

BELIEFS ASSOCIATED WITH EATING DISORDERS AND OBSESSIVE-
COMPULSIVE DISORDER: THE DEVELOPMENT OF THE
OBSESSIVE BELIEFS ABOUT BODY SIZE AND
EATING SURVEY (OBBSES)

By

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CHAPTER I

INTRODUCTION

Comorbidity of Eating Disorders and Obsessive-Compulsive Disorder

Numerous studies have investigated the comorbidity between eating disorders (EDs) and obsessive-compulsive disorder (OCD). The majority of studies of comorbidity in ED samples have found rates of current and/or lifetime OCD that are higher than would be expected given the base rate of OCD in the general population (e.g. Braun, Sunday, & Halmi, 1994; Fornari et al., 1992; Matsunaga, Kiriike, et al., 1999; Milos, Spindler, Ruggiero, Klaghofer, & Schnyder, 2002; Rubenstein et al., 1993; Schwalberg, Barlow, Alger, & Howard, 1992; Speranza et al., 2001; Thiel, Broocks, Ohlmeier, Jacoby, & Schuβler, 1995). The evidence regarding the occurrence of OCD in individuals with anorexia nervosa (AN) versus bulimia nervosa (BN), the two specific ED diagnoses listed in the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; APA, 1994), is somewhat inconsistent. Some studies have found a difference in OCD prevalence in individuals with AN versus those with BN (Godart, Flament, Lecrubier, & Jeammet, 2000; Thornton & Russell, 1997), while others have not (Milos et al., 2002; Speranza et al., 2001). Most studies that have found differences have found a greater prevalence of OCD in those with AN compared to those with BN (Serpell, Livingstone, Neiderman, & Lask, 2002). Evidence regarding the prevalence of comorbid OCD in AN patients who restrict only versus those who binge and/or purge is also mixed. Some studies have found that AN patients who binge and purge have a significantly greater rate of lifetime comorbid OCD than those who restrict

only (Fornari et al., 1992; Speranza et al., 2001), while other studies have found no significant difference (e.g. Milos et al., 2002).

Less research has examined the prevalence of EDs in individuals with OCD. The majority of studies in this area have found rates of EDs in females with OCD that are higher than would be expected given the base rates of EDs in the general population (e.g. Fahy, Osacar, & Marks, 1993; Flament et al., 1988; Grabe, Thiel, & Freyberger, 2000; Kasvikis, Tsakiris, Marks, Basoglu, & Noshirvani, 1986; Ronchi et al., 1992; Tamburrino, Kaufman, & Hertzner, 1994). Most studies using samples of both males and females with OCD have found current or lifetime diagnoses of EDs only among the females (e.g. Flament et al., 1988; Grabe et al., 2000; Kasvikis et al., 1986; Ronchi et al., 1992). This pattern of results is not surprising, as approximately 90% of individuals with EDs are female (APA, 1994; Carlat, Camargo, & Herzog, 1997; Smolak & Murnen, 2001). However, there have been a few studies that have found lifetime diagnoses of EDs in male OCD patients as well (e.g. Castle, Deale, & Marks, 1995; Rubenstein, Pigott, L'Heureux, Hill, & Murphy, 1992). The prevalence of EDs in individuals with OCD is typically lower than the prevalence of OCD in individuals with EDs (e.g. Shafran, 2002).

Individuals with EDs often suffer from symptoms of OCD, even if they do not meet full criteria for a diagnosis of OCD (e.g. Cassidy, Allsopp, & Williams, 1999; Halmi et al., 2003; Kaye et al., 1992; Shafran, Bryant-Waugh, Lask, & Arscott, 1995). Some evidence also indicates that individuals recovered from EDs still suffer from OCD symptoms (e.g. Pollice, Kaye, Greeno, & Weltzin, 1997; von Ranson, Kaye, Weltzin, Rao, & Matsunaga, 1999). There is also limited evidence that individuals with OCD may

have elevated levels of ED symptoms (e.g. Grabe et al., 2000; Pigott et al., 1991); however, very few studies have been conducted in this area.

In summary, the existing evidence suggests a well documented comorbidity between EDs and OCD, and further, that in those who meet full criteria for only one of these disorders (e.g., an ED or OCD), symptoms of the other disorder are often present. The reasons for this co-occurrence, however, remain unknown. In attempting to explain the relation between EDs and OCD, researchers have explored areas ranging from cognition, to biology, to treatment response.

The present study investigated cognitions hypothesized to be associated with both EDs and OCD, focusing on six specific belief domains identified by the Obsessive Compulsive Cognitions Working Group (OCCWG, described below) as most relevant for OCD. The primary goal of this study was to use these six domains to develop a new measure (the Obsessive Beliefs about Body Size and Eating Survey; OBBSES) intended to assess these types of beliefs in the context of EDs. A measure developed by the OCCWG to assess these belief domains (the Obsessive Beliefs Questionnaire; OBQ) was used as the basis for the development of the OBBSES, which investigated these types of beliefs as they may relate to food, eating, shape and weight. The long-term goal of this research is to develop a measure to elucidate cognitive similarities between OCD and eating disorders that may be associated with their co-occurrence and could thus be targeted during treatment of individuals with both types of disorders.

Obsessive Compulsive Cognitions Working Group

One of the barriers to the study of the comorbidity between EDs and OCD has been the lack of standardized measurement tools in this area that can be used to compare data across studies. The Obsessive Compulsive Cognitions Working Group (OCCWG) is an international group of OCD researchers created in 1995 for the purpose of developing standardized measures of cognitions associated with OCD (OCCWG, 1997, 2001). In the process of developing these measures, the OCCWG selected the following six belief domains as those most relevant to OCD: 1) importance of thoughts, 2) control of thoughts, 3) responsibility, 4) overestimation of threat, 5) intolerance of uncertainty, and 6) perfectionism. These domains were rationally derived by the members of the OCCWG (1997, 2001, 2003, 2005). Of these six domains, the OCCWG (1997) considers the first five domains to be “of central importance to OCD” (p. 671), while they believe that perfectionism is “important as a belief domain, but not necessarily exclusive to OCD” (p. 671). Perfectionism is associated with a variety of disorders, such as depression and most of the anxiety disorders (e.g. Frost, Novara, & Rheume, 2002; Frost & Steketee, 1997). While it has been suggested that perfectionism may be a risk factor for OCD (OCCWG, 1997; Shafran & Mansell, 2001), it has also been proposed that perfectionism “may represent a necessary but insufficient trait for development of OCD” (Rheume, Freeston, Dugas, Letarte, & Ladouceur, 1995, p. 793).

The OCCWG has developed and psychometrically evaluated two measures intended to assess OCD-related cognitions (2001, 2003, 2005). These measures are the Obsessive Beliefs Questionnaire (OBQ) and the Interpretation of Intrusions Inventory (III). The OBQ includes all six belief domains identified by the OCCWG, and is

intended to assess “enduring, predisposing beliefs that may increase risk for OCD” (OCCWG, 2003 p. 865). The III assesses three of the six domains (importance of thoughts, control of thoughts, and responsibility) and is intended to measure “specific appraisals of responsibility, overimportance of thought intrusions and control of intrusions that were considered instrumental in the persistence of obsessions” (OCCWG, 2003 p. 865).

The current study focused on the OBQ as the basis for the development of the OBBSES, as the OBQ includes all six belief domains, and was designed to measure general beliefs (rather than interpretations of specific intrusions) (OCCWG, 2001). The overarching purpose of the present study was to gain a better understanding of the comorbidity between EDs and OCD by investigating potential cognitive similarities between these disorders. The development of a measure such as the OBBSES may be a useful tool for examining similarities in this area.

Obsessive Beliefs Questionnaire

The original version of the OBQ is composed of 87 items associated with the six domains identified by the OCCWG (1997, 2001, 2003, 2005). Although the OCCWG more recently developed and psychometrically tested a shorter version of this measure containing 44 items, the present study focused on the full 87-item version of the OBQ. Each item on the OBQ describes a belief associated with one of the six domains identified by the OCCWG.

In the process of developing, modifying, and validating the OBQ, it has been administered to participants with OCD, participants with anxiety disorders other than

OCD, and nonclinical control participants (students and participants from the community) (OCCWG 2001, 2003, 2005). The subscales of the OBQ demonstrate internal consistency ranging from good to excellent (OCCWG, 2003, 2005). Test-retest reliability was found to be mostly good in a subset of participants from the OCD group (approximately 2 months after the original administration) and a subset of participants from the student control group (approximately 3 months later) (OCCWG, 2003, 2005). More specifically, the test-retest reliability for the individual subscales of the OBQ ranged from .48 to .83 in the OCD sample (with only one subscale having a correlation under .62) and from .67 to .82 in the student control group.

The criterion-related validity of the OBQ was mixed. The OCD participants had significantly higher scores than the nonclinical controls on all six subscales and higher scores than the anxious controls on the following three subscales: importance of thoughts, control of thoughts, and responsibility. The OCD participants did not differ from the anxious controls on the overestimation of threat, intolerance of uncertainty, and perfectionism subscales (OCCWG, 2003). The anxious controls received significantly greater scores than the nonclinical participants on every subscale. Based on these results, the OCCWG proposes that the subscales importance of thoughts, control of thoughts, and responsibility measure beliefs that may be OCD-specific (as the OCD participants had higher scores on these subscales than the anxious controls), while the other three subscales assess beliefs that may be relevant, but not specific, to OCD (OCCWG, 2003).

The convergent validity of the OBQ appears to be reasonably good, with all subscales other than importance of thoughts correlating moderately with the total scores of the Padua Inventory-Washington State University Revision (PI-WSUR; Burns, 1995)

and the Yale-Brown Obsessive Compulsive Scale (Y-BOCS; Goodman, Price, Rasmussen, Mazure, Delgado, et al., 1989; Goodman, Price, Rasmussen, Mazure, Fleishmann, et al., 1989), which are commonly used measures of OCD symptoms (OCCWG, 2003, 2005). However, the OBQ demonstrated low discriminant validity. The OBQ subscales were as highly correlated with the total scores on measures of anxiety, worry and depression as they were with the measures of OCD symptoms (OCCWG, 2003, 2005). The OCCWG (2003) does note the difficulty of drawing conclusions from these correlations, due to the moderately high intercorrelations between the symptom measures themselves, particularly those of worry and OCD. In order to examine the discriminant validity of the OBQ further, the OCCWG calculated partial correlation coefficients to investigate whether the OBQ is more specifically related to OCD symptoms than to worry. They found that, after controlling for worry, the OBQ does have a specific relation to OCD symptoms.

The subscales of the OBQ are highly intercorrelated with each other (OCCWG, 2003, 2005). A factor analysis of the 87-item version of the OBQ found that items from the six subscales could be reduced to the following three factors: 1) responsibility and threat estimation, 2) perfectionism and intolerance for uncertainty, and 3) importance and control of thoughts (OCCWG, 2005). Using the high-loading items from the three factors, the OCCWG created a 44-item version of the OBQ (OCCWG, 2005). However, as the goal of the current study was to investigate each of the six belief domains as they may apply to eating-related pathology, the full 87-item version was used, and all six domains were investigated separately.

Belief Domains

The following section will describe each of the six belief domains identified by the OCCWG, including example OBQ items from each domain. This section will briefly review OCD research within each of these domains, and will include brief descriptions of ED research as it may be applied to these domains. According to Shafran (2002), in a chapter reviewing the potential relevance of these six domains to EDs, “To date, there has been no direct investigation in eating disorders of responsibility, importance of thoughts, control over thoughts, intolerance of uncertainty, and overestimation of threat. There has, however, been substantial interest in perfectionism in eating disorders” (Shafran, 2002, p. 219).

Importance of Thoughts- OCD

The OCCWG (2001) defines the importance of thoughts domain as “The belief that the mere presence of a thought indicates that it is important. Beliefs may reflect thought-action fusion and magical thinking” (p. 1003). Thought-action fusion (TAF) involves believing that thoughts and actions are morally equal (moral TAF), and that thinking about something happening can actually increase the likelihood that it will occur (likelihood TAF) (Rachman & Shafran, 1999; Shafran, 2002). Magical thinking also involves the belief that thoughts alone can actually make bad things happen (Thordarson & Shafran, 2002). Additionally, the importance of thoughts domain includes the belief that unwanted, intrusive thoughts actually reveal something significant about the person having the thoughts; for example, that he is abnormal or a bad person (Thordarson & Shafran, 2002). Example OBQ items from the importance of thoughts domain are “For

me, having bad urges is as bad as actually carrying them out”, “Having an unwanted sexual thought or image means I really want to do it”, “Having violent thoughts means I will lose control and become violent”, and “The more I think of something horrible, the greater the risk it will come true”.

