The Roles of Parenting and Moral Socialization in Obsessive-Compulsive Belief and Symptom Development

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Dissertation submitted in partial fulfillment of
the requirements for the degree of Doctorate
of Philosophy in the Department of
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ABSTRACT

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Abstract

Despite the prominence of cognitive theories of anxiety disorders, which posit that thoughts can affect the expression of psychopathology, empirical investigation of the origins of such thoughts is scant. In the study of obsessive-compulsive disorder (OCD), a number of cognitive factors, deemed obsessive beliefs, have been identified as correlates of the disorder. Although both parenting behaviors and obsessive beliefs have demonstrated associations with obsessive-compulsive symptoms, research exploring the relations between all three of these constructs has been heretofore limited. Moreover, given the moral content of some obsessions and compulsions (e.g. praying, harm prevention techniques), it is possible that specific moral socialization techniques serve to promote obsessive beliefs.

This study investigated parenting, obsessive beliefs, moral socialization and obsessive-compulsive symptoms in a large non-clinical sample (N=288). Thirty-four students who were measured as relatively high or low on obsessive beliefs subsequently completed an additional procedure in which they were interviewed about moral socialization. Results provided support for a model in which obsessive beliefs served as a mediator of the relations between parenting behaviors and symptom levels. Adding self-conscious emotions to the model as a covariate significantly improved overall fit statistics. With respect to moral socialization, few differences emerged in the moral

socialization histories of individuals relatively high or low on obsessive beliefs. However, those in the high obsessive beliefs group were more likely to report relationship-centered discipline (i.e. the parent using damage to the parent-child relationship as a vehicle for punishment) than those in the low obsessive beliefs group.

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1. Introduction

1.1 Overview and specific aims

Cognitive theories of anxiety disorders have recently received increasing attention and support as researchers' understanding of the ways in which thought can affect the expression of psychopathology has expanded. Indeed, in the past 20 years, cognitive theories have been advanced for panic disorder (Clark, 1986), social phobia (Clark & Wells, 1995), generalized anxiety disorder (Dugas, Gagnon, Ladouceur, & Freeston, 1998), and the focal topic of this dissertation, obsessive-compulsive disorder (OCD; Rachman & Hodgson, 1980; Salkovskis, 1985). In general, cognitive models of anxiety posit that particular thoughts, appraisals, and beliefs support and maintain anxious arousal. Researchers studying OCD have generated a sizable body of literature on the cognitive underpinnings of the disorder, ranging from broad theories of its development to studies designed to clarify relations between beliefs and specific symptoms (e.g. Rachman, 1993; Rachman & Hodgson, 1980; Salkovskis, 1985; Salkovskis, Forrester, & Richards, 1998). Despite the prominence of these theories, and the volume of research related to them, empirical investigations of the origins of cognitive features of OCD have heretofore been scant (Doron & Kyrios, 2005; Salkovskis, Shafran, Rachman, & Freeston, 1999). The current study will explore the family as a context for the development of obsessive-compulsive cognitions by examining the

following variables among undergraduate students: 1) the presence and strength of various obsessive beliefs, 2) retrospective recall of parenting and moral socialization, and 3) current obsessive-compulsive and anxious symptomatology.

Cognitive correlates of OCD have garnered attention as researchers have proposed that dysfunctional cognitions may account for the transformation of intrusive thoughts to full-blown obsessions (Rachman & Hodgson, 1980; Salkovskis, 1985; Salkovskis et al., 1998). That is, intrusive thoughts do not occur exclusively within the context of OCD, but are common in non-clinical populations as well (Rachman & de Silva, 1978; Salkovskis & Harrison, 1984). It has been hypothesized that the individual's maladaptive appraisals concerning these thoughts rather than the intrusions themselves support obsessive-compulsive symptoms. That is, certain beliefs may increase the likelihood that intrusive thoughts are interpreted as threatening, abnormal, or otherwise unacceptable. For example, Salkovskis (1985) adopted this position when he proposed that inflated responsibility, the belief that one holds pivotal power in effecting or preventing negative outcomes, constitutes the primary cognition supporting OCD. When a person with OCD holds a belief of inflated responsibility, intrusive thoughts about aggression or harm prevention may be appraised as threatening and as a reflection of potential harm. That is, if an individual with intrusive thoughts about unsafe situations feels that any future harm could be attributed to his or her own

behavior, then the prevention of such harm would absolve the person of the liability for such harm (e.g., if things go wrong, it is my fault; therefore I must prevent harm).

