theory, originally developed by Fredrickson and Roberts (1997). In this theory, the combination of thin-ideal internalization and an awareness of sexual objectification lead an individual to habitually monitor their body (frequently looking in mirrors, scrutinizing particular body parts or weight, etc.), which leads to body dissatisfaction, then negative emotionality (anxiety and depression) and finally to disordered eating behavior (Mitchell & Mazzeo, 2009). In all three of these theories, internalization of the thin-ideal is posited to be a factor in how an individual perceives him/herself and his/her value to society.

**Empirical Support.** Recently, the construct of thin-ideal internalization has gained more attention in the literature. In fact, Thompson and Stice - both very prolific researchers in the realm of eating disorders – have clearly stated the importance of thin-ideal internalization and encouraged others in the field to increase research of this construct (2001). While we do have a substantial amount of information regarding the correlates of thin-ideal internalization, only one article was found that examined the connection between thin-ideal internalization and help-seeking for an eating disorder (Meyer, 2005, discussed above). Research on thin-ideal internalization has primarily

focused on body image dissatisfaction and eating disordered behavior; findings of this research are reviewed below.

***Constructs predicted by thin-ideal internalization***

*Body image dissatisfaction.* Eight articles, containing ten samples, were found that reported correlational analyses of thin-ideal internalization and body image dissatisfaction (Bedford & Johnson, 2006; Forbes, Jobe, & Revak, 2006; Griffiths et al., 1999; Low et al., 2003; Morrison & Sheahan, 2009; Rukavina & Pokrajac-Bulian, 2006; Tiggemann, 2003; and Vartanian & Hopkinson, 2010).

Sample sizes ranged from 49 to 300 participants and included only females, ranging from high school age to a sample of elderly women (age 70 +/- 3yrs). Authors of all eight studies measured thin-ideal internalization using the SATAQ (Heinberg, Thompson, & Stormer, 1995). Authors of half of the articles reported measuring body dissatisfaction with two subscales of the Eating Disorder Inventory (EDI, Garner & Olmsted, 1984), the Drive for Thinness and the Body Dissatisfaction subscales (Griffiths et al., 1999; Low et al., 2003; Morrison & Sheahan, 2009; Vartanian & Hopkinson, 2010). Measurement of body dissatisfaction in the other four articles was not consistent, but included using the difference between perceived current and ideal body types, the Body Esteem Scale (BES, Mendelson, Mendelson, & Andrews, 2001), and the Body Shame subscale of the Objectified Body Consciousness Scale (OBCS; McKinley & Hyde, 1996).

In nine out of the ten samples, authors reported positive significant correlations between thin-ideal internalization and body image dissatisfaction. The one exception was reported by authors who tested two samples of women and measured thin-ideal

internalization and body image satisfaction (rather than dissatisfaction); they found that in a sample of “older” women (age 67-73), there was no significant correlation ( $r = -.24$ ,  $p > .05$ ), but that there was a significant correlation ( $r = -.52$ ,  $p < .01$ ) for college-aged women (Bedford & Johnson, 2006). The lack of significant findings may be due to insufficient power. In studies using the EDI, authors reported consistent, positive correlations between the SATAQ and the Drive for Thinness subscale ( $r_s = .42-.58$ ,  $p < .01$ ) and the SATAQ and the Body Dissatisfaction subscale ( $r_s = .37-.50$ ,  $p < .01$ ). In one study, authors combined these two subscales and found an even larger correlation ( $r = .68$ ,  $p < .001$ ).

Reported results in other studies also suggested a significant relation between body image dissatisfaction and thin-ideal internalization. In one study, authors reported a significant correlation between the body shame subscale of the OBCS and the SATAQ pressure subscale ( $r = .34$ ,  $p < .001$ ) and the SATAQ general subscale ( $r = .66$ ,  $p < .001$ ). These same authors reported significant correlations between the SATAQ general subscale and desired changes in body size: larger bust size ( $r = .34$ ,  $p < .05$ ), greater height ( $r = .23$ ,  $p < .05$ ), decreased weight ( $r = -.33$ ,  $p < .05$ ), and decreased lower body size ( $r = -.27$ ,  $p < .05$ , Forbes, Jobe, & Revak, 2006). In another study, authors reported a significant correlation between SATAQ scores and appearance satisfaction ( $r = -.47$ ,  $p < .001$ ) and weight satisfaction ( $r = -.32$ ,  $p < .001$ , Rukavina & Pokrajac-Bulian, 2006).

*Eating Disorder Behavior.* Four articles, containing five samples, were found that examined the relation between thin-ideal internalization and eating disorder behavior (Griffiths et al., 1999; Griffiths, et al., 2000; Rukavina & Pokrajac-Bulian, 2006; and Vartanian & Hopkinson, 2010). Authors of all four studies measured thin-ideal

internalization with the SATAQ (Heinberg, Thompson, & Stormer, 1995). The Eating Attitudes Test (EAT, Garner et al., 1982; Garner & Garfinkel, 1979) was used to measure eating behavior in two articles (Griffiths et al., 1999 and Rukavina & Pokrajac-Bulian, 2006) while the Revised Restraint Scale (RRS, Herman, Polivy, Pliner, Threkheld, & Munc, 1978), a 10-item measure of dietary restraint, was used in the other two studies (Griffiths et al., 2000 and Vartanian & Hopkinson, 2010). Sample size in these four studies ranged from 82 to 300 participants; all four studies included only females. Additionally, two studies sampled only college students, one sampled only high school girls, and another sampled women aged 17-30.

Results in these four articles were consistent. Authors of all four articles reported that there was a significant, and often large, correlation between thin-ideal internalization and eating disorder behavior, such that as thin-ideal internalization increased, so did eating disorder behavior. There was one exception: Griffiths and colleagues (1999) examined this relation in both eating disordered and non-eating disordered individuals. There was a significant correlation between thin-ideal internalization and eating disorder behavior for individuals with an eating disorder ( $r = .41, p < .001$ ), but this correlation was not significant for individuals without an eating disorder. In the other three articles, testing a general sample of participants (with and without ED symptoms), reported correlations were positive and significant (range  $r = .45$ -.61,  $p < .001$ ).

***Predictor of thin-ideal internalization: Media exposure.*** Two articles were found that examined the relation between media exposure and thin-ideal internalization (Morry & Staska, 2001; Tiggemann, 2003). Several additional articles examining the relation

between media exposure and body image dissatisfaction were found, however they will not be reviewed here because they do not explicitly include thin-ideal internalization.

In the first study, authors aimed to examine the relations between magazine exposure, thin-ideal internalization, self-objectification, eating attitudes, and body satisfaction. They sampled 150 college students (61 male, 89 female) in an Introductory Psychology course (Morry & Staska, 2001). Authors measured eating disorder symptomology with the Eating Attitudes Test (EAT-40, Garner & Garfinkel, 1979), a 40-item self-report questionnaire measuring behaviors, attitudes, and emotions about food and body. Additionally, the authors measured thin-ideal internalization with the Sociocultural Attitudes Towards Appearance Questionnaire (SATAQ, Heinberg, Thompson, & Stormer, 1995). Authors also measured body concerns/feelings of fatness, exposure to magazines in the past month, and self-objectification (Morry & Staska, 2001). Results of regression analyses indicate that magazine exposure predicted degree of thin-ideal internalization. Additionally, authors reported that thin-ideal internalization mediated the relationship between magazine exposure and body-shape dissatisfaction (Morry & Staska, 2001).

In the second study, the author investigated the impact of television and magazines on thin-ideal internalization, body dissatisfaction, and disordered eating and found that magazines and television have different effects on thin-ideal internalization (Tiggemann, 2003). Tiggeman administered several measures to a sample of 104 Australian female college students including media exposure, body dissatisfaction, self-esteem, and Body Mass Index. Additionally, the Eating Disorder Inventory (EDI, Garner,

Olmstead, & Polivy, 1983) and the SATAQ (Heinberg, Thompson, & Stormer, 1995) were administered.

Correlational results indicated that both magazine and television exposure were related to body dissatisfaction ( $r = .19, .17$  respectively,  $p < .05$ ), but that only magazine reading was significantly correlated with thin-ideal internalization ( $r = .31, p < .01$ ).

Amount of time spent watching TV was not significantly correlated with SATAQ scores, indicating that its impact on body dissatisfaction occurs through a different mechanism (Tiggemann, 2003).

### **Decisional Balance**

In the transtheoretical model (TTM), Prochaska and DiClemente (1985) suggest that people move through different stages when making behavioral change, and that these stage movements are influenced by the individual's decisional balance. Decisional balance refers to the balance of benefits and burdens of an individual's current problem. As an example, this model was used to understand smoking cessation – an individual who has no desire to change would likely believe that the benefits to smoking outweigh the drawbacks; once this balance shifts to the drawbacks outweighing the benefits, individuals may begin to consider – or initiate – change. This same theory has been applied to a multitude of health behaviors such as weight loss, contraceptive use, and cancer screening (Grimley, Riley, Bellis, & Prochaska, 1993; O'Connell & Velicer, 1988; Velicer, DiClemente, Prochaska, & Brandenburg, 1985; Rimer, Conaway, Lyna, & Rakowski, 1996) Additionally, an attempt has been made to understand decisional balance in eating disorders (Cockell, Geller, & Linden, 2002).

***Decisional Balance and Eating Disorders.*** One article was located that examined decisional balance in eating disorders as it related to Prochaska and DiClemente's stages of change (Cockell, Geller, & Linden, 2002). The authors sampled 246 anorexic women at various stages of treatment from three different eating disorder treatment programs. Before participating, all of these women either self-identified as having Anorexia or were in treatment and were identified by a clinician. Sixty-six percent of the women currently met criteria for Anorexia, 29% met criteria for sub-threshold Anorexia, and 3% had met criteria for Anorexia in the past (Cockell, Geller, & Linden, 2002). Participants completed demographic information and a decisional balance measure developed by the authors. This measure included 60 items (30 pro and 30 con items).

The primary purpose of the study was to develop this measure; the details of this process are discussed in the methods section of the current paper. Most interestingly, using exploratory factor analysis, the authors determined that there were three factors in decisional balance for Anorexia – benefits, burdens, and functional avoidance. As previous research of health behaviors – like smoking cessation and weight loss – had determined there were only two factors, the appearance of three factors was unexpected. After examination of the items, authors labeled the third factor 'functional avoidance,' because all items dealt with Anorexia serving the purpose of avoiding difficult issues, like planning for the future, sexuality, relationships, and painful emotions (Cockell, Geller, & Linden, 2002).

***Decisional Balance and Help-Seeking.*** No research could be found that examined decisional balance and help seeking; instead, most research with any decisional balance scale purports to predict stages of change. It seems likely that moving from an

early stage of change (precontemplation, where an individual is unaware of a need for change) to a later stage of change (contemplating change or even acting to change) would also be correlated with an individual's decision to seek help, however we don't have empirical evidence of this. What we do know, however, is that decisional balance does predict stages of change. Specifically, as an individual moves from the precontemplation to contemplation stage their awareness of burdens of the disorder rises significantly and as an individual moves from the contemplation to action stage, their perceived benefits decreases significantly.

Using a cross-sectional design, it was found that, among smokers, stage of change can be predicted by a change in attitudes about the behavior. Specifically, an individual's awareness of the burdens of the disorder rises substantially between the precontemplation and contemplation stages, while the perceived benefits of smoking behavior remain high until the action stage (Fava, Velicer, & Prochaska, 1995). This same effect has been found longitudinally, over a period of six months (Velicer et al., 1985). Additionally, a similar pattern was found when Prochaska and colleagues (1994) examined decisional balance and stage of change in 12 different behaviors (such as smoking cessation, weight control, adolescent delinquent behavior, condom use, sunscreen use, and mammography screening).

### **Cognitive Representations of the Disorder**

The final construct I will be reviewing is perceptions of the disorder. For some time, health psychologists have expressed that individuals cope with a disorder differently, based on how they understand it (Leventhal, Nerenz, & Steele, 1984). Individuals with the exact same disorder may experience different symptoms, may

attribute the disorder/symptoms to different causes, and may even perceive similar symptoms in completely different ways; in other words, each individual has their own representation of their illness. This representation may closely match a professional evaluation or may be quite disparate, however there is certainly value in understanding a patient's perceptions of their problem.

Leventhal's Cognitive Representation theory suggests that there are five different aspects of cognitive representation (Leventhal, Nerenz, & Steele, 1984; Leventhal & Diefenbach, 1991). These include identity (symptoms associated with the illness), consequences (perceived effects and outcome), cure control (how one treats the illness), cause, and timeline (Leventhal, Nerenz, & Steele, 1984). Originally this theory was developed to assess medical health concerns. Over time, however, the measure has been adapted to assess mental health concerns as well. In the following sections I will review how cognitive representations of an individual's disorder impact their treatment seeking as well as all relevant illness perception research done with eating disorders.

**Cognitive Representations and Treatment Seeking.** Three articles were found that examined cognitive representations and help-seeking (Al Anbar, Dardennes, Prado-Netto, Kaye, & Contejean, 2010; Lawson, Bundy, Lyne, & Harvey, 2004; Vanheusden et al., 2009). All three of these studies reported using the Illness Perception Questionnaire (IPQ, Weinman, Petrie, Moss-Morris, & Horne, 1996) revised in a way to fit the particular population sampled (diabetes, general mental health). Use of the IPQ was the primary commonality in these articles; correlates, methodology, and type of illness varied. Overall, these studies indicate that there is a significant relation between cognitive representations of diseases and an individual's help-seeking behavior.

In one study of general mental health concerns, authors found that cognitive representations of the individual's mental health problem was related to their mental health service use (Vanheusden et al., 2009). Specifically, authors sampled 830 individuals who self-identified as having mental health problems over the past year. Using multivariate logistic regression analyses, the authors reported that, independent of sex, age, and disorder severity, individuals who perceived their disorder as having more intra-psychic causes, having greater consequences, and being more responsive to treatment were more likely to have reported seeking help in the past year. Individuals who reported having more perceived personal control of the disorder reported significantly less help-seeking behavior (Vanheusden, 2009).

In a second study, authors examined the relation between cognitive representations of diabetes and help-seeking (Lawson et al., 2004). The authors sampled 84 diabetic individuals (42 who had not sought care for 18 months and 42 matched controls who received specialist care). Results indicated that individuals who did not regularly seek help for their disease were significantly more likely to perceive their disorder as difficult to control and having more serious consequences than individuals who did seek regular care (Lawson et al., 2004).

The final study sampled 89 individuals who were parents of a child with autism spectrum disorder (Al Anbar et al., 2010). The authors assessed cognitive representations of the child's illness as well as any help-seeking they had participated in. Researchers collected information about a range of help-seeking behaviors including medication, dietary changes, therapy, and educational programs. Results of regression analyses (using each form of help-seeking behavior as the dependent variable) indicated that there were

many significant relations between cognitive representations of the child's autism spectrum disorder and particular help-seeking behaviors. Specifically, authors reported that perceived seriousness of the child's disorder significantly predicted increased use of education resources and unpredictable course of the child's disorder significantly predicted medication use. Additionally, greater perceived control of the child's disorder predicted both reduced use of nutritional treatments and reduced use of pharmaceutical treatments. Belief that the child's disorder was primarily caused by hereditary factors and perception that the child's disorder was less cyclical (more consistent) predicted attendance at training programs (Al Anbar et al., 2010).

**Cognitive Representations and Eating Disorders.** Three articles were found that examined cognitive perceptions of eating disorders (Holliday, Wall, Treasure, & Weinman, 2005; Marcos, Cantero, Escobar, & Acosta 2007; Stockford, Turner, & Cooper, 2007). Authors of all three articles reported using a revised version of the IPQ (Weinman et al., 1996) and reported significant findings; additionally, all researchers and participants were European (UK and Spain). Aside from these similarities, the three studies were quite different.

In the first study, authors sought to examine the relation between cognitive representations of eating disorders and stage of change as well as to develop a reliable revision of the IPQ for eating disorders (Stockford, Turner, & Cooper, 2007). The authors sampled 69 individuals, and using the Eating Attitudes Test-40 (EAT-40; Garner & Garfinkel, 1979) determined diagnosis: one-third with AN, one-third with BN, and one-third with severe EDNOS. Results indicated that there was a significant relation between stage of change and several IPQ-R subscales.

Authors analyzed the data with four hierarchical multiple regression analyses, one with each stage of change score as the dependent variable. Independent variables included demographics (age, length of disorder, Body Mass Index), psychological health measures (Eating Attitudes Test, Beck Depression Inventory, Self-Esteem Scale), social support, and locus of control were entered first (stage 1), followed by the IPQ-R subscales. Results indicated that, for the precontemplation stage, the stage 1 predictor variables accounted for 22% of the variance and adding emotional representation (emotional distress) and illness coherence (ability to make sense of their symptoms) scores to the model resulted in a model that explained 45% of the variance; this change was significant. Regarding the contemplation stage, the stage 1 predictor variables accounted for 28% of the variance and adding emotional representations to the model resulted in a model that explained 36% of the variance; this change was significant. Stage 1 predictor variables accounted for 38% of the variance in the action stage and adding the consequences (awareness of negative consequences of the ED) variable to the model resulted in a model that explained 45% of the variance; additional variance explained was significant. Finally, for the maintenance stage, the stage 1 predictor variables accounted for 25% of the variance; adding treatment control (belief that treatment will improve the ED) and timeline (belief that disorder is chronic rather than acute) variables, which resulted in a model that explained 49% of the variance, made a statistically significant improvement.

In the second study, authors aimed to examine any relation between cognitive representations of eating disorders and psychosocial adaptation (Marcos et al., 2007). The authors administered several self-report measures, including a Spanish version of the IPQ

revised for eating disorders, to 98 Spanish females with an eating disorder. Mean scores on IPQ-R subscales (range 5-25) indicated that individuals with an eating disorder reported they perceived their illness as controllable ( $M = 20$ ,  $SD = 2.86$ ), treatable ( $M = 19$ ,  $SD = 3.57$ ), and eliciting strong emotion ( $M = 19$ ,  $SD = 4.26$ ). Individuals with AN, BN, and EDNOS reported statistically equal scores on all subscales except for experiencing a cyclical timeline; on this scale individuals with BN reported a more noticeable cycle than individuals with AN or EDNOS ( $t = -2.27$ ,  $p < .05$ ). Authors also reported that the emotional representation subscale of the IPQ-R was significantly related to reported anxiety, depression, and psychological distress. Conversely, insight that many symptoms experienced (sore throat, stomach pain, sore eyes) are related to the ED was associated with better emotional and psychosocial adjustment. Individuals who reported a belief that treatment could be effective reported less anxiety, depression, and illness distress and greater overall functioning than those who had less faith in treatment (Marcos et al., 2007).

In the final study, authors sought to compare illness perceptions of Anorexia Nervosa in individuals with AN and individuals in the general population (Holliday et al., 2005). Authors recruited 520 individuals with a diagnosed past or present ED, received data from 195 individuals (with many ED diagnoses) and included in their sample 95 individuals with a current diagnosis of AN, as determined by the Eating Disorder Examination Questionnaire (EDE-Q, Fairburn & Cooper, 1993) and 80 men and women with no eating disorder diagnosis. The two groups completed similar IPQ-R scales with mild wording changes so that individuals in the AN group were asked about their own experiences and individuals in the layperson group were asked their perceptions of people

with Anorexia (Holliday et al., 2005). Individuals with AN reported perceiving many negative consequences of the disorder ( $M = 4.08$  on a 5-point scale) as well as emotional distress ( $M = 4.00$  on a 5-pt scale). Results indicated that laypeople had more confidence than AN individuals that treatment would be effective ( $M = 3.9$  and  $3.4$  respectively,  $p < .001$ ) and laypeople believed the disorder was less distressing than AN individuals ( $M = 2.6$  and  $4.0$  respectively,  $p < .001$ , Holliday et al., 2005).

### **Rationale for Hypotheses**

In the present study I hypothesized that there would be a significant relation between eating problems and an individual's attitudes/interest in psychological help seeking. This hypothesis is consistent with research that demonstrates that individuals with greater severity are more likely to seek psychological help (Bland et al., 1997; Wang et al., 2005a). Three measures of help seeking were used to examine differing levels of help seeking (attitudes, learning about eating disorders and treatment, getting information about making a counseling appointment). Research demonstrates that individuals may choose to seek help in one way, but not in another (Al Anbar et al., 2010) and for this reason, the hypotheses were tested with three different forms of help-seeking.

Furthermore, in the present study I hypothesized that five constructs would significantly moderate the relation between severity of eating problems and help-seeking choices: (a) insight about the eating concerns, (b) internalization of cultural beauty norms, (c) benefits of the eating problems, (d) burdens of the eating problems, and (e) awareness of the function that the eating problems serve to avoid discomfort. In each of the five hypotheses, it was suggested that the moderating construct discussed would significantly change the relation between eating concerns (severity) and help-seeking

attitudes/behavior. The rationales for the hypotheses concerning all five constructs are discussed below.

**Insight.** No studies were found examining the relation between insight and help-seeking behavior, however there is research examining the relation between insight and stage of change. It was expected that individuals in the precontemplation stage would be unlikely to seek help, while those in the contemplation or action stage would be more open to seeking help. Research indicates that individuals in the precontemplation stage were more likely to have low insight into eating concerns while individuals in the contemplation stage were more likely to have higher levels of insight (Stockford, Turner, & Cooper, 2007). In the present study I hypothesized that severity of ED concerns would predict willingness to seek help and that insight will moderate this relationship such that individuals high in insight would be more likely to seek help than those low in insight.

**Internalization of cultural beauty norms.** No research was found examining the relation between internalization of cultural beauty norms and help-seeking for an eating disorder. However, there is clear evidence that high internalization of cultural beauty norms is positively related with body dissatisfaction and negative eating behaviors (Forbes, Jobe, & Revak, 2006; Morrison & Sheahan, 2009; Rukavina & Pokrajac-Bulian, 2006).

In the present study I hypothesized that severity of ED concerns would predict willingness to seek help and that internalization of cultural beauty norms would moderate this relationship such that individuals who have highly internalized cultural beauty norms will be less likely to seek help than those with low internalization of cultural beauty norms. It was expected that individuals who have personally internalized society's

message that one must be thin, attractive, and athletic will perceive their eating attitudes and behaviors as more consistent with society's expectations and thus will have less interest in seeking help than individuals who believe that their behaviors are inconsistent with society's messages.

**Benefits of eating concerns.** While no studies were found examining the relation between benefits of an eating disorder and help-seeking, research demonstrates that movement from the contemplation to the action stage of change is marked by a decrease in reported benefits of the disorder (Prochaska, 1994). It seems reasonable that individuals moving from the contemplation to action stage of change will be more likely than individuals in the precontemplation stage to seek help. In the present study I hypothesized that severity of ED concerns will predict willingness to seek help and that benefits of the disorder will moderate this relationship such that participants who report a greater degree of benefits to the disorder will be less likely to seek help than individuals who report a lesser degree of benefits.

**Burdens of eating concerns.** No studies were found that studied the relation between burdens of a disorder and help seeking. However, research demonstrates that movement from the precontemplation to the contemplation stage of change is marked by a noted increase in burdens of the disorder (Prochaska, 1994). Moreover, one study reports that individuals in the contemplation and action stages reported greater burdens of their eating disorder than individuals in the precontemplation stage (Cockell, Gellar, & Linden, 2003). It seems reasonable that individuals moving into the contemplation stage of change or those in the action stage would be more likely to seek help than those remaining in the precontemplation stage. Thus, in the present study I hypothesized that

severity of ED concerns will predict willingness to seek help and that burdens of the disorder will moderate this relationship such that individuals who report more burdens of their eating concerns will be more likely to engage in help seeking behavior.