The importance placed on intrusive thoughts has played a significant role in the cognitive theory of OCD. According to the cognitive theory of obsessions (e.g. Rachman, 1997; Salkovskis, 1985, 1989), the meaning assigned to intrusive unwanted thoughts is what’s relevant for the development and maintenance of obsessions. It is proposed that while almost everyone experiences unwanted, intrusive thoughts, “obsessions are caused by catastrophic misinterpretations of the significance of one’s intrusive thoughts (images, impulses)” (Rachman, 1997, p. 793). As Rachman (1997) states “The misinterpretation of the intrusive thoughts as being very important, personally significant, revealing and threatening or even catastrophic, has the effect of transforming a commonplace nuisance into a torment” (p. 794). Thought-action fusion is thought to be one specific mechanism by which thoughts are given excessive and unreasonable importance (e.g. Thordarson & Shafran, 2002). There is evidence suggesting a relation between importance of thoughts and OCD (e.g. Amir, Freshman, Ramsey, Neary, & Brigidi, 2001; OCCWG, 2001, 2003; Rachman & Shafran, 1999; Rachman, Thordarson, Shafran, & Woody, 1995; Shafran, Thordarson, & Rachman, 1996). However, although relevant for OCD, this belief domain (or at least parts of it, such as thought-action fusion) may not be specific to OCD (e.g. Rassin, Diepstraten, Merckelbach, & Muris, 2001; Thordarson & Shafran, 2002).

Importance of Thoughts - EDs

Preoccupation with thoughts about food, eating, shape, and weight is very common among those with EDs (e.g. APA, 1994; Fairburn, Cooper, & Shafran, 2003). There is also evidence suggesting that dieters are significantly more preoccupied with thoughts about food and eating than individuals who are not dieting (e.g. Hart & Chiovari, 1998; Oliver & Huon, 2001). It has also been suggested that those who are concerned about their weight and shape have “magical beliefs” about food (Garner & Bemis, 1982; Rachman & Shafran, 1999). Recently, researchers have proposed a cognitive distortion known as thought-shape fusion (TSF), which is similar to TAF (Shafran, Teachman, Kerry, & Rachman, 1999). TSF is proposed to involve believing that merely thinking about eating a “forbidden” food: 1) is likely to lead to actual weight gain or shape change (likelihood TSF), 2) is almost as immoral as actually eating the “forbidden” food (moral TSF), and 3) makes one feel fat (feeling TSF) (e.g. Shafran, 2002; Shafran et al., 1999). Preliminary evidence suggests an association between TSF and ED symptoms in nonclinical participants, and that TSF may exist in patients with AN (Radomsky, de Silva, Todd, Treasure, & Murphy, 2002; Shafran et al., 1999). There is also evidence that TSF can be experimentally induced, generates feelings of anxiety and guilt, and creates an urge to perform corrective behavior such as checking or neutralizing, which decreases these feelings of anxiety and guilt (Radomsky et al., 2002; Shafran et al., 1999). Therefore, it is hypothesized that TSF may be a mechanism through which individuals with high levels of eating-related pathology attach excessive importance to thoughts (Shafran, 2002).

Control of Thoughts – OCD

The OCCWG (2001) defines this domain as “The overvaluation of the importance of exerting complete control over intrusive thoughts, images, and impulses and the belief that this is both possible and desirable.” (p. 1003). More specifically, this domain involves: “a) tracking of mental events and hypervigilance; b) moral consequences of failing to control intrusive thoughts, control as a virtue; c) psychological and behavioral consequences of failing to control intrusive thoughts (e.g., insanity, decreased ability to function); and d) efficiency of thought control (e.g., efforts should result in immediate and prolonged control, one’s ability to control thoughts should never wax and wane)” (Purdon & Clark, 2002, p. 37). Some example OBQ items from the control of thoughts domain are: “Having intrusive thoughts means I’m out of control”, “I should be able to rid my mind of unwanted thoughts”, and “If I exercise enough will-power, I should be able to gain complete control over my mind”.

There has been substantially more research on the techniques (such as thought suppression) used in an attempt to control obsessions, than on beliefs about control of thoughts (Purdon & Clark, 2002). However, there is some empirical evidence suggesting a relation between thought control beliefs and OCD symptoms, although it remains unclear whether these beliefs are specific to OCD (e.g. Clark, Purdon, & Wang, 2003; OCCWG, 2001, 2003; Purdon & Clark, 2002; Steketee, Frost, & Cohen, 1998).

Control of Thoughts – EDs

Control has been an important topic in the conceptualization and investigation of EDs, although it has mostly been studied in the context of control over eating, weight,

shape, and the self, rather than control of thoughts (Shafran, 2002). For example, Fairburn, Shafran, and Cooper (1999), in their discussion of a cognitive behavioral theory of AN, propose that “....an extreme need to control eating is the central feature of the disorder...” (p. 1). They also discuss the crucial role of a general need for self-control in the onset of AN: “Initially, there is a need for self-control in general which is likely to be a product of these individuals' well-recognized and characteristic sense of ineffectiveness and perfectionism, and which interacts with longstanding low self-esteem. At first, people who develop anorexia nervosa may experiment with controlling various aspects of their lives, such as work, sport or other interests, but soon control over eating becomes of pre-eminent importance because it is experienced as ‘successful behavior in the context of perceived failure in all other areas of functioning’” (Fairburn et al., 1999, p. 3-4; Slade, 1982, p. 173).

Attempting to control thoughts about eating and food appears to be a common strategy used by individuals attempting to restrict their eating (such as those who are dieting) (e.g. Harnden, McNally, & Jimerson, 1997; Johnston, Bulik, & Anstiss, 1999). Raymond et al. (1999) found that more than 80% of the participants in a group of individuals with BN tried to resist thoughts about binge eating. Research suggesting that suppression of thoughts may eventually lead to an increase in or even preoccupation with those thoughts (e.g. Johnston et al., 1999; Wegner, 1994) has been applied to research investigating the effects of suppressing thoughts about food, eating, and weight (e.g. Harnden et al., 1997; Johnston et al., 1999). For example, Harnden et al. (1997) found that nondieters asked to suppress a specific thought about weight experienced a rebound effect when they were allowed to stop suppressing the thought, and propose that thought

suppression may contribute to the development of preoccupations about weight. However, they did not find this rebound effect in dieters; the reason for the lack of this effect in dieters is unclear (Harnden et al., 1997). Shafran (2002) also suggests an interesting possible result of thought control attempts in individuals with EDs, that, similar to individuals with OCD, those with EDs may interpret their inability to control thoughts about food, shape, and weight as meaning that they have lost mental control and are going crazy. However, it is also possible that given the ego-syntonic nature of EDs, some patients with EDs may not try to control their thoughts about weight and shape, and/or what they need to do in order to have the weight and shape they desire (e.g. exercising, restricting etc.).

Responsibility – OCD

The OCCWG (2001) defines this domain as “The belief that one has power that is pivotal to bring about or prevent subjectively crucial negative outcomes. These outcomes are perceived as essential to prevent and may have consequences in the real world and /or at a moral level” (p. 1002-1003). Example OBQ items from the responsibility domain are: “To me, failing to prevent a disaster is as bad as causing it”; “Even if harm is very unlikely, I should try to prevent it at any cost”, “If I don’t act when I foresee danger, then I am to blame for any consequences”, and “I should make sure others are protected from any negative consequences of my decisions or actions”.

The idea that beliefs about inflated responsibility play an important role in OCD has been a central part of the cognitive theory of OCD (Salkovskis, 1999; Salkovskis, Shafran, Rachman, & Freeston, 1999; Salkovskis et al., 2000). There are a number of

studies suggesting a relation between beliefs about excessive responsibility and OCD (e.g. Foa, Amir, Bogert, Molnar, & Prezworski, 2001; Lopatka & Rachman, 1995; OCCWG, 2001, 2003; Rheaume, Ladouceur, & Freeston, 2000; Salkovskis et al., 2000; Steketee et al., 1998; Wilson & Chambless, 1999), although the relative importance of responsibility beliefs in this disorder remains unclear (e.g. Emmelkamp & Aardema, 1999; Wilson & Chambless, 1999). Additionally, it remains uncertain whether an exaggerated sense of responsibility is generally related to OCD (e.g. Salkovskis et al., 2000) or more specifically related to certain types of symptoms (e.g. checking compulsions) (e.g. Foa, Sacks, Tolin, Prezworski, & Amir, 2002; Rachman, 1993) or situations (e.g. Rachman et al., 1995).

Responsibility - EDs

Although the other five domains identified by the OCCWG at least superficially appear relevant to EDs, it is more difficult to apply the domain of responsibility to food, eating, weight and shape. There does not appear to be research investigating the concept of “responsibility” (as it has been conceptualized in relation to OCD) in ED patients (Shafran, 2002). For the purpose of consistency with the OCCWG domains and the OBQ, however, this domain was explored to investigate whether and how it may be relevant for eating-related pathology. Shafran (2002) suggests that the elevated harm avoidance found in individuals with EDs (e.g. Berg, Crosby, Wonderlich, & Hawley, 2000; Fassino et al., 2002) and personality traits associated with AN, such as being overconscientious and strictly adhering to moral values, may be relevant to the domain of responsibility. It is important to note however, that individuals with BN often have a

pattern of personality traits including novelty seeking, impulsivity, affective dysregulation, and stress regulation (e.g. Lilienfeld et al., 2000). Regarding the application of the domain of responsibility to EDs, Shafran states, “In summary, there are no data assessing responsibility in patients with eating disorders, but descriptions of their personality characteristics and data regarding avoidance of harm are consistent with a patient group that has high levels of responsibility” (Shafran, 2002, p. 222).

Overestimation of Threat – OCD

The OCCWG (2001) defines this domain as “An exaggeration of the probability or severity of harm” (p. 1004). Example items from the overestimation of threat domain include: “I often think things around me are unsafe”, “Even ordinary experiences in my life are full of risk”, “Even when I am careful, I often think that bad things will happen”, and “Small problems always seem to turn into big ones in my life”.

The idea that overestimation of threat may play an important role in OCD has been proposed by a number of OCD researchers (OCCWG, 1997; Sookman & Pinard, 2002); however, overestimation of threat is also thought to be associated with anxiety disorders in general (e.g. Freeston, Rheaume, & Ladouceur, 1996; Sookman & Pinard, 2002). Research suggests an association between overestimation of threat and symptoms of OCD (e.g. OCCWG, 2001, 2003; Sookman & Pinard, 2002; Steketee & Frost, 1994; Steketee et al., 1998), but this belief domain is not exclusive to OCD (e.g. OCCWG, 2003; Sookman & Pinard, 2002). However, it has been suggested that the overestimation of threat in the context of beliefs about inflated responsibility may be specific to OCD compared to other anxiety disorders (Freeston et al., 1996).

Overestimation of Threat- EDs

The majority of studies investigating perception of threat and EDs focus on the processing of threat-related information, rather than on the overestimation of threat. These studies suggest information-processing-related biases in individuals with eating-related pathology (e.g. Williamson, Muller, Reas, & Thaw, 1999). This research has focused on threat related to food, eating, shape, and weight (e.g. Cooper, Anastasiades, & Fairburn, 1992; Jones-Chesters, Monsell, & Cooper, 1998) as well as other, more general types of threats (e.g. threats to self-esteem)(e.g. Jones-Chesters et al., 1998; McManus, Waller & Chadwick, 1996; Meyer, Waller, & Watson, 2000; Quinton, 1998; Waller & Mijatovich, 1998). Individuals with EDs may overestimate the consequences of gaining weight (e.g. thinking that if they gain weight, they will lose all of their friends) (Cooper, Todd, & Wells, 1998; Shafran, 2002). The high levels of harm avoidance found among individuals with EDs (e.g. Berg et al., 2000; Fassino et al., 2002) suggest they may have a general tendency to overestimate threat, although this tendency may be lower than that of individuals with anxiety disorders (Shafran, 2002).

Intolerance of Uncertainty – OCD

The OCCWG (2001) defines this domain as “Beliefs about the necessity for being certain, that one has poor capacity to cope with unpredictable change, and that it is difficult to function adequately in ambiguous situations” (p. 1004). Example OBQ items from the intolerance of uncertainty domain are: “If I’m not absolutely sure of something, I’m bound to make a mistake”, “It is essential for everything to be clear cut, even in minor matters”, and “I must be certain of my decisions”.