In addition to inflated responsibility, perfectionism, overestimation of threat, importance of thoughts, control over thoughts, and intolerance of uncertainty have all been identified as beliefs that are theoretically relevant to both obsessive-compulsive and anxious symptoms (Beck, Emery, & Greenberg, 1985; Kozak, Foa, & McCarthy, 1987; McFall & Wollersheim, 1979; OCCWG, 1997; Salkovskis et al., 1998). In fact, empirical work has demonstrated that all six of these beliefs share a positive relation with both OCD and clinical anxiety in general (e.g. Abramowitz, Whiteside, Lynam, & Kalsy, 2003; Antony, Purdon, Huta, & Swinson, 1998; OCCWG, 2001, 2003, 2005), and appear to constitute a cognitive vulnerability to OCD (Abramowitz, Khandker, Nelson, Deacon, & Rygwall, 2006). Moreover, although treatments for OCD tend to be largely behavioral in nature, interventions that target and alter these beliefs have proven effective for individuals who do not respond to traditional behavioral treatment or who experience mental compulsions (Ladouceur, Leger, Rheaume, & Dube, 1996; Sookman & Pinard, 1999; Van Oppen, de Haan, Van Balkom, Spinhoven, & et al., 1995; Wilhelm, Steketee, Reilly-Harrington, Deckersbach, Buhlmann& Baer, 2005; Williams, Salkovskis, Forrester, & Allsopp, 2002). The efficacy of these studies suggests that cognitive factors play a role in the maintenance of obsessive-compulsive symptomatology, and perhaps in their

development. For the sake of simplicity, these six cognitions will be referred to throughout the present study as "obsessive beliefs."

The question of how such beliefs develop is subject to debate in the field of OCD research. On the one hand, cognitions may appear secondary to affective and behavioral symptoms, emerging as epiphenomena that merely mark the presence of the disorder. Conversely, obsessive beliefs may develop with input from external stimuli such as family influence. Although it is likely that both characteristics of the disorder and external factors influence obsessive beliefs, this study will concentrate on the latter postulation (i.e. that socialization plays a role in obsessive belief development). Extant research on both OCD in particular and anxiety in general has revealed associations between particular socialization practices and symptom levels. More specifically, individuals with high levels of obsessive-compulsive symptoms are more likely than their less symptomatic counterparts to rate their parents as being more overprotective, psychologically controlling and critical, and less warm (Aycicegi, Harris, & Dinn, 2002; Hibbs, Hamburger, Lenane, Rapoport, Kruesi, Keysor, et al., 1991; Merkel, Pollard, Wiener, & Staebler, 1993; Moore, Whaley, & Sigman, 2004; Waters & Barrett, 2000). Additionally, observational studies have noted that parents of youth with OCD and other anxiety disorders show less confidence in their children, reward their independence less often, and reinforce avoidant coping strategies more often than do the

parents of non-clinically anxious children (Barrett, Shortt, & Healy, 2002; Barrett, Rapee, Dadds, & Ryan, 1996; Dadds, Barrett, Rapee, & Ryan, 1996). These findings indicate a link between parenting practices and OCD and other anxious symptoms, but do not address whether this link is mediated by development of OC beliefs.

In addition to the aforementioned parenting practices, another factor that may contribute to the development and/or maintenance of obsessive cognitions is moral socialization. Because of the moral quality of some obsessive beliefs (e.g. inflated responsibility), it is possible that moral socialization contributes to the development or maintenance of anxiety-relevant cognitions. The research in this area is less well-developed; however some OCD researchers have asserted that guilt and guilt sensitivity are correlates of the disorder (Rachman, 1993; Tallis, 1994). That is, individuals with OCD may both be more prone to experience guilt and may interpret guilty feelings as being more unacceptable than individuals without the disorder. If this is the case, then it would follow that moral socialization (and in particular socialization of guilt) may be different for individuals with OCD.