**Awareness of functional avoidance.** Individuals in the contemplation or action stage of change report greater awareness of the function that eating concerns serve to avoid discomfort than individuals in the precontemplation stage (Cockell, Gellar, & Linden, 2003). It seems reasonable that individuals in the contemplation or action stage of change are more willing to seek help. Therefore, in the present study I hypothesized that severity of ED concerns will predict willingness to seek help and that awareness of functional avoidance will moderate this relationship such that individuals with high awareness of functional avoidance will be more likely to seek help than individuals with low awareness of functional avoidance.

## Chapter 3. Methods

### Participants

Data for this study was collected from women at a large Upper Midwestern University. These students were recruited from introductory psychology courses during the Fall semester of 2010. Screening and recruitment of participants was done through the Psychology Department's Mass Testing. In Mass Testing, several hundred participants complete demographic information and a multitude of self-report measures at one time. A total of 1,846 Mass Testing measures were completed over two semesters.

For the present study, participants were screened based on their answers to the Eating Attitudes Test-26 (EAT-26, Garner et al., 1982). Women who scored in the top 40% of this measure were recruited to participate. Prior research indicates that between 36% and 49% of any given female university sample reports at least moderately disordered eating (Meyer, 2001, 2005). While both men and women can experience eating disorders, the disorder primarily affects women. For this reason, only women were invited to participate in the study. After removing duplicate participants and men, a total of 1,204 women were screened. A total of 509 women were invited to participate in the present study. For an analysis using four predictor variables, a sample of 84 would be required to find a medium sized effect at  $p < .05$  and a sample of 599 would be required to find a small effect with the same risk of Type I error (Cohen, 1992). Complete data was collected from 249 women.

### Procedures

Students in introductory psychology courses were recruited to participate in the psychology department's Mass Testing. They were offered one research credit, which

contributes to their class grade; completing all measures was expected to take approximately 45 minutes. Participants signed up through the University SONA system and were directed to SurveyMonkey to complete Mass Testing. Participants completed many self-report measures that were submitted by several researchers. Most of these self-report measures were not be related to each other. Additionally, participants were asked to complete demographic information including age, gender, race/ethnicity, and year in school. As Mass Testing is frequently used to screen participants for future studies, they were also asked to provide their email for follow-up contact. Before beginning the survey, participants were provided information about the study and asked to agree to all informed consent information. After they completed the measures, participants were given a debriefing form. Any participant under the age of 18 was required to obtain parental consent before participating in Mass Testing.

For the present study, participants in Mass Testing were administered the Eating Attitudes Test (EAT-26, Garner et al., 1982) as well as a one-item measure assessing their interest in seeking therapy for eating concerns (“If you had the resources, would you be interested in seeking help for eating or body image concerns?”) See Appendix A for these items. Participants screened into the study (based solely on their gender and EAT-26 scores, not their willingness to attend a presentation) were sent an email inviting them to participate in the present study. This email provided information about the study, specifically that the researcher is interested in understanding psychological help-seeking behavior, the format of the measures, the time required, and compensation received for participating (See Appendix B). The email also invited students to sign-up through the University SONA system (see SONA posting form in Appendix C), which provided them

a link to all measures on SurveyMonkey. The email included a password to sign-up on SONA so that only screened participants could access the study. Three reminder emails (See Appendix B) were sent to students who had not yet elected to participate. The first email was sent one week after the original, the second three weeks after the original, and the third five weeks after the original. As only a set number of participants could participate in a SONA experiment each week, reminder emails were primarily aimed at individuals who wanted to participate, but were unable to in prior weeks due to lack of availability.

Once students elected to participate in the study, they completed the measure entirely online, at SurveyMonkey.com, a website that provides survey formatting and data storage and uses a multitude of security measures to protect collected data. Participants were given 2 research credits and completed approximately 60-90 minutes worth of questions. Before beginning the study measures, participants were given an opportunity for informed consent (see Appendix D); after reading the form, they were given an option to leave the experiment or to continue. Individuals not yet able to provide consent because of age were required to provide a signed parent consent form (see Appendix E). Measures included in this section of the study are as follows: de-labeling statement and demographic questions (see Appendix F), Clinical Outcomes in Routine Evaluation – Short Form (CORE-SF, see Appendix G), the Illness Perception Questionnaire – Revised (IPQ-R, see Appendix H), the Sociocultural Attitudes Towards Appearance Scale-3 (SATAQ-3, see Appendix I), the Decisional Balance Scale for Anorexia (DBS, see Appendix J), and the Attitudes Towards Seeking Professional Psychological Help Scale (ATSPPHS, see Appendix K). The DBS and IPQ-R had minor

wording changes, as the past measures were developed with the assumption that participants had a known, diagnosed eating disorder; participants in this study will likely not fit those criteria.

After completing these measures, participants were asked two questions, the first about their interest in learning more about eating concerns (“Would you like to be directed to online information to learn more about eating issues?”) and the second about their interest in initiating a therapy appointment (“Would you like to be directed to the University Student Counseling Service website to sign up for an appointment to talk about your body image, eating, or exercise? Counseling there is free”, see Appendix L). These questions are behavioral measures that indicated the degree to which an individual is open to seeking help for an eating concern. When participants selected “yes” as a response to either question, an additional web browser window opened, containing the selected material (See Appendices M & N). After responding to these questions, participants were directed to the debriefing form (see Appendix O). The University Internal Review Board has approved both the screening measure in the Mass Testing study (see Appendix P) as well as the present study (see Appendix Q).

### **Instruments**

All measures given to participants will be discussed here. The screening measure will be discussed first, followed by the control/covariate measure, moderator variable measures, and criterion variable measures.

**Eating Attitudes Test.** The Eating Attitudes Test (EAT-26, Garner et al., 1982) is a 26 item self-report measure of problems with food and/or body image. The EAT-26 is a shortened version (using factor analysis) of the original 40-item Eating Attitudes Test

(Garner & Garfinkel, 1979). Based on this factor analysis, Garner and colleagues determined there were three factors to the EAT-26 including “dieting behavior”, “Bulimia,” and “oral control,” however the authors do not take factor scores into consideration when determining the implications of an individual’s total score. Sample items from the EAT-26 include “Am terrified about being overweight,” “Aware of the calorie content of foods that I eat,” and “Have the impulse to vomit after meals.” Individuals respond to these items on a six-point Likert scale from “never” to “always.”

Scoring of this measure is unique, in that responders do not start accruing points on an item until they endorse frequent problems (responses “never,” “rarely,” and “sometimes” earn 0 points while “often” earns 1 point, “usually” earns 2 points, and “always” earns 3 points). Scores are calculated by totaling points earned; total scores range from 0 to 78. Authors suggest using a cutoff of 20 to indicate more significant eating and body image concerns, but clearly state that this measure does not provide any diagnosis (Garner & Garfinkel, 1979). In their original article, Garner and Garfinkel (1979) reported acceptable internal consistency for individuals with Anorexia ( $\alpha = .79$ ), and a control group of women with no eating disorder ( $\alpha = .94$ ). These authors also found that the original Eating Attitudes Test was able to differentiate between individuals with Anorexia Nervosa, those who had recovered from AN, and a group of obese females (Garner & Garfinkel, 1979). Other articles have also reported acceptable consistency ranging from .75 to .87 (Banasiak, Wertheim, Koerner, & Voudouris, 1999; Morry & Staska, 2001; Prouty, Protinsky, & Canady, 2002; Rukavina & Pokrajac-Bulian, 2006). The EAT-26 has also been shown to have good test-retest reliability ( $r = .89$ ) over a period of four to five weeks (Banasiak et al., 1999). In this study, the EAT-26 scores

range from 7 to 75 and higher scores mean the participant reported more disordered eating behavior

**Clinical Outcomes in Routine Evaluation – Short Form.** The Clinical Outcomes in Routine Evaluation (CORE, Evans et al., 2000) was developed to measure client distress and improvement throughout therapy. The measure includes 34 items with four subscales including Well Being, Problems or Symptoms, Functioning, and Risk. The present study uses three of the four subscales, excluding the six-item Risk subscale. Sample items include “I have felt optimistic about my future,” “I have felt despairing or hopeless,” “Unwanted images or memories have been distressing me,” and “I have been able to do most things I needed to.” Items range from low intensity (“I have felt tense, anxious, or nervous”) to high intensity (“I have felt panic or terror”). Participants are asked to respond to items on a 5-point Likert scale ranging from 0 (“not at all”) to 4 (“most or all the time”). The CORE mean score can range from zero to four with higher scores indicating greater general psychological distress.

Reliability and validity for the CORE-OM are acceptable. Cronbach’s alphas are reported to be at least .75 for each subscale with a full-scale alpha of .94 (Sinclair, Barkham, Evans, Connell, & Audin, 2005). Demonstrating concurrent validity, there was a .86 correlation between the CORE-OM and the Beck Depression Inventory (Evans et al., 2002). Unlike many proprietary measures, the CORE-OM is ‘copyleft,’ meaning that it can be used for clinical and research purposes but cannot be changed or used for financial gain. In the present study, internal consistency was high ( $\alpha = .94$ ).

**Sociocultural Attitudes Towards Appearance Scale-3.** The Sociocultural Attitudes Toward Appearance Scale-3 (SATAQ-3, Thompson, van den Berg, Roehrig,

Guarda, & Heinberg, 2004) is a revision of a widely used measure of thin-ideal awareness and internalization. It measures the degree to which respondents are aware of appearance messages sent by the media as well as their desire to look like people in the media. There are four subscales including information (awareness, “TV programs are an important source of information about fashion and ‘being attractive’”), pressures (“I’ve felt pressure from TV and magazines to be thin.”), internalization-general (“I would like my body to look like the people who are on TV”), and internalization-athlete (“I wish I looked as athletic as people in magazines”). The scale includes 30 items and employs a 5 point Likert scale ranging from 1 (“definitely disagree”) to 5 (“definitely agree”). Scores are calculated by determining the mean, which can range from 1 to 5, where higher scores indicate greater internalization of sociocultural beauty norms.

Reported Cronbach’s Alpha scores on these four subscales were consistent and high, ranging from .89 to .96. Internal consistency in the total scale was also high ( $\alpha = .96, .94$  in two samples, Thompson et al., 2004). The authors reported convergent validity estimates with the Ideal Body Internalization scale (correlations with SATAQ-3 subscales ranged from .37-.53, all at  $p < .01$ ), with the Eating Disorder Inventory Drive for Thinness subscale ( $r_s$  ranged from .17-.58, all at  $p < .05$ ), and with the Eating Disorder Inventory Body Dissatisfaction subscale ( $r_s$  ranged from .17-.51, all at  $p < .05$ ). The authors reported that the SATAQ was not significantly correlated with age and that only one SATAQ-3 (pressures) was correlated with Body Mass Index ( $r_s = .16, .18$  in two samples,  $p < .05$ , Thompson et al., 2004). In the present study, internal consistency for the entire scale was acceptable ( $\alpha = .942$ ).

**Illness Perception Questionnaire – Revised.** The revised version of the Illness Perception Questionnaire (IPQ-R, Stockford, Turner, & Cooper, 2007) is an 89-item measure including 9 subscales intended to measure client perceptions of their own eating disorder. These subscales include identity, consequences, acute/chronic timeline, personal control, treatment control/cure, cause, cyclical timeline perceptions, illness coherence, and emotional representations. Several of these subscales have names that clearly and accurately describe the items included (consequences, timeline, control, cause), however others are not as clear. The identity subscale, including 32 items, assesses the degree to which an individual attributes their symptoms to an eating problem; participants are asked about a symptom (“avoiding weighing myself”), asked if they have engaged in this behavior (yes/no), and then asked to rate, on a 5 point Likert scale, “Degree to which I feel this is related to my food and body image issues.” Scoring of this subscale involves totaling the Likert scale ratings and dividing by the total symptoms experienced. The Identity subscale ranges from 0 to 4 and higher scores indicate that they are more likely to feel each symptoms is related to their food and body image issues. Illness coherence measures the degree to which the respondent is confused about their symptoms or disorder and emotional representations measures the degree to which an individual is distressed by their symptoms.

The IPQ-R used in the present study is modified from the original (Moss-Morris et al., 2002) in order to fit an eating disorder population. The original measure was shown to have good internal reliability ( $\alpha = .79-.89$ ) and test-retest reliability ( $r = .46-.88$ ; Moss-Morris et al., 2002). With the current version of the measure, authors found that the cause subscale had very low internal consistency ( $\alpha = -.21-.59$ ). This makes sense, however, as

client's attribution of their disorder to one cause likely precludes them from attributing the cause to another factor. Additionally, the identity subscale had moderate internal consistency ( $\alpha = .59$ ). All other subscales had good internal consistency ( $\alpha = .71-.91$ , Stockford, Turner, & Cooper, 2007). Authors reported acceptable test-retest reliability on all subscales ( $r = .59-.78$ ) with assessments being taken two weeks apart. Acceptable internal consistency ( $\alpha = .90$ ) was found in the present study.

**Decisional Balance Scale for Anorexia.** The Decisional Balance Scale for Anorexia (DBS, Cockell, Geller, & Linden, 2002) is a 30-item self-report measure that was developed using the transtheoretical model of change. In this theory, it is suggested that an individual's willingness to change is impacted by two factors: their perceived benefits and perceived burdens of a particular behavior; the DBS aims to measure the benefits and burdens of eating concerns. The measure has three factors: benefits (eight items), burdens (fifteen items), and functional avoidance (seven items). The third factor, functional avoidance, was unique to Anorexia Nervosa and essentially captured the function that the disorder serves to help individuals avoid difficult life issues (negative emotions, growing up, sexuality). Participants respond on a 5-point Likert scale ranging from "not at all true" to "completely true." Scores for each item are averaged, thus scale scores range from 1 to 5, with higher scores indicating more benefits, more burdens, or more functional avoidance. The authors reported acceptable internal consistency ( $\alpha = .88$  for each subscale) as well as test-retest reliability for the Benefits ( $r = .71, p < .001$ ), Burdens ( $r = .64, p < .001$ ) and Functional Avoidance ( $r = .70$ ) subscales over an 8 day period (Cockell, Geller, Linden, 1999).

In the present study, some wording changes were made. The measure was developed to capture benefits and burdens of Anorexia and many participants in the present study will not fit this diagnosis. The word “Anorexia” in the original measure was replaced with “issues with food and body image” in the present study. For example, “Because of my issues with Anorexia, I feel guilty a lot of the time” was changed to “Because of my issues with food and body image, I feel guilty a lot of the time.” Other sample items include “It bothers me that my weight controls my mood,” “I worry about the effect my issues with food and body image are having on my health,” and “My issues with food and body image protect me from the difficulties of adult life” (Cockell, Geller, & Linden, 2002). Internal consistency in the current sample was acceptable for the Benefits ( $\alpha = .88$ ), Burdens ( $\alpha = .93$ ), and Functional Avoidance ( $\alpha = .86$ ) subscales.

**Attitudes Toward Seeking Professional Psychological Help Scale.** Attitudes about seeking therapy will be measured with the Attitudes Toward Seeking Professional Psychological Help Scale (ATSPPHS, Fischer & Farina, 1995). This measure has been shortened from the original 29-item scale (ATSPPHS, Fischer & Turner, 1970) to the current 10 item scale. Sample items include “The idea of talking about problems with a psychologist strikes me as a poor way to get rid of emotional conflicts” and “I might want to have psychological counseling in the future” (reverse coded). Participants respond to items with a 4-point Likert scale ranging from 1 (disagree) to 4 (agree). Scores can range from 1 to 4 and higher scores indicate greater stigma towards counseling. Research indicates that the original measure and shortened measure are highly correlated ( $r = .87$ , Fischer & Farina, 1995). Authors also reported good internal consistency ( $\alpha = .84$ ) and

acceptable one-month test-retest reliability ( $r = .80$ , Fischer & Farina, 1995). In the present study, internal consistency was acceptable ( $\alpha = .81$ ).

**Behavioral Measures.** Two behavioral measures were used to assess a participants' willingness to seek help. The first is about an interest in learning more about eating concerns and their treatment ("Would you like to be directed to online information to learn more about eating issues?") and the second is about their interest in initiating a therapy appointment ("Would you like to be directed to the University Student Counseling Service website to sign up for an appointment to talk about your body image, eating, or exercise? Counseling there is free", see Appendix M) Students who responded "yes" to the item about learning more about eating issues were directed to the Something Fishy webpage, designed to gently inform individuals and their families about negative eating behaviors and attitudes. See Appendix N for an image of the homepage. Students who responded "yes" to the item about signing up for a counseling appointment were directed to the University Student Counseling Service webpage. See Appendix O for an image of the homepage. Scoring was simply whether the participant responded "yes" or "no" to each of these items.

## **Hypotheses**

All hypotheses examined the mediating effects of varying constructs on the relation between eating problems, as measured by the Eating Attitudes Test-26, and three separate measures of help seeking: (a) Attitudes Towards Seeking Professional Psychological Help Scale, (b) whether or not an individual chooses to click on a link to gather more information about eating issues and their treatment and (c) whether or not an individual chooses to click on a link to learn how to set up a counseling appointment at the

University Counseling Service. Each hypothesis below was run with all three measures of help seeking.

1. After controlling for general distress, measured by the CORE-SF, it was hypothesized that insight about eating concerns, as measured by the IPQ-R Identity subscale, would moderate the relation between eating problems and psychological help seeking, operationalized as the three measures discussed above, such that for all three measures of help seeking there would be a significant relation between eating concerns and psychological help seeking for individuals with a high degree of insight and no significant relation for individuals with a low degree of insight.
2. After controlling for general distress, measured by the CORE-SF, it was hypothesized that internalization of societal beauty norms, as measured by the SATAQ, will moderate the relation between eating problems and psychological help seeking, operationalized as the three measures discussed above, such that for all three measures of help seeking there would be a significant relation between eating concerns and psychological help seeking for individuals with a low degree of internalization of societal beauty norms and no significant relation for individuals with a high degree of insight.
3. After controlling for general distress, measured by the CORE-SF, it was hypothesized that benefits of the eating concerns, as measured by the DBS Benefits subscale, will moderate the relation between eating problems and psychological help seeking, operationalized as the three measures discussed above, such that for all three measures of help seeking there would be a

- significant relation between eating concerns and psychological help seeking for individuals with a low level of benefits and no significant relation for individuals with a high level of benefits.
4. After controlling for general distress, measured by the CORE-SF, it was hypothesized that burdens of the eating concerns, as measured by the DBS-Burdens subscale, will moderate the relation between eating problems and psychological help seeking, operationalized as the three measures discussed above, such that for all three measures of help seeking there would be a significant relation between eating concerns and psychological help seeking for individuals with a high level of burdens and no significant relation for individuals with a low level of burdens.
  5. After controlling for general distress, measured by the CORE-SF, it was hypothesized that awareness of the function that eating issues serve to avoid discomfort, as measured by the DBS Functional Avoidance subscale, will moderate the relation between eating problems and psychological help seeking, operationalized as the three measures discussed above, such that for all three measures of help seeking there would be a significant relation between eating concerns and psychological help seeking for individuals with a high degree of awareness of functional avoidance and no significant relation for individuals with a low degree of awareness of functional avoidance.

## Chapter 4. Results

In this section, I will discuss the results. First, I will talk about the descriptive statistics and preliminary analyses performed to better understand the data. Next, I will report the analyses for each of the hypotheses. Finally, I will discuss additional analyses done to better understand the results.

### Descriptive Statistics and Preliminary Analyses

This sample consisted of 249 undergraduate college women. Means and standard deviations for demographic (age) and the eight measured variables (EAT score, SATAQ, ATSPPHS, CORE, IPQ-R Identity, DBS Benefits, DBS Burdens, and DBS Functional Avoidance) are reported in Table 1. Additionally, to best understand the sample and to compare it with previous samples in the literature, a variable indicating clinical severity was calculated. To do this, two scales were used including the Eating Attitudes Test (EAT-26, Garner, Olmsted, Bohr, & Garfinkel, 1982) and the Eating Disorder Diagnostic Scale (EDDS, Stice, Telch, & Rizvi, 2000). Participants who met the clinical cutoff for either of these measures (a sum score of 20 or above on the EAT-26 or symptoms consistent with a diagnosis of Anorexia Nervosa or Bulimia Nervosa on the EDDS) were categorized as having a clinical level of severity. There were 48 out of the 249 participants in this sample that were categorized as having a clinical level of severity. Table 2 provides means and standard deviations for individuals both above and below this clinical level. Finally, zero-order correlations for the sample are compiled in Table 4. Because so many correlations were calculated, only correlations significant at the  $p < .01$  level will be discussed.

In order to best understand this sample, it is important to compare these participants to participants in the literature. I've primarily done this by comparing mean scores. First, I examined general psychological distress. In the study where the measure was developed, authors sampled 483 college women and reported a mean score of 1.07 (SD = .71) in the non-clinical sample and a mean score of 2.16 (SD = .66) in the clinical sample (Sinclair, et al., 2005). The overall mean score in the present study is 2.30 (SD = .68). Additionally, individuals above the clinical disordered eating cutoff reported significantly higher general psychological distress (mean = 2.62) than those below the cutoff (mean = 2.23). Overall, it appears that this sample reports more distress than a non-clinical, college sample and a comparable amount of distress to a sample of clinical-level college women. As the present sample screened out individuals with the lowest 60% of scores on the Eating Attitudes Test, it seems reasonable that the present sample is more similar to the clinical than non-clinical college student groups.

Authors of the IPQ-R identity scale (measuring insight) did not report an overall mean score for this scale, but did report that all of the IPQ-R subscales (including identity) ranged from 3.13-3.96 (SD = .69-.80) on a 5 point scale (Stockford, Turner, & Cooper, 2007). The present sample mean was 2.68 (SD = .84) on a 5 point scale. Additionally, the authors reported that participants endorsed experiencing 24 of the 32 symptoms (SD = 4.65), while participants in this study endorsed experiencing approximately 15 (SD = 5.23). The differences between the present sample and the previous sample are likely due to severity; in the present sample approximately 20% of the sample would meet clinical criteria for an eating disorder diagnosis, while in the previous sample, all participants had a diagnosed eating disorder (Stockford, Turner, &

Cooper, 2007). There was a significant difference in the present sample between individuals who were above and below the clinical cutoff such that individuals who likely meet criteria for an eating disorder reported greater insight (mean = 3.00) and more symptoms (18.13) than those who did not meet criteria (mean = 2.61, symptoms = 14).

In the present study, participants reported a mean score on the Sociocultural Attitudes Toward Appearance Questionnaire (SATAQ, Heinberg, Thompson, & Stormer, 1995) of 3.61 (SD = .64) on a 5 point scale. This can be compared to several samples in previous studies. First, Mitchell and Mazzeo reported a mean score of 3.18 on the 14-item internalization subscale of this measure for a sample of 408 European American female University students (2009). In another study, authors sampled women ages 13-40 and reported means for both eating disordered participants (Anorexia = 3.59, Bulimia = 3.93, and EDNOS = 3.92) and a control group with no diagnosis (3.01) using the 14-item internalization subscale (Griffiths, et al., 1999). Finally, authors of a third study sampled a group of 140 University women and reported a mean score of 3.32 on the internalization subscale (Morrison & Sheahan, 2009). Based on this information, it appears that participants in the present study report a level of internalized societal beauty norms between those of eating disordered and non-eating disordered women. There was no significant difference between mean scores for individuals who were above and below the clinical cutoff.

Students in the present study reported a mean score of 2.35 (SD = .53) on the Attitudes Toward Seeking Professional Psychological Help Scale (ATSPPHS, Fischer & Farina, 1995). There was no significant difference between the mean scores for individuals above and below the clinical cutoff. No previous studies exist using this

measure with a sample of individuals with disordered eating concerns. In a study designed to examine the effects of social network on attitudes toward counseling, authors sampled 746 undergraduate college students and reported a mean of 2.50 on a 10-item version of the ATSPPHS (Vogel, et al., 2007). The present sample and the past sample seem to have similar attitudes towards counseling.