OCD has been described as “la folie du doute” (e.g. Sookman & Pinard, 2002), or “the doubting disease” (e.g. Ciarrocchi, 1995; Steketee et al., 1998), as individuals with OCD have frequently been observed to have symptoms associated with a need for certainty, such as difficulty making decisions and doubt about their decisions or actions (OCCWG, 1997; Sookman & Pinard, 2002; Steketee et al., 1998; Tolin, Abramowitz, Brigidi, & Foa, 2003). There is some empirical evidence that intolerance of uncertainty is related to OCD (e.g. OCCWG, 2001, 2003; Sookman & Pinard, 2002; Steketee et al., 1998). Intolerance of uncertainty is also associated with other disorders, particularly generalized anxiety disorder (Dugas, Gagnon, Ladouceur, & Freeston, 1998; Sookman & Pinard, 2002), and may also be associated with some personality disorders; for example, dependent personality disorder and obsessive-compulsive personality disorder (OCCWG, 1997; Sookman & Pinard, 2002; Steketee et al., 1998). Intolerance of uncertainty is also more generally related to worry (Dugas, Freeston, & Ladouceur, 1997; Freeston, Rheume, Letarte, Dugas, & Ladouceur, 1994; Ladouceur, Gosselin, & Dugas, 2000; Sookman & Pinard, 2002).

Intolerance of Uncertainty – EDs

Intolerance of uncertainty could be related to a variety of symptoms that have been observed in individuals with EDs, such as the repetitive checking of their shape and weight, and the desire to always be aware of the exact number of calories in their food (Shafran, 2002). This domain appears particularly relevant for AN; the need for certainty has been proposed to play a significant role in maintaining this disorder (e.g. Shafran, 2002; Vitousek & Manke, 1994). Observations of those with AN include characteristics

consistent with intolerance of uncertainty, such as “a need for order and routine”, and “finding decision-making and choices aversive” (Shafran, 2002, p. 224). The need for self-control emphasized in Fairburn et al.’s (1999) cognitive-behavioral theory of AN may be associated with an intolerance of uncertainty. For example, intolerance of uncertainty could be related to this need for self-control, which becomes specifically associated with food intake (as eating is an area more under one’s direct control than many other areas) (e.g. Fairburn et al., 1999). Fairburn et al. state “.....successful dietary restriction provides direct and immediate evidence of self-control. As Slade (1982) points out, this is not true of other domains that could potentially be controlled since they are more under the influence of others.” (p. 4). Fairburn et al. also state that “...the fact that the disorder typically starts in adolescence may also be relevant since controlling eating provides a means of potentially arresting or even reversing puberty which may itself constitute a threat to self-control.” (p. 4). Puberty can be a time of uncertainty in a variety of areas; perhaps the behavior of individuals with AN can be viewed in the context of attempting to reduce the uncertainty associated with this period of time. Additionally, starvation is associated with a narrowing of interests (e.g. Fairburn et al., 1999); as Fairburn et al. point out “...by successfully controlling their eating these individuals are controlling all that is important in their lives.” (p. 5). Similarly, in their discussion of cognitive models of AN, Vitousek and Manke (1994) state “The channeling of diffuse concerns into monolithic weight-related self-schemas imposes a welcome simplicity and organization on the cognitive processing of the affected individual” (p. 137). In this manner, AN could provide one mechanism through which one’s life can be simplified, and uncertainty therefore reduced (Shafran, 2002).

It is somewhat more difficult to apply the domain of intolerance of uncertainty to BN, as it seems, at least superficially, to be more consistent with descriptions of those with AN. However, more general personality traits that could be related to an intolerance of uncertainty, such as harm avoidance, have been associated with both AN and BN (e.g. Berg et al., 2000; Fassino et al., 2002). Additionally, AN and BN are closely related with a large degree of symptom overlap, and individuals often move between ED diagnoses over time (Herzog & Selwyn Delinsky, 2001), as well as between the restricting and binge-purging subtypes of AN (Eddy et al., 2002).

Perfectionism – OCD

The OCCWG (2001) defines this domain as “The belief that there is a perfect solution to every problem, that doing something perfectly is possible and necessary, and that even minor mistakes will have serious consequences” (p. 1004). Example OBQ items from the perfectionism domain are: “If I can’t do something perfectly, I shouldn’t do it at all”, “For me, making a mistake is as bad as failing completely”, and “I must keep working at something until it’s done exactly right”.

Perfectionism has been proposed to play an important role in OCD, although its role in the development and maintenance of OCD is somewhat less clear than its role in EDs. Studies have suggested a relation between perfectionism and OCD symptoms in nonclinical and clinical participants (e.g. Frost & Steketee, 1997; OCCWG, 1997; Rheaume et al., 1995; Rheaume et al., 2000), and that OCD patients are more perfectionistic than nonclinical controls (e.g. Frost & Steketee, 1997). Perfectionism has

also been associated with certain types of OCD symptoms, such as hoarding, cleaning, and checking (OCCWG, 1997).

In investigating perfectionism in OCD, it is important to recognize a serious confounding factor associated with one of the commonly used measures of perfectionism, the Multidimensional Perfectionism Scale-F (MPS-F; Frost, Marten, Lahart, & Rosenblate, 1990). One of the subscales of this measure (the doubts about actions subscale) is composed of items from the Maudsley Obsessional Compulsive Inventory (MOCI; Hodgson & Rachman, 1977), which is used to assess OCD symptoms (e.g. Norman, Davies, Nicholson, Cortese, & Malla, 1998; Shafran & Mansell, 2001). As Shafran and Mansell (2001) explain, “the subscale regarding doubts about actions is essentially a direct measure of the symptoms of OCD, which are themselves regarded as signs of perfectionism by the authors of the scale” (p. 894). This subscale of the MPS-F, therefore, does not provide any useful information about perfectionism in OCD. It is also important to recognize that perfectionism is strongly associated with OCPD (Shafran & Mansell, 2001), which is often confused with OCD in the literature.

Perfectionism - EDs

Of the six domains proposed by the OCCWG (1997), perfectionism is the domain that has been the most extensively investigated in individuals with EDs (Shafran, 2002). Interestingly, in a chapter discussing EDs and OCD, Shafran (2002) asks, “Might it [“perfectionism”] be the link between the elevated comorbidity between OCD and eating disorders? Is it possible that people with high levels of perfectionism are more at risk of

developing both eating disorders and OCD than people with lower levels of perfectionism?” (p. 222).

Perfectionism is almost always found in descriptions of individuals with EDs, especially those with AN (e.g. Shafran, Cooper, & Fairburn, 2002). While individuals with BN often have a pattern of personality traits including novelty seeking, impulsivity, affective dysregulation, and stress regulation, perfectionism appears to be associated with BN as well (e.g. Lilenfeld et al., 2000). In fact, subscales assessing perfectionism are even included on some assessment measures of EDs, such as the Eating Disorders Inventory (EDI; Garner, Olmsted, & Polivy, 1983) and the Setting Conditions for Anorexia Nervosa Scale (SCANS; Slade & Dewey, 1986) (Shafran, 2002).

Research suggests that perfectionism may be a premorbid characteristic of those who develop EDs, and/or a risk factor for the development of EDs (e.g. Fairburn, Cooper, Doll, & Welch, 1999; Shafran et al., 2002; Shafran & Mansell, 2001). Individuals currently suffering from both AN and BN exhibit higher levels of perfectionism than participants without an ED (e.g. Halmi et al., 2000; Lilenfeld et al., 2000). There is also evidence that perfectionism remains in individuals recovered from EDs (e.g. Srinivasagam et al., 1995; Stein et al., 2002). Additionally, studies suggest that perfectionism is higher in relatives of ED probands than in relatives of control probands (e.g. Lilenfeld et al., 2000; Woodside et al., 2002).

Summary of Study Hypotheses and Goals

In summary, the primary goal of the present study was to develop a questionnaire (the OBBSES) that could be used to examine these types of beliefs in the context of EDs.

The study involved three phases; phase one involved item generation and the grouping of items into initial subscales, phase two included pilot testing, preliminary psychometric analyses and item selection, and phase three involved a factor analysis and validity study. Participants in phase one included an expert panel of researchers, clinicians, and graduate students with experience in the area of EDs and/or OCD. During phase two, undergraduate participants from Vanderbilt University completed a questionnaire assessing demographic information, the OBBSES, a measure of ED symptoms, a measure of OCD symptoms, the OBQ, a measure of depression and anxiety symptoms, a measure of social desirability, and a measure containing the DSM-IV diagnostic criteria for AN, BN, and OCD. During phase three, Vanderbilt undergraduate students, graduate students, and staff as well as community members (not associated with Vanderbilt) completed the same measures. Additionally, a subset of phase three participants completed the OBBSES a second time two to four weeks after originally completing this measure in order to examine test-retest reliability.

There are several hypotheses that were proposed regarding correlations among the measures that were used in this study. Specifically, if the OBBSES is a valid and reliable measure of beliefs associated with EDs, it was expected that the OBBSES would be positively correlated with the measure of ED symptoms. The OBBSES was also expected to be positively correlated with the OBQ, as the OBBSES was largely based on this measure, and was intended to assess the same types of beliefs. It was also predicted that the OBBSES would be positively correlated with the measure of OCD symptoms, as the OBBSES was based on belief domains identified as important for OCD.

Based on the elevated level of comorbidity between EDs and depression (Troop, Serpell, & Treasure, 2001; Wade, Bulik, Neale, & Kendler, 2000), and EDs and anxiety disorders (e.g. Bulik, 2002; Bulik, Sullivan, Fear, & Joyce, 1997; Godart et al., 2000), it was expected that the OBBSES would be positively correlated with the measure of depression and anxiety symptoms. Additionally, most, if not all of the belief domains identified by the OCCWG may not be specific to OCD. However, as the OBBSES was intended to specifically measure ED-related beliefs within a framework developed for OCD, it was expected that the OBBSES would be more highly correlated with the measure of ED symptoms, the OBQ, and the measure of OCD symptoms, than with the measure of depression and anxiety symptoms. The correlation between the OBBSES and a measure of social desirability was also examined. Social desirability is the tendency for participants to respond in a manner they perceive to be socially acceptable, which can bias the results of research studies (e.g. Evans, 1982; Miotto, De Coppi, Frezza, Rossi, & Preti, 2002; Paulhus, 1991). Therefore, a social desirability measure was administered during the item selection phase of the study (phase two) in order to eliminate any items that were highly correlated with social desirability, and was also administered during the validity study (phase three), to ensure that the results were not influenced by this type of response bias.

An exploratory factor analysis of the OBBSES was conducted in order to determine the best set of subscales for this measure. There were no clear hypotheses regarding these subscales. It was considered that some subscales of the OBBSES would be more valid and/or reliable than others, and that some subscales would be more highly

associated with eating-related pathology and/or other types of symptoms (e.g. OCD symptoms, depression) than other subscales.

CHAPTER II

METHODS

Participants

Phase 1

Twenty-eight participants agreed to complete phase one of the current study; two of these participants withdrew after beginning the study (one participant did not think he was knowledgeable enough in the area of EDs, and the other participant decided that she did not have sufficient time to complete the study task); therefore, the final sample size of phase one was 26. This sample included clinicians, researchers and graduate students with experience with EDs and/or OCD. The recruitment of experts was conducted over email; if an expert agreed to participate in the study, the author sent him or her a follow-up email containing the link to the study website.

Phase 2

Sixty participants began phase two, the data from one participant was excluded because she participated after the deadline and did not complete all of the questionnaires, generating a final sample size of 59. All participants were undergraduate students from psychology classes at Vanderbilt University; students in these classes are given the option of obtaining class credit by participating in experiments such as this study. Only female participants were included in phase two (and phase three) of the study, as approximately

90% of individuals with EDs are female (APA, 1994; Carlat et al., 1997; Smolak & Murnen, 2001), and most research on EDs has only included female participants.

Participants used Sona Systems (web-based system) to sign up for the current study.

Phase 3

Phase three consisted of undergraduate students participating in the current study for class credit as well as paid participants from Vanderbilt (undergraduate students, graduate students, and staff) and the community. Two hundred ninety-eight participants began phase three; twenty-four participants were excluded from the data analyses (four were excluded because their age exceeded the age limit of 40 years, 17 participants were excluded because they did not complete all eight questionnaires, and three were excluded because they did not complete all eight questionnaires within one week, as was instructed). The final sample included 274 participants (108 students, 166 paid participants). All participants in phase three were female. Class credit participants as well as some of the paid participants signed up for the study using Sona Systems (Vanderbilt students and staff as well as members of the community are able to use this system to view and sign up for paid studies) and others were recruited through emails sent to mass email lists (e.g. psychology graduate students, postdoctoral fellows). The advertisement on Sona Systems as well as the study recruitment email specified that the age range for the current study was 18 to 40 years.