Religion is another potential method of moral socialization. Although there is mixed evidence regarding whether certain religious beliefs or affiliations are more commonly found in individuals with anxiety disorders such as OCD (Shreve-Neiger & Edelstein, 2004; Sica, Novara, & Sanavio, 2002; Tek & Ulug, 2001), one finding that has

been more consistent pertains to the content of obsessions and compulsions in individuals with high levels of religiosity. That is, highly religious individuals are more likely to exhibit symptoms with religious themes, such as praying or washing away one's sins (Rasmussen & Tsuang, 1986; Steketee, Quay, & White, 1991). However, the relations between religious or moral *socialization* and obsessive beliefs remain uninvestigated. In light of this paucity, examining moral socialization and its connection to obsessive-compulsive beliefs constitutes a novel and important area of inquiry.

The current study will help to bridge gaps in the existing literature on the development of obsessive beliefs within the family context and to explore the role of moral socialization in obsessive belief development. Specifically, the study addresses relations among family socialization practices (including moral socialization), OC beliefs, and OCD and other anxious symptoms. Because the family environment saturates the individual with a variety of messages about risk management, proper conduct, and personal accountability among other behaviors, it is at least possible, if not likely, that children and young adults who develop particular beliefs do so with input from parenting practices. Although much recent research has focused on the import of beliefs to the development and maintenance of OCD (Rachman & Hodgson, 1980; Salkovskis et al., 1998; Tolin, Woods, & Abramowitz, 2003), few studies have explicitly

examined the potential origins of obsessive beliefs, and fewer still have examined these beliefs as a function of family context (Berle & Starcevic, 2005; Doron & Kyrios, 2005; Kenney-Benson & Pomerantz, 2005; Salkovskis et al., 1999; Waters & Barrett, 2000). Since some obsessive beliefs pertain to morality and responsibility, it is possible that moral socialization in the family also relates to OC belief development.

Although both obsessive beliefs and family factors have been associated with obsessive-compulsive symptoms, the relations among these three sets of variables are unclear. That is, it is not known if OCD-relevant beliefs and family factors each account for unique variance in obsessive-compulsive symptoms or if the variance contributed to symptoms is shared between them. If the latter is true, then a mediation model may better account for the associations between obsessive beliefs, family factors and symptoms, with cognitions serving as the pathway from socialization to symptom expression. That is, it may be that the internalization of particular beliefs accounts in part for the connections between certain parenting practices or family climates and child anxiety. However, there has not been a comprehensive model tested with all three of these constructs. Therefore, one primary aim of the current study is to investigate the relations among family factors, obsessive beliefs, and obsessive-compulsive symptoms in a sample of young adults. A second related aim is to test a mediation model of the

aforementioned constructs, with OC beliefs as a mediator of the relations between family factors and obsessive-compulsive symptoms.

The role of moral socialization in the development of obsessive-compulsive cognitions remains largely unexamined, despite the proposed theoretical connections between guilt/moral beliefs and OCD (Abramowitz, Deacon, Woods, & Tolin, 2004; Shafran, Watkins, & Charman, 1996; Sica et al., 2002; Tallis, 1994; Tek & Ulug, 2001). In the absence of reliable quantitative measures of moral and religious socialization, the use of qualitative open-ended interviews may provide guidance about the content of such practices. Such methods also allow for an alternative kind of inquiry, one that eschews specific hypothesis testing in favor of more exploratory methods (Auerbach & Silverstein, 2003). Although religious affiliation and religiosity have both been examined with respect to OCD or obsessive-compulsive symptoms, results have been mixed (Hermesh, Masser-Kavitzky, & Gross-Isseroff, 2003; Higgins, Pollard, & Merkel, 1992; Steketee et al., 1991). Additionally, only one study has investigated the intrinsic-extrinsic dimension of religiosity within the context of obsessive-compulsive beliefs and symptoms (Hutchinson, Patock-Peckham, Cheong, & Nagoshi, 1998). Therefore, a third aim of this study is to obtain qualitative data about moral socialization and quantitative data about religiosity from individuals with differing levels of belief endorsement. This information can serve as initial data on the relations between anxious beliefs and moral

socialization, and can also serve to generate future hypotheses and aid in developing relevant measures.