Means for all three of the Decisional Balance Scale for Eating Disorders (Cockell, Geller, & Linden, 2002) subscales were examined. Authors of the previous study reported means for each subscale as related to each of Prochaska and DiClemente's stage of change. All participants in the previous study met criteria for a current or subthreshold diagnosis of Anorexia Nervosa and were recruited at a first appointment at an eating disorder clinic. In the present study, the overall mean for reported benefits of the disorder was 2.79 (SD = .92) on a 5 point scale; there was a significant mean difference for individuals above the clinical cutoff (mean = 3.39) and below the cutoff (mean = 2.65). In the previous study, authors reported means for each stage of change including Precontemplation (mean = 3.41, SD = .87), Contemplation (mean = 3.17, SD = .95), and Action (mean = 3.15, SD = .98 Cockell, Geller, & Linden, 2003). In the present study, it is clear that individuals who report greater disordered eating behavior also experience more benefits of the disorder than those below clinical threshold and report a similar degree of benefits as individuals in the Precontemplation stage in the previous study.

Individuals also reported perceived burdens, or drawbacks, of the disorder. In the present study, the overall mean score was 2.20 (SD = .87) on a 5 point scale; there was a significant mean difference for individuals above the clinical cutoff (mean = 2.76) and below the cutoff (mean = 2.07). In the previous study, authors reported means for each

stage of change including Precontemplation (mean = 3.34, SD = .70), Contemplation (mean = 3.83, SD = .55), and Action (mean = 3.91, SD = .87, Cockell, Geller, & Linden, 2003). Scores in the present study appear quite a bit lower than those from the previous study. This may be due to the severity of disorder experienced by participants in each sample and/or the fact that all participants in the previous study were seeking counseling.

The final subscale of the Decisional Balance Scale is Functional Avoidance; it measures the degree to which participants are aware that their disorder helps them to avoid uncomfortable emotions. In the present study, the overall mean score was 1.60 (SD = .75) on a 5 point scale; there was a significant mean difference for individuals above the clinical cutoff (mean = 2.08) and below the cutoff (mean = 1.49). In the previous study, authors reported means for each stage of change including Precontemplation (mean = 2.25, SD = .90), Contemplation (mean = 3.01, SD = 1.05), and Action (mean = 3.31, SD = 1.04, Cockell, Geller, & Linden, 2003). It appears that mean scores in the present study are lower than those from the previous study; again, this may be due to the severity of disorder experienced by participants in each sample and/or their choice to seek counseling. Individuals above the clinical cutoff in the present study have scores similar to individuals in the Precontemplation stage in the previous study.

Because the Eating Attitudes Test (EAT-26, Garner, Olmsted, Bohr, & Garfinkel, 1982) was used to screen out participants, I will describe this sample's scores but will not compare the present mean to other samples. The mean score for the present sample is 18.1, where a score above 20 likely indicates a clinical eating disorder diagnosis. Participants above the clinical cutoff had a mean EAT-26 score of 36.4 and those below the clinical cutoff had a mean score of 14.6.

Tables 4 and 5 present the means and standard deviations of the variables of interest in the study by the two behavioral measures. Yes and no responses from the two behavioral measures were considered as independent variables. The variables of interest served as the dependent variables. Two sets of five Analyses of Variance (ANOVA) were conducted with the SATAQ, ATSPPHS, CORE, IPQ-R, and the EAT scales. Two Multivariate Analyses of Variance (MANOVA) were conducted with the three DBS scales entered simultaneously. The alpha was adjusted to .01 to control for multiple tests.

As can be seen in Table 3, there were significant mean differences between women who did and did not want to view online information about disordered eating on three scales. Women who reported a desire to view online information about disordered eating, compared to women who did not desire to view this information, reported significantly higher scores on the CORE ( $F[1, 248] = 8.54, p = .004$ ). The MANOVA examining all three DBS subscales was also significant (Wilkes  $\Lambda = .93, F[3, 245] = 5.73, p = .001$ ). The follow up univariate ANOVAs showed that the DBS-Burdens subscale ( $F[1, 248] = 29.84, p < .001$ ), and the DBS-Functional Avoidance subscale ( $F[1, 248] = 17.78, p < .001$ ) were both significant at the  $p < .001$ . That is, women who indicated a desire to view online information about eating issues, when compared with women who did not indicate a desire to view this information, reported more general psychological distress, more drawbacks to their disordered eating behavior, and a greater awareness of the function their eating disorder serves to avoid uncomfortable emotion.

There were also significant mean differences between women who did and did not want to schedule a counseling appointment, as can be seen in Table 4. Women who indicated a desire to schedule a counseling appointment, compared to those who did not

want to schedule an appointment, reported significantly lower scores on the ATSPPHS ( $F[1, 248] = 6.67, p = .010$ ). The MANOVA examining all three DBS subscales was also significant (Wilkes  $\Lambda = .89, F[3, 245] = 10.28, p < .001$ ). The follow up univariate ANOVAs showed that the DBS-Burdens subscale ( $F[1, 248] = 13.16, p < .001$ ) and the DBS-Functional Avoidance subscale ( $F[1, 248] = 8.50, p = .004$ ) were both statistically significant. That is, women who indicated a desire to schedule a counseling appointment, when compared with women who indicated no desire in scheduling an appointment, indicated a more positive attitude toward counseling (lower stigma toward counseling), more drawbacks to their disordered eating behavior, and a greater awareness of the function their eating behaviors serve to avoid uncomfortable emotion.

Additionally, correlations with at least a moderate effect size ( $r > .25$ ) and significant at the  $p < .01$  level were examined as can be seen by Table 4. Three of the scales discussed are subscales of a larger measure (DBS-Benefits, DBS-Burdens, and DBS-Functional Avoidance). They will be discussed separately, as the literature indicates each construct has a different connection with the change process; however it should be expected that they will be highly correlated. Age and the ATSPPHS were not significantly correlated with any other variables.

As expected, several of the largest correlations existed between the DBS subscales. There were significant positive correlations between DBS-Benefits and DBS-Burdens scales ( $r = .58$ ), DBS-Benefits and DBS-Functional Avoidance scales ( $r = .44$ ), and DBS-Burdens and DBS-Functional Avoidance scales ( $r = .70$ ). A large correlation also existed between the IPQ-R identity scale and the DBS-Benefits scale ( $r = .61$ ) as well as the DBS-Burdens scale ( $r = .57$ ). These correlations indicate that as individuals

reported a greater total of any of these three scales, scores on the other scales were higher as well.

Additionally, there were significant medium-sized correlations between the CORE and DBS-Burdens scale ( $r = .47$ ) as well as the DBS-Functional Avoidance scale ( $r = .42$ ), indicating that individuals who reported greater general psychological distress also reported more drawbacks to their eating concerns as well as more awareness of the function their eating behaviors serve to avoid uncomfortable emotion. Correlations of a similar magnitude also existed between the SATAQ and IPQ-R identity scale ( $r = .43$ ) and DBS-Benefits scale ( $r = .41$ ), suggesting that individuals who reported a greater internalization of societal beauty norms also reported a greater insight that each of their individual symptoms was related to one underlying cause as well as greater benefits to their eating behaviors.

Medium sized correlations were also found between the Eating Attitudes Test and several other scales including the IPQ-R identity ( $r = .35$ ), DBS-Benefits ( $r = .33$ ), DBS-Burdens ( $r = .35$ ), DBS-Functional Avoidance ( $r = .33$ ), and CORE scales ( $r = .26$ ), meaning that women who reported more disordered eating behavior also reported more insight that each of their symptoms was related to an underlying cause, more benefits to their eating behaviors, more drawbacks to their eating behaviors, a greater awareness of the function their disorder serves to avoid uncomfortable emotion, and greater general psychological distress. There were also a medium sized correlations between the DBS-Functional Avoidance scale and the IPQ-R identity scale ( $r = .39$ ), indicating that participants who reported a greater awareness of the function their eating behaviors serve to avoid uncomfortable emotion also reported more insight that each of their individual

symptoms is related to one underlying disorder. Additionally, a small to medium correlation existed between the CORE and DBS-Benefits scale ( $r = .32$ ) and IPQ-R identity ( $r = .23$ ), indicating that women who reported greater general psychological distress also reported more benefits to their disorder and greater insight that each of their eating symptoms are related to one underlying disorder. Finally, a small correlation was found between the SATAQ and DBS-Burdens scale ( $r = .29$ ), suggesting that individuals who reported more internalized societal beauty norms also reported more drawbacks to their eating behaviors.

Frequencies of yes/no responses to both of the categorical criterion variables were examined. Out of 249 participants, 30 (12%) indicated they would like to be directed to online information about eating issues and 12 (2.8%) indicated they would like to be directed to the University Counseling Service website to make an appointment to discuss eating or body image concerns. All women who indicated a desire to make a counseling appointment also marked that they wanted to be directed to online information about eating issues.

## **Hypotheses**

The Statistical Package for the Social Sciences (SPSS 16, 2008) was used for all analyses. Additionally, for all analyses, I created an interaction term by multiplying the hypothesized standardized moderator variable and standardized predictor variable. To test all hypotheses predicting attitudes toward help-seeking, hierarchical moderated regression analyses were used (Wampold & Freund, 1987). For each of the five hypotheses, variables were entered in the following order: (1) the CORE, (2) the Eating

Attitudes Test and hypothesized predictor, and (3) the interaction term. See Table 6 for specific constructs.

To test all hypotheses predicting group membership of whether or not a participant chose to seek more information or help, binary logistic regressions were used (Peng, Lee, & Ingersol, 2002). For each of the five moderators, variables were entered in three models: (1) the CORE, (2) the CORE, the predictor variable, and the hypothesized moderator, and (3) the CORE, Eating Attitudes Test, hypothesized moderator, and the interaction term. See Table 6 for specific constructs.

**Hypothesis 1.** For both the categorical and continuous dependent variables, it was hypothesized that, after entering the CORE as a control variable, the IPQ-R identity measure would moderate the relation between the EAT-26 and psychological help seeking such that there would be a significant relation between the EAT-26 and psychological help seeking for individuals with higher IPQ-R identity scores and no significant relation for individuals with lower IPQ-R identity scores.

A hierarchical multiple regression was conducted to test this hypothesis for the ATSPPHS. As shown in Table 7, Step 1 was not significant ( $F [1, 248] = .07, p = .79$ ) and predicted less than one percent of the variance. Additionally, adding the EAT-26 score and the IPQ-R identity score in Step 2 did not lead to a significant effect ( $F [3, 248] = .26, p = .86$ ). Finally, in Step 3 the interaction between the EAT-26 and IPQ-R identity was added to the model; this analysis was again not significant ( $F [4, 248] = .43, p = .79$ ) and predicted less than one percent of the variance.

A binary logistic regression was conducted to test this hypothesis regarding whether or not an individual reported a desire to be directed to online information about

eating issues. As shown in Table 8, Step 1 was significant ( $\chi^2 [1, 248] = .7.96, p = .005$ ) and predicted less than 3 percent of the variance using the Cox and Snell (1989) R Square ( $R^2$ ) statistic. Additionally, adding the EAT-26 score and the IPQ-R identity score in Step 2 did not lead to a significant improvement ( $\chi^2 [2, 246] = .1.40, p = .497$ ) although the overall model remained significant ( $\chi^2 [3, 245] = 9.36; p = .025$ ). Finally, in Step 3 the interaction between the EAT-26 and IPQ-R identity was added to the model; this analysis did not lead to a significant improvement in the overall model ( $\chi^2 [1, 247] = .156, p = .693$ ) although the model remained significant ( $\chi^2 [4, 244] = 9.51, p = .05$ ) and predicted 3.7 percent of the variance. Table 9 shows the standardized coefficients, the odds ratios, and the confidence intervals for the odds ratio. As can be seen by Table 9, only the CORE was a significant predictor in the binary logistic regression.

A binary logistic regression was conducted to test this hypothesis regarding whether or not an individual indicated a desire to schedule a counseling appointment. As shown in Table 8, Step 1 was not significant ( $\chi^2 [1, 248] = 2.72, p = .099$ ) and predicted approximately one percent of the variance using the Cox and Snell R Square (1989) ( $R^2$ ) statistic. Additionally, adding the EAT-26 score and the IPQ-R identity score in Step 2 did not lead to a significant improvement ( $\chi^2 [2, 246] = 1.12; p = .572$ ) and the overall model remained non-significant ( $\chi^2 [3, 245] = 3.83; p = .28$ ). Finally, in Step 3 the interaction between the EAT-26 and IPQ-R identity was added to the model; this analysis did not lead to a significant improvement in the overall model ( $\chi^2 [1, 247] = .107, p = .74$ ) and, again, the overall model was not significant ( $\chi^2 [4, 244] = 3.94, p = .414$ ) and predicted 1.6 percent of the variance. Table 10 shows the standardized coefficients, the odds ratios, and the confidence intervals for the odds ratio.

**Hypothesis 2.** It was hypothesized that, after entering the CORE as a control variable, the SATAQ would moderate the relation between the EAT-26 and psychological help seeking such that there would be a significant relation between the EAT-26 and psychological help seeking for individuals with lower SATAQ scores and no significant relation for individuals with a higher SATAQ scores.

A hierarchical multiple regression was used to test this hypothesis for the ATSPPHS. As shown in Table 11, Step 1 was not significant ( $F [1, 248] = .07, p = .79$ ) and predicted virtually none of the variance. Additionally, adding the EAT-26 and SATAQ scores in Step 2 did not produce a significant model ( $F [3, 248] = .12, p = .95$ ). Finally, in Step 3, the interaction of the EAT-26 and SATAQ was added to the model; this analysis was again not significant ( $F [4, 248] = .13, p = .97$ ) and predicted only 0.2% of the variance.

A binary logistic regression was conducted to test this hypothesis regarding whether or not an individual reported a desire to view online information about eating issues. As shown in Table 12, Step 1 was significant ( $\chi^2 [1, 248] = 7.96, p = .005$ ) and predicted 3 percent of the variance using the Cox and Snell (1989) R Square ( $R^2$ ) statistic. Additionally, adding the EAT-26 score and the SATAQ score in Step 2 did not lead to a significant improvement ( $\chi^2 [2, 246] = .36, p = .836$ ) although the overall model remained significant ( $\chi^2 [3, 245] = 8.32, p = .04$ ). Finally, in Step 3 the interaction between the EAT-26 and the SATAQ was added to the model; this analysis did not lead to a significant improvement in the overall model ( $\chi^2 [1, 247] = .05, p = .819$ ) and the overall model was not significant ( $\chi^2 [4, 244] = 8.37, p = .08$ ) and predicted 3.3 percent of the variance. Table 13 shows the standardized coefficients, the odds ratios, and the

confidence intervals for the odds ratio. As can be seen by Table 13, only the CORE was a significant predictor in the binary logistic regression.

A binary logistic regression was conducted to test this hypothesis regarding whether or not an individual indicated a desire to schedule a counseling appointment. As shown in Table 12, Step 1 was not significant ( $\chi^2 [1, 248] = 2.72, p = .099$ ) and predicted approximately one percent of the variance using the Cox and Snell (1989) R Square ( $R^2$ ) statistic. Additionally, adding the EAT-26 score and the SATAQ score in Step 2 did not lead to a significant improvement ( $\chi^2 [2, 246] = .49, p = .781$ ) and the overall model remained non-significant ( $\chi^2 [3, 245] = 3.21; p = .36$ ). Finally, in Step 3 the interaction between the EAT-26 and the SATAQ was added to the model; this analysis did not lead to a significant improvement in the overall model ( $\chi^2 [1, 247] = 1.69, p = .19$ ) and, again, the overall model was not significant ( $\chi^2 [4, 244] = 4.90, p = .298$ ) and predicted 1.9 percent of the variance. Table 14 shows the standardized coefficients, the odds ratios, and the confidence intervals for the odds ratio.

**Hypothesis 3.** It was hypothesized that, after entering the CORE as a control variable, the DBS-Benefits scale would moderate the relation between the EAT-26 and psychological help seeking such that there would be a significant relation between the EAT-26 and psychological help seeking for individuals with low DBS-Benefits score and no significant relation for individuals with high DBS-Benefits score.

A hierarchical regression was conducted to test this hypothesis for the ATSPPHS. As shown in Table 15, Step 1 was not significant ( $F [1, 248] = .07, p = .79$ ) and predicted less than one percent of the variance. Additionally, adding the EAT-26 and DBS-Benefits scores in Step 2 did not produce a significant model ( $F [3, 248] = .58, p = .63$ ). Finally,

the interaction of the EAT-26 and DBS-Benefits was added in Step 3; this model was again not significant ( $F [4, 248] = .54, p = .71$ ) and predicted nearly one percent of the variance.

A binary logistic regression was conducted to test this hypothesis regarding whether or not an individual reported a desire to be directed online information about eating issues. As shown in Table 16, Step 1 was significant ( $\chi^2 [1, 248] = .796, p = .005$ ) and predicted 3 percent of the variance using the Cox and Snell (1989) R Square ( $R^2$ ) statistic . Additionally, adding the EAT-26 score and the DBS-Benefits score in Step 2 did not lead to a significant improvement ( $\chi^2 [2, 246] = 3.06, p = .216$ ) although the overall model remained significant ( $\chi^2 [3, 245] = 11.02, p = .012$ ). Finally, in Step 3 the interaction between the EAT-26 and the DBS-Benefits was added to the model; this analysis did not lead to a significant improvement in the overall model ( $\chi^2 [1, 247] = .280, p = .09$ ), however the overall model was significant ( $\chi^2 [4, 244] = 13.82, p = .008$ ) and predicted 5.4 percent of the variance. Table 17 shows the standardized coefficients, the odds ratios, and the confidence intervals for the odds ratio. As can be seen by Table 17, only the CORE was a significant predictor in the binary logistic regression.

A binary logistic regression was conducted to test this hypothesis regarding whether or not an individual indicated a desire to schedule a counseling appointment. As shown in Table 16, Step 1 was not significant ( $\chi^2 [1, 248] = 2.72, p = .099$ ) and predicted approximately one percent of the variance using the Cox and Snell (1989) R Square ( $R^2$ ) statistic . Additionally, adding the EAT-26 score and the DBS-Benefits score in Step 2 did not lead to a significant improvement ( $\chi^2 [2, 246] = .35, p = .838$ ) and the overall model remained non-significant ( $\chi^2 [3, 245] = 3.07; p = .381$ ). Finally, in Step 3

the interaction between the EAT-26 and the DBS-Benefits was added to the model; this analysis did not lead to a significant improvement in the overall model ( $\chi^2 [1, 247] = 1.07, p = .301$ ) and, again, the overall model was not significant ( $\chi^2 [4, 244] = 4.14, p = .388$ ) and predicted 1.6 percent of the variance. Table 18 shows the standardized coefficients, the odds ratios, and the confidence intervals for the odds ratio.

**Hypothesis 4.** It was also hypothesized that, after entering the CORE as a control variable, the DBS-Burdens scale would moderate the relation between the EAT-26 and psychological help seeking such that there would be a significant relation between the EAT-26 and psychological help seeking for individuals with a high DBS-Burdens score and no significant relation for individuals with a low DBS-Burdens score.

A hierarchical regression was conducted to test this hypothesis for the ATSPPHS. As shown in Table 19, Step 1 was not significant ( $F [1, 248] = .07, p = .79$ ) and predicted less than one percent of the variance. However, adding the EAT-26 and DBS-Burdens scores in Step 2 did produce a significant model ( $F [3, 248] = 2.72, p < .05, \Delta R^2 = .032$ ) that predicted approximately 3% of the variance. Finally, the interaction of the EAT-26 and DBS-Burdens scale was added to the model; this analysis was again significant ( $F [4, 248] = 2.55, p < .05, \Delta R^2 = .01$ ) and predicted 4% of the variance. As can be seen in Table 20, only DBS-Burdens significantly contributed to the complete model.

A binary logistic regression was conducted to test this hypothesis regarding whether or not an individual reported a desire to view online information about eating issues. As shown in Table 21, Step 1 was significant ( $\chi^2 [1, 248] = .796, p = .005$ ) and predicted 3 percent of the variance using the Cox and Snell (1989) R Square ( $R^2$ ) statistic. Adding the EAT-26 score and the DBS-Burdens score in Step 2 lead to a significant

improvement ( $\chi^2 [2, 246] = 20.59, p < .001$ ) and the overall model remained significant ( $\chi^2 [3, 245] = 28.54, p < .001$ ). Finally, in Step 3 the interaction between the EAT-26 and the DBS-Benefits was added to the model; this analysis did not lead to a significant improvement in the overall model ( $\chi^2 [1, 247] = .11, p = .744$ ), however the overall model remained significant ( $\chi^2 [4, 244] = 28.65, p < .001$ ) and predicted 10.9 percent of the variance. Table 22 shows the standardized coefficients, the odds ratios, and the confidence intervals for the odds ratio. As can be seen by Table 22, only the DBS-Burdens scale was a significant predictor in the binary logistic regression.

A binary logistic regression was conducted to test this hypothesis regarding whether or not an individual indicated a desire to schedule a counseling appointment. As shown in Table 21, Step 1 was not significant ( $\chi^2 [1, 248] = 2.72, p = .099$ ) and predicted approximately one percent of the variance using the Cox and Snell (1989) R Square ( $R^2$ ) statistic. Adding the EAT-26 score and the DBS-Burdens score in Step 2 lead to a significant improvement in the model ( $\chi^2 [2, 246] = 9.34, p = .009$ ) and the overall model remained significant ( $\chi^2 [3, 245] = 12.06; p = .007$ ). Finally, in Step 3 the interaction between the EAT-26 and the DBS-Burdens was added to the model; this analysis did not lead to a significant improvement in the overall model ( $\chi^2 [1, 247] = 1.21, p = .27$ ) and, again, the overall model was significant ( $\chi^2 [4, 244] = 13.26, p = .01$ ) and predicted 5.2 percent of the variance. Table 23 shows the standardized coefficients, the odds ratios, and the confidence intervals for the odds ratio. As can be seen by Table 23, only the DBS-Burdens scale was a significant predictor in the binary logistic regression.

**Hypothesis 5.** Finally, it was hypothesized that, after entering the CORE as a control variable, the DBS-Functional Avoidance scale would moderate the relation between the EAT-26 and psychological help seeking such that there would be a significant relation between the EAT-26 and psychological help seeking for individuals with a high DBS-Functional Avoidance score and no significant relation for individuals with a low DBS-Functional Avoidance score.

A hierarchical regression was used to test this hypothesis for the ATSPPHS. As shown in Table 24, Step 1 was not significant ( $F [1, 248] = .07, p = .79$ ) and predicted less than one percent of the variance. Additionally, adding the EAT-26 and DBS-Functional Avoidance scores in Step 2 did not produce a significant model ( $F [3, 248] = .248, p = .86$ ). Finally, in Step3 the interaction between the EAT-26 and DBS-Functional Avoidance was added to the model; this analysis was again not significant ( $F [4, 248] = .19, p = .95$ ) and predicted less than one percent of the variance.

A binary logistic regression was conducted to test this hypothesis regarding whether or not an individual reported a desire to see online information about eating issues. As shown in Table 25, Step 1 was significant ( $\chi^2 [1, 248] = .7.96, p = .005$ ) and predicted 3 percent of the variance using the Cox and Snell (1989) R Square ( $R^2$ ) statistic . Additionally, adding the EAT-26 score and the DBS-Functional Avoidance score in Step 2 lead to a significant improvement in the model ( $\chi^2 [2, 246] = 8.91, p = .012$ ) and the overall model remained significant ( $\chi^2 [3, 245] = 16.87, p = .001$ ). Finally, in Step 3 the interaction between the EAT-26 and the DBS-Functional Avoidance was added to the model; this analysis did not lead to a significant improvement in the overall model ( $\chi^2 [1, 247] = 1.87, p = .17$ ), however the overall model was significant ( $\chi^2 [4, 244] = 18.74, p$

= .001) and predicted 7.2 percent of the variance. Table 26 shows the standardized coefficients, the odds ratios, and the confidence intervals for the odds ratio. As can be seen by Table 26, only the DBS-Functional Avoidance scale was a significant predictor in the binary logistic regression.