Test-retest reliability

Eighty-nine phase three participants were randomly selected to complete the OBBSES two to four weeks after first completing this measure. These participants were emailed to ask if they were interested in participating in the test-retest part of the study. Sixty-seven participants agreed to participate; data from two of these participants was excluded from analyses (one participant completed the questionnaire after the study deadline; the second participant was excluded from data analysis because her age exceeded the cutoff). Therefore, the total sample size for the test-retest reliability part of phase three was 65.

Measures

Demographic Questionnaire

This questionnaire was created by the author of the current study to gather information about age, race, position (e.g. Vanderbilt undergraduate or graduate student, Vanderbilt staff member, community member not associated with Vanderbilt), height and weight. It included six multiple choice or open ended questions assessing this information.

Obsessive Beliefs about Body Size and Eating Survey (OBBSES)

All items on the OBBSES involve beliefs associated with eating, food, weight and shape. Each item describes one belief, and (as instructed on the OBQ) participants were asked to indicate how much they agree with each item using a Likert scale ranging from

“1” (disagree very much”) to “7” (“agree very much”), and were instructed to base their ratings on what they believe “most of the time”. In order to control for response bias, a small subset of the items on the OBBSSES were phrased so that high scores reflect healthy/unproblematic beliefs.

Eating Disorder Examination Questionnaire (EDE-Q) (version 5) (Fairburn & Beglin, 1994)

The Eating Disorder Examination Questionnaire (EDE-Q) is a self-report version of the Eating Disorder Examination (EDE, Fairburn & Cooper, 1993), which is a frequently used structured clinical interview with excellent psychometric properties (Crowther & Sherwood, 1997; Luce & Crowther, 1999). The EDE-Q assesses the frequency of certain behaviors associated with EDs (e.g. bingeing, purging, excessive exercise), and measures the severity of four categories of symptoms associated with EDs, which are represented by the following subscales: 1) Restraint, 2) Eating Concern, 3) Shape Concern, and 4) Weight Concern. On the fifth version of this measure, these subscales include a total of 22 items, each item is answered on a 6-point Likert scale ranging from “no days” (0) to “every day” (6) (the time period assessed is the previous month). The EDE-Q also includes six open-ended questions assessing the number of days/times in the past month the participant has engaged in certain behaviors. The EDE-Q has been found to be highly correlated with the EDE for the assessment of attitudes associated with EDs; the agreement between the EDE and the EDE-Q in terms of behaviors (especially binge eating) has not been as high (e.g. Mond, Hay, Rodgers, Owen, & Beumont, 2004). The internal consistency and test-retest reliability of the EDE-Q has been found to be acceptable (Luce & Crowther, 1999; Mond et al., 2004).

Additionally, a recent study found acceptable criterion validity for this measure (Mond et al., 2004).

Padua Inventory – Washington State University Revision (PI-WSUR) (Burns, 1995).

The Padua Inventory-Washington State University Revision (PI-WSUR) is a self-report measure of OCD symptoms (Burns, Keortge, Formea, & Sternberger, 1996). The PI-WSUR was developed because the original Padua Inventory (PI; Sanavio, 1988) appeared to be measuring worry as well as obsessions (Burns et al., 1996). The PI-WSUR contains 39 items which compose the following 5 subscales: 1) Contamination Obsessions and Washing Compulsions, 2) Dressing/Grooming Compulsions, 3) Checking Compulsions, 4) Obsessional Thoughts of Harm to Self/Others, and 5) Obsessional Impulses to Harm Self/Others. Each item is rated on a 5-point Likert scale regarding the amount of disturbance resulting from the behavior or thought; this scale ranges from 0 (“not at all”) to 4 (“very much”). Data suggests that the PI-WSUR is a reliable and valid measure, and that it is more independent of worry than the PI (Burns et al., 1996).

Obsessive Beliefs Questionnaire (OBQ) (OCCWG, 2001)

As described in the introduction, the OBQ is composed of 87 items from the six domains identified by the OCCWG (1997, 2001). Each item on the OBQ describes a belief associated with one of the six domains. Participants are instructed to indicate how much they agree with each item using a 7-point Likert scale ranging from “disagree very much” (1) to “agree very much” (7), and are instructed to base their ratings on what they believe “most of the time”.

Mood Anxiety Symptom Questionnaire (MASQ) (Watson & Clark, 1991)

The MASQ contains 90 items reflecting symptoms of anxiety and depression. This measure was designed to assess symptoms specific to anxiety, symptoms specific to depression, and symptoms shared by both, and contains the following five subscales: 1) General Distress: Mixed Symptoms, 2) General Distress: Depressive Symptoms, 3) General Distress: Anxious Symptoms, 4) Anhedonic Depression, and 5) Anxious Arousal (Watson, Clark, et al., 1995; Watson, Weber, et al., 1995). Each item is rated on a 5-point Likert scale ranging from “1” (“not at all”) to “5” (“extremely”). The MASQ subscales demonstrate good convergent and discriminant validity (Watson, Clark, et al., 1995; Watson, Weber, et al., 1995). As requested by the Institutional Review Board of Vanderbilt University, the current study did not include item 89 (“Thought about death or suicide”).

Balanced Inventory of Desirable Responding (version 6) (BIDR) (Paulhus, 1984, 1988)

The BIDR is a frequently used measure of social desirability (e.g. Stober, Dette, & Musch, 2002). The BIDR was developed to assess two dimensions of social desirability, “self-deceptive positivity”, which is “the tendency to give self-reports that are honest but positively biased” and “impression management”, which is “deliberate self-presentation to an audience” (Paulhus, 1991, p. 37). The BIDR contains 40 items; participants respond to each item using a 7-point Likert scale ranging from “1” (“not true”) to “7” (“very true”). Data suggest that the BIDR is a reliable and valid measure of social desirability (e.g. Paulhus, 1991; Stober et al., 2002).

Mini International Neuropsychiatric Interview (M.I.N.I.) (version 5.0) (Sheehan, Lecrubier et al., 1998)

The MINI is a brief structured clinical interview composed of 17 modules containing the DSM-IV diagnostic criteria of common Axis I disorders (Sheehan et al., 1998). The MINI also contains a module assessing suicidality and a module including the diagnostic criteria of antisocial personality disorder (Sheehan et al., 1998). Each question is answered with “yes” or “no”. The AN, BN, and OCD modules of this measure were included in the current study. The AN and BN modules focus on the past three months, while the OCD module only assesses symptoms from the past month (Sheehan et al., 1998). For the purposes of this study, questions from the selected modules were modified for completion as a self-report measure. Studies suggest that the reliability and validity of the MINI is acceptable (Sheehan et al., 1998; Sheehan et al., 1997; Lecrubier et al., 1997).

Procedure

Phase One

During phase one, the author of the present study generated 90 potential OBBSES items. These items were generated by modifying specific items from the OBQ, from the literature on EDs and OCD, and from the author’s clinical experience working with individuals with EDs. Items were from all six domains included on the OBQ. Members of the expert panel completed an online sorting task using these 90 items. The task involved grouping potential OBBSES items into categories in whatever way they chose (they were able to sort items into a maximum of ten categories), and then assigning a title

to each category. The experts were also asked to provide feedback about the items (e.g. if they thought that an item should be removed, if they thought the wording of an item should be changed, if they thought any items should be added etc.). The results of the sorting task were included in a cluster analysis. The process of review by an expert panel and the subsequent cluster analysis was used to group the items into preliminary subscales, establish names for these subscales, and to select which items were administered to participants during phase two. The six domains that were used as the initial framework for the development of the OBBSES are listed below, with a brief description of each domain and example items that were used to assess that domain:

1. Importance of Thoughts: This domain was intended to assess beliefs about the significance of one's thoughts about food, eating, weight and shape, including the concept of thought-shape fusion. Example items included: "Just thinking about eating fattening foods increases my chance of weight gain, even if I don't actually eat those foods.", "If I think about eating fattening food, that means I don't care how my body looks", and "Just thinking about eating fattening food is almost as bad as actually eating it."

2. Control of Thoughts: This domain measured beliefs about the necessity and possibility of controlling thoughts about food, eating, weight, and shape. Example items included: "I should be able to completely control my thoughts about food and eating.", "If I try hard enough, I should be able to control all of my thoughts about my body

weight and shape.”, and “Having control over your thoughts about food and eating makes you a better person.”.

3. Responsibility: As discussed in the introduction of this paper, it was somewhat difficult to predict exactly how and if this domain applies to EDs; however, it was included in the current study in order to maintain consistency with the OCCWG domains. Therefore, the examination of this domain in the context of EDs was more exploratory than the investigation of the other domains included in this study. The items included on the OBBSES assessed beliefs associated with harm avoidance and beliefs that may be held by those with the personality characteristics often associated with EDs (e.g. overconscientiousness etc.) (Shafran, 2002). Example items were: “If there’s any chance that something I do could lead to weight gain, I should avoid doing it.”, “Although people say that genes affect body size and shape, I still think I am completely responsible for how my body looks.”, and “I should always read the nutrition label on a food item before buying it.”.

4. Overestimation of Threat: This domain measured threat estimation specifically in the context of eating, food, weight, and shape, including beliefs about the consequences of eating/weight gain etc. Example items included: “I will gain weight from eating a few slices of pizza”, “Exercising less for even just a few days would result in weight gain.”, and “If I start gaining weight, it will be difficult to stop.”.

5. Intolerance of Uncertainty: This domain assessed beliefs associated with the need for certainty, specifically involving food, eating, weight, and shape. Example items included: “I will become uneasy if I have to eat something for which nutritional information is unavailable.”, “I must be sure what kind of food will be served before agreeing to eat dinner at someone else’s house.”, and “I should not eat something without knowing its fat content.”.

6. Perfectionism: This domain assessed perfectionistic beliefs specifically associated with eating, food, weight, and shape. Example items included: “My clothes should always fit me perfectly.”, “I have high standards for how my body should look.”, and “I’m worthless if I don’t have a perfect body.”.

Phase Two

During phase two, OBBSSES items selected from phase one were administered to a group of Vanderbilt undergraduate students. The students also completed the measure of ED symptoms (EDEQ), the measure of OCD symptoms (PI-WSUR), the OBQ, the measure of depression and anxiety symptoms (MASQ), the measure of social desirability (BIDR), and the AN, BN and OCD modules of the MINI. Participants completed all measures over the internet. The author of the current study emailed each individual who had signed up for the study in order to provide her with the address of the website containing the study questionnaires, and to give her a confidential randomly generated subject identification number to use to log onto the website. When participants logged onto this website using their confidential number, they first saw an online consent form;

if they agreed to participate in the study, they indicated their consent, and then completed each questionnaire and submitted their data. Participants were asked to complete all questionnaires within one week. The consent form encouraged participants to contact the author of the current study or her faculty advisor about any concerns that might have arisen from having completed these questionnaires. The author of the current study also contacted participants who scored above a certain cutoff point on the depression subscales of the depression and anxiety measure. The purpose of this contact was to ensure that participants were aware of mental health resources available to them, and to answer any questions they may have. The pilot data collected during phase two of the study was used for item selection for the final version of the OBBSES, which was administered during phase three.

Phase Three

During phase three, the final version of the OBBSES, as well as the other measures administered during phase two, were completed by Vanderbilt students (for class credit) and paid participants from Vanderbilt and the community. The study procedures were the same as those used for phase two. Paid participants received 10 dollars compensation for completing the study. The data from phase three was used for an exploratory factor analysis of the OBBSES, and a validity study.

Additionally, a subset of phase three participants was randomly selected to complete the OBSESS a second time to investigate the test-retest reliability of this measure. Those selected participants were sent an email asking if they were interested in participating in this follow-up part of phase three, and those who were interested were

then sent a link to the study website. Individuals who chose to participate in this part of the study completed the OBBSSES again two to four weeks after first completing this measure. These participants received an additional five dollars compensation for completing this part of the study.

CHAPTER III

RESULTS

Phase One

The goals of phase one were to generate potential OBBSES items, to revise, eliminate, and add items, and to group items into initial subscales. Ninety items from all six cognitive domains were presented to an expert panel to sort into groups based on similarity. The process of review by an expert panel was also used to establish content validity. In addition to the sorting task, the experts were asked to provide feedback about the items; for example, whether any items should be added or revised, in order to ensure that items were being included from all relevant domains.