Two additional content areas were examined as secondary topics of interest: self-conscious emotions, and parent-reported recall of parenting. Because research has shown that affects other than anxiety - such as guilt, shame, disgust and anger - are associated with anxiety disorders (Moscovitch, McCabe, Antony, Rocca, & Swinson, 2008; Olatunji, Lohr, Sawchuck, & Tolin, 2007; Shafran et al., 1996; Tolin, Woods, & Abramowitz, 2006; Whiteside & Abramowitz, 2005), and because guilt has a high theoretical and phenomenological association with OCD, guilt and shame were also examined in this sample. Therefore, a fourth and secondary aim of this dissertation is to examine self-conscious emotions as a covariate in the relations between parenting and symptoms. More specifically, the analyses will explore whether adding guilt and shame to the aforementioned cognitive mediation model increases model fit.

Parent-reported recall of parenting was also added to the study to supplement participant-reported measures of parenting and to counter bias introduced by using a single informant for all main measures. Moreover, it may be that that parent- and participant-reported data differ substantially from one another and that examining main research questions using each measure of parenting will yield interesting results about the import of memory and interpretation in retrospective measures. Thus, another

secondary aim includes the comparison of parent- and participant-reported parenting in analyses.

1.2 Background and significance

In 1995, an international group of experts convened after a symposium on beliefs relevant to obsessive-compulsive disorder at the World Congress of Behavioural and Cognitive Therapies (OCCWG, 1997). Although research involving cognitive models of the pathogenesis of OCD was proliferating at this time, there was little agreement about the cognitions most pertinent to the disorder and existing measures had poor psychometric qualities. Seeking consensus regarding the cognitive patterns most relevant to the disorder and seeking to develop comprehensive instruments, these researchers formed the Obsessive Compulsive Cognitions Working Group (OCCWG). Pooling previous research and clinical experience, the group members identified 19 cognitive biases of relevance to OCD, which were through expert consensus reduced to six beliefs of relevance to the disorder: inflated responsibility, perfectionism, overimportance of thoughts, importance of controlling one's thoughts, intolerance of uncertainty, and overestimation of threat.

Although initially conceptualized as specifically relevant to OCD, these beliefs appear in large part to be associated with anxiety disorders in general, rather than only with OCD in particular. For example, overestimation of threat is posited to play a

significant maintaining role in all anxiety disorders to some extent, although the content of the threat may differ between disorders (Beck et al., 1985). Following is a brief review of the literature on OCD-relevant beliefs, including theory, definitions, and empirical studies linking the beliefs to OCD and anxiety. Evidence of the manipulability of these cognitions will also be reviewed, citing research in which beliefs have been successfully induced or heightened in individuals using external input. Family socialization factors associated with OCD, proposed connections between these family factors and beliefs, and the small body of extant research on connections between the two will then be outlined.

1.2.1 Elevated levels of particular beliefs are found in obsessive-compulsive adults

As was previously mentioned, researchers studying anxiety disorders have in recent years sought to examine the role that particular cognitive beliefs, disproportionately endorsed by individuals with OCD or other anxiety disorders, play in the maintenance and etiology of disorder expression. The Obsessive Compulsive Cognitions Working Group has recently developed and investigated an instrument, the Obsessive Beliefs Questionnaire (OBQ, OCCWG, 1997, 2001) designed to measure the six beliefs identified as most relevant to obsessive-compulsive pathology. These beliefs are inflated responsibility, overestimation of threat, perfectionism, intolerance of uncertainty, overimportance of thoughts, and importance of thought control. The results

of psychometric validation studies on the OBQ revealed that the measure demonstrated good internal consistency and test-retest reliability, but that the individual scales were highly intercorrelated. Due to these high correlations between the obsessive beliefs, but in the absence of any one theory to guide hypotheses about interconnections, an exploratory factor analysis was carried about by the research group to assess for underlying factors (OCCWG, 2005). This analysis revealed that the dysfunctional beliefs associated with the disorder naturally cluster together into three main factors: one with inflated responsibility and overestimation of threat, one with perfectionism and intolerance of uncertainty, and one with overimportance of thoughts and excessive concern with controlling one's thoughts. The relations found in these analyses fall in line with the operational definitions of each of the beliefs. For example, both responsibility and overestimation of threat share concerns about harm, either in terms of perceiving or preventing it; thus, this connection is not altogether surprising. Moreover, both perceived importance of thoughts and importance of controlling one's thoughts refer to metacognitive processes; that is, they are thoughts about thoughts (meta-cognitions). For the sake of this proposal, each belief will be discussed individually, with the exception of the metacognitive beliefs. The rationale for this decision is pragmatic in nature, since most researchers examining cognitive biases in OCD have looked at each individually rather than combining them into pooled factors.