A binary logistic regression was conducted to test this hypothesis regarding whether or not an individual indicated a desire to schedule a counseling appointment. As shown in Table 25, Step 1 was not significant ( $\chi^2 [1, 248] = 2.72, p = .099$ ) and predicted approximately one percent of the variance using the Cox and Snell (1989) R Square ( $R^2$ ) statistic. Additionally, adding the EAT-26 score and the DBS-Functional Avoidance score in Step 2 did not lead to a significant improvement ( $\chi^2 [2, 246] = 4.15, p = .13$ ) and the overall model remained non-significant ( $\chi^2 [3, 245] = 6.86; p = .076$ ). Finally, in Step 3 the interaction between the EAT-26 and the DBS-Functional Avoidance was added to the model; this analysis did not lead to a significant improvement in the overall model ( $\chi^2 [1, 247] = 1.15, p = .284$ ) and, again, the overall model was not significant ( $\chi^2 [4, 244] = 8.01, p = .091$ ) and predicted 3.2 percent of the variance. Table 27 shows the standardized coefficients, the odds ratios, and the confidence intervals for the odds ratio. As can be seen by Table 27, only the DBS-Functional Avoidance scale was a significant predictor in the binary logistic regression.

### **Additional Analyses**

In order to better understand these results, additional analyses were conducted. Most of these involve the construct I created to indicate whether or not the participant was likely to meet diagnostic criteria for an eating disorder. As discussed above, if a participant met clinical criteria either on the EAT-26 or the EDDS, they were identified

as clinical (48 participants); those who did not meet this criteria were identified as not clinical (201 participants). See Table 2 for means and standard deviations by clinical category.

There were significant mean differences between the clinical and non-clinical groups on six different scales (three of which are subscales of one larger scale, see Table 2). Individuals in the clinical group reported significantly higher scores on the CORE ( $F[1, 247] = 13.89, p < .001$ ) as well as IPQ-R identity ( $F[1, 247] = 8.69, p = .004$ ), suggesting that women with a clinical level of eating concerns reported more general psychological distress as well as more insight that each of their symptoms is related to a single underlying disorder than women below the clinical level. Also, individuals in the clinical group reported significantly higher scores on the DBS-Benefits scale ( $F[1, 247] = 21.40, p < .001$ ), the DBS-Burdens scale ( $F[1, 247] = 18.37, p < .001$ ), and the DBS-Functional Avoidance scale ( $F[1, 247] = 13.45, p < .001$ ), indicating that participants in the clinical group reported more benefits to their eating behaviors, more drawbacks, and a greater awareness of the function their eating behaviors serve to avoid uncomfortable emotion. The final significant difference was the EAT-26, which was used to create the groups.

Just as important as these differences are the measures where there were no significant differences between the groups. Individuals in the clinical and non-clinical groups had statistically equivalent scores on the SATAQ ( $F[1, 247] = 1.69, p = .195$ ) and the ATSPPHS ( $F[1, 247] = 0.08, p = .779$ ), suggesting that women's reported internalization of societal beauty norms and their attitudes toward counseling were not different for women above and below the clinical disordered eating level.

I also examined mean differences between women who responded “yes” and “no” to each help seeking question. Women who responded “yes” to the question of whether or not they wanted to sign up for a counseling appointment reported significantly lower ATSPPHS scores ( $F[1, 247] = 6.69, p = .01$ ) as well as higher DBS-Burdens ( $F[1, 247] = 13.16, p < .001$ ) and DBS-Functional Avoidance Scores ( $F[1, 247] = 8.49, p = .004$ ) than women who reported “no,” as can be seen in Table 3. Additionally, women who responded “yes” to the question of whether or not they wanted to be directed to online information about eating issues reported significantly higher CORE scores ( $F[1, 247] = 8.54, p = .004$ ), DBS-Benefits scores ( $F[1, 247] = 5.88, p = .016$ ), DBS-Burdens scores ( $F[1, 247] = 29.84, p < .001$ ), and DBS-Functional Avoidance scores ( $F[1, 247] = 17.78, p < .001$ ) than women who responded “no” to this item, as can be seen in Table 4.

## **Chapter 5. Discussion**

I will first discuss, interpret, and evaluate the results of the present study, examining the study as a whole and then each hypothesis separately. Next, I will discuss the results of additional analyses performed including differences between the clinical and non-clinical groups. After this, I will discuss limitations of this study including recommendations for future research. I will also explore the implications of the results of this study on disordered eating and help-seeking and will discuss possible applications of this information.

### **Hypotheses**

Hypotheses of the present study aimed to examine help seeking for an eating disorder by looking at three different dependent variable constructs: attitudes toward counseling, whether or not a participant wanted online information about disordered eating, and whether or not a participant wanted to set up a counseling appointment to discuss food and body image concerns. Specifically, hypotheses were designed to examine moderators of the relationship between disordered eating behavior and willingness to seek help, after controlling for general psychological distress. Overall, most hypotheses were not supported. That is, the five constructs that were hypothesized to moderate the relation between disordered eating behaviors and willingness to seek help did not function in the expected way. A significant challenge in the present study was the small percentage of women who endorsed a desire to set up a counseling appointment (3%) or obtain online information about disordered eating (12%). This imbalance in the results likely contributed to our inability to reject several of the null hypotheses.

Additionally, no construct accounted for even a moderate amount of the variance in the criterion variable, help seeking, indicating that help-seeking was a particularly difficult behavior to predict with the constructs chosen. Also, the suggestion that the five moderator variables would have predictive power was based on previous studies that have sampled individuals already seeking help (Cachelin et al., 2000; Cachelin, Striegel-Moore, & Regan, 2006; Keel et al., 2002; Goodwin & Fitzgibbon, 2002; Marcos et al., 2007; Stockford, Turner, & Cooper, 2007). The majority of participants in the present study were not in counseling and reported a lower severity level than women in most of the previous studies that have examined eating concerns. The fact that the present results are different from what was hypothesized may indicate that one cannot generalize from women with diagnosed eating disorders in a clinic to those who only have mild to moderate eating concerns and are high functioning.

For all five hypotheses predicting participants' attitudes towards counseling, hierarchical multiple regression was used. Each hypothesis involved the same first step: general psychological distress as a control variable. This first step was not significant (see Table 7 for these results), indicating that general psychological distress did not significantly predict attitudes towards counseling. For all hypotheses predicting whether or not participants were interested in (1) viewing online information about disordered eating and (2) setting up a counseling appointment, binary logistic regression was used. General psychological distress, the control variable, significantly discriminated between participants who were and were not interested in viewing online information about disordered eating (see Table 8 for these results), but did not significantly discriminate between participants who were and were not interested in setting up a counseling

appointment (see Table 8). Also important to note is that, while general psychological distress did significantly discriminate between women who were and were not interested in viewing online information about eating concerns, this construct only accounted for 3.1% of the variance.

It was hypothesized that individuals with more disordered eating would be more likely to seek help, as previous literature demonstrated that individuals whose disorders are more severe (and therefore are experiencing higher distress) are more likely to seek help (Bland et al., 1997; Wang et al., 2005a). The fact that this base hypothesis was only supported with one of the three measures of help seeking makes it very difficult to determine the impact of the five hypothesized moderators. There are a few factors which might contribute to the present study's results which go against this expectation. First, for the present study, the entire sample was currently in college. This means that none of the participants were experiencing a degree of severity that impacted their functioning enough to force them to withdraw from school. Another important consideration is impact of a low- to moderate-level eating problem on an individual. Unlike depression or anxiety, an eating disorder is a coping mechanism. Women with an eating disorder use their behaviors to manage sadness, anger, and stress, which means that it subjectively decreases their distress until the behaviors become severe enough to overwhelm them (Reif & Reif, 2007).

Another issue to consider is that the ATSPPHS was only significantly correlated with age and DBS-Burdens, and both of these correlations were small (see Table 4). As attitudes towards counseling are expected to predict actual help seeking, this result is problematic. The lack of large, prolific correlations between the ATSPPHS and other

constructs likely indicates that this study did not measure the variables that most strongly predict help-seeking in women with low to moderate disordered eating. Although these correlations were few, and small, it seems important to note that there was a significant mean difference on the ATSPPHS between women who did and did not desire to schedule a counseling appointment (see Table 4). With this information about the sample and control variable in mind, I will discuss each hypothesis individually.

**Hypothesis 1.** For all three dependent variables it was hypothesized that, after controlling for general psychological distress, degree of insight would moderate the relation between degree of disordered eating behavior and willingness to seek help. This hypothesis, as it relates to participants' attitudes towards counseling, was not supported. It is important to highlight that neither the main effects nor the interaction of these main effects significantly predicted attitudes about counseling. Similarly, as it relates to participants' interest in setting up a counseling appointment, this hypothesis was not supported. Counter to hypotheses, no model (main effects nor main effects plus the interaction term) produced significant results.

While the specific hypothesis of insight moderating the relation between disordered eating behavior and help seeking was not supported as it relates to participants' interest in viewing information about disordered eating, there were models that significantly predicted help seeking. As discussed above, psychological distress significantly accounted for 3.1% of the variance of whether or not participants wanted to view online information about disordered eating (see Table 8 for these results). The models adding in the impact of disordered eating and insight as well as the interaction of these constructs in addition to these two variables were also statistically significant (see

Table 8). Only general psychological distress (CORE) significantly contributed to the models (see Table 9). Therefore, the hypothesized variables did not have any significant predictive power above and beyond the predictive power of general psychological distress. It also seems important to note that, while these models were statistically significant, at the most the model predicted about 4% of the variance. Clinically, this is not significant and leaves us with questions about what predicts the other 96% of the variance in these women's desire (or lack thereof) to get more information about disordered eating.

While it was expected that insight would significantly moderate the relation between eating behaviors and help seeking, this result was not found in the present study for any of the three measures of help seeking. This outcome could be the result of several different factors. Primarily, I believe that the difference between the hypothesized results and actual results are related to the differences in population between the present study and past studies, which was discussed above as it relates to all hypotheses.

Additionally, the hypothesis that insight would have an impact on help-seeking behavior was based on prior studies relating insight and stage of change; research indicates that individuals in the precontemplation stage were more likely to have low insight into eating concerns while individuals in the contemplation stage were more likely to have higher levels of insight (Stockford, Turner, & Cooper, 2007). It followed, then, that individuals in a more advanced stage of change would be more likely to seek help. Perhaps the women in the sample are primarily in a very early stage of change – precontemplation – and there was not enough variance in this particular characteristic to see the impact of insight on help-seeking.

It also seems important to note here that insight had significant, moderate to large correlations with several constructs in this study (see Table 4). Participants who reported greater insight that each of their individual symptoms was connected with an underlying eating concern also reported many more benefits to the disorder ( $r = .61$ ), more drawbacks to the disorder ( $r = .57$ ), a greater internalization of societal beauty norms ( $r = .43$ ), a greater awareness of the function the disorder served to avoid uncomfortable emotion ( $r = .39$ ), and more disordered eating behavior ( $r = .35$ ). These significant correlations indicate that insight is a powerful variable for women with eating concerns.

**Hypothesis 2.** For all three dependent variables it was hypothesized that, after controlling for general psychological distress, internalization of sociocultural beauty norms would moderate the relation between degree of disordered eating behavior and willingness to seek help. This hypothesis, as it relates to participants' attitudes towards counseling, was not supported. Counter to what was hypothesized, neither the main effects nor the interaction of these main effects significantly predicted attitudes about counseling. Similarly, as it relates to participants' interest in setting up a counseling appointment, this hypothesis was not supported. No model (main effects nor main effects plus the interaction term) produced significant results.

While the specific hypothesis of internalization of sociocultural beauty norms moderating the relation between disordered eating behavior and help seeking was not supported as it relates to participants' interest in viewing information about disordered eating, two of the three models did significantly predict help seeking. As discussed above, psychological distress significantly predicted whether or not participants wanted to view online information about disordered eating (see Table 12 for these results). The

model adding in the impact of disordered eating and internalization of sociocultural beauty norms was also statistically significant (see Table 12). The third model, which added in the interaction of these two main effects, however, was not statistically significant (see Table 12). Analyses performed to determine what variables significantly contributed to the third model indicate that only general psychological distress had a significant contribution (see Table 13). Therefore, it is determined that the hypothesized variables did not have any significant predictive power above and beyond the predictive power of general psychological distress.

While it was expected that internalization of sociocultural beauty norms would significantly moderate the relation between eating behaviors and help seeking, this result was not found in the present study for any of the three measures of help seeking. This outcome could be the result of several different factors. Primarily, I believe that the difference between the hypothesized results and actual results are related to the differences in population between the present study and past studies, which was discussed above as it relates to all hypotheses.

Additionally, the hypothesis that internalization of sociocultural beauty norms would have an impact on help-seeking behavior was based on prior studies relating internalization of sociocultural beauty norms and problematic eating behaviors; there is clear evidence in the literature that high internalization of cultural beauty norms is positively related with body dissatisfaction and negative eating behaviors (Forbes, Jobe, & Revak, 2006; Morrison & Sheahan, 2009; Rukavina & Pokrajac-Bulian, 2006). In the present study there is a small, significant correlation between internalized sociocultural beauty norms and disordered eating ( $r = .17, p < .01$ ). It was expected that individuals

who have personally internalized society's message that one must be thin, attractive, and athletic will perceive their eating attitudes and behaviors as more consistent with society's expectations and thus will have less interest in seeking help to change these behaviors than individuals who believe that their behaviors are inconsistent with society's messages. Attitudes towards seeking help and internalization of sociocultural beauty norms were not significantly correlated in the present study.

It also seems important to note here that insight had significant, moderate to large correlations with several constructs in this study (see Table 4). Participants who reported greater internalization of sociocultural beauty norms also reported: greater insight that their individual symptoms are related to an underlying disorder ( $r = .43$ ), more benefits to the disorder ( $r = .41$ ), and more awareness of burdens of the disorder ( $r = .29$ ).

**Hypothesis 3.** It was hypothesized that, after controlling for general psychological distress, perceived benefits of the disorder would moderate the relation between degree of disordered eating behavior and willingness to seek help for each of three dependent variables. This hypothesis, as it relates to participants' attitudes towards counseling, was not supported. Counter to what was expected, neither the main effects nor the interaction of these main effects significantly predicted attitudes about counseling (see Table 15 for results). Similarly, as it relates to participants' interest in setting up a counseling appointment, this hypothesis was not supported. No model (main effects nor main effects plus the interaction term) produced significant results (see Table 16 for results).

While the specific hypothesis that perceived benefits of the disorder would moderate the relation between disordered eating behavior and help seeking was not

supported as it relates to participants' interest in viewing information about disordered eating, all three models did significantly predict help seeking (see Table 16 for these results). As discussed above, general psychological distress significantly predicted whether or not participants wanted to view online information about disordered eating, and the model adding in the impact of disordered eating and perceived benefits of the disorder was also statistically significant (see Table 16). Finally, the third model, which added in the interaction of these two main effects, was also statistically significant (see Table 16). Analyses performed to determine the variables that contributed to the third significant model indicated that only general psychological distress had a significant contribution (see Table 17). Therefore, it is determined that the hypothesized variables did not have any significant predictive power above and beyond the predictive power of general psychological distress. While these models were statistically significant, their clinical significance is negligible, as the full model only predicted 5.4% of the variance.

While it was expected that benefits of the disorder would significantly moderate the relation between eating behaviors and help seeking, this result was not found in the present study for any of the three measures of help seeking. This outcome could be the result of several different factors. Primarily, I believe that the difference between the hypothesized results and actual results are related to the differences in population between the present study and past studies, which was discussed above as it relates to all hypotheses.

Additionally, the hypothesis that benefits of the disorder would have an impact on help-seeking behavior was based on research demonstrating that movement from the contemplation to the action stage of change is marked by a decrease in reported benefits

of the disorder (Prochaska, 1994). It followed, then, that individuals in a more advanced stage of change will be more likely to seek help. Perhaps the women in the sample are primarily in a very early stage of change – precontemplation or contemplation – and there was not enough variance in this particular characteristic to see the impact of perceived benefits of the disorder on help-seeking.

It also seems important to note here that perception of benefits of the disorder had significant, moderate to large correlations with several constructs in this study (see Table 4). Participants who reported greater benefits to the disorder also reported greater insight that their individual symptoms are related to an underlying disorder ( $r = .61$ ), more drawbacks to the disorder ( $r = .58$ ), a greater awareness of the function the disorder serves to avoid uncomfortable emotion ( $r = .44$ ), greater internalized societal beauty norms ( $r = .41$ ), more general psychological distress ( $r = .33$ ), and more disordered eating behavior ( $r = .32$ ). These correlations seem to provide strong evidence that perceived benefits of the disorder are an important variable to examine when trying to understand disordered eating.

**Hypothesis 4.** It was hypothesized that, after controlling for general psychological distress, perceived drawbacks of the disorder would moderate the relation between degree of disordered eating behavior and willingness to seek help for each of three dependent variables. Perceived drawbacks of the disorder did contribute to a model which significantly predicted attitudes towards counseling, however the moderation hypothesis was not supported. While general psychological distress, the control variable, did not produce a statistically significant model, adding in both disordered eating behavior and perceived drawbacks of the disorder did significantly predict participants'

attitudes towards counseling (see Table 19). This model, which included general psychological distress, disordered eating behavior, and perceived burdens predicted 3% of the variance in attitudes toward counseling. The interaction of these two main effects was added into the third model and this again was statistically significant; it predicted 4% of the variance in attitudes toward counseling. Adding in the interaction, however, did not produce a significant change in the percent of variance predicted (see Table 19). While these models are statistically significant, predicting 4% of the variance is not clinically significant; clearly many other factors impact a woman's perceptions of counseling.

As it relates to participants' interest in setting up a counseling appointment, the hypothesis that perceived drawbacks of the disorder would moderate the relation between disordered eating behavior and help seeking was not supported. No model (main effects nor main effects plus the interaction term) produced significant results (see Table 21 for results).

While the specific hypothesis that perceived benefits of the disorder would moderate the relation between disordered eating behavior and help seeking was not supported as it relates to participants' interest in viewing information about disordered eating, all three models did significantly predict help seeking (see Table 21 for these results). As discussed above, general psychological distress significantly predicted whether or not participants wanted to view online information about disordered eating, and the model adding in the impact of disordered eating and perceived benefits of the disorder was also statistically significant (see Table 21). Finally, the third model, which added in the interaction of these two main effects, was also statistically significant (see Table 21). Analyses performed to determine what variables contributed to this third

significant model indicated that the main effect of perceived drawbacks of the disorder was the only significant contributor to the model (see Table 22). Therefore, it is determined that the interaction did not have any significant predictive power above and beyond the predictive power of the main effect of perceived drawbacks of the disorder.

Of all the variables tested as moderators of the relation between disordered eating behavior and help seeking, perceived burdens of the disorder predicted the largest amount of variance. The full model predicted about 10.9% of the variance in whether or not an individual wanted to get more information about disordered eating.

While it was expected that burdens of the disorder would significantly moderate the relation between eating behaviors and help seeking, this result was not found in the present study for any of the three measures of help seeking. This outcome could be the result of several different factors. Primarily, I believe that the difference between the hypothesized results and actual results are related to the differences in population between the present study and past studies, which was discussed above as it relates to all hypotheses.

Additionally, the hypothesis that burdens of the disorder would have an impact on help-seeking behavior was based on research demonstrating that movement from the precontemplation to the contemplation stage of change is marked by a noted increase in burdens of the disorder (Prochaska, 1994). Moreover, one study reported that individuals in the contemplation and action stages reported greater burdens of their eating disorder than individuals in the precontemplation stage (Cockell, Gellar, & Linden, 2003). It followed, then, that individuals in a more advanced stage of change will be more likely to seek help. Perhaps the women in the sample are primarily in a very early stage of change

– precontemplation – and there was not enough variance in this particular characteristic to see the impact of perceived benefits of the disorder on help-seeking.

It also seems important to note here that perception of burdens of the disorder had significant, moderate to large correlations with several constructs in this study (see Table 4). These correlations seem to provide strong evidence that perceived burdens of the disorder are an important variable to examine when trying to understand disordered eating.

**Hypothesis 5.** It was hypothesized that, after controlling for general psychological distress, awareness of the function the disorder serves to avoid uncomfortable emotion (functional avoidance) would moderate the relation between degree of disordered eating behavior and willingness to seek help for each of three dependent variables. This hypothesis was not supported for any of the measures of help-seeking. It is important to highlight that neither the main effects nor the interaction of these main effects significantly predicted attitudes about counseling (see Table 24 for results). Similarly, as it relates to participants' interest in setting up a counseling appointment, this hypothesis was not supported. No model (main effects nor main effects plus the interaction term) produced significant results (see Table 25 for results).

While the specific hypothesis that functional avoidance would moderate the relation between disordered eating behavior and help seeking was not supported as it relates to participants' interest in viewing information about disordered eating, all three models did significantly predict help seeking (see Table 25 for these results). As discussed above, general psychological distress significantly predicted whether or not participants wanted to view online information about disordered eating, and the model

adding in the impact of disordered eating and functional avoidance was also statistically significant (see Table 25). Finally, the interaction, which added in the interaction of these two main effects, was also statistically significant (see Table 25). Analyses performed to determine which variables significantly contributed to this third model indicated that only the main effect of functional avoidance significantly contributed. Therefore, it is determined that the interaction did not have any significant predictive power above and beyond the predictive power of the main effect of functional avoidance. It seems important to note that the full model (including control variable, degree of disordered eating, functional avoidance, and the interaction term) predicted 7.2% of the variance in whether or not a participant wanted to see online information about disordered eating.

While it was expected that functional avoidance would significantly moderate the relation between eating behaviors and help seeking, this result was not found in the present study for any of the three measures of help seeking. This outcome could be the result of several different factors. Primarily, I believe that the difference between the hypothesized results and actual results are related to the differences in population between the present study and past studies, which was discussed above as it relates to all hypotheses.

Additionally, the hypothesis that functional avoidance would have an impact on help-seeking behavior was based on research demonstrating that individuals in the contemplation or action stage of change report greater awareness of the function that eating concerns serve to avoid discomfort than individuals in the precontemplation stage (Cockell, Gellar, & Linden, 2003). It followed, then, that individuals in a more advanced stage of change would be more likely to seek help. Perhaps the women in the sample are

primarily in a very early stage of change – precontemplation – and there was not enough variance in this particular characteristic to see the impact of perceived benefits of the disorder on help-seeking.

It also seems important to note here that functional avoidance had significant, moderate to large correlations with several constructs in this study (see Table 4). These correlations seem to provide strong evidence that a woman's awareness of the function that the disorder serves to avoid negative emotion is an important variable to examine when trying to understand disordered eating.

**Additional Analyses.** Results of the additional analyses indicate that, while hypotheses of the present study were not supported, there are many important differences to note within the sample. There were several significant differences between the clinical and non-clinical groups. Specifically, women who likely met diagnostic criteria for an eating disorder reported more general psychological distress, greater insight that each of their symptoms is related to one underlying disorder, greater awareness of the function their eating behaviors serve to help them avoid uncomfortable emotion, and more benefits and drawbacks to their behaviors than women who did not meet clinical criteria. This seems to indicate that the women in this sample with more disordered eating behavior (who, notably, are still functioning college students) have quite a bit of insight into their behaviors in general.