The results from the expert panel sorting task were submitted to a cluster analysis, which can be conducted whenever there is a metric measure of similarity (Schlundt & McFall, 1987). In this case, the measure of similarity was the number of times an item was put into the same group by the experts. SPSS was used for all statistical analyses conducted in this phase. The results of the cluster analysis suggested seven subscales. These subscales were labeled by the author of the current study as follows: 1. Thoughts are Dangerous, 2. Thoughts Must Be Controlled, 3. Rigid Rules, 4. Threat of Uncertainty, 5. Catastrophic Thinking, 6. Social Evaluation/Comparison, and 7. Unrealistic Perfectionism. Items that did not clearly fit into any of these subscales or were redundant were eliminated. The final set of subscales included a total of 70 items, with the total

number of items per subscale ranging from 9-11 items. Eleven reverse scored items were included in order to control for response bias. These subscales are presented in Table 1.

Table 1. Subscales resulting from phase one cluster analysis.

<p>Subscale 1 – Thoughts are Dangerous (11 items) Just thinking about eating fattening foods increases my chance of weight gain, even if I don't actually eat those foods. Just picturing myself at a higher weight could cause me to gain weight. I will feel fatter if I think about eating unhealthy foods. I will gain weight if I don't frequently think about my body size. Just thinking about eating fattening food is almost as bad as actually eating it. All of my thoughts about my body weight and shape are important. If I think about eating fattening food, that means I don't care how my body looks. Just thinking less about exercise can't cause you to gain weight. (R) It's normal to have some unwanted thoughts about food and eating. (R) I will feel guilty if I think about eating fattening foods. I will feel anxious if I think about eating fattening foods.</p>
<p>Subscale 2 – Thoughts Must be Controlled (10 items) It's important to have complete control over your thoughts about food and eating. If I try hard enough, I should be able to control all of my thoughts about my body weight and shape. If an unwanted thought about food or eating enters my head, I should be able to quickly get rid of it. I should be able to keep all unwanted thoughts about my body weight and shape out of my head. I should have complete control over the types of foods I think about; for example, I should be able to keep all thoughts about junk food out of my mind. I should be able to completely replace thoughts about unhealthy foods (e.g. pizza, cake) with thoughts about healthier foods, such as salad and fruit. I should be able to completely control my thoughts about food and eating. It should be possible to keep any distracting thoughts about exercise (e.g. that I should exercise more often) out of my head. Having control over your thoughts about food and eating makes you a better person. Losing control of my thoughts about my weight and shape would make me feel anxious.</p>
<p>Subscale 3 – Rigid Rules (9 items) I should only allow myself to eat certain types of foods. I should carefully consider even small changes to my regular diet. I would feel uncomfortable if there was a sudden change in the time I planned to eat. I should never eat just before going to bed at night. I should never overeat. I should never eat more than other people are eating. It's important to always weigh yourself on the same scale, so you can be sure that any weight changes are not due to differences in the scales being used. It's important to know how many calories you are burning when you exercise. If there's any chance that something I do could lead to weight gain, I should avoid doing it.</p>
<p>Subscale 4 – Threat of Uncertainty (10 items) I wouldn't think twice about trying an unfamiliar restaurant. (R) It's okay to eat something without knowing the exact number of calories in it. (R) I should always read the nutrition label on a food item before buying it. I should not eat something without knowing its fat content. I must be sure what kind of food will be served before agreeing to eat dinner at someone else's house. Before eating something prepared by someone else, I should find out what ingredients were used. I will become uneasy if I have to eat something for which nutritional information is unavailable. It's important to plan meals and snacks ahead of time.</p>

Table 1, continued

I would feel uneasy before going to a new restaurant, because I don't know how healthy the food will be. When eating at a restaurant, it's important to carefully consider the healthfulness of all food options before ordering.

Subscale 5 – Catastrophic Thinking (11 items)

Other people probably wouldn't notice if I gained a few pounds. (R)
 Even if I gained a few pounds, most of my clothes would still fit fine. (R)
 It is unlikely that eating small quantities of unhealthy food would affect my weight. (R)
 If I eat a piece of cake, I will not be able to stop myself from eating the whole cake.
 If I start gaining weight, it will be difficult to stop.
 Exercising less for even just a few days would result in weight gain.
 I will gain weight if I don't exercise after eating something fattening.
 I will gain weight from eating a few slices of pizza.
 Sometimes I fear gaining weight from eating healthy foods, such as vegetables or low-fat yogurt.
 It's okay to be less physically active if you are tired or don't feel well. (R)
 Other people's opinions about my friends and family are not influenced by the way my body looks. (R)

Subscale 6 – Social Evaluation/Comparison (9 items)

I will feel anxious if I don't know what others think about how my body looks.
 I am more likely to gain weight from "pigging out" than my friends are.
 Changes in the shape of my body are more noticeable than changes in the shape of other people's bodies.
 My body must look at least as good as, if not better than, the bodies of my friends.
 People will not find me attractive if my body isn't perfect.
 People will like me less if I gain weight.
 My social life would be destroyed if I gained weight.
 I should consider the effect my gaining weight could have on my friends and family (e.g. could cause them embarrassment).
 An increase in my body size would negatively affect all aspects of my life.

Subscale 7 – Unrealistic Perfectionism (10 items)

I have high standards for how my body should look.
 My body does not have to look perfect for me to be satisfied with it. (R)
 Having an imperfect body doesn't make me a bad person. (R)
 My clothes should always fit me perfectly.
 I should do everything in my power to make my body look perfect.
 I should diet and exercise until my body looks exactly the way I want it to look.
 Gaining even a little weight means that I have failed.
 I'm worthless if I don't have a perfect body.
 Although people say that genes affect body size and shape, I still think I am completely responsible for how my body looks.
 Any change in my body shape is my fault.

R = reverse-coded item

Phase Two

The 70 items selected from phase one were included on the version of the OBBSSES completed by study participants during phase two. SPSS was used for all statistical analyses conducted during this phase.

Sample Characteristics

The mean age of phase two participants was 18.88 years, SD = 1.26 (minimum age = 18 years, maximum age = 24 years). The majority (79.3%) of the sample was Caucasian, 8.6% described themselves as Asian, Pacific Islander and 12.1% chose the “other” option presented for this question.

Reliability

Internal Consistency

The internal consistency of the seven subscales derived from the phase one cluster analysis was calculated. The results of these analyses indicated that all of these subscales had good internal consistency. After selecting 57 of the items based on their convergent validity with the measure of ED symptoms (EDEQ), the OBQ, and the measure of OCD symptoms (PI-WSUR), the internal consistency of the subscales with only the remaining items was examined as well. These subscales also demonstrated good internal consistency. The results of these analyses are presented in Table 2.

Table 2. Phase two internal consistency of OBBSSES subscales (57 items).

OBBSSES Subscales	# of Items	Cronbach ∞ coefficients
Subscale 1 – Thoughts are Dangerous	9	.889
Subscale 2 – Thoughts Must be Controlled	7	.889
Subscale 3 – Rigid Rules	7	.860
Subscale 4 – Threat of Uncertainty	9	.905
Subscale 5 – Catastrophic Thinking	9	.807
Subscale 6 – Social Evaluation/Comparison	8	.901
Subscale 7 – Unrealistic Perfectionism	8	.879

Validity

A preliminary investigation of the convergent validity of the OBBSSES items was conducted in order to select items for the version of the OBBSSES to be administered during phase three. The correlation of each of the 70 OBBSSES items with the total score of the EDEQ, OBQ, and PI-WSUR was examined. Sixty-eight of the 70 items were significantly correlated with the EDEQ. Among those 68 items, the 56 items that were significantly correlated with at least one of the two other measures of convergent validity (OBQ, PI-WSUR) were selected (one item, which was not significantly correlated with either of these two measures was included, as it assessed an area that the principal investigator was interested in). These correlations are presented in Table 3.

Table 3. Phase two OBBSSES item correlations with the EDEQ, OBQ, and PI-WSUR.

OBBSSES Items	EDEQ	OBQ	PIWSUR
Subscale 1 – Thoughts are Dangerous			
Just thinking about eating fattening foods increases my chance of weight gain, even if I don't actually eat those foods.	0.496**	0.222	0.201
Just picturing myself at a higher weight could cause me to gain weight.	0.729**	0.493**	0.26
I will feel fatter if I think about eating unhealthy foods.	0.644**	0.311*	0.378**
I will gain weight if I don't frequently think about my body size.	0.578**	0.355**	0.32*
Just thinking about eating fattening food is almost as bad as actually eating it.	0.526**	0.437**	0.307*
All of my thoughts about my body weight and shape are important.	0.49**	0.328*	0.128
If I think about eating fattening food, that means I don't care how my body looks.	0.492**	0.119	0.341*
I will feel guilty if I think about eating fattening foods.	0.738**	0.422**	0.274*
I will feel anxious if I think about eating fattening foods.	0.818**	0.448**	0.365**
Subscale 2 – Thoughts Must Be Controlled			
It's important to have complete control over your thoughts about food and eating.	0.607**	0.415**	0.261
If I try hard enough, I should be able to control all of my thoughts about my body weight and shape.	0.556**	0.316*	0.259
I should be able to keep all unwanted thoughts about my body weight and shape out of my head.	0.349**	0.451**	0.291*
I should have complete control over the types of foods I think about; for example, I should be able to keep all thoughts about junk food out of my mind.	0.557**	0.292*	0.178
I should be able to completely replace thoughts about unhealthy foods (e.g. pizza, cake) with thoughts about healthier foods, such as salad and fruit.	0.593**	0.522**	0.293*

Table 3, continued			
I should be able to completely control my thoughts about food and eating.	0.536**	0.341*	0.254
Having control over your thoughts about food and eating makes you a better person.	0.437**	0.436**	0.279*
Subscale 3 – Rigid Rules			
I should only allow myself to eat certain types of foods.	0.726**	0.42**	0.122
I should carefully consider even small changes to my regular diet.	0.717**	0.402**	0.33*
I would feel uncomfortable if there was a sudden change in the time I planned to eat.	0.579**	0.332*	0.262
I should never overeat.	0.559**	0.325*	0.127
I should never eat more than other people are eating.	0.668**	0.358**	0.254
It's important to know how many calories you are burning when you exercise.	0.557**	0.342*	0.292*
If there's any chance that something I do could lead to weight gain, I should avoid doing it.	0.625**	0.32*	0.278*
Subscale 4 – Threat of Uncertainty			
It's okay to eat something without knowing the exact number of calories in it. (R)	0.703**	0.429**	0.291*
I should always read the nutrition label on a food item before buying it.	0.662**	0.308*	0.082
I should not eat something without knowing its fat content.	0.716**	0.348**	0.203
I must be sure what kind of food will be served before agreeing to eat dinner at someone else's house.	0.464**	0.34*	0.316*
Before eating something prepared by someone else, I should find out what ingredients were used.	0.291*	0.271*	0.187
I will become uneasy if I have to eat something for which nutritional information is unavailable.	0.708**	0.443**	0.262
It's important to plan meals and snacks ahead of time.	0.565**	0.484**	0.358**
I would feel uneasy before going to a new restaurant, because I don't know how healthy the food will be.	0.651**	0.4**	0.215
When eating at a restaurant, it's important to carefully consider the healthfulness of all food options before ordering.	0.594**	0.3*	0.136
Subscale 5 – Catastrophic Thinking			
Other people probably wouldn't notice if I gained a few pounds. (R)	0.656**	0.315*	0.174
It is unlikely that eating small quantities of unhealthy food would affect my weight. (R)	0.494**	0.326*	0.194
If I start gaining weight, it will be difficult to stop.	0.546**	0.279*	0.085
Exercising less for even just a few days would result in weight gain.	0.416**	0.432**	0.151
I will gain weight if I don't exercise after eating something fattening.	0.65**	0.311*	0.086
I will gain weight from eating a few slices of pizza.	0.629**	0.404**	0.114
Sometimes I fear gaining weight from eating healthy foods, such as vegetables or low-fat yogurt.	0.506**	0.368**	0.189
It's okay to be less physically active if you are tired or don't feel well. (R)	0.558**	0.571**	0.306*
Other people's opinions about my friends and family are not influenced by the way my body looks. (R)	0.344**	0.212	0.286*
Subscale 6 – Social Evaluation/Comparison			
I am more likely to gain weight from "pigging out" than my friends are.	0.69**	0.356**	0.222
Changes in the shape of my body are more noticeable than changes in the shape of other people's bodies.	0.59**	0.331*	0.192

Table 3, continued			
My body must look at least as good as, if not better than, the bodies of my friends.	0.614**	0.343*	0.19
People will not find me attractive if my body isn't perfect.	0.733**	0.411**	0.198
People will like me less if I gain weight.	0.715**	0.442**	0.295*
My social life would be destroyed if I gained weight.	0.697**	0.513**	0.252
I should consider the effect my gaining weight could have on my friends and family (e.g. could cause them embarrassment).	0.63**	0.612**	0.331*
An increase in my body size would negatively affect all aspects of my life.	0.661**	0.286*	0.242
Subscale 7 – Unrealistic Perfectionism			
I have high standards for how my body should look.	0.429**	0.266	0.317*
My body does not have to look perfect for me to be satisfied with it. (R)	0.68**	0.347*	0.133
Having an imperfect body doesn't make me a bad person. (R)	0.518**	0.588**	0.311*
My clothes should always fit me perfectly.	0.526**	0.329*	0.122
I should do everything in my power to make my body look perfect.	0.62**	0.455**	0.183
I'm worthless if I don't have a perfect body.	0.701**	0.542**	0.232
Although people say that genes affect body size and shape, I still think I am completely responsible for how my body looks.	0.449**	0.418**	0.124
Any change in my body shape is my fault.	0.668**	0.382**	0.267

* correlation is significant at the 0.05 level; ** correlation is significant at the 0.01 level

R = reverse-coded item

All items that were significantly correlated with the EDEQ and at least one other measure of convergent validity were selected (other than the one item discussed above, which was only correlated with the EDEQ). Additionally, the correlation of each item with the total score of the OBBSSES was examined in order to ensure that each selected item was significantly correlated with the total score of this measure. As phase two was a preliminary investigation of the OBBSSES, the discriminant validity of the items was not examined at this time, as this was examined during phase three of the study. However, the correlation of each item with the BIDR total score (measure of social desirability) was examined in order to investigate whether any items were significantly more related to social desirability than other items, so that those items could be eliminated. After this

analysis was conducted, it was concluded that no items needed to be removed due their correlation with the BIDR.