The metacognitive beliefs are an exception to this pattern, because instruments that tap into these measure beliefs related to both in a single outcome variable.

Inflated Responsibility

Inflated responsibility refers to the belief that one has pivotal power in effecting or preventing negative outcomes. Such outcomes are perceived as being crucial to prevent and may be related to actual repercussions in the external world or may be moral in nature (Salkovskis, 1985; Salkovskis et al., 1998). Another aspect of inflated responsibility is the belief that failing to prevent harm is as wrong as causing harm (Salkovskis, Wroe, Gledhill, Morrison, Forrester, Richards, et al., 2000). Although on the surface, this orientation toward the external world appears similar to utilitarianism in philosophy (in which there is no distinction between failing to cause and preventing harm), there are a few crucial differences. In individuals with inflated responsibility, the probabilistic threshold at which individuals feel responsible for harm is much lower than it is for others. Even when there is a minute chance of harm, individuals with inflated responsibility will strive to remove the potentially harmful element. For example, while most people would agree that removing a plastic bag from the floor of a toddler's play room is a morally indicated act, few would agree that removing a stray staple from the carpet of an office would require action. Individuals with inflated responsibility ascribe threat to objects or situations in which harm is relatively unlikely.

Additionally, inflated responsibility is marked by an exaggerated sense of power and urgency to prevent harmful outcomes.

Certainly, a healthy sense of responsibility can promote moral and prosocial behavior. However, extreme perceptions of personal responsibility are associated with emotional distress and perseverative behavior. Inflated responsibility has also been linked to behaviors such as selective attention, deliberate suppression of thoughts and reassurance seeking, all of which can promote obsessive-compulsive symptomatology (Salkovskis et al., 2000).

Early research and conceptualization of inflated responsibility was guided by the need to find a theory to account for differences between normal and abnormal intrusive thoughts. Intrusive thoughts are non-volitional and distressing cognitions that intrude into one's consciousness without the individual's provocation (Clark, 2002). Examples of intrusive thoughts include thoughts of a loved one getting in an accident or a sudden impulse to harm a child. Although intrusive thoughts are integral to the symptom picture of obsessive-compulsive disorder, the presence of such thoughts itself does not necessarily indicate psychopathology. Research has demonstrated that normal individuals experience intrusions as well, but that their emotional, cognitive and behavioral reactions to these intrusions differ from those of obsessive-compulsive individuals (Morillo, Belloch, & Garcia-Soriano, 2007; Rachman & de Silva, 1978;

Salkovskis & Harrison, 1984). Whereas individuals with OCD report that intrusive thoughts are associated with distress and thought-neutralization urges, healthy individuals are able to dismiss such thoughts with little effort. Researchers have noted that children and adults with OCD and other anxiety disorders are more likely than non-clinical controls to exhibit elevations in their perceptions of personal responsibility (e.g., Barrett & Healy, 2003; Foa, Amir, Bogert, Molnar, & Przeworski, 2001; Libby, Reynolds, Derisley, & Clark, 2004; OCCWG, 1997, 2001).

In addition to studies examining clinical levels of OCD, researchers have noted that inflated responsibility shares a positive association with obsessive-compulsive symptom levels in both child and adult non-clinical samples (Magnusdottir & Smari, 2004; Rheaume, Freeston, Dugas, Letarte, & Ladouceur, 1995; Rheaume, Ladouceur, & Freeston, 2000; Smari & Holmsteinsson, 2001). There is some evidence that the belief is also elevated across a variety of other anxiety disorders. While a number of studies have obtained significant results distinguishing the level of responsibility belief endorsement in obsessive-compulsive and non-OCD anxious participants (Foa et al., 2001; Libby et al., 2004; Salkovskis et al., 1998), others have not found that the connection demonstrates specificity for OCD. That is, a handful of studies have failed to obtain significant differences when examining responsibility beliefs in those with OCD and those with other anxiety disorders (Barrett & Healy, 2003; Tolin, Worhunsky, & Maltby, 2006).