Equally important are the two constructs where there was no significant difference between women above and below the clinical cutoff: internalization of societal beauty norms and attitudes towards counseling. It seems that women who have moderate to high disordered eating are no more likely than women with only mild disordered eating

behavior to have internalized strong societal messages about beauty. Additionally, these two groups of women have statistically equivalent attitudes toward counseling. This result may contribute to the lack of significance in the hypotheses. If women who have more disordered eating behavior have equivalent views of counseling as women with less disordered eating behavior, it follows that they will be no more (and no less) likely to seek therapy.

In addition to examining mean differences of women above and below the clinical level, I also examined mean differences between women who said “yes” and “no” to each help seeking question. Women who indicated a desire to set up a counseling appointment to discuss food and body image issues reported significantly lower stigma (more positive attitudes) towards counseling, more drawbacks to their disorder, and a greater awareness of the function their eating behaviors serve to avoid uncomfortable emotion than women who indicated no interest in a counseling appointment. These results are consistent with prior research, in that there was a relation between attitudes towards counseling and reported interest in setting up an appointment (Vogel, et al., 2007). Additionally, prior research demonstrated that there is a connection between an increase in reported drawbacks to the disorder and the movement from the precontemplation to the contemplation stage of change (Cockell, Gellar, & Linden, 2003). It was originally hypothesized that this movement from one stage to the next would coincide with a greater willingness to seek help. Finally, women who have more awareness that their eating behaviors are connected to their emotions – and not just the result of beliefs about their body or food – are likely to be more open to counseling, where emotions are often the focus.

Finally, women who responded “yes” to the question of whether or not they wanted to be directed to online information about eating issues, when compared with women who responded “no” to this question, reported more general psychological distress, more benefits and drawbacks to their behavior, and a greater awareness of the function their behavior serves to help them avoid uncomfortable emotion. These results regarding benefits of the disorder and awareness that the disorder helps them avoid uncomfortable emotions are similar to the results discussed above, for women who expressed interest in a counseling appointment, and likely for similar reasons. Additionally, the result that women who were more interested in learning about eating issues also reported experiencing more general psychological distress is consistent with prior research which indicates that individuals with more distress are more likely to seek counseling (Bland et al., 1997; Wang et al., 2005a).

### **Limitations and Direction for Future Research**

As hypotheses in the present study were not supported, it seems quite important to examine limitations. One of the primary limitations in the present study is the percentage of women who reported an interest in seeking counseling or getting online information about disordered eating. This could have had a lesser impact if the overall sample was larger. As the present study was performed because women with eating concerns so infrequently seek help, this finding is not surprising. In future studies it may prove beneficial to assess different levels of help seeking (present or past counseling, interest in seeking counseling in the future, having looked for information or support online, speaking with a parent or friend about their eating concerns, etc) and different factors that may impact a woman’s perception of need (“has a doctor, family member, or friend

expressed concern about eating/exercise?”, “have you visited any websites about eating and exercise concerns?”). As it appears that the base rate is so low, another possible solution could be to increase the sample size significantly such that the group of women who report interest in seeking counseling is 5-6 times larger than the present group. Additionally, it was assumed that women in the current sample would have been dispersed normatively across the Stages of Change (Prochaska & DiClemente, 1985). For this reason, this variable was not measured. It seems likely, given the very few women who expressed interest in help seeking, that most of these women were in the pre-contemplative stage and therefore unaware of having a problem.

Another important factor of this study, the population, could be perceived as a limitation. Literature that was used to determine the present hypotheses typically involved women who had diagnosable eating disorders and were (willingly or unwillingly) seeking treatment. Because the present study tested hypotheses suggested by research on a more severe population with a group of functioning college women, we cannot be certain why the hypotheses are rejected. Perhaps the moderator effects that were suggested simply don't exist in any population; conversely they may exist in a more severe population, but not in the present, functional college population. Because of this uncertainty, the present population could be a limitation (perhaps their level of severity and functioning made it impossible to see an existing effect that would be found with women with eating disorders), or perhaps this population is not a limitation, but just provides the field with information about women with lower severity eating concerns.

For this reason, future research could test similar hypotheses with a group of women who have more severe struggles with disordered eating. This could require a very

large sample, where women without diagnosable eating behaviors are screened out. These hypotheses could also be tweaked to be tested with women who are attending a first counseling appointment. In this case, women's perception of their need for counseling – and the degree to which they are coming willingly rather than through coercion – would be the dependent variables. Also important to note is that many prior studies were conducted in person, while the present study was conducted online. The format of the assessment could have both benefits (anonymity related to truthfulness, taken in a comfortable environment) and drawbacks (no connection with a clinician, amount of energy/focus given to measures).

It seems important to note that general psychological distress did significantly predict membership of women who did and did not want to get more information about disordered eating. It seems equally important to note that level of psychological distress predicted less than 4% of the variance. Future research could work toward understanding the help-seeking constructs examined in the present study to gain a better sense for what best predicts help-seeking behavior for women with eating concerns.

As few constructs in the present study were correlated with participants attitudes towards counseling (ATSPPHS), it seems important to consider other constructs that may predict help seeking for women with mild to moderate disordered eating. Perhaps factors outside of the individual's perception of need predicts help seeking – constructs such as Prochaska and DiClemente's Stages of Change, the individual's expectation/hope that therapy can help (and not just take away their coping mechanism), and perceived cause of the disorder may prove useful in future studies.

Finally, some of the consequences of this line of research being relatively new may have been limitations. Hypotheses in the present study were drawn from a relatively small body of literature, with very few studies on actual help seeking behavior. In this study I attempted to put together several lines of research – stages of change, perceptions of need, and specific help seeking – without having literature that provided evidence of each relationship. An additional factor related to the youth of this line of study is the measures that were used. While all measures used demonstrated good internal validity (in past studies and the present study), most have not been tested with a wide range of populations, especially the measures used to quantify hypothesized moderator constructs.

### **Implications**

Implications of the present study are varied and can be drawn from the rejected hypotheses as well as mean differences between groups. Descriptive statistics again demonstrate that women with eating concerns are not likely to seek counseling. However, women who indicated that they wanted to set up a counseling appointment reported significantly lower stigma towards counseling. This again supports the importance of stigma in seeking therapy, suggesting that minimizing stigma towards counseling may help women with disordered eating to seek therapy. Additionally, these women reported significantly more drawbacks to the disorder and a greater awareness of the function their disorder serves to avoid uncomfortable emotion. This suggests that outreach could be developed to help women explore and better understand their disorder – especially the aspects of their eating behaviors that get in the way of being happy, productive, and successful – with the expectation that these activities may move them towards greater willingness to seek help.

In examining the five hypotheses, the most notable result is that these constructs did not predict help seeking as they were expected to and predicted very little of the variance. What this suggests is that there is still much to understand about help seeking for an eating disorder and that women's choices to seek help for disordered eating are primarily related to something other than general psychological distress, disordered eating behaviors, and the five hypothesized moderators.

The results of the present study also give us a better picture of characteristics of high functioning college women with eating concerns. Women who are at a clinical level of disordered eating report more general psychological distress than women below the clinical level as well as greater reported insight that each separate symptom they experience is related to one underlying disorder. Additionally, these women report more benefits to the disorder, more drawbacks, and a greater awareness that their eating behaviors serve a function of avoiding uncomfortable emotion. This level of awareness indicates that the women who likely meet clinical criteria for an eating disorder have more insight into their behavior than women who do not meet clinical criteria. These results also seem to demonstrate that, as disordered eating behaviors increase, both the benefits and the drawbacks of these behaviors increase and that women who likely meet clinical criteria are aware of these increases.

Finally, results of the present study validate some existing (but relatively new) measures. The measure used in the present study to assess degree of insight that disparate symptoms are related to one underlying disorder was developed in 2007 (Stockford, Turner, & Cooper) and has not been commonly cited in recent literature. The present study suggests that this measure has good internal consistency and that the construct is an

important one to examine for disordered eating, as this instrument was significantly correlated with most other constructs in this study (see Table 4). The same can be said for the Decisional Balance Scale, which was modified to assess eating disorders in 2002 by Cockell, Gellar, and Linden. In the present study, the subscales of this measure have good internal consistency and are significantly correlated with most other instruments, including those that are well-established in the disordered eating literature.

## References

- Al Anbar, N. N., Dardennes, R. M., Prado-Netto, A., Kaye, K., Contejean, Y. (2010). Treatment choices in autism spectrum disorder: The role of parental illness perceptions. *Research in Developmental Disabilities, 31*, 817-828.
- Alvarez-Rayon, G., Mancilla-Diaz, J. M., Vazquez-Arevalo, R., Unikel-Santoncini, C., Caballero-Romo, A., & Mercado-Corona. (2004). Validity of the Eating Attitudes Test: A study of Mexican eating disorder patients. *Eating and Weight Disorders, 9*, 243-248.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (Revised 4<sup>th</sup> ed.). Washington, DC: Author.
- Anderson, R. M. (1995). Revisiting the behavioral model and access to medical care: Does it matter? *Journal of Health and Social Behavior, 36*, 1-10.
- Anderson, R. M. & Newman, J. F. (1973). Societal and individual determinants of medical care utilization in the United States. *Milbank Memorial Fund Quarterly Journal, 51*, 95-124.
- Andrews, G., Singh, M., & Bond, M. (1993). The Defense Style Questionnaire. *Journal of Nervous and Mental Disease, 181*, 246-254.
- Banasiak, S. J., Wertheim, E. H., Koerner, J., & Voudouris, N. J. (1999). Test-retest reliability and internal consistency of a variety of measures of dietary restraint and body concerns in a sample of adolescent girls. *International Journal of Eating Disorders, 29*, 85-89.
- Bedford, J. L. & Johnson, C. S. (2006). Societal influences on body image dissatisfaction in younger and older women. *Journal of Women and Aging, 18*, 41-55.

- Bell, M. D., Billington, R., & Becker, B. (1986). A scale for the assessment of object relations: Reliability, validity, and factorial invariance. *Journal of Clinical Psychology, 42*, 733-741.
- Bergeron, E., Poirier, L. R., Fournier, L. Roberge, P., & Barrette, G. (2005). Determinants of service use among young Canadians with mental disorders. *Canadian Journal of Psychiatry, 50*, 629-636.
- Betz, N. (1987). Use of discriminant analysis in counseling psychology research. *Journal of Counseling Psychology. Special Issue: Quantitative foundations of counseling psychology research, 34*, 393-403.
- Blake, W., Turnbull, S., & Treasure, J. L. (1997). Stages and processes of change in eating disorders; Implications for therapy. *Clinical Psychology and Psychotherapy, 4*, 186-191.
- Bland, R. C., Newman, S. C., & Orn, H. (1997). Help-seeking for psychiatric disorders. *Canadian Journal of Psychiatry, 42*, 935-942.
- Byrne, S. M., Allen, K., L., Lampard, A. M., Dove, E. R., & Furstland, A. (2009). The factor structure of the Eating Disorder Examination in clinical and community samples. *International Journal of Eating Disorders, 43*, 260-265.
- Cachelin, F. M., Rebeck, R., Veisel, C., & Striegel-Moore, R. H. (2000). Barriers to treatment for eating disorders among ethnically diverse women. *International Journal of Eating Disorders, 30*, 269-278.
- Cachelin, F. M., Striegel-Moore, R. H., & Regan, P. C. (2006). Factors associated with treatment seeking in a community sample of European American and Mexican

- American women with eating disorders. *European Eating Disorders Review*, *14*, 422-429.
- Carragher, N., Adamson, G., Bunting, B., & McCann, S. (2010). Treatment-seeking behaviours for depression in the general population: Results from the National Epidemiologic Survey on Alcohol and Related Conditions. *Journal of Affective Disorders*, *121*, 59-67.
- Cockell, S. J., Geller, J., & Linden, W. (2003). Decisional balance in Anorexia Nervosa: Capitalizing on ambivalence. *European Eating Disorders Review*, *11*, 75-89.
- Cohen, J. (1992). A power primer. *Psychological Bulletin*, *112*, 155-159.
- Deane, F. P. & Chamberlain, K. (1994). Treatment fearfulness and distress as predictors of professional psychological help-seeking. *British Journal of Guidance and Counseling*, *22*, 207-217.
- Deane, F. P. & Todd, D. M. (1996). Attitudes and intentions to seek professional psychological help for personal problems or suicidal thinking. *Journal of College Student Psychotherapy*, *10*, 45-59.
- Fava, J. L., Velicer, W. F., & Prochaska, J. O. (1995). Applying the transtheoretical model to a representative sample of smokers. *Addictive Behaviors*, *20*, 189-203.
- Fairburn, C. G., & Cooper, Z. (1993). The eating disorder examination (12<sup>th</sup> ed.). In C. G. Fairburn, & G. T. Wilson (Eds.), *Binge eating: Nature, assessment, and treatment* (pp. 317-360). New York: Guilford Press.
- First, M. B., Spitzer, R. L., Gibbon, M., & Williams, J. B. W. (2001). *Structured Clinical Interview for DSM-IV-TR Axis I Disorders – Nonpatient edition*. New York: Biometrics Research Department, New York State Psychiatric Institute.

- Fischer, E. H. & Farina, A. (1995). Attitudes toward seeking professional psychological help: A shortened form and considerations for research. *Journal of College Student Development*, 36, 368-373.
- Fischer, E. H., & Turner, J. I. (1970). Orientations to seeking professional help: Development and research utility of an attitude scale. *Journal of Consulting and Clinical Psychology*, 35, 79-90.
- Forbes, G. B., Jobe, R. L., & Revak, J. A. (2006). Relationships between dissatisfaction with specific body characteristics and the Sociocultural Attitudes Toward Appearance Questionnaire-3 and Objectified Body Consciousness Scale. *Body Image*, 3, 295-300.
- Fredrickson, B., & Roberts, T. (1997). Objectification theory: Toward understanding women's lived experiences and mental health risks. *Psychology of Women Quarterly*, 21, 173-178.
- Garner, D. M. (2004). *Eating Disorder Inventory-3: Professional Manual*. Lutz, FL: Psychological Assessment Resources, Inc.
- Garner, D. M., & Garfinkel, P. E. (1979). The Eating Attitudes Test: An index of the symptoms of anorexia Nervosa. *Psychological Medicine*, 9, 273-279.
- Garner, D. M., Olmsted, M. (1984). *Eating Disorder Inventory Manual*. New York: Psychological Assessment Resources.
- Garner, D. M., Olmsted, M. P., Bohr, Y., & Garfinkel, P. E. (1982). The Eating Attitudes Test: Psychometric features and clinical correlates. *Psychological Medicine*, 12, 871-878.

- Goodwin, R. D., Fitzgibbon, M. L. (2002). Social anxiety as a barrier to treatment for eating disorders. *International Journal of Eating Disorders*, 32, 103-106.
- Griffiths, R. A., Beumont, P. J. V, Russell, J., Schotte, D., Thornton, C., Touyz, S., Varano, P. (1999). Sociocultural attitudes towards appearance in dieting disordered and nondieting disordered subjects. *European Eating Disorders Review*, 7, 193-203.
- Griffiths, R. A., Mallia-Blanco, R., Boesenberg, E., Ellis, C., Fischer, K., Taylor, M., & Wyndham, J. (2000). Restrained eating and sociocultural attitudes to appearance and general dissatisfaction. *European Eating Disorders Review*, 8, 394-402.
- Grimley, D. M., Riley, G. E., Bellis, J. M., & Prochaska, J. O. (1993). Assessing the stages of change and decision making for contraceptive use for the prevention of pregnancy, sexually transmitted diseases, and acquired immunodeficiency syndrome. *Health Education Quarterly*, 20, 455-470.
- Harman, J. S., Edlund, M. J., & Fortney, J. C. (2004) Disparities in the adequacy of depression treatment in the United States. *Psychiatric Services*, 55, 1379-1385.
- Heinberg, L. J., Thompson, J. K., & Stormer, S. (1995). Development and validation of the Sociocultural Attitudes Towards Appearance Questionnaire (SATAQ). *International Journal of Eating Disorders*, 17, 81-89.
- Hepworth, N. & Paxton, S. J. (2007). Pathways to help-seeking in Bulimia Nervosa and Binge Eating problems: A concept mapping approach. *International Journal of Eating Disorders*, 40, 493-504.

- Herman, C. P., Polivy, J., Pliner, P., Threkheld, J., Munic, J. (1978). Distractability in dieters and non dieters: An alternative view of 'Externality.' *Journal of Personality and Social Psychology*, 36, 536-548.
- Hohlstein, L. A., Smith, G. T., & Atlas, J. G. (1998). An application of expectancy theory to eating disorders: Development and validation of measures of eating and dieting expectancies. *Psychological Assessment*, 10, 49-58.
- Holliday, J., Wall, E., Treasure, J., Weinman, J. (2005). Perceptions of illness in individuals with Anorexia Nervosa: A comparison with lay men and women. *International Journal of Eating Disorders*, 37, 50-56.
- Jackson, H., Judd, F., Komiti, A., Fraser, C., Murray, G., Robins, G., Pattison, P., & Wearing, A. (2007). Mental health problems in rural contexts: What are the barriers to seeking help from professional providers? *Australian Psychologist*, 42, 147-160.
- Karasz, A. (2005). Cultural differences in conceptual models of depression. *Social Science & Medicine*, 60, 1625-1635.
- Kandel, D. B. (1980). Drug and drinking behavior among youth. *Annual Review of Sociology*, 6, 235-285.
- Keel, P. K., Dorer, D. J., Eddy, K. T., Delinsky, S. S., Franko, D. L., Blais, M. A., ... Herzog, D. B. (2002). Predictors of treatment utilization among women with anorexia and bulimia Nervosa. *The American Journal of Psychiatry*, 159, 140-142.
- Kjelsas, E., Bjornstrom, C., & Gotestam, K. G. (2003). Prevalence of eating disorders in female and male adolescents (14-15 years). *Eating Behaviors*, 5, 13-25.

- Kushner, M. G., & Sher, K. J. (1989). Fear of psychological services and its relation to service utilization. *Professional Psychology: Research and Practice, 20*, 251-257.
- Lawson, V. L., Bundy, C., Lyne, P. A., & Harvey, J. N. (2004). Using the IPQ and PMDI to predict regular diabetes care-seeking among patients with Type 1 diabetes. *British Journal of Health Psychology, 9*, 241-252.
- Leventhal, H., Nerenz, D. R., & Steele, D. J. (1984). Illness representations and coping with health threats. In A. Baum, and S. E. Taylor and Je. E. Singer (Eds.). *Handbook of Psychology and Health, Volume IV: Social Psychological Aspects of Health*. Pp. 219-252. New York: Wiley.
- Marcos, Y. Q., Cantero, M. C. T., Escobar, C. R., Acosta, G. P. (2007). Illness perception in eating disorders and psychosocial adaptation. *European Eating Disorders Review, 15*, 373-384.
- McKinley, N. M. & Hyde, J. S. (1996). The Objectified Body Consciousness Scale development and validation. *Psychology of Women Quarterly, 20*, 181-215.
- Mendelson, B. K., Mendelson, M. J., & Andrews, J. (2001). Body-esteem scale for adolescents and adults. *Journal of Personality Assessment, 76*, 90-106.
- Mintz, L. B. & O'Halloran, M. S. (2000). The Eating Attitudes Test: Validation with DSM-IV eating disorder criteria. *Journal of Personality Assessment, 74*, 489-503.
- Miranda, J. & Cooper, L. A. (2004). Disparities in care for depression among primary care patients. *Journal of General Internal Medicine, 19*, 120-126.
- Mitchell, K. S. & Mazzeo, S. E. (2009). Evaluation of a structural model of objectification theory and eating disorder symptomatology among European

- American and African American undergraduate women. *Psychology of Women Quarterly*, 33, 384-395.
- Morrison, T. G. & Sheahan, E. E. (2009). Gender-related discourses as mediators in the association between internalization of the thin-body ideal and indicators of body dissatisfaction and disordered eating. *Psychology of Women Quarterly*, 33, 374-383.
- Morry, M. M. & Staska, S. L. (2001). Magazine exposure: Internalization, self-objectification, eating attitudes, and body satisfaction in male and female university students. *Canadian Journal of Behavioural Science*, 33, 269-279.
- O'Connell, D. & Velicer, W. F. (1988). A decisional balance measure and the stages of change model for weight loss. *International Journal of the Addictions*, 23, 729-750.
- Parslow, R. A., & Jorm, A. F. (2000). Who uses mental health services in Australia? An analysis of data from the National Survey on Mental Health and Well-Being. *Australian and New Zealand Journal of Psychiatry*, 34, 997-1008.
- Petrie, T., Rogers, R., Johnson, C., & Diehl, N. (1996, August). *Development and validation of the Beliefs About Attractiveness Scale-Revised*. Poster presented at the 104<sup>th</sup> annual convention of the American Psychological Association, Toronto, Ontario, Canada.
- Prochaska, J. O. (1994). Strong and weak principles for progressing from precontemplation to action on the basis of twelve problem behaviors. *Health Psychology*, 13, 47-51.

- Prochaska, J. O., & DiClemente, C. C. (1985). Common processes of change in smoking, weight control, and psychological distress. In S. Shiffman, & T. Wills (Eds.), *Coping and substance abuse* (pp. 345-363). San Diego, CA: Academic Press.
- Prochaska, J. O., Velicer, W. F., Rossi, J. S., Goldstein, M. G., Marcus, B. H., Rakowski, W., ... Rossi, S. R. (1994). Stages of change and decisional balance for 12 problem behaviors. *Health Psychology, 11*, 111-118.
- Prouty, A. M., Protinsky, H. O., & Canady, D. (2002). College women: Eating behaviors and help-seeking preferences. *Adolescence, 37*, 353-363.
- Reif, D. and Reiff, K. (1997). *Eating Disorders: Nutrition Therapy in the Recovery Process*. Mercer Island, WA: Life Enterprises.
- Rhodes, A. E., Goering, P. N., To, T., & Williams, J. I. (2002). Gender and outpatient mental health service use. *Social Science & Medicine, 54*, 1-10.
- Rimer, B. K., Conaway, M. R., Lyna, P. R., & Rakowski, W. (1996). Cancer screening practices among women in a community health center population. *American Journal of Preventative Medicine, 12*, 351-357.
- Rukavina, T. & Pokrajac-Bulian, A. (2006). Thin-ideal internalization, body dissatisfaction and symptoms of eating disorders in Croatian adolescent girls. *Eating and Weight Disorders, 11*, 31-37.
- Sareen, J. Cox, B. J., Afifi, T. O., Yu, B. N., Stein, M. B. (2005). Mental health service use in a nationally representative Canadian survey. *Canadian Journal of Psychiatry, 50*, 753-761.
- Shisslak, C. M., Crago, M., & Estes, L. S. (1995). The spectrum of eating disturbances. *International Journal of Eating Disorders, 18*, 209-219.

- Sinclair, A., Barkham, M., Evans, C., Connell, J., & Audin, K. (2005). Rationale and development of a general population well-being measure: Psychometric status of the GP-CORE in a student sample. *British Journal of Guidance and Counselling, 33*, 153-173.
- Steinhausen, H. C., Rauss-Mason, C., & Seidel. (1991). Follow-up studies of anorexia Nervosa: A review of four decades of outcome research. *Psychological Medicine, 21*, 447-454.
- Stockford, K., Turner, H., Cooper, M. (2007). Illness perception and its relationship to readiness to change in the eating disorders: A preliminary investigation. *British Journal of Clinical Psychology, 46*, 139-154.
- Stice, E. (2001). A prospective test of the dual pathway model of bulimic pathology: Mediating effects of dieting and negative affect. *Journal of Abnormal Psychology, 110*, 124-125.
- Stice, E., & Agras, W. S. (1998). Predicting the onset and remission of bulimic behaviors in adolescence: A longitudinal grouping analysis. *Behavior Therapy, 29*, 257-276.
- Stice, E., Marti, C. N., Shaw, H., & Jaconis, M. (2009). An 8-year longitudinal study of the natural history of threshold, subthreshold, and partial eating disorders from a community sample of adolescents. *Journal of Abnormal Psychology, 118*, 587-597.
- Stice, E., Schupak-Neuberg, E., Shaw, H. E., & Stein, R. I. (1994). Relation of media exposure to eating disorder symptomatology: An examination of mediating mechanisms. *Journal of Abnormal Psychology, 103*, 836-840.