Phase Three

The 57 OBBSES items selected in phase two were administered to participants in phase three. SPSS was used for all statistical analyses conducted during this phase.

Sample Characteristics

The mean age of phase three participants was 21.41 years, $SD = 3.67$ (minimum age = 18 years, maximum age = 39 years). The majority (73.7%) of the sample was Caucasian, 12.0% was African-American, 8.4% classified themselves as Asian or Pacific Islander, 5.5.% described themselves as “other” and .4% chose the “prefer not to answer” option” provided. The majority (71.2%) of the sample was composed of Vanderbilt undergraduate students, 9.9% of the sample were Vanderbilt graduate students, 4.4% were Vanderbilt staff members, and 14.6% were not associated with Vanderbilt (community members).

Factor Analysis

An exploratory factor analysis (EFA) was conducted on the data obtained during phase three. EFA was selected for the present study as it is the appropriate strategy to use in the process of developing a measure (e.g. Hurley et al., 1997; Kline, 1994). A principal components analysis was used to extract the factors. Varimax rotation, a type of factor rotation that keeps the factor axes orthogonal (uncorrelated) was conducted to

make the factors easier to interpret, and the Scree plot was used to determine how many factors to keep. Using the Scree plot and interpretability of the factors, a five-factor solution was determined to best fit the data. Initially, subscales were created by taking the highest loading items on each of these five factors and adding them together to create subscale scores; however, these subscales were highly intercorrelated and 23 items were eliminated using this strategy. Therefore, the factor analysis was conducted again constraining the results to five factors and using factor scores to create orthogonal variables. The resulting five factors were uncorrelated and were labeled: 1. Appearance Perfectionism, 2. Vulnerability to Weight Gain, 3. Eating Control, 4. Magical Thinking, and 5. Thought Control. Table 4 presents these factors. The highest loading items on each factor were used to define that factor. Loadings lower than .35 were suppressed during the statistical analysis and are not displayed in Table 4. These five factors explained 49.284% of the variance, and their eigenvalues were: Factor 1 = 19.054, Factor 2 = 2.912, Factor 3 = 2.423, Factor 4 = 1.964, and Factor 5 = 1.739. Factor 1 explained 33.428% of the variance, Factor 2 explained an additional 5.108% of the variance, Factor 3 accounted for an additional 4.251% of the variance, Factor 4 explained an additional 3.446% of the variance, and Factor 5 accounted for an additional 3.051% of the variance.

Table 4. Five OBBSSES factors (bolded items were items used to interpret the factor).

OBBSSES items	Component				
	1	2	3	4	5
My body does not have to look perfect for me to be satisfied with it.	0.720				
People will not find me attractive if my body isn't perfect.	0.679				
I should do everything in my power to make my body look perfect.	0.673				
I'm worthless if I don't have a perfect body.	0.650				
My clothes should always fit me perfectly.	0.605				
My body must look at least as good as, if not better than, the bodies of my friends.	0.600				

Table 4, continued					
Having an imperfect body doesn't make me a bad person.	0.571			0.460	
I have high standards for how my body should look.	0.552				
.An increase in my body size would negatively affect all aspects of my life.	0.541	0.465			
My social life would be destroyed if I gained weight.	0.541	0.399			
People will like me less if I gain weight.	0.512	0.371			
Any change in my body shape is my fault.	0.492	0.480			
Other people probably wouldn't notice if I gained a few pounds.	0.476				
I should never eat more than other people are eating.	0.421	0.392			
.I should consider the effect my gaining weight could have on my friends and family (e.g. could cause them embarrassment).	0.420			0.381	
Although people say that genes affect body size and shape, I still think I am completely responsible for how my body looks.	0.417				
It is unlikely that eating small quantities of unhealthy food would affect my weight.					
Other people's opinions about my friends and family are not influenced by the way my body looks.					
I am more likely to gain weight from "pigging out" than my friends are.		0.659			
I will gain weight if I don't exercise after eating something fattening.		0.608			
I should carefully consider even small changes to my regular diet.		0.531	0.441		
I will gain weight from eating a few slices of pizza.		0.531			
If I start gaining weight, it will be difficult to stop.		0.516			
Exercising less for even just a few days would result in weight gain.		0.515			
I will gain weight if I don't frequently think about my body size.		0.503			
I will feel fatter if I think about eating unhealthy foods.		0.488		0.461	
If there's any chance that something I do could lead to weight gain, I should avoid doing it.	0.397	0.440	0.403		
It's important to know how many calories you are burning when you exercise.		0.427			
Changes in the shape of my body are more noticeable than changes in the shape of other people's bodies.	0.395	0.421			
Sometimes I fear gaining weight from eating healthy foods, such as vegetables or low-fat yogurt.		0.360			
I should always read the nutrition label on a food item before buying it.			0.711		
When eating at a restaurant, it's important to carefully consider the healthfulness of all food options before ordering.			0.685		
I will become uneasy if I have to eat something for which nutritional information is unavailable.			0.662		
I should not eat something without knowing its fat content.			0.645		
I would feel uneasy before going to a new restaurant, because I don't know how healthy the food will be.			0.633		
Before eating something prepared by someone else, I should find out what ingredients were used.			0.564		

Table 4, continued					
It's okay to eat something without knowing the exact number of calories in it.			0.549		
I must be sure what kind of food will be served before agreeing to eat dinner at someone else's house.			0.533	0.466	
It's important to plan meals and snacks ahead of time.			0.504		
I should only allow myself to eat certain types of foods.			0.452		
I would feel uncomfortable if there was a sudden change in the time I planned to eat.			0.361	0.351	
Just thinking about eating fattening foods increases my chance of weight gain, even if I don't actually eat those foods.				0.665	
If I think about eating fattening food, that means I don't care how my body looks.				0.607	0.362
Just picturing myself at a higher weight could cause me to gain weight.				0.587	
I will feel guilty if I think about eating fattening foods.		0.361		0.583	
Just thinking about eating fattening food is almost as bad as actually eating it.				0.578	
I should have complete control over the types of foods I think about; for example, I should be able to keep all thoughts about junk food out of my mind.				0.504	0.495
It's okay to be less physically active if you are tired or don't feel well.				0.492	
I will feel anxious if I think about eating fattening foods.		0.383		0.421	
If I try hard enough, I should be able to control all of my thoughts about my body weight and shape.					0.719
I should be able to keep all unwanted thoughts about my body weight and shape out of my head.					0.711
I should be able to completely control my thoughts about food and eating.					0.699
I should be able to completely replace thoughts about unhealthy foods (e.g. pizza, cake) with thoughts about healthier foods, such as salad and fruit.				0.367	0.543
Having control over your thoughts about food and eating makes you a better person.				0.361	0.426
It's important to have complete control over your thoughts about food and eating.					0.401
All of my thoughts about my body weight and shape are important.					0.394
I should never overeat.			0.367		0.376

Reliability

Test-Retest Reliability

In order to assess test-retest reliability, a subset of the participants from phase three completed the OBBSSES again two to four weeks after first completing this measure; testing experts suggest that this is a reasonable time period for the assessment of

test-retest reliability (e.g. Switzer, Wisniewski, Belle, Dew, & Schultz, 1999).

Correlations between the participants' total OBBSES scores at both times points and factor scores at both time points were calculated in order to assess the consistency of their responses across time. The results of the analyses suggested the test-retest reliability of the OBBSES was good. Specifically, the test-retest reliability of the OBBSES total score was .959 ($p < .01$), and the test-retest reliability of the five factors was: 1. Appearance Perfectionism = .887 ($p < .01$), 2. Vulnerability to Weight Gain = .839 ($p < .01$), Eating Control = .899 ($p < .01$), Magical Thinking = .762 ($p < .01$), and Thought Control = .763 ($p < .01$).

Validity

Convergent validity

The convergent validity was examined by conducting correlations between the OBBSES (total score and factors) and the total and subscale scores of the measure of ED symptoms (EDEQ), the OBQ, and the measure of OCD symptoms (PI-WSUR). The total score of the OBBSES was significantly correlated with the EDEQ total score and the four EDEQ subscales. All five factors were significantly correlated with the EDEQ total score. Appearance Perfectionism, Vulnerability to Weight Gain, Eating Control, and Thought Control were significantly correlated with all EDEQ subscales; Magical Thinking was significantly correlated with all EDEQ subscales except for the Restraint subscale. These correlations are presented in Table 5.

Table 5. OBBSSES total score and factor correlations with the EDEQ total and subscale scores.

OBBSSES	EDEQ total	EDEQ Restraint	EDEQ Eating	EDEQ Shape	EDEQ Weight
Total	.799**	.661**	.716**	.748**	.739**
Appearance Perfectionism	.456**	.327**	.353**	.510**	.434**
Vulnerability to Weight Gain	.578**	.473**	.415**	.558**	.608**
Eating Control	.290**	.391**	.324**	.151*	.191**
Magical Thinking	.201**	.071	.284**	.192**	.190**
Thought Control	.194**	.163**	.205**	.180**	.155*

correlation is significant at the 0.05 level; ** correlation is significant at the 0.01 level

The OBBSSES total score was also significantly correlated with the OBQ total score and the six OBQ subscales. All five factors were significantly correlated with the OBQ total score. Appearance Perfectionism, Eating Control, Magical Thinking and Thought Control were all significantly correlated with all six OBQ subscales. Vulnerability to Weight Gain was significantly correlated with only the Responsibility and Perfectionism OBQ subscales. These correlations are presented in Table 6.

Table 6. OBBSSES total score and factor correlations with the OBQ total and subscale scores.

OBBSSES	OBQ total	Importance of Thoughts	Control of Thoughts	Responsibility	Threat	Uncertainty	Perfectionism
Total	.588**	.489**	.596**	.489**	.437**	.512**	.555**
Appearance Perfectionism	.343**	.221**	.269**	.225**	.277**	.296**	.472**
Vulnerability to Weight Gain	.137*	.090	.114	.156**	.066	.102	.168**
Eating Control	.227**	.161**	.251**	.206**	.173**	.244**	.165**
Magical Thinking	.329**	.406**	.348**	.222**	.299**	.268**	.227**
Thought Control	.300**	.267**	.408**	.309**	.180**	.252**	.172**

correlation is significant at the 0.05 level; ** correlation is significant at the 0.01 level

The total score of the OBBSES was significantly correlated with the total score and the five subscales of the PI-WSUR, although these correlations were mostly lower than those with the EDEQ and OBQ. All five factors were also significantly correlated with the total score of the PI-WSUR. Appearance Perfectionism was significantly correlated with the PI-WSUR subscales, with the exception of the Dressing/Grooming Compulsions subscale. Vulnerability to Weight Gain was significantly correlated with two of the PI-WSUR subscales: Contamination Obsessions and Washing Compulsions, and Checking Compulsions. Eating Control was significantly correlated with the PI-WSUR subscales with the exception of Dressing/Grooming Compulsions. Magical Thinking was also significantly correlated with the PI-WSUR subscales with the exception of Dressing/Grooming Compulsions. Thought Control was significantly correlated with the Contamination Obsessions and Washing Compulsions and Obsessional Thoughts of Harm to Self/Others subscales. These correlations are presented in Table 7.