Regardless of these discrepancies, it appears that inflated responsibility plays an important role in the maintenance of the disorder, perhaps particularly so for those individuals with checking compulsions.

Perfectionism

Theoretical associations between perfectionism and OCD have appeared in literature dating back to the turn of the century. Psychoanalytic thinkers and contemporary cognitive researchers alike have invoked perfectionism as a correlate of obsessive-compulsive symptomatology (Frost, Novara, & Rheaume, 2002; Guidano & Liotti, 1983; Hamacheck, 1978). Perfectionism appears, for example, in McFall and Wollersheim's (1979) early model of cognition in OCD (McFall & Wollersheim, 1979). In this model, two of the four main negative beliefs proposed by these authors implicate perfectionism as a key characteristic of the disorder. Psychoanalytic researchers posited that perfectionism as it manifests in OCD was a means to maintain control by decreasing risk and promoting safety (Frost & Steketee, 1997). Even popular laymen's conceptions of OCD rely on perfectionism as a key feature of the disorder. Surprisingly however, research on the construct of perfectionism and empirical definitions of it have lagged behind theory and clinical observation. Only recently have validated measures of perfectionism appeared in the literature (Frost, Marten, Lahart, & Rosenblate, 1990; Hewitt & Flett, 1991). As defined by the Obsessive Compulsive Cognitions Working

Group, perfectionism is both the belief in a perfect solution to predicaments and the desire to find and execute that solution in order to prevent negative consequences (OCCWG, 1997).

Holding oneself to high standards of behavior need not imply dysfunction; in fact, coupling such standards with adaptable self-evaluation may promote motivation and goal achievement. However, when one exhibits an inflexible intolerance of mistakes and no longer derives pleasure from efforts to achieve goals, perfectionism ceases to be healthy and may be considered "neurotic" (Hamacheck, 1978). Although multiple models of perfectionism have been advanced, the two common components that have emerged in factor analytic studies of dimensions of perfectionism are "positive achievement striving and maladaptive evaluation concern" (Frost, Novara, & Rhéaume, 2002, p. 93). Presumably, the former component would map on to the adaptive function of perfectionism and the latter would be related to potentially unhealthy aspects of perfectionism. The type of perfectionism associated with OCD is thought to be related more to the prevention and avoidance of negative outcomes, such as mistakes, and less related to positive promotion of goal achievement (Frost, Novara, & Rheaume, 2002; OCCWG, 1997, 2001, 2003). Therefore, perfectionism, as it manifests by individuals with the disorder, may be considered unhealthy in many respects rather than adaptive. Although some tentative explanations have been advanced (see e.g., Antony et al., 1998),

there exists no comprehensive model of the role that perfectionism plays in OCD (Rheaume et al., 2000).

Perfectionism has been shown to be relevant to a variety of disorders in addition to OCD. Both in theory and in empirical research, perfectionism has been associated with mood disorders (Enns, 1999; Hewitt & Flett, 1993), anxiety disorders (e.g. Antony et al., 1998; Juster, Heimberg, Frost, & Holt, 1996) and eating disorders (e.g. Ordman & Kirschenbaum, 1986; Pratt, Telch, Labouvie, Wilson, & Agras, 2001). The extent to which it can be considered a belief specific to OCD has been examined in a variety of studies, the majority of which indicate that perfectionism, although an important correlate of the disorder, does not serve to distinguish individuals with OCD from those with other anxiety disorders. In the Obsessive Compulsive Cognitions Working Group's inquiries into obsessive beliefs, perfectionism was the only scale of the six for which significant differences were consistently not found between obsessive patients and anxious controls (OCCWG, 2001; 2003). In addition, when the updated version of the Obsessive Beliefs Questionnaire was developed, and Perfectionism and Intolerance of Uncertainty were collapsed into a single factor, the same pattern emerged; patients with OCD could be distinguished from non-clinical subjects, but not from anxiety-disordered controls (OCCWG 2005).