- Stice, E., Telch, C. F., Rizvi, S. L. (2000). Development and validation of the Eating Disorder Diagnostic Scale: A brief self-report measure of anorexia, bulimia, and binge-eating disorder. *Psychological Assessment, 12*, 123-131.
- Sullivan, P. F. (1995). Mortality in anorexia Nervosa. *American Journal of Psychiatry, 152*, 1073-1074.
- ten Have, M., de Graaf, R., Vollebergh, W., & Beekman, A. (2004). Results from the Netherlands Mental Health Survey and Incidence Study (NEMESIS). *Journal of Affective Disorders, 80*, 239-248.
- Thompson, J. K., van den Berg, P., Roehrig, M., Guarda, A. S., & Heinberg, L. J. (2004). The Sociocultural Attitudes Towards Appearance Scale-3 (SATAQ-3): Development and validation. *International Journal of Eating Disorders, 35*, 293-304.
- Tiggemann, M. (2003). Media exposure, body dissatisfaction, and disordered eating: Television and magazines are not the same! *European Eating Disorders Review, 11*, 418-430.
- Tishby, O., Turel, M., Gumpel, O., Pinus, U., Lavy, S. B., Winokour, M., & Sznajderman, S. (2001). Help-seeking attitudes among Israeli adolescents. *Adolescence, 36*, 249-264.
- Vanheusden, K., van der Ende, J., Mulder, C. L., van Lenthe, F. J., Verhulst, F. C., & Mackenbach, J. P. (2009). Beliefs about mental health problems and help-seeking behavior in Dutch young adults. *Social Psychiatry and Psychiatric Epidemiology, 44*, 239-246.

- Vartanian, L. R. & Hopkinson, M. M. (2010). Social connectedness, conformity, and internalization of societal standards of attractiveness. *Body Image, 7*, 86-89.
- Vasiliadis, H. M., Lesage, A., Adair, C., Wang, P. S., & Kessler, R. C. (2007) Do Canada and the United States differ in prevalence of depression and utilization of services? *Psychiatric Services, 58*, 63-71.
- Velicer, W. F., DiClemente, C. C., Prochaska, J. O., & Brandenburg, N. (1985). Decisional balance measure for assessing and predicting smoking status. *Journal of Personality and Social Psychology, 48*, 1279-1289.
- Vogel, D. L., & Wei, M. (2005). Adult attachment and help-seeking intent: The mediating roles of psychological distress and perceived social support. *Journal of Counseling Psychology, 52*, 347-357.
- Vogel, D. L. & Wester, S. R. (2003). To seek help or not to seek help: The risks of self-disclosure. *Journal of Counseling Psychology, 50*, 351-361.
- Vogel, D. L., Wade, N. G., Wester, S. R., Larson, L., & Hackler, A. H. (2007). Seeking help from a mental health professional: The influence of one's social network. *Journal of Clinical Psychology, 63*, 233-245.
- Vogel, D. L., Wester, S. R., Wei, M., Boysen, G. A. (2005). The role of outcome expectations and attitudes on decisions to seek professional help. *Journal of Counseling Psychology, 52*, 459-470.
- Wampold, B. E. & Freund, R. D. (1987). Use of multiple regression in counseling psychology research: A flexible data-analytic strategy. *Journal of Counseling Psychology. Special Issue: Quantitative foundations of counseling psychology research, 34*, 372-382.

- Wang, J., Patten, S. B., Williams, J. V., Currie, S., Beck, C. A., Maxwell, C. J., & El-Guebaly, N. (2005a). Help-seeking behaviors of individuals with mood disorders. *The Canadian Journal of Psychiatry, 50*, 652-659
- Wang, P. S., Lane, M., Olfson, M., Pincus, H. A., Wells, K. B., & Kessler, R. C. (2005b). Twelve-month use of mental health services in the United States: Results from the NCS-R. *Archives of General Psychiatry, 62*, 629-640.
- Weinman, J., Petrie, K. J., Moss-Morris, R., Horne, R. (1996). The Illness Perception Questionnaire: A new method for assessing the cognitive representation of illness. *Psychology and Health, 11*, 431-445.
- Wells, J. E., Robins, L. N., Bushnell, J. A., Jarosz, D. & Oakley-Browne, M. A. (1994). Perceived barriers to care in St. Louis (USA) and Christchurch (NZ): Reasons for not seeking professional help for psychological distress. *Social Psychiatry and Psychiatric Epidemiology, 29*, 155-164.
- Wilson, C. J. & Deane, F. P. (2010). Help-negation and suicidal ideation: The role of depression, anxiety, and hopelessness. *Journal of Youth and Adolescence, 39*, 291-305.
- Young, A. S., Klap, R., Sherbourne, C. D., & Wells, K. B. (2001). The quality of care for depressive and anxiety disorders in the US. *Archives of General Psychiatry, 58*, 55-61.

Table 1  
*Descriptive Statistics for Complete Sample*

Variable	Minimum	Maximum	Mean	Standard Deviation
Age	18.00	43.00	19.46	2.83
SATAQ	1.27	4.93	3.61	.64
ATSPPHS	1.00	3.90	2.35	.53
CORE	1.00	4.25	2.30	.68
IPQ-R	0.00	4.00	2.68	.84
EAT	7.00	75.00	18.81	11.12
DBS				
Benefits	1.00	5.00	2.79	.92
Burdens	1.00	4.67	2.20	.87
Functional Avoidance	1.00	4.00	1.60	.75

---

*Note:* N = 249; SATAQ = Sociocultural Attitudes Towards Appearance Questionnaire; ATSPPHS= Attitudes Towards Seeking Professional Psychological Help Scale; CORE= Clinical Outcomes in Routine Evaluation – Short Form; IPQ-R= Illness Perception Questionnaire – Revised; identity subscale; EAT= Eating Attitudes Test 26; DBS= Decisional Balance Scale. Higher scores on the SATAQ, ATSPPHS, CORE, IPQ-R, EAT, DBS-Benefits, DBS-Burdens, and DBS-Functional avoidance indicate more internalization of sociocultural beauty norms, more stigma towards counseling, more general psychological distress, more insight that individual symptoms are related to an underlying disorder, more disordered eating behavior, more perceived benefits to the disorder, more perceived drawbacks to the disorder, and a greater awareness of the function the disorder serves to avoid uncomfortable emotion, respectively.

Table 2  
*Descriptive Statistics Split by Whether or Not Participant Meets Clinical Criteria*

Variable	Clinical	N	Minimum	Maximum	Mean	Standard Deviation
Age	No	201	18	43.00	19.53	3.09
	Yes	48	18	23.00	19.19	1.20
SATAQ	No	201	1.27	4.93	3.58	.64
	Yes	48	2.13	4.80	3.71	.57
ATSPPHS	No	201	1.00	3.90	2.35	.53
	Yes	48	1.00	3.90	2.33	.56
CORE	No	201	1.00	4.25	2.23*	.64
	Yes	48	1.08	4.00	2.62*	.73
IPQ-R	No	201	0.00	4.00	2.61*	.85
	Yes	48	.83	4.00	3.00*	.74
EAT	No	201	7.00	25.00	14.60*	4.96
	Yes	48	12.81	75.00	36.43*	12.44
DBS						
Benefits	No	201	1.00	5.00	2.65*	.87
	Yes	48	1.13	5.00	3.39*	.90
Burdens	No	201	1.00	4.13	2.07*	.80
	Yes	48	1.00	4.67	2.76*	.91
Functional Avoidance	No	201	1.00	4.00	1.49*	.68
	Yes	48	1.00	3.57	2.08*	.87

*Note:* An \* indicates a significant mean difference at  $p < .05$  level between women who meet clinical criteria and women who do not; SATAQ = Sociocultural Attitudes Towards Appearance Questionnaire; ATSPPHS= Attitudes Towards Seeking Professional Psychological Help Scale; CORE= Clinical Outcomes in Routine Evaluation – Short Form; IPQ-R= Illness Perception Questionnaire – Revised; identity subscale; EAT= Eating Attitudes Test 26; DBS= Decisional Balance Scale. Higher scores on the SATAQ, ATSPPHS, CORE, IPQ-R, EAT, DBS-Benefits, DBS-Burdens, and DBS-Functional avoidance indicate more internalization of sociocultural beauty norms, more stigma towards counseling, more general psychological distress, more insight that individual symptoms are related to an underlying disorder, more disordered eating behavior, more perceived benefits to the disorder, more perceived drawbacks to the disorder, and a greater awareness of the function the disorder serves to avoid uncomfortable emotion, respectively.

Table 3  
*Descriptive Statistics Split by Whether or Not Participant Wanted to View Online Eating Issues Information*

Variable	Response	N	Minimum	Maximum	Mean	Standard Deviation
Age	No	219	18.00	43.00	19.39	2.61
	Yes	30	18.00	41.00	20.00	4.10
SATAQ	No	219	1.27	4.93	3.59	.62
	Yes	30	1.63	4.80	3.72	.68
ATSPPHS	No	219	1.00	3.90	2.37	.53
	Yes	30	1.00	2.90	2.18	.50
CORE	No	219	1.00	4.25	2.26*	.66
	Yes	30	1.25	4.00	2.64*	.74
IPQ-R	No	219	0.00	4.00	2.65	.82
	Yes	30	0.00	4.00	2.93	.92
EAT	No	219	7.00	75.00	18.64	11.15
	Yes	30	8.00	55.00	20.02	10.96
DBS						
Benefits	No	219	1.00	5.00	2.74	.94
	Yes	30	1.13	4.50	3.17	.68
Burdens	No	219	1.00	4.67	2.10*	.82
	Yes	30	1.07	4.47	2.97*	.82
Functional Avoidance	No	219	1.00	4.00	1.53*	.72
	Yes	30	1.00	3.57	2.13*	.78

*Note:* An \* indicates a significant mean difference at  $p < .01$  level between women who responded “yes” and “no” when asked whether they wanted to be directed to online information about eating issues; SATAQ = Sociocultural Attitudes Towards Appearance Questionnaire; ATSPPHS= Attitudes Towards Seeking Professional Psychological Help Scale; CORE= Clinical Outcomes in Routine Evaluation – Short Form; IPQ-R= Illness Perception Questionnaire – Revised; identity subscale; EAT= Eating Attitudes Test 26; DBS= Decisional Balance Scale. Higher scores on the SATAQ, ATSPPHS, CORE, IPQ-R, EAT, DBS-Benefits, DBS-Burdens, and DBS-Functional avoidance indicate more internalization of sociocultural beauty norms, more stigma towards counseling, more general psychological distress, more insight that individual symptoms are related to an underlying disorder, more disordered eating behavior, more perceived benefits to the disorder, more perceived drawbacks to the disorder, and a greater awareness of the function the disorder serves to avoid uncomfortable emotion, respectively.

Table 4  
*Descriptive Statistics Split by Whether or Not Participant Wanted to be Directed to Schedule a Counseling Appointment*

Variable	Response	N	Minimum	Maximum	Mean	Standard Deviation
Age	No	242	18.00	43.00	19.38	2.51
	Yes	7	18.00	41.00	22.43	8.24
SATAQ	No	242	1.27	4.93	3.61	.63
	Yes	7	2.87	4.57	3.60	.61
ATSPPHS	No	242	1.00	3.90	2.36*	.52
	Yes	7	1.00	2.30	1.84*	.52
CORE	No	242	1.00	4.25	2.29	.68
	Yes	7	2.04	3.58	2.73	.57
IPQ-R	No	242	0.00	4.00	2.67	.84
	Yes	7	1.90	4.00	3.07	.74
EAT	No	242	7.00	75.00	18.68	11.03
	Yes	7	8.00	47.00	23.31	14.08
DBS						
Benefits	No	242	1.00	5.00	2.78	.93
	Yes	7	1.50	3.50	2.98	.67
Burdens	No	242	1.00	4.67	2.17*	.85
	Yes	7	2.40	4.00	3.34*	.61
Functional Avoidance	No	242	1.00	4.00	1.58*	.75
	Yes	7	1.43	3.29	2.41*	.63

*Note:* An \* indicates a significant mean difference at  $p < .01$  level between women who responded “yes” and “no” when asked whether they wanted to be directed to schedule a counseling appointment; SATAQ = Sociocultural Attitudes Towards Appearance Questionnaire; ATSPPHS= Attitudes Towards Seeking Professional Psychological Help Scale; CORE= Clinical Outcomes in Routine Evaluation – Short Form; IPQ-R= Illness Perception Questionnaire – Revised; identity subscale; EAT= Eating Attitudes Test 26; DBS= Decisional Balance Scale. Higher scores on the SATAQ, ATSPPHS, CORE, IPQ-R, EAT, DBS-Benefits, DBS-Burdens, and DBS-Functional avoidance indicate more internalization of sociocultural beauty norms, more stigma towards counseling, more general psychological distress, more insight that individual symptoms are related to an underlying disorder, more disordered eating behavior, more perceived benefits to the disorder, more perceived drawbacks to the disorder, and a greater awareness of the function the disorder serves to avoid uncomfortable emotion, respectively.

Table 5  
*Correlations Among Demographics and Constructs*

Variable	Age	SATAQ	ATSPPHS	CORE	IPQ-R Identity (Insight)	Eating Attitudes Test	DBS Benefits	DBS Burdens
Age								
SATAQ	-.15*							
ATSPPHS	-.17*	-.04						
CORE	-.07	.18*	-.02					
IPQ-R	-.02	.43**	-.07	.23**				
EAT	-.03	.17*	-.01	.26**	.35**			
DBS								
Benefits	-.14*	.41**	.07	.32**	.61**	.33**		
Burdens	-.01	.29**	-.16*	.47**	.57**	.35**	.58**	
Functional Avoidance	.01	.09	-.05	.42**	.39**	.33**	.44**	.70**

Note: An \* indicates significance at  $p < .05$ ; An \*\* indicates significance at  $p < .001$ ; SATAQ = Sociocultural Attitudes Towards Appearance Questionnaire; ATSPPHS= Attitudes Towards Seeking Professional Psychological Help Scale; CORE= Clinical Outcomes in Routine Evaluation – Short Form; IPQ-R= Illness Perception Questionnaire – Revised; identity subscale; EAT= Eating Attitudes Test 26; DBS= Decisional Balance Scale. Higher scores on the SATAQ, ATSPPHS, CORE, IPQ-R, EAT, DBS-Benefits, DBS-Burdens, and DBS-Functional avoidance indicate more internalization of sociocultural beauty norms, more stigma towards counseling, more general psychological distress, more insight that individual symptoms are related to an underlying disorder, more disordered eating behavior, more perceived benefits to the disorder, more perceived drawbacks to the disorder, and a greater awareness of the function the disorder serves to avoid uncomfortable emotion, respectively.

Table 6  
*Analyses with Constructs*

	Control variable	Predictor variable	Moderator	Interaction term	Criterion variable
Hierarchical Regression	CORE-SF	EAT-26	Insight	Insight x EAT-26	ATSPPHS
			Internalization	Internalization x EAT-26	
			Benefits	Benefits x EAT-26	
			Burdens	Burdens x EAT-26	
			Func. Avoid.	Func. Avoid. x EAT-26	
Binary Logistic Regression	CORE-SF	EAT-26	Insight	Insight x EAT-26	Yes/No information about ED and treatment
			Internalization	Internalization x EAT-26	
			Benefits	Benefits x EAT-26	
			Burdens	Burdens x EAT-26	
			Func. Avoid.	Func. Avoid. x EAT-26	
Binary Logistic Regression	CORE-SF	EAT-26	Insight	Insight x EAT-26	Yes/No make appt for counseling
			Internalization	Internalization x EAT-26	
			Benefits	Benefits x EAT-26	
			Burdens	Burdens x EAT-26	
			Func. Avoid.	Func. Avoid. x EAT-26	

*Note:* CORE-SF = Clinical Outcomes in Routine Evaluation – Short Form; EAT-26 = Eating Attitudes Test – 26; Func. Avoid. = DBS-Functional Avoidance; ATSPPHS = Attitudes Towards Seeking Professional Psychological Help Scale. All variables were standardized.

Table 7  
*Hierarchical Multiple Regression Results with IPQ-R (insight) as a Moderator*

	<i>R</i>	<i>R</i> <sup>2</sup>	<i>F</i>	<i>p</i>	$\Delta R^2$	<i>F</i>	<i>p</i>
Step 1	.017	.000	.071	.790			
Step 2	.056	.003	.259	.855	.003	.35	.703
Step 3	.084	.007	.430	.787	.004	.95	.332

*Note:* N = 249; IPQ-R = Illness Perception Questionnaire – Revised; Step 1 = CORE; Step 2 = Step 1 + Insight + EAT; Step 3 = Step 2 + (EAT x Insight)

Table 8  
*Binary Logistic Regression Model Results with IPQ-R (insight) as a moderator*

Predicted Variable	Model	<i>R</i> <sup>2</sup>	$\chi^2$	df	<i>p</i>
Online ED info	1	.031	7.96*	1	.005
	2	.037	9.36*	3	.025
	3	.037	9.51*	4	.050
Counseling Center Appointment	1	.011	2.72	1	.099
	2	.015	3.83	3	.280
	3	.016	3.94	4	.414

*Note:* N = 249; IPQ-R = Illness Perception Questionnaire – Revised; An \* indicates significance at  $p < .05$ ; Model 1 = CORE; Model 2 = CORE+ EAT + Insight; Model 3 = CORE + EAT + Insight + (EAT x Insight).

Table 9  
*Binary Logistic Regression Variable Results predicting desire to view online information about disordered eating with IPQ-R (insight) as a Moderator*

Variable	$\beta$	Wald Statistic	<i>p</i>	Exp(B)	Confidence Interval	
					Lower	Upper
CORE	-.50*	6.18	.013	.61	.41	.90
EAT	.09	.14	.709	1.09	.69	1.71
IPQ-R	-.26	.23	.258	.77	.49	1.21
Interaction	-.07	.14	.706	.93	.64	1.36

*Note:* N = 249; IPQ-R = Illness Perception Questionnaire – Revised; An \* indicates significance at  $p < .05$ ; Model 1 = CORE; Model 2 = CORE+ EAT + Insight; Model 3 = CORE + EAT + Insight + (EAT x Insight).

Table 10  
*Binary Logistic Regression Variable Results predicting desire to schedule a counseling appointment with IPQ-R (insight) as a Moderator*

Variable	$\beta$	Wald Statistic	$p$	Exp(B)	Confidence Interval	
					Lower	Upper
CORE	-.48	1.52	.218	.61	.29	1.33
EAT	-.18	.30	.584	.84	.45	1.58
IPQ-R	-.45	.76	.384	.64	.23	1.76
Interaction	.08	.12	.734	1.09	.67	1.76

Note: N = 249; IPQ-R = Illness Perception Questionnaire – Revised; An \* indicates significance at  $p < .05$ ; Model 1 = CORE; Model 2 = CORE+ EAT + Insight; Model 3 = CORE + EAT + Insight + (EAT x Insight).

Table 11  
*Hierarchical Multiple Regression Results with SATAQ as a Moderator*

	$R$	$R^2$	$F$	$p$	$\Delta R^2$	$F$	$p$
Step 1	.017	.000	.071	.790			
Step 2	.037	.001	.115	.952	.001	.14	.873
Step 3	.045	.002	.125	.973	.001	.16	.690

Note: N = 249; SATAQ = Sociocultural Attitudes Towards Appearance Questionnaire; Step 1 = CORE; Step 2 = Step 1 + EAT + SATAQ ; Step 3 = Step 2 + (EAT x SATAQ)

Table 12  
*Binary Logistic Regression Model Results with SATAQ as a Moderator*

Predicted Variable	Model	$R^2$	$\chi^2$	df	$p$
Online ED info	1	.031	7.96*	1	.005
	2	.033	8.32*	3	.040
	3	.033	8.37	4	.079
Counseling Center Appointment	1	.011	2.72	1	.099
	2	.013	3.21	3	.361
	3	.019	4.90	4	.298

Note: N = 249; SATAQ = Sociocultural Attitudes Towards Appearance Questionnaire; An \* indicates significance at  $p < .05$ ; Model 1 = CORE; Model 2 = CORE + EAT + SATAQ; Model 3 = CORE + EAT +SATAQ + (EAT x SATAQ)

Table 13  
*Binary Logistic Regression Variable Results predicting desire to view online information about disordered eating with SATAQ as a Moderator*

Variable	$\beta$	Wald Statistic	<i>p</i>	Exp(B)	Confidence Interval	
					Lower	Upper
CORE	-.52*	6.93	.008	.59	.40	.88
EAT	.03	.02	.790	1.03	.70	1.51
SATAQ	-.11	.30	.583	.89	.59	1.34
Interaction	.05	.05	.818	1.05	.69	1.59

Note: N = 249; SATAQ = Sociocultural Attitudes Toward Appearance Questionnaire; An \* indicates significance at  $p < .05$ ; Model 1 = CORE; Model 2 = CORE+ EAT + SATAQ; Model 3 = CORE + EAT + SATAQ + (EAT x SATAQ).

Table 14  
*Binary Logistic Regression Variable Results predicting desire to schedule a counseling appointment with SATAQ as a Moderator*

Variable	$\beta$	Wald Statistic	<i>p</i>	Exp(B)	Confidence Interval	
					Lower	Upper
CORE	-.63	2.53	.112	.54	.25	1.16
EAT	-.04	.01	.906	.96	.49	1.90
SATAQ	.14	.12	.730	1.15	.53	2.51
Interaction	.45	1.50	.220	1.57	.76	3.25

Note: N = 249; SATAQ = Sociocultural Attitudes Toward Appearance Questionnaire; An \* indicates significance at  $p < .05$ ; Model 1 = CORE; Model 2 = CORE+ EAT + SATAQ; Model 3 = CORE + EAT + SATAQ + (EAT x SATAQ).

Table 15  
*Hierarchical Multiple Regression Results with DBS-Benefits as a Moderator*

	<i>R</i>	<i>R</i> <sup>2</sup>	<i>F</i>	<i>p</i>	$\Delta R^2$	<i>F</i>	<i>p</i>
Step 1	.017	.000	.071	.790			
Step 2	.084	.007	.579	.629	.007	.83	.436
Step 3	.094	.009	.539	.707	.002	.42	.517

Note: N = 249; DBS = Decisional Balance Scale; Step 1 = CORE; Step 2 = Step 1 + Benefits + EAT; Step 3 = Step 2 + (EAT x Benefits)

Table 16  
Binary Logistic Regression Model Results with DBS-Benefits as a Moderator

Predicted Variable	Model	R <sup>2</sup>	$\chi^2$	df	p
Online ED info	1	.031	7.96*	1	.005
	2	.043	11.02*	3	.012
	3	.054	13.82*	4	.008
Counseling Center Appointment	1	.011	2.72	1	.099
	2	.012	3.07	3	.381
	3	.016	4.14	4	.388

Note: N = 249; DBS = Decisional Balance Scale; An \* indicates significance at  $p < .05$ ; Model 1 = CORE; Model 2 = CORE + EAT + DBS-Benefits; Model 3 = CORE + EAT + DBS-Benefits + (EAT x DBS-Benefits)

Table 17  
Binary Logistic Regression Variable Results predicting desire to view online information about disordered eating with DBS-Benefits as a Moderator

Variable	$\beta$	Wald Statistic	p	Exp(B)	Confidence Interval	
					Lower	Upper
CORE	-.48*	5.38	.020	.62	.41	.93
EAT	.02	.01	.940	1.02	.69	1.50
DBS-Benefits	-.46	3.68	.055	.63	.39	1.01
Interaction	.05	3.04	.081	1.32	.97	1.82

Note: N = 249; DBS = Decisional Balance Scale; An \* indicates significance at  $p < .05$ ; Model 1 = CORE; Model 2 = CORE+ EAT + DBS-Benefits; Model 3 = CORE + EAT + DBS-Benefits + (EAT x DBS-Benefits).