Table 7. OBBSES total score and factor correlations with the PI-WSUR total and subscale scores.

OBBSES	PIWSUR total	Contamination Obsessions and Washing Compulsions	Dressing/Grooming Compulsions	Checking Compulsions	Obsessional Thoughts of Harm to Self/Others	Obsessional Impulses to Harm Self/Others
Total	.422**	.384**	.212**	.326**	.350**	.247**
Appearance Perfectionism	.215**	.140*	.114	.204**	.171**	.192**
Vulnerability to Weight Gain	.155*	.172**	.060	.130*	.098	.035
Eating Control	.206**	.189**	.118	.140*	.184**	.128*
Magical Thinking	.202**	.222**	.070	.123*	.172**	.128*
Thought Control	.169**	.150*	.110	.117	.171**	.058

* correlation is significant at the 0.05 level; ** correlation is significant at the 0.01 level

Partial Correlations

Additionally, partial correlations between the OBBSES total score and factors and the three measures of convergent validity (EDEQ, OBQ, PI-WSUR) were conducted controlling for the general effects of anxiety by using the two anxiety subscales of the MASQ (MASQ:GDA and MASQ:AA). It was found that the total OBBSES score and the five OBBSES factors remained significantly correlated with the total scores of the three measures of convergent validity when controlling for the general effects of anxiety. Additionally, partial correlations between these measures were also conducted controlling for the effects of depression using the two subscales of the MASQ that assess depressive symptoms (MASQ:GDD and MASQ:AD). It was found that the total OBBSES score and most of the factors remained significantly correlated with the total scores of the EDEQ, OBQ, and PI-WSUR when controlling for the effects of depression. Appearance Perfectionism was not significantly correlated with the total score of the PI-WSUR after controlling for depression ($p < .061$). Additionally, partial correlations were conducted controlling for the effects of general distress (MASQ:GDM subscale). It was found that the total OBBSES score and four of the five OBBSES factors were significantly correlated with the total scores of the three measures of convergent validity when controlling for general distress. Thought Control was significantly correlated with the total EDEQ score and total OBQ score, but not with the PI-WSUR ($p < .064$) after controlling for this variable. Partial correlations were also conducted controlling for social desirability (BIDR); it was found that the OBBSES total score and all five factors remained significantly correlated with the total scores of the three measures of convergent validity after controlling for the effects of social desirability.

Discriminant validity

The discriminant validity of the OBBSES was investigated by examining the correlations of the OBBSES total score and factors with the general measure of mood and anxiety symptoms (MASQ). The total score of the OBBSES was significantly correlated with each of the five subscales of the MASQ; however, these correlations were smaller than the correlations between the total OBBSES score and the total scores of the three measures of convergent validity. Appearance Perfectionism was also significantly correlated with all five MASQ subscales. Vulnerability to Weight Gain was not correlated with any of the MASQ subscales. Eating Control was significantly correlated with the MASQ General Distress: Anxious Symptoms subscale, Magical Thinking was significantly correlated with the MASQ: Anhedonic Depression subscale, and Thought Control was significantly correlated with the MASQ General Distress: Mixed Symptoms, MASQ General Distress: Depressive Symptoms and MASQ General Distress: Anxious Symptoms subscales. These correlations are presented in Table 8.

Table 8. OBBSES total score and factor correlations with the MASQ subscales.

OBBSES	MASQGDM	MASQGDD	MASQDA	MASQAA	MASQAD
Total	.297**	.350**	.283**	.197**	.313**
Appearance Perfectionism	.290**	.387**	.282**	.207**	.300**
Vulnerability to Weight Gain	-.016	.016	-.010	-.051	.020
Eating Control	.100	.087	.150*	.104	.089
Magical Thinking	.080	.103	.069	.091	.215**
Thought Control	.202**	.166**	.125*	.087	.061

* correlation is significant at the 0.05 level; ** correlation is significant at the 0.01 level

The correlations between the OBBSES total score and factors and the BIDR total score and subscales were also examined. The total score of the OBBSES was significantly negatively correlated with the total score of the BIDR and with the SDE

(self-deceptive positivity) subscale, but was not significantly correlated with the IM (impression management) subscale. Appearance Perfectionism was also significantly negatively correlated with the BIDR total score and the SDE subscale, as well as with the IM subscale. The other factors were not significantly correlated with the BIDR total score or subscale scores, with the exception of Magical Thinking, which was significantly negatively correlated with the SDE subscale. These correlations are presented in Table 9.

Table 9. OBBSSES total score and factor correlations with BIDR total and subscale scores.

OBBSSES	BIDR total	Self-deceptive positivity subscale	Impression management subscale
Total	-.179**	-.251**	-.041
Appearance Perfectionism	-.215**	-.210**	-.145*
Vulnerability to Weight Gain	-.049	-.069	-.011
Eating Control	-.011	-.059	.045
Magical Thinking	-.086	-.120*	-.019
Weight Control	-.004	-.085	.083

* correlation is significant at the 0.05 level; ** correlation is significant at the 0.01 level

Additionally, data from the AN, BN and OCD modules of the MINI were used to investigate the number of participants in the sample who reported meeting criteria for AN, BN and OCD. This was intended to provide information regarding the extent to which these disorders may be comorbid within this group of participants, and to ensure that any overlap found among the measures was not due to a small number of individuals with a comorbid ED and OCD. One participant met the MINI criteria for AN (.4% of the sample), 18 participants met the MINI criteria for BN (6.6% of the sample) and two participants met the MINI criteria for OCD (.7% of the sample). One of these participants met criteria for both BN and OCD; therefore, it is unlikely that the

correlations between the OBBSES and measures of EDs and OCD are due to participants with both types of disorders.

Participants with high scores (greater than one standard deviation above the mean total score) on either the ED symptom measure (EDEQ) or OCD symptom measure (PI-WSUR) were compared with the rest of the sample in order to explore possible differences in OBBSES total scores. There were 70 participants in the high scoring group. The mean total score on the OBBSES for participants in the high scoring group was 237.11 (SD = 51.502), while the mean total score on the OBBSES for the remaining participants (N = 204) was 158.91 (SD = 41.127). This difference was not significant ($p < .069$). Participants in the high scoring group were also divided into three subgroups: 1. high score on the EDEQ only (N = 40), 2. high score on the PI-WSUR only (N = 16) and 3. high score on both the EDEQ and PI-WSUR (N = 14). The mean total score on the OBBSES was greater for participants with high scores on both symptom measures (mean = 256.62; SD = 49.081), than participants with a high score on only one of the symptom measures (mean = 232.24; SD = 51.353); however this difference was not significant.

CHAPTER IV

DISCUSSION

Data from the current study suggest that the OBBSES may be a promising measure for identifying types of beliefs associated with both EDs and OCD. The OBBSES was found to have good convergent validity with the measure of ED symptoms (EDEQ), the OBQ, and the measure of OCD symptoms (PI-WSUR). The total score of the OBBSES was significantly correlated with the total and subscale scores of these three measures. As predicted, the OBBSES was most highly correlated with the EDEQ and was more highly correlated with the OBQ than with the PI-WSUR.

The five OBBSES factors were also all significantly correlated with the total scores of the EDEQ, OBQ, and PI-WSUR; however, the factors showed different patterns of correlations with some of the subscales of these measures. All of the OBBSES factors other than Magical Thinking were significantly correlated with all of the EDEQ subscales; Magical Thinking was not correlated with the Restraint subscale. For the OBQ, all OBBSES factors other than Vulnerability to Weight Gain were significantly correlated with all OBQ subscales; Vulnerability to Weight Gain was only significantly correlated with the Responsibility and Perfectionism subscales. For the PI-WSUR, Appearance Perfectionism, Eating Control, and Magical Thinking were significantly correlated with all subscales other than the Dressing/Grooming Compulsions subscale, while Vulnerability to Weight Gain was only significantly correlated with the Contamination Obsessions and Washing Compulsions subscale, and Thought Control

was only significantly correlated with the Contamination Obsessions and Washing Compulsions subscale and the Obsessional Thoughts of Harm to Self/Others subscale. These findings suggest that the OBBSES factors may be capturing types of ED-related beliefs that may be differentially related to some ED and OCD symptoms. For example, it appears that Vulnerability to Weight Gain is less related to OCD beliefs and symptoms than the other factors, while Magical Thinking may be less related than the other factors to one aspect of ED pathology (restraint over eating).

The discriminant validity of the OBBSES was less strong; however, this result was not surprising, as EDs have a high rate of comorbidity with depressive and anxiety disorders. This is also consistent with the OCCWG's findings regarding the discriminant validity of the 87-item version of the OBQ. As predicted, the total score of the OBBSES was significantly correlated with all five MASQ subscales; however, these correlations were lower than the correlations between the OBBSES total score and the total scores of the EDEQ, OBQ, and PI-WSUR. Additionally, when controlling for the effects of anxiety, depression and general distress, the correlations between the OBBSES total score and the total scores of the measures of convergent validity remained significant, suggesting the OBBSES is measuring OCD-specific beliefs.

Consistent with the results for the measures of convergent validity, the five OBBESS factors showed different patterns of correlations with the MASQ subscales, suggesting that the beliefs represented by these factors may be differentially associated with symptoms of anxiety and depression. Specifically, Appearance Perfectionism was the only factor that was significantly correlated with all five MASQ subscales. Vulnerability to Weight Gain was not significantly correlated with any of the MASQ

subscales. Eating Control was significantly correlated only with the MASQ subscale assessing general anxiety symptoms, while the Magical Thinking subscale was significantly correlated only with the MASQ subscale assessing general depressive symptoms. Thought Control was significantly correlated with both of these MASQ subscales as well as with the subscale assessing mixed symptoms of anxiety and depression. None of the factors other than Appearance Perfectionism were significantly correlated with the Anxious Arousal subscale or the Anhedonic Depression subscale. These findings suggest that some types of ED-related beliefs may be more associated with depressive symptoms while others may be more related to anxiety; they also indicate that the beliefs captured by the OBBSES factors may be more related to some types of anxiety and depressive symptoms than others. Additionally, the lack of significant correlations between Vulnerability to Weight Gain and the MASQ subscales (as well as the smaller number of correlations between this factor and the OBQ and PI-WSUR subscales) suggest that Vulnerability to Weight Gain may represent specific ED beliefs that are not as highly associated with comorbid depressive and anxiety disorders.

The correlations between the OBBSES total score and factors and the measure of social desirability (BIDR) suggested a negative association between participants' scores on the OBBSES and their tendencies to report socially desirable behaviors. This is not surprising, as it suggests that participants who are more willing to report beliefs associated with psychopathology may be less likely to present themselves in an overly positive (socially desirable) way. The OBBSES total score and factors were not significantly correlated with the Impression Management subscale (with the exception of

the Appearance Perfectionism factor), which suggests that overall, participants were attempting to provide honest responses to study questionnaires.

The OBBSES was also found to have good test-retest reliability for the total score as well as the five factors. This suggests that this measure is assessing general beliefs that remain relatively stable over at least a short period of time. It would be interesting for future research to investigate the test-retest reliability of the OBBSES over a longer time period. It would also be informative to examine whether or not scores on this measure change as ED and OCD symptoms increase or decrease over time.

The cluster analysis conducted during phase one of the study suggested seven clusters, which were used to create a preliminary set of subscales for the OBBSES. These subscales were similar to the six subscales proposed by the OCCWG for the 87-item version of the OBQ. This suggests that the types of items generated by the author of the current study were drawn from similar domains as those on the OBQ, and that the experts were able to divide these items into similar groups. The factor analysis conducted during phase three of the study suggested a five-factor solution, which was largely similar to the seven subscales identified during phase one. For example, both the cluster analysis and factor analysis identified a group of items related to the importance of thoughts (including thought-action fusion), controlling thoughts and perfectionism. The Threat of Uncertainty subscale identified by the cluster analysis was also largely reflected by the items in the Eating Control subscale of the factor analysis, while the Catastrophic Thinking subscale items were largely included in the Vulnerability to Weight Gain factor. This suggests that, while the items were not identically sorted by experts and the factor analysis, there is some consistency in the way that these items are

grouped together which is related to the original framework used for the development of the OBBSES.