Table 18  
Binary Logistic Regression Variable Results predicting desire to schedule a counseling appointment with DBS-Benefits as a Moderator

Variable	$\beta$	Wald Statistic	p	Exp(B)	Confidence Interval	
					Lower	Upper
CORE	-.62	2.38	.123	.54	.25	1.18
EAT	-.21	.46	.498	.81	.45	1.48
DBS-Benefits	-.10	.05	.817	.90	.37	2.18
Interaction	.25	1.09	.297	1.28	.80	2.05

Note: N = 249; DBS = Decisional Balance Scale; An \* indicates significance at  $p < .05$ ; Model 1 = CORE; Model 2 = CORE+ EAT + DBS-Benefits; Model 3 = CORE + EAT + DBS-Benefits + (EAT x DBS-Benefits).

Table 19  
*Regression Results with DBS-Burdens as a Moderator*

	<i>R</i>	<i>R</i> <sup>2</sup>	<i>F</i>	<i>p</i>	$\Delta R^2$	<i>F</i>	<i>p</i>
Step 1	.017	.000	.07	.790			
Step 2	.179	.032	2.72*	.045	.032	4.04*	.019
Step 3	.200	.040	2.55*	.040	.008	2.03	.155

Note: N = 249; DBS = Decisional Balance Scale; An \* indicates significance at  $p < .05$ ; Step 1 = CORE; Step 2 = Step 1 + EAT + Burdens; Step 3 = Step 2 + (EAT x Burdens)

Table 20  
*Contributing Variables of Significant Regression Predicting ATSPPHS*

Variable	Unstandardized $\beta$	Standardized $\beta$	<i>t</i>	<i>p</i>
CORE	.036	.068	.95	.341
EAT	.034	.037	.94	.351
DBS-Burdens	-.105*	.039	-2.65	.009
Interaction	-.040	.028	-1.43	.155

Note: N = 249; CORE = Clinical Outcomes in Routine Evaluation; EAT = Eating Attitude Test; DBS = Decisional Balance Scale. An \* indicates significance at  $p < .05$ .

Table 21  
*Binary Logistic Regression Model Results with DBS-Burdens as a Moderator*

Predicted Variable	Model	<i>R</i> <sup>2</sup>	$\chi^2$	df	<i>p</i>
Online ED info	1	.031	7.96*	1	.005
	2	.108	28.54*	3	.000
	3	.109	28.65*	4	.000
Counseling Center Appointment	1	.011	2.72	1	.099
	2	.047	12.06*	3	.007
	3	.052	13.26*	4	.010

Note: N = 249; DBS = Decisional Balance Scale; An \* indicates significance at  $p < .05$ ; Model 1 = CORE; Model 2 = CORE + EAT + DBS-Burdens; Model 3 = CORE + EAT + DBS-Burdens + (EAT x DBS-Burdens)

Table 22

*Binary Logistic Regression Variable Results predicting desire to view online information about disordered eating with DBS-Burdens as a Moderator*

Variable	$\beta$	Wald Statistic	<i>p</i>	Exp(B)	Confidence Interval	
					Lower	Upper
CORE	-.17	.53	.467	.84	.53	1.34
EAT	.43	1.30	.254	1.53	.74	3.18
DBS-Burdens	-1.07*	17.55	<.001	.34	.21	.57
Interaction	-.07	.11	.746	.93	.61	1.42

*Note:* N = 249; DBS = Decisional Balance Scale; An \* indicates significance at  $p < .05$ ; Model 1 = CORE; Model 2 = CORE+ EAT + DBS-Burdens; Model 3 = CORE + EAT + DBS-Burdens + (EAT x DBS-Burdens).

Table 23

*Binary Logistic Regression Variable Results predicting desire to schedule a counseling appointment with DBS-Burdens as a Moderator*

Variable	$\beta$	Wald Statistic	<i>p</i>	Exp(B)	Confidence Interval	
					Lower	Upper
CORE	.01	.00	.975	1.01	.41	2.51
EAT	-.38	.64	.425	.69	.27	1.73
DBS-Burdens	-1.64*	7.23	.007	.20	.06	.64
Interaction	.37	1.55	.213	1.45	.81	2.59

*Note:* N = 249; DBS = Decisional Balance Scale; An \* indicates significance at  $p < .05$ ; Model 1 = CORE; Model 2 = CORE+ EAT + DBS-Burdens; Model 3 = CORE + EAT + DBS-Burdens + (EAT x DBS-Burdens).

Table 24

*Regression Results with DBS- Functional Avoidance as a Moderator*

	R	R <sup>2</sup>	F	<i>p</i>	$\Delta R^2$	F	<i>p</i>
Step 1	.017	.000	.071	.790			
Step 2	.055	.003	.248	.863	.003	.34	.715
Step 3	.055	.003	.185	.946	.000	.00	.985

*Note:* N = 249; DBS= Decisional Balance Scale; Step 1 = CORE; Step 2 = Step 1 + EAT + Functional Avoidance; Step 3 = Step 2 + (EAT x Functional Avoidance)

Table 25  
*Binary Logistic Regression Model Results with DBS-Functional Avoidance as a Moderator*

Predicted Variable	Model	$R^2$	$\chi^2$	df	$p$
Online ED info	1	.031	7.96*	1	.005
	2	.065	16.87*	3	.001
	3	.072	18.74*	4	.001
Counseling Center Appointment	1	.011	2.72	1	.099
	2	.027	6.86	3	.076
	3	.032	8.01	4	.091

Note: N = 249; DBS = Decisional Balance Scale; An \* indicates significance at  $p < .05$ ; Model 1 = CORE; Model 2 = CORE + EAT + DBS-Functional Avoidance; Model 3 = CORE + EAT +DBS-Functional Avoidance + (EAT x DBS-Functional Avoidance)

Table 26  
*Binary Logistic Regression Variable Results predicting desire to view online information about disordered eating with DBS-Functional Avoidance as a Moderator*

Variable	$\beta$	Wald Statistic	$p$	Exp(B)	Confidence Interval	
					Lower	Upper
CORE	-.30	1.89	.169	.74	.48	1.14
EAT	-.02	.01	.924	.98	.63	1.53
DBS-FA	-.62*	10.04	.002	.54	.37	.79
Interaction	.23	1.89	.169	1.26	.91	1.76

Note: N = 249; DBS-FA = Decisional Balance Scale – Functional Avoidance; An \* indicates significance at  $p < .05$ ; Model 1 = CORE; Model 2 = CORE+ EAT + DBS-Functional Avoidance; Model 3 = CORE + EAT + DBS-Functional Avoidance + (EAT x DBS-Functional Avoidance).

Table 27

*Binary Logistic Regression Variable Results predicting desire to schedule a counseling appointment with DBS-Functional Avoidance as a Moderator*

Variable	$\beta$	Wald Statistic	<i>p</i>	Exp(B)	Confidence Interval	
					Lower	Upper
CORE	-.24	.32	.570	.79	.34	1.80
EAT	-.34	.84	.360	.71	.35	1.47
DBS-FA	-.80*	4.78	.029	.45	.22	.92
Interaction	.29	1.25	.264	1.33	.81	2.20

*Note:* N = 249; DBS-FA = Decisional Balance Scale – Functional Avoidance; An \* indicates significance at  $p < .05$ ; Model 1 = CORE; Model 2 = CORE+ EAT + DBS-Functional Avoidance; Model 3 = CORE + EAT + DBS-Functional Avoidance + (EAT x DBS-Functional Avoidance).

## Appendix A

### Eating Attitudes Test – 26

Please read each statement below and indicate how often each item applies to you. In doing so, use the following options

1=Always 2=Usually 3=Often 4 = Sometimes 5 = Rarely 6 = Never

1. Am terrified about being overweight.
2. Avoid eating when I am hungry.
3. Find myself preoccupied with food.
4. Have gone on eating binges where I feel that I may not be able to stop.
5. Cut my food into small pieces.
6. Aware of the calorie content of the foods that I eat.
7. Particularly avoid food with high carbohydrate content (i.e. bread, rice, potatoes).
8. Feel that others would prefer I ate more.
9. Vomit after I have eaten.
10. Feel extremely guilty after eating.
11. Am preoccupied with a desire to be thinner.
12. Think about burning up calories when I exercise.
13. Other people think that I am too thin.
14. Am preoccupied with the thought of having fat on my body.
15. Take longer than others to eat my meals.
16. Avoid foods with sugar in them.
17. Eat diet foods.
18. Feel that food controls my life.
19. Display self-control around food.
20. Feel that others pressure me to eat.
21. Give too much time and thought to food.
22. Feel uncomfortable after eating sweets.
23. Engage in dieting behavior.
24. Like my stomach to be empty.
25. Have the impulse to vomit after meals.
26. Enjoy trying new rich foods.

1. If you had the resources, would you be interested in seeking help for eating or body image concerns?

## Appendix B

### EMAIL COMMUNICATION (first email)

**Title of Study:** Help Seeking Behavior and Health Attitudes

**Subject Line:** Psychology Study: Earn research credit!

We are seeking psychology undergraduate students to participate in a completely online study designed to better understand your feelings about therapy. Please note that participation in any part of the study is entirely voluntary and you may stop at any point.

If you agree to participate in this study, you can earn 2 research credits. This is a completely online study designed to better understand your perceptions of therapy. You will be responding to a series of questionnaires including items about your general mental health, thoughts about therapy, and eating. These measures are expected to take approx 90 minutes.

In addition, records identifying participants will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available. You must be 18 years of age to participate in this study.

This is a research study. Please take your time in deciding if you would like to participate. You are encouraged to ask questions at any time during this study. You may wish to delay participation until your questions have been answered. For further information about the study, please contact the Principal Investigator, LeAnn R. Mills, M.S. at [lr mills@iastate.edu](mailto:lr mills@iastate.edu). You may also contact the supervising faculty member, Dr. Lisa Larson, at [lmlarson@iastate.edu](mailto:lmlarson@iastate.edu) or 294-1487. If you have any questions about the rights of research subjects or research-related injury, please contact the IRB Administrator, (515) 294-4566, [IRB@iastate.edu](mailto:IRB@iastate.edu), or Director, (515) 294-3115, Office of Research Assurances, Iowa State University, Ames, Iowa 50011.

If you would like to participate, please go to the SONA website [LINK] and sign in using the following password: XPL947Q. From the SONA site, you can follow the link to the online survey.

Thank you in advance for your time.

Sincerely,

LeAnn Mills, M.S.  
Doctoral Graduate Student  
Department of Psychology  
Iowa State University  
[lr mills@iastate.edu](mailto:lr mills@iastate.edu)

**REMINDER EMAIL COMMUNICATION (2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> email)**

**Title of Study:** Help-Seeking Behavior and Health Attitudes

Subject Line: Reminder - Psychology Study: Earn research credit!

This is a reminder that we are seeking psychology undergraduate students to participate in a completely online study designed to better understand your feelings about therapy. Please note that participation in any part of the study is entirely voluntary and you may stop at any point.

If you agree to participate in this study, you can earn 2 research credits. This is a completely online study designed to better understand your perceptions of therapy. You will be responding to a series of questionnaires including items about your general mental health, thoughts about therapy, and eating. These measures are expected to take approx 90 minutes.

In addition, records identifying participants will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available. You must be 18 years of age to participate in this study.

This is a research study. Please take your time in deciding if you would like to participate. You are encouraged to ask questions at any time during this study. You may wish to delay participation until your questions have been answered. For further information about the study, please contact the Principal Investigator, LeAnn R. Mills, M.S. at [irmills@iastate.edu](mailto:irmills@iastate.edu). You may also contact the supervising faculty member, Dr. Lisa Larson, at [lmlarson@iastate.edu](mailto:lmlarson@iastate.edu) or 294-1487. If you have any questions about the rights of research subjects or research-related injury, please contact the IRB Administrator, (515) 294-4566, [IRB@iastate.edu](mailto:IRB@iastate.edu), or Director, (515) 294-3115, Office of Research Assurances, Iowa State University, Ames, Iowa 50011.

If you would like to participate, please go to the SONA website [LINK] and sign in using the following password: XPL947Q. From the SONA site, you can follow the link to the online survey.

Thank you in advance for your time.

Sincerely,

LeAnn Mills, M.S.  
Doctoral Graduate Student  
Department of Psychology  
Iowa State University  
[irmills@iastate.edu](mailto:irmills@iastate.edu)

## Appendix C

### STUDY POSTING FORM

Ann Schmidt **MUST** receive a copy of this form before you send an activation request.

**PRINCIPAL INVESTIGATOR (*Faculty Supervisor*):** Lisa Larson

---

**RESEARCHERS:** LeAnn Mills & Lisa Larson

---

**STUDY NAME & NUMBER:** Help Seeking Behavior and Health Attitudes

---

**BRIEF ABSTRACT:** This is a completely online study. Participants will be asked to complete a series of questionnaires about help-seeking, general mental health, eating, and sociocultural norms.

**STUDY DESCRIPTION (*Must be exactly as approved by IRB*):** This is a completely online study designed to better understand your feelings about therapy. This online study consists of questions about your attitudes towards seeking help, sociocultural norms, eating, and general mental health. The study will take 90 minutes or less to complete and you will receive 2 credits in your psychology class for your participation.

**ELIGIBILITY REQUIREMENTS:** To be eligible, participants must have participated in MASS TESTING and must have received an email invitation from this study's Principle Investigator.

---

**DURATION (*Minimum 50min.*):** 60-90 minutes

---

**CREDITS:** 2

---

**PREPARATION:**

---

**IRB APPROVAL CODE:**

---

**IRB APPROVAL EXPIRATION:**

---

**IS THIS AN ONLINE STUDY?** YES

---

## Appendix D

### INFORMED CONSENT DOCUMENT

**Title of Study:** Help Seeking Behavior and Health Attitudes

**Investigators:**

LeAnn R. Mills, M.S.

Lisa M. Larson, Ph.D.

This is a research study. Please take your time in deciding if you would like to participate. You are encouraged to ask questions at any time during this study. You may wish to delay participation until your questions have been answered. For further information about the study, please contact the Principal Investigator, LeAnn R. Mills, M.S. at [lr mills@iastate.edu](mailto:lr mills@iastate.edu). You may also contact the supervising faculty member, Dr. Lisa Larson, at [lmlarson@iastate.edu](mailto:lmlarson@iastate.edu) or 294-1487.

#### *INTRODUCTION*

The purpose of this study is to examine your feelings about therapy. You are invited to participate in this study because you are a student in the Psychology department at Iowa State University and you participated in the Psychology Department's Mass Testing in the Fall of 2010, where you completed a measure indicating you might have negative thoughts or feelings about food or your body.

#### *DESCRIPTION OF PROCEDURES*

This is a completely online study designed to better understand your perceptions of seeking professional psychological help. You will be responding to a set of survey measures. These surveys ask questions about your thoughts on seeking counseling, eating behaviors, and thoughts, feelings, and beliefs about issues with your eating and body image. This should take about 90 minutes and is worth two research credits. If you choose to leave the study before reaching the end, credits will be prorated (one credit for 45 minutes). Additionally, if you feel uncomfortable answering any questions, you can skip these questions and still receive credit.

#### *RISKS*

We do not anticipate that these procedures will cause you any harm, but if you experience discomfort you may talk to the investigators about your concerns. You are free to skip any question that you do not wish to answer or that make you feel uncomfortable. You are also free at any time to choose to end your participation. There will be no negative effects if you choose to skip a question or discontinue your participation in the study. If you choose to end your participation all data collected will be erased.

### *BENEFITS*

If you decide to participate in this study there will be no direct benefit to you other than learning about psychological research from a participant's perspective. Your participation in this project may help the researchers develop a better understanding of factors related to help seeking for negative body image and food concerns.

### *COSTS AND COMPENSATION*

You will not have any costs from participating in this study. In addition, there is no monetary compensation for your participation. Rather, you will be compensated by receiving research credit in your undergraduate psychology course for participating in this study. If you agree to participate in this study, you will earn 2 research credits for completing the study; these credits will be prorated (1 credit for 45 minutes) if you choose to leave the study early. If you choose not to participate, you may contact the Course Information Office (515-294-8065) for alternative research options in order to earn research credit for your class.

### *PARTICIPANT RIGHTS*

**Your participation in this study is completely voluntary and you may refuse to participate or leave the study at any time. If you decide to not participate in the study or leave the study early, it will not result in any penalty or loss of benefits to which you are otherwise entitled. If you choose to leave the study early, credit earned will be prorated (one credit for 45 minutes).**

### *CONFIDENTIALITY*

Records identifying participants will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available. Only the researchers on this study will have access to the data, however, auditing departments of Iowa State University, and the Institutional Review Board (a committee that reviews and approves human subject research studies) may inspect and/or copy your records for quality assurance and data analysis. These records may contain private information.

To ensure confidentiality to the extent permitted by law, the following measures will be taken to protect your privacy including: (a) assigning you a unique code number that will be used instead of your name; (b) combining your data with the data collected from other participants so that no individual information will be identifiable (c) all data will be stored in a locked filing cabinet and/or password protected computer and destroyed 5 years after results are published (d) the online survey site (SurveyMonkey.com) employs multiple layers of security to protect all data before it is transmitted to the researcher. If the results are published, your identity will remain confidential.

*QUESTIONS OR PROBLEMS*

You are encouraged to ask questions at any time during this study. For further information about the study, you can contact the Principal Investigator, LeAnn R. Mills, M.S. at [lr mills@iastate.edu](mailto:lr mills@iastate.edu). You may also contact the supervising faculty member, Dr. Lisa Larson, at [lmlarson@iastate.edu](mailto:lmlarson@iastate.edu) or 294-1487.

If you have any questions about the rights of research subjects or research-related injury, please contact the IRB Administrator, (515) 294-4566, [IRB@iastate.edu](mailto:IRB@iastate.edu), or Director, (515) 294-3115, Office for Responsible Research, Iowa State University, Ames, Iowa 50011.

\*\*\*\*\*  
\*\*\*\*\*

*PARTICIPANT SIGNATURE*

By clicking “yes” below, you are indicating that you voluntarily agree to participate in this study, that the study has been explained to you, that you have been given the time to read the document and that your questions have been satisfactorily answered. You may wish to print a copy of this informed consent document for your files since this is an online study.

**Do you agree to participate in this study? If you click “yes”, you will continue to the survey questions. If you select “No,” you will exit the survey.**

- a) Yes
- b) No

## Appendix E

Some of the questions in the following study are about your feelings about food, exercise, and your body. Various questions make an assumption that you have issues with food or your body image. While this assumption may not be true for everyone, research suggests that MOST people do have some concerns with negative body image or eating.

Please answer all of these questions as honestly as possible.

### Demographic Questions

1. Are you...
  - a. Male
  - b. Female
  - c. Prefer not to answer
2. What is your age? (open question)
3. What is your student ID number? This will ONLY be used to match this data with the information you filled out in Mass Testing (open question)
4. What is your major? (open question)

## Appendix F

### CORE-SF

#### IMPORTANT - PLEASE READ THIS FIRST

This form has 25 statements about how you have been **OVER THE LAST WEEK**. Please read each statement and think how often you felt that way last week. Then choose the number that best represents your response.

1 = Not at all   2 = Only occasionally   3 = Sometimes   4 = Often   5 = Most or all of
---

Over the last week . . .

1. I have felt terribly alone and isolated
2. I have felt tense, anxious, and nervous
3. I have felt that I have someone to turn to for support when needed
4. I have felt totally lacking in energy and enthusiasm
5. I have felt able to cope when things go wrong
6. I have been troubled by aches, pains, or other physical problems
7. Talking to people has felt too much for me
8. Tension and anxiety have prevented me from doing important things
9. I have been happy with the things I have done
10. I have been disturbed by unwanted thoughts and feelings
11. I have felt panic or terror
12. I have had difficulty getting to sleep or staying asleep
13. I have felt warmth or affection for someone
14. My problems have been impossible to put to one side
15. I have been able to do most of the things that I needed to
16. I have felt despairing or hopeless
17. I have felt criticized by other people
18. I have thought I have no friends
19. I have felt unhappy
20. Unwanted images or memories have been distressing me
21. I have been irritable when with other people
22. I have thought I am to blame for my problems and difficulties
23. I have achieved the things I wanted to
24. I have felt humiliated or shamed by other people

## Appendix G

### *IPQ-R*

#### YOUR VIEWS ABOUT FOOD, EXERCISE AND YOUR BODY IMAGE

Symptom/Characteristic	I have experienced this since I started having issues with food and body image		Degree to which I feel this is related to my food and body image issues (circle one number on scale of 0-4)
Weighing less than is normal for my age and height	Yes	No	Not at all Related 0   1   2   3   4 Very Related
Absent/Irregular Menstrual Periods	Yes	No	0   1   2   3   4
Restricting food intake to influence weight/shape	Yes	No	0   1   2   3   4
Having eating binges during which I lose control of my eating	Yes	No	0   1   2   3   4
Using laxatives to control my weight or shape	Yes	No	0   1   2   3   4
Using diuretics to control my weight or shape	Yes	No	0   1   2   3   4
Making myself sick in order to control/prevent weight gain	Yes	No	0   1   2   3   4
Exercising excessively to control my weight	Yes	No	0   1   2   3   4
Avoiding weighing myself	Yes	No	0   1   2   3   4
Weighing myself frequently/ several times a day	Yes	No	0   1   2   3   4
Frequently checking my body (e.g. looking in mirror)	Yes	No	0   1   2   3   4
Avoiding looking at my body (e.g. in a shop window)	Yes	No	0   1   2   3   4
Avoiding eating in public	Yes	No	0   1   2   3   4

Eating in secret	Yes	No	0 ___ 1 ___ 2 ___ 3 ___ 4
Making strict rules about what I should/shouldn't eat	Yes	No	0 ___ 1 ___ 2 ___ 3 ___ 4
Feeling guilty after eating	Yes	No	0 ___ 1 ___ 2 ___ 3 ___ 4
Preoccupation with thoughts about food, eating, or calories	Yes	No	0 ___ 1 ___ 2 ___ 3 ___ 4
Preoccupation with thoughts about body shape or weight	Yes	No	0 ___ 1 ___ 2 ___ 3 ___ 4
A strong desire to loose weight	Yes	No	0 ___ 1 ___ 2 ___ 3 ___ 4
Being afraid of gaining weight or becoming fat	Yes	No	0 ___ 1 ___ 2 ___ 3 ___ 4
Feelings of fatness	Yes	No	0 ___ 1 ___ 2 ___ 3 ___ 4
Feeling dissatisfied with my weight or shape because I believe I am too heavy or large	Yes	No	0 ___ 1 ___ 2 ___ 3 ___ 4
Shape influencing how I feel about myself as a person	Yes	No	0 ___ 1 ___ 2 ___ 3 ___ 4
The belief that my eating/exercise behaviors give me a sense of value and self-worth	Yes	No	0 ___ 1 ___ 2 ___ 3 ___ 4
The belief that without my eating/exercise issues I have no self-identity	Yes	No	0 ___ 1 ___ 2 ___ 3 ___ 4
The belief that my eating/exercise behavior is a means of communicating how I feel to others	Yes	No	0 ___ 1 ___ 2 ___ 3 ___ 4
The belief that without my eating/exercise choices I am all alone in the world	Yes	No	0 ___ 1 ___ 2 ___ 3 ___ 4
The belief that my eating/exercise choices are the only thing I can depend on/trust	Yes	No	0 ___ 1 ___ 2 ___ 3 ___ 4
The belief that my eating/exercise behaviors keep me safe/protects me	Yes	No	0 ___ 1 ___ 2 ___ 3 ___ 4
The belief that my eating/exercise behaviors help me deal with painful emotions	Yes	No	0 ___ 1 ___ 2 ___ 3 ___ 4

The belief that my eating/exercise behaviors give me a sense of control	Yes	No	0___1___2___3___4
The belief that my eating/exercise behavior gives me a sense of achievement	Yes	No	0___1___2___3___4

### IPQ-R: VIEWS ABOUT YOUR EATING CONCERNS

We are interested in your own personal views of how you see your current concerns about eating and your body. Please indicate how much you agree or disagree with the following statements about your food/body image issues by checking the appropriate box.

		Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
1*	My issues with food and body image will last a long time					
2	My issues with food and body image are likely to be permanent rather than temporary					
3	My issues with food and body image will last for a long time					
4*	This issues with food and body image will pass quickly					
5	I expect to have these issues with food and body image for the rest of my life					
6	My issues with food and body image are a serious condition					
7	My issues with food and body image have major consequences on my life					
8*	My issues with food and body image do not have much effect on my life					
9	My issues with food and body image strongly affect the way others see me					
10	My issues with food and body image have serious financial consequences					
11	My issues with food and body image cause difficulties for those who are close to me					
12	There is a lot I can do to control my issues with food and body image					
13	What I do can determine whether my issues with food and body image get better or worse					
14	The course of my food and body image issues					

	depends on me					
15*	Nothing I do will affect my issues with food and body image					
16	I have the power to influence my issues with food and body image					
17*	My actions will have no affect on the outcome of my issues with food and body image					
18*	My issues with food and body image will improve in time					
19*	There is very little that can be done to improve my issues with food and body image					
20	Treatment will be effective in curing my issues with food and body image					
21	The negative effects of my issues with food and body image can be prevented (avoided) by treatment					
22	Treatment can control my issues with food and body image					
23*	There is nothing which can help my issues with food and body image					
24*	The symptoms related to my issues with food and body image are puzzling to me					
25*	My issues with food and body image are a mystery to me					
26*	I don't understand my issues with food and body image					
27*	My issues with food and body image don't make any sense to me					
28	I have a clear picture/understanding of my issues with food and body image					
29	The specific issues I have with food and body image change a great deal from day to day					
30	My symptoms come and go in cycles					
31	My issues with food and body image is very unpredictable					
32	I go through cycles in which my issues with food and body image get better and worse					
33	I get depressed when I think about my issues with food and body image					
34	When I think about my issues with food and body image I get upset					
35	My issues with food and body image make me angry					
36*	My issues with food and body image do not worry me					
37	Having these issues with food and body image make me feel anxious					
38	My issues with food and body image make me afraid					

## IPQ-R: CAUSES

We are interested in what you consider may have been the cause of your issues with food and body image. As people are very different, there is no correct answer for this question. We are most interested in your views about the causal factors rather than what others (including doctors or family) may have suggested to you. Below is a list of possible causes for your issues with food and body image. Please include how much you agree or disagree that they were causes for you by checking the appropriate box.

		Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
1	Stress or worry					
2	Heredity – it runs in my family					
3	A germ of virus					
4	Diet or eating habits					
5	Chance or bad luck					
6	Poor medical care in my past					
7	Pollution in the environment					
8	My own behavior					
9	My mental attitude, e.g. thinking about my life negatively					
10	Family problems or worry caused my eating disorder					
11	Overwork					
12	My emotional state, e.g. feeling down, lonely, anxious, empty					
13	Aging					
14	Alcohol					
15	Smoking					
16	Accident or injury					
17	My personality					
18	Altered immunity					

In the table below, please list in rank-order the three most important factors that you now believe caused YOUR issues with food and body image. You may use any of the items from the box above, or you may have additional ideas of your own.

The most important causes for me :

---



---



---

## Appendix H

### SATAQ-3

Please read each of the following items carefully and indicate the number that best reflects your agreement with the statement.

*Definitely Disagree = 1*

*Mostly Disagree = 2*

*Neither Agree Nor Disagree = 3*

*Mostly Agree = 4*

*Definitely Agree = 5*

1. TV programs are an important source of information about fashion and "being attractive."
2. I've felt pressure from TV or magazines to lose weight.
3. I do not care if my body looks like the body of people who are on TV.
4. I compare my body to the bodies of people who are on TV.
5. TV commercials are an important source of information about fashion and "being attractive."
6. I do not feel pressure from TV or magazines to look pretty.
7. I would like my body to look like the models who appear in magazines.
8. I compare my appearance to the appearance of TV and movie stars.
9. Music videos on TV are not an important source of information about fashion and "being attractive."
10. I've felt pressure from TV and magazines to be thin.
11. I would like my body to look like the people who are in movies.
12. I do not compare my body to the bodies of people who appear in magazines.
13. Magazine articles are not an important source of information about fashion and "being attractive."
14. I've felt pressure from TV or magazines to have a perfect body.
15. I wish I looked like the models in music videos.
16. I compare my appearance to the appearance of people in magazines.
17. Magazine advertisements are an important source of information about fashion and "being attractive."
18. I've felt pressure from TV or magazines to diet.
19. I do not wish to look as athletic as the people in magazines.
20. I compare my body to that of people in "good shape."
21. Pictures in magazines are an important source of information about fashion and "being attractive."
22. I've felt pressure from TV or magazines to exercise.
23. I wish I looked as athletic as sports stars.
24. I compare my body to that of people who are athletic.
25. Movies are an important source of information about fashion and "being attractive."
26. I've felt pressure from TV or magazines to change my appearance.

27. I do not try to look like the people on TV.
28. Movie stars are not an important source of information about fashion and "being attractive."
29. Famous people are an important source of information about fashion and "being attractive."
30. 30. I try to look like sports athletes.

## Appendix I

### DBS

Many people say that there are **good things** and **bad things** about having issues with food and body image. Some of the good and bad things that people have talked about are listed below. Please rate how much each of the following statements apply to you, from not at all true, to completely true.

	Not at all true	A little true	Moderately true	Very true	Completely true
1. I hate the fact that my issues with food and body image control my life					
2. My issues with food and body image give me self-control.					
3. Because of my issues with food and body image, I don't have to deal with intimate adult relationships <sup>1</sup>					
4. Because of my issues with food and body image, I feel guilty a lot of the time					
5. Being a low weight makes me feel confident					
6. It bothers me that my weight controls my mood					
7. My issues with food and body image help me obtain an immediate goal <sup>1</sup>					
8. As long as I have my issues with food and body image, I don't have to make definite plans for the future <sup>1</sup>					
9. I don't like that my issues with food and body image keep me from eating out with others					
10. Being a low weight makes me feel good about myself					
11. My issues with food and body image are my way of avoiding deeper, more serious problems <sup>1</sup>					
12. My issues with food and body image make me moody					
13. Being thinner than others makes me feel good about myself					
14. I spend too much time thinking about food, eating and calories					
15. I am fed up with thinking about my weight and/or shape					
16. My issues with food and body image protect me from the difficulties of adult life <sup>1</sup>					
17. I worry about the effect my issues with food and body image are having on my health					

18. My issues with food and body image are my way of being perfect					
19. It bothers me that because of my issues with food and body image I can't prepare a meal for myself					
	Not at all true	A little true	Moderately true	Very true	Completely true
20. I am tired of being sick with food and body image issues					
21. My food and body image issues make me feel accomplished					
22. It bothers me that my issues with food and body image prevent me from sharing my feelings with others					
23. When I focus on eating, shape and weight, I do not have to deal with painful emotions					
24. It bothers me that my issues with food and body image leaves me with no energy					
25. My issues with food and body image allows me to avoid making decisions					
26. It bothers me that my issues with food and body image keep me from socializing					
27. Fitting into small sized clothes makes me feel good about myself					
28. I worry that because of my issues with food and body image I will not be able to have children					
29. Because of my issues with food and body image, I can avoid my fears about sex and/or my sexuality					
30. I have lost my freedom to my issues with food and body image					

## Appendix J

### Attitudes Toward Seeking Professional Psychological Help (ATSPPHS)

(Fischer & Farina, 1995)

To what extent do you agree or disagree with the statements below:

1= Disagree; 2= Partly Disagree; 3= Partly Agree; 4= Agree

1. If I believed I was having a mental breakdown, my first inclination would be to get professional attention.
2. The idea of talking about problems with a psychologist strikes me as a poor way to get rid of emotional conflicts.
3. If I were experiencing a serious emotional crisis at this point in my life, I could find relief in psychotherapy.
4. There is something admirable in the attitude of a person who is willing to cope with his or her conflicts and fears without resorting to professional help.
5. I would want to get psychological help if I were worried or upset for a long period of time.
6. I might want to have psychological counseling in the future.
7. A person with an emotional problem is not likely to solve it alone; he or she *is* likely to solve it with professional help.
8. Considering the time and expense involved in psychotherapy, it would have doubtful value for a person like me.
9. A person should work out his or her own problems; getting psychological counseling would be a last resort.
10. Personal and emotional troubles, like many things, tend to work out by themselves.

## Appendix K

Thanks for completing these questionnaires. You can expect to receive your 2 research credits through SONA within the next 1-2 weeks. Please feel free to contact the researcher at [lr mills@iastate.edu](mailto:lr mills@iastate.edu) with any concerns about credit.

Would you like to be directed to online information to learn more about eating issues?

- a. Yes
- b. No thanks
- c. Prefer not to answer

Would you like to be directed to the University Student Counseling Service website to sign up for an appointment to talk about your body image, eating, or exercise? Counseling there is free.

- a. Yes
- b. No thanks
- c. Prefer not to answer

## Appendix L

### www.something-fishy.org

Eating Disorders | Anorexia | Bulimia | Binge Eating Disorder | Compulsive Overeating | The Something Fishy Website on Eating Disorders - Mozilla Firefox

File Edit View History Bookmarks Tools Help

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

Most Visited Getting Started Latest Headlines

Eating Disorders | Anorexia | Bulimia ...



FOR TREATMENT OPTIONS CALL  
**866.690.7239**

Learn About:  
Eating Disorders  
Anorexia  
Bulimia  
Overeating  
Binge Eating

Site Map

- SFWE News
- Everyone Can Suffer
- In Memory
- What Are EDs?
- Signs & Factors
- Mental Health
- Negative Voices
- Self Perception
- Mind & Body
- Genetics & Biology
- Signs & Symptoms
- Questionnaire
- Misconceptions
- EDs & Diabetes
- EDs & Phobias
- WWW Warning
- Associated Dangers
- Recovery: Reach Out
- Helping Loved Ones
- Treatment Finder

### Eating Disorders

#### Anorexia, Bulimia & Compulsive Overeating

Dedicated to raising awareness and providing support to people with Eating Disorders, and their loved ones... since 1995

What's New ::

Do you know your family members? You might not know them as well as you think. We gathered a listing of comments from members about what they are really feeling and what they wished their friends and family *really* knew about them. [If You Really Knew Me...](#)

- [Ephedra ban takes effect nationwide](#)
- [This is a PRO-Recovery Website](#) Press Release: Media attention and websites that promote Eating Disorders as a "lifestyle" or "diet"
- [Stop Annoying Diet-Ad Pop-Ups](#) Press Release: We do NOT supply or display any type of diet-ad advertising. If you are seeing annoying pop-ups ads while visiting any of the Something Fishy Websites, [click here](#).

#### Ongoing Recovery and Motivation Games

Visit the [FISHY THINK TANK](#) for interactive online recovery games on our [SFWE Remember It Hurts Bulletin Board!](#)

#### Looking for Treatment?

Our **comprehensive eating disorders treatment finder** at Something Fishy contains listings from over 1,800 therapists, dieticians, treatment centers and other professionals worldwide working to help those with Anorexia, Bulimia, Compulsive Overeating and Binge Eating

#### Recent News: ...

[Airbrush alert: UK wants to keep fashion ads real - The Associated Press](#)

[Smith: The hidden health crisis on campus: Eating disorders - MetroWest Daily...](#)

TRANSFORMATION EMPOWERMENT HEALING

call us today  
**866.690.7239**

*carolina house*

SOMETHING FISHY

bulletin board

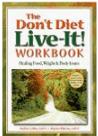
FOR SUPPORT

**EATING DISORDERS FORUMS ALWAYS OPEN**

FOR: PEOPLE WITH AN ED OR THEIR LOVED-ONES

**ANNOUNCEMENTS**

**Helpful Books**



Be sure to check out our list of links to great books from [Gürze Books](#)

Done

IRB stuff Dissertation propos... Lit Review Outline - ... IRB Application 9.25... Eating Disorders | A...

Eating Disorders | Anorexia | Bulimia | Binge Eating Disorder | Compulsive Overeating | The Something Fishy Website on Eating Disorders - Mozilla Firefox

File Edit View History Bookmarks Tools Help

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

Most Visited Getting Started Latest Headlines

Eating Disorders | Anorexia | Bulimia ...

- In Their Own Words
- SFWEB Info
- Other Resources

[privacy policy](#)  
[legal stuff](#)  
[site updates](#)  
[sitemap](#)  
[eating disorder treatment](#)  
[CONTACT](#)

Read more news...

[Make yourself a COPING BANK](#) so that during the most trying times in your recovery you can stay motivated to take care of YOU, so that you can keep moving forward!

Remember: [Stop, Swap and Console!](#)

**Our Mission:** We are dedicated to raising awareness about **eating disorders**... emphasizing always that eating disorders are **NOT** about food and weight; They are just the symptoms of something deeper going on, inside. Something Fishy is determined to remind each and every sufferer of **anorexia, bulimia, compulsive overeating and binge eating disorder** that they are not alone, and that complete **recovery** is possible. If you are the loved-one of someone that suffers with an **eating disorder**, use this website to educate yourself. The more you know, the more you are equipped to provide the support your loved-one needs. If you have an **eating disorder**, you **can** find help. You **can** recover. And you **deserve** to do both.

#### Eating Disorder or Diet?

Having an Eating Disorder is much more than just being on a diet. An Eating Disorder is an illness that permeates all aspects of each sufferer's life, is caused by a variety of emotional factors and influences, and has profound effects on the people suffering and their loved ones... [\[more\]](#)

#### Anorexia Nervosa

The person suffering with Anorexia may be abnormally sensitive about being perceived as fat, or have a massive fear of becoming fat -- though not all people living with Anorexia have this fear. They may be afraid of losing control over the amount of food they eat, accompanied by the desire to control their emotions and reactions to their emotions... [\[more\]](#)

#### Bulimia Nervosa

Men and women who live with Bulimia seek out binge and purge episodes -- they will eat a large quantity of food in a relatively short period of time and then use behaviors such as taking laxatives or self-induced vomiting -- because they feel overwhelmed in coping with their emotions, or in order to punish themselves for something they feel they should unrealistically blame themselves for... [\[more\]](#)

#### Compulsive Overeating

People suffering with Compulsive Overeating have what is characterized as an "addiction" to food, using food and eating as a way to hide from their emotions, to fill a void they feel inside, and to cope with daily stresses and problems in their lives... [\[more\]](#)

#### Binge Eating Disorder

Men and Women living with Binge Eating Disorder suffer a combination of symptoms similar to those of Compulsive Overeaters and Bulimia. Reasons for Binge Eating can be similar to those of Compulsive Overeating; Using Binges as a way to hide from their emotions, to fill a void they feel inside, and to cope with daily stresses and problems in their lives... [\[more\]](#)

opposed to some negative ED sites that discourage recovery, according to a study [\(more\)](#)

13 YEAR ANNIVERSARY  
November 25, 2008 marked Something-Fishy.org's thirteen year anniversary on the web. We are one of the largest and most comprehensive web sites providing information and support for sufferers, friends and families of sufferers, of [Anorexia](#), [Bulimia](#), [Compulsive Overeating](#) and [Binge Eating Disorders](#).

*Victorian*  
of Newport Beach



Eating Disorder and Addiction Treatment for Women

Done

IRB stuff Dissertation propos... Lit Review Outline - ... IRB Application 9.25... Eating Disorders | A...

## Appendix M SCS Homepage

Iowa State University Student Counseling Service - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.public.iastate.edu/~stdtcouns/homepage.html

Iowa State University Student Couns...

# IOWA STATE UNIVERSITY

## Student Counseling Service

### We're Here to Help.

Life is an adventure... and adventures can be challenging. Wherever your life is taking you, we're here to help. We offer confidential services for minor to intense issues, so you can come to us with the knowledge that you will be assisted by trained, professional counselors.

Home »

- Counseling Services
- Crisis Services
- What to Expect
- Referring Someone to SCS
- Campus and Community Resources
- FAQ
- Eligibility and Cost
- Privacy
- Issues of Diversity & Culture
- Testing Services
- Career Exploration Services
- Doctoral Internship/Professional Training

### Crisis Consultations

**IF THIS IS A LIFE THREATENING SITUATION OR ONE THAT COULD RESULT IN HARM TO YOURSELF OR SOMEONE ELSE, CALL 911.**

If you have an urgent matter that you feel may result in a situation which is dangerous or is so intense it cannot reasonably wait to be addressed, please call SCS at 294-5056. Tell the receptionist that you feel an urgent need to speak to a counselor as soon as possible. You may also come in person to 3rd floor of the SSB with the same request. The receptionist will arrange for you to speak to a counselor and together, you and the counselor will determine an acceptable plan which may include a same day crisis appointment. [\(more...\)](#)

### Counseling Services

### Crisis Assistance

Click Here for details

### Hours and Information:

**Student Counseling Service hours:**

Monday through Friday  
8:00am to 5:00pm

If you need immediate assistance after SCS business hours, please call the Richmond Center at 232-5611. If this is an emergency, call 911.

If the University is closed due to

---

Done

Iowa State University Student Counseling Service - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.public.iastate.edu/~stdtcouns/homepage.html

Iowa State University Student Couns...

- Training
- Our Mission
- Staff
- Contact Us
- About Us
- About Iowa State University
- About Ames

### Counseling Services

Counseling services offered to students include: [individual](#), [group](#), and [couples](#) modes to address personal stress, relationship problems, mood or motivation problems, [substance abuse concerns](#), or [eating disorder concerns](#). [\(more...\)](#)

### Testing Services

Students participating in personal or career counseling at Student Counseling Services may be referred for clinical testing to aid in the counseling or career decision-making process. [\(more...\)](#)

### Career Exploration Services

The main mission of the staff at the Career Exploration Services office is to provide individual career counseling and assessment to help students improve their career decision-making skills and self-efficacy for making a career choice. [\(more...\)](#)

### Biofeedback Program

Biofeedback is a learning tool in which people observe their body's physical responses and then use that information to control or alter their conditioned reactions, often resulting in greater relaxation, focus, and healthier coping responses. [\(more...\)](#)

If the University is closed due to severe weather or an emergency, SCS will also be closed and appointments will need to be rescheduled.

**Location:**  
3rd Floor, Student Services Bldg, north of Freley Hall.

**Appointments:**  
Please call 515-294-5056 or you can come directly to our office and a receptionist will be happy to assist you.

Done

## Appendix N

### Debriefing Statement

Thank you for your participation. The study you just participated in was designed to better understand the effects of eating attitudes on help-seeking behavior. Increased understanding of help-seeking behavior may lead to interventions to help raise awareness of and reduce negative perceptions of counseling. As mentioned before, all responses will be kept confidential and identifying information (i.e., names) will be removed at the end of your participation today. Your data will also be combined with the data of other participants to further ensure anonymity. These data will be kept in a locked cabinet, in a locked office.

If you have any concerns about the study you just participated in, please talk to one of the experimenters. If participation in this study raised concerns about your body image, thoughts about food, or eating behaviors that you would like to discuss with a counselor, please visit one of the community resources listed below.

If you have any additional questions about this investigation you may contact the Principal Investigator, LeAnn R. Mills, M.S. at [lrmills@iastate.edu](mailto:lrmills@iastate.edu). The Major Professor, Dr. Lisa Larson, can be contacted at [lmlarson@iastate.edu](mailto:lmlarson@iastate.edu) or 294-1487.

If you have any questions about the rights of research subjects or research-related injury, please contact the IRB Administrator, (515) 294-4566, [IRB@iastate.edu](mailto:IRB@iastate.edu), or Director, Office for Responsible Research, (515) 294-3115, 1138 Pearson Hall, Ames, IA 50011.

#### *Community Referrals*

Student Counseling Service. 3<sup>rd</sup> Floor Student Services Bldg. Ames, IA 294-5056

Thielen Student Health Center. Sheldon Ave. Ames, IA, 294-5801.

Couples and Family Therapy Clinic. 4380 Palmer HDFS Bldg, Ames, IA 294-0534

The Richmond Center. 1619 South High Ave, Ames, IA (515) 232-5811

## Appendix O

### IRB Approval of Study

*amended and replaced with revised documents  
9/14/10 (KA) 9/20/10*

<b>For IRB Use Only</b>	Review Date: <u>September 21, 2010</u>	IRB ID: <u>10-2410</u>
	Approval Date: <u>October 4, 2010</u>	Length of Approval: <u>1 year</u>
	Approval Expiration Date: <u>September 20, 2011</u>	FULL Committee Review: <input checked="" type="checkbox"/>
	EXEMPT per 45 CFR 46.101(b): _____ Date: _____	Minimal Risk: <input checked="" type="checkbox"/>
	EXPEDITED per 45 CFR 46.110(b)	More than Minimal Risks: _____
	Category _____, Letter _____	Project Closed Date: _____

#### INSTITUTIONAL REVIEW BOARD (IRB) Application for Approval of Research Involving Humans

IRB

**SECTION I: GENERAL INFORMATION**

SEP 07 2010

Principal Investigator (PI): LeAnn Mills		Phone: (402) 326-8563	Fax: _____
Degrees: M.S.		Correspondence Address: W112 Lagomarcino Hall	
Department: Psychology		Email Address: lrmills@iastate.edu	
Center/Institute: _____		College: Graduate College, Arts and Sciences	
PI Level: <input type="checkbox"/> Faculty <input type="checkbox"/> Staff <input type="checkbox"/> Postdoctoral <input checked="" type="checkbox"/> Graduate Student <input type="checkbox"/> Undergraduate Student			
Alternate Contact Person: Lisa Larson		Email Address: lmlarson@iastate.edu	
Correspondence Address: W112 Lagomarcino Hall		Phone: 515-294-1487	
Title of Project: Help Seeking Behavior and Health Attitudes			
Project Period (Include Start and End Date): [mm/dd/yy][09/01/2010] to [mm/yy/dd][09/01/2011]			

<b>FOR STUDENT PROJECTS</b>	
Name of Major Professor/Supervising Faculty: Lisa Larson	Signature of Major Professor/Supervising Faculty: 
Phone: 515-294-1487	Campus Address: W112 Lagomarcino Hall
Department: Psychology	Email Address: lmlarson@iastate.edu
Type of Project: (check all that apply)	
<input type="checkbox"/> Research <input type="checkbox"/> Thesis <input checked="" type="checkbox"/> Dissertation <input type="checkbox"/> Class project <input type="checkbox"/> Independent Study (490, 590, Honors project) <input type="checkbox"/> Other. Please specify: _____	

**KEY PERSONNEL**

List all members and relevant experience of the project personnel. This information is intended to inform the committee of the training and background related to the specific procedures that each person will perform on the project.

NAME & DEGREE(S)	SPECIFIC DUTIES ON PROJECT	TRAINING & EXPERIENCE RELATED TO PROCEDURES PERFORMED, DATE OF TRAINING
✓ LeAnn Mills, M.S.	Principle Investigator, Graduate student	ISU Human Subjects Training; 05/10- 8-12-06
✓ Lisa Larson, Ph.D.	Supervising Faculty	ISU Human Subjects Training; 11/00- 9-18-00