There is a great deal of evidence suggesting an elevated level of comorbidity between EDs and OCD; however, the reasons for this comorbidity remain unknown. Measures such as the OBBSES may provide a useful tool for identifying and gaining a better understanding of some of the cognitive similarities that may exist between these disorders. For example, the OBBSES could be used for examining beliefs that exist in individuals with both an ED and OCD to beliefs reported by individuals with only one of these disorders (Shafran, 2002). The total OBBSES score was found to be higher in participants with high scores on both the EDEQ and PI-WSUR than in participants with a high score on only one of these symptom measures, although this difference was not statistically significant. However, as this was not a clinical sample, it would be interesting to continue to investigate this difference in a sample of patients with an ED only, OCD only, and a comorbid ED and OCD. The factors of the OBBSES may also be particularly important for examining the similarities and differences among these groups; for example, Vulnerability to Weight Gain may be lower in patients with OCD only, while Magical Thinking may be lower in patients with an ED only.

Evidence from studies investigating the types of OCD symptoms experienced by ED individuals suggests that ED patients suffer from somewhat limited, and relatively consistent, types of OCD symptoms (Bastiani et al., 1996; Halmi et al., 2003; Matsunaga, Miyata, et al., 1999; Srinivasagam et al., 1995), largely involving need for symmetry or exactness and ordering/arranging. While the OCD symptom measure used in the current study did not include this specific group of OCD symptoms, it would be interesting to

assess those symptoms in future studies to examine whether the OBBSES is more strongly associated with these symptoms than other types of OCD symptoms. In the current study, the OBBSES factors were differentially related to the subscales of the PI-WSUR; for example, several of the factors were unrelated to the Dressing/Grooming Compulsions subscale while the Contamination Obsessions and Washing Compulsions subscale was associated with all five factors of the OBBSES.

There are several factors that complicate the interpretation of studies suggesting elevated comorbidity between EDs and OCD. For example, there is a high rate of comorbidity between EDs and other types of anxiety symptoms and disorders (e.g. social phobia) (e.g. Bulik, 2002; Bulik, Sullivan, Fear, & Joyce, 1997; Godart et al., 2000). Therefore, it is unclear whether there is a specific relation between EDs and OCD, or if there is a more general relation between EDs and anxiety in general. Measures such as the OBBSES may be useful for more specifically examining cognitive similarities between EDs and OCD, as the development of this measure was based on domains identified as most important for OCD. When controlling for the general effects of anxiety, the OBBSES total score and factors remained significantly correlated with the measure of OCD symptoms and the measure of OCD-related beliefs. Therefore, the results of this study suggest that the OBBSES may be specifically measuring beliefs that are associated with OCD. Future research using this measure in clinical samples including patients with anxiety disorders other than OCD would be useful for continuing to examine this question.

Research suggesting elevated comorbidity between EDs and OCD is also complicated by findings regarding the physical effects associated with EDs. For

example, there appears to be a relation between starvation, and obsessive thoughts and behavior (e.g. Hadigan, Walsh, Buttinger, & Hollander, 1995). Studies demonstrating that OCD symptoms appear to persist after ED recovery (e.g. Pollice et al., 1997; von Ranson et al., 1999) suggest that starvation alone is not the sole cause of OCD symptoms in individuals with EDs (starvation may, however, exacerbate OCD symptoms that existed prior to the ED). The development of a measure such as the OBBSES, which is intended to assess similarity in beliefs associated with both EDs and OCD, may provide another source of evidence that the comorbidity between these disorders is not simply due to the physical effects of EDs.

The current study had several strengths. It included a group of experts during the first phase of measure development which contributed to the content validity of the OBBSES. The inclusion of Vanderbilt graduate students and staff and community members not associated with Vanderbilt during phase three of the study allowed for data collection from a more diverse sample in order to yield a measure with stronger external validity. Multiple measures were included to investigate both the convergent and discriminant validity of the OBBSES, including a measure of social desirability. Additionally, the sample in phase three was large enough to allow for a factor analysis of this measure in order to gain a better understanding of the different types of ED-related beliefs assessed by this measure.

The present study also had several limitations. This study was conducted with a nonclinical population; therefore, it cannot directly answer questions about the types of beliefs held by individuals with clinically diagnosed EDs or OCD (or both), although it did include a self-report measure (the MINI) including the diagnostic criteria for AN,

BN, and OCD. However, this measure indicated that a very small number of participants in the current study reported meeting criteria for an ED and/or OCD. Additionally, it must be recognized that the samples used in this study were relatively homogeneous. Therefore, caution must be taken when generalizing the results of this study, as data was only collected from female participants, and the majority of the participants were undergraduate students from a relatively restricted age group and background. Applying the results of this study to other groups, such as men or older individuals would not be appropriate. However, female undergraduate students are suitable for a study involving ED-related beliefs, as approximately 90% of individuals with EDs are female (APA, 1994; Carlat et al., 1997; Smolak & Murnen, 2001) and the age of onset for AN and BN is generally during adolescence or early adulthood (e.g. APA, 1994). Additionally, the inclusion in phase three of Vanderbilt graduate students and staff members as well as members of the community (not associated with Vanderbilt) allowed for a more heterogeneous sample in terms of background, race, and age. It must also be noted that all measures used in this study were self-report measures, which have been associated with a variety of response biases (e.g. Paulhus, 1991).

Another limitation of the current study was that the data could not be used to investigate whether some types of beliefs are more relevant for clinically diagnosed AN versus BN. For example, perhaps beliefs associated with eating control are stronger for those with AN, while beliefs associated with control of thoughts are stronger for those with BN (as BN individuals may spend a great deal of time attempting to suppress their thoughts about bingeing) (e.g. Raymond et al., 1999). It would be interesting to examine whether, and how these types of beliefs differ depending on ED diagnosis/symptom

pattern (e.g. AN vs. BN, restricting AN vs. binge-purging AN). However, given that individuals often move between ED diagnoses over time (Herzog & Selwyn Delinsky, 2001), between the two subtypes of AN (Eddy et al., 2002), and that some individuals have symptoms of both disorders at the same time (AN-BP subtype), there may not be many cognitive differences among individuals with AN versus BN or within different AN subtypes. Future research administering the OBBSES in clinical populations should address these questions. Research using this measure in participants recovered from an ED would also be interesting in terms of investigating whether or not these beliefs are maintained after recovery.

Overall, there are various ways in which a measure such as the OBBSES may be useful for investigating cognitive similarities between EDs and OCD, and there are many interesting future research possibilities with this measure. If similar types of beliefs are associated with the development and/or maintenance of comorbid EDs and OCD, identifying these types of cognitions may be important for gaining a better understanding of as well as treating individuals presenting with both types of disorders. The long-term goals of this research are to use the OBBSES to better understand the etiology and maintenance of these disorders and their comorbidity, and to use this information to develop enhanced targeted interventions to treat patients with both of these disorders.

APPENDIX A

OBSESSIVE BELIEFS ABOUT BODY SIZE AND EATING SURVEY (OBBSSES)

This questionnaire involves beliefs about food, eating, body weight and shape. Use the scale next to each item to indicate how much you agree or disagree with that item. Please try to avoid using the middle of the scale (“neither agree nor disagree”) and to rate each item according to what you **GENERALLY BELIEVE MOST OF THE TIME**.

Use the following scale for each item:

-----1-----	2-----	3-----	4-----	5-----	6-----	7-----
disagree	disagree	disagree	neither	agree	agree	agree
very	moderately	a	agree nor	a	moderately	very
much		little	disagree	little		much

It's important to have complete control over your thoughts about food and eating. 1 2 3 4 5 6 7

People will like me less if I gain weight. 1 2 3 4 5 6 7

I should never eat more than other people are eating. 1 2 3 4 5 6 7

Just thinking about eating fattening food is almost as bad as actually eating it. 1 2 3 4 5 6 7

I will gain weight if I don't frequently think about my body size. 1 2 3 4 5 6 7

It's okay to eat something without knowing the exact number of calories in it. 1 2 3 4 5 6 7

Before eating something prepared by someone else, I should find out what ingredients were used. 1 2 3 4 5 6 7

I should only allow myself to eat certain types of foods. 1 2 3 4 5 6 7

I should do everything in my power to make my body look perfect. 1 2 3 4 5 6 7

Other people probably wouldn't notice if I gained a few pounds. 1 2 3 4 5 6 7

I should consider the effect my gaining weight could have 1 2 3 4 5 6 7

on my friends and family (e.g. could cause them embarrassment).

I should have complete control over the types of foods I think about; for example, I should be able to keep all thoughts about junk food out of my mind. 1 2 3 4 5 6 7

It's important to know how many calories you are burning you exercise. 1 2 3 4 5 6 7

Sometimes I fear gaining weight from eating healthy foods, such as vegetables or low-fat yogurt. 1 2 3 4 5 6 7

If I think about eating fattening food, that means I don't care how my body looks. 1 2 3 4 5 6 7

If I start gaining weight, it will be difficult to stop. 1 2 3 4 5 6 7

People will not find me attractive if my body isn't perfect. 1 2 3 4 5 6 7

Other people's opinions about my friends and family are not influenced by the way my body looks. 1 2 3 4 5 6 7

I should always read the nutrition label on a food item before buying it. 1 2 3 4 5 6 7

Having control over your thoughts about food and eating makes you a better person. 1 2 3 4 5 6 7

My body does not have to look perfect for me to be satisfied with it. 1 2 3 4 5 6 7

An increase in my body size would negatively affect all aspects of my life. 1 2 3 4 5 6 7

It's important to plan meals and snacks ahead of time. 1 2 3 4 5 6 7

Although people say that genes affect body size and shape, I still think I am completely responsible for how my body looks. 1 2 3 4 5 6 7

Changes in the shape of my body are more noticeable than changes in the shape of other people's bodies. 1 2 3 4 5 6 7

If I try hard enough, I should be able to control all of my 1 2 3 4 5 6 7

thoughts about my body weight and shape.

I will feel anxious if I think about eating fattening foods. 1 2 3 4 5 6 7

Exercising less for even just a few days would result in weight gain. 1 2 3 4 5 6 7

My body must look at least as good as, if not better than, the bodies of my friends. 1 2 3 4 5 6 7

I should be able to completely replace thoughts about unhealthy foods (e.g. pizza, cake) with thoughts about healthier foods, such as salad and fruit. 1 2 3 4 5 6 7

It is unlikely that eating small quantities of unhealthy food would affect my weight. 1 2 3 4 5 6 7

I will become uneasy if I have to eat something for which nutritional information is unavailable. 1 2 3 4 5 6 7

Just thinking about eating fattening foods increases my chance of weight gain, even if I don't actually eat those foods. 1 2 3 4 5 6 7

I am more likely to gain weight from "pigging out" than my friends are. 1 2 3 4 5 6 7

Any change in my body shape is my fault. 1 2 3 4 5 6 7

Just picturing myself at a higher weight could cause me to gain weight. 1 2 3 4 5 6 7

I would feel uneasy before going to a new restaurant, because I don't know how healthy the food will be. 1 2 3 4 5 6 7

My clothes should always fit me perfectly. 1 2 3 4 5 6 7

I would feel uncomfortable if there was a sudden change in the time I planned to eat. 1 2 3 4 5 6 7

I will feel guilty if I think about eating fattening foods. 1 2 3 4 5 6 7

I have high standards for how my body should look. 1 2 3 4 5 6 7

I will gain weight from eating a few slices of pizza. 1 2 3 4 5 6 7

I'm worthless if I don't have a perfect body.	1	2	3	4	5	6	7
It's okay to be less physically active if you are tired or don't feel well.	1	2	3	4	5	6	7
I should never overeat.	1	2	3	4	5	6	7
I should be able to keep all unwanted thoughts about my body weight and shape out of my head.	1	2	3	4	5	6	7
I will feel fatter if I think about eating unhealthy foods.	1	2	3	4	5	6	7
I will gain weight if I don't exercise after eating something fattening.	1	2	3	4	5	6	7
I should carefully consider even small changes to my regular diet.	1	2	3	4	5	6	7
My social life would be destroyed if I gained weight.	1	2	3	4	5	6	7
When eating at a restaurant, it's important to carefully consider the healthfulness of all food options before ordering.	1	2	3	4	5	6	7
If there's any chance that something I do could lead to weight gain, I should avoid doing it.	1	2	3	4	5	6	7
I should be able to completely control my thoughts about food and eating.	1	2	3	4	5	6	7
I must be sure what kind of food will be served before agreeing to eat dinner at someone else's house.	1	2	3	4	5	6	7
Having an imperfect body doesn't make me a bad person.	1	2	3	4	5	6	7
I should not eat something without knowing its fat content.	1	2	3	4	5	6	7
All of my thoughts about my body weight and shape are important.	1	2	3	4	5	6	7

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