Intolerance of Uncertainty

Research and clinical reports regarding individuals with OCD have consistently demonstrated that doubt and decision-making difficulties are common features of the disorder (Beech & Liddell, 1974; Guidano & Liotti, 1983; Milner, Beech, & Walker, 1971). The role that doubt plays in OCD has been noted since early writings about the disorder when *la folie du doute,* or "doubting disease" was a common term for obsessive-compulsive symptoms (Sookman & Pinard, 1999). Additionally, it has been demonstrated that individuals with obsessive symptoms tend to take longer performing tasks and are observed to be more deliberate and cautious than both clinical and non-clinical controls (Frost, Lahart, Dugas, & Sher, 1988; Steiner, 1972). One set of beliefs that could preclude the ability to easily and flexibly make decisions concerns intolerance of uncertainty. Intolerance of uncertainty is defined as "beliefs about the necessity of being certain, about the capacity to cope with unpredictable change, and about adequate functioning in situations which are inherently ambiguous" (OCCWG, 1997, pg. 678). Thus, intolerance of uncertainty refers to both the importance of certainty and one's ability to navigate situations in which such certainty is impossible. If an individual with this belief experiences distress in ambiguous situations, compulsive behaviors may serve to mitigate this distress by ensuring that pertinent information is gathered prior to making a decision. Additionally, it has been proposed that the need for certainty informs individuals about when it is appropriate to stop performing a compulsive

behavior, such that repeated rituals will cease when a tolerable level of certainty has been achieved (Beech & Liddell, 1974).

Researchers have developed a variety of self-report instruments to measure intolerance of uncertainty. These include the Intolerance of Uncertainty Questionnaire (Freeston, Rheaume, Letarte, Dugas, & Ladouceur, 1994), the Obsessive Beliefs Questionnaire (OCCWG, 2001), the Revised Obsessive-Compulsive Disorder Cognitive Schemata Scale (Sookman & Pinard, 1999), and the Obsessive Compulsive Beliefs Questionnaire (Steketee at el., 1998). Although each measure is slightly different, together they provide reliable and valid indices of beliefs about the emotional and behavioral consequences of uncertainty. Although there have been fewer studies measuring intolerance of uncertainty in individuals with OCD than there have been for some of the other obsessive beliefs, the construct has been related to both OCD and to obsessive-compulsive symptomatology in a variety of studies (Freeston, Ladouceur, Gagnon, & Thibodeau, 1993; OCCWG, 2001, 2003, 2005; Overton & Menzies, 2005; Steketee et al., 1998). By contrast, in a study using need for closure as a proxy for one's intolerance of uncertainty, need for closure showed no relations with obsessive and compulsive symptoms (Mancini & Gangemi, 2004). However, the sample in this study was comprised of non-clinical subjects and intolerance for uncertainty was measured differently than in the other studies noted in this article. Both theory and empirical

evidence suggest that intolerance of uncertainty beliefs may have particular bearing on individuals with checking compulsions or routines, a finding which supports the notion that checking is performed in part to reach a satisfactory level of certainty (Sookman & Pinard, 1999; Tolin et. al, 2003).

There is little doubt that intolerance of uncertainty appears in a variety of disorders in addition to OCD (Sookman & Pinard, 2002). For example, as the authors of the OCCWG point out (1997), the DSM-IV criteria of both dependent personality disorder and obsessive-compulsive personality disorder correspond to this underlying belief (APA, 2000); for example, the criteria for dependent personality disorder include "has difficulty making everyday decisions," a feature which interfaces well with the definition of intolerance of uncertainty. Additionally, intolerance of uncertainty has been extensively investigated within the context of generalized anxiety disorder (GAD) and has demonstrated a consistent association with the disorder (Tolin et al, 2003).

Overestimation of Threat

Researchers and clinicians alike have noted cautious behavior and risk aversion as common correlates of OCD. Obsessive-compulsive individuals may be more sensitive to threats or may be more likely to perceive threats than those without significant anxiety pathology. In support of this hypothesis, it has been demonstrated that individuals with the disorder exhibit more harm avoidance behavior than do non-

clinical control participants (Richter, Summerfeldt, Joffe, & Swinson, 1996). Additionally, research has indicated that individuals with OCD are less likely to take risks and more likely to see themselves as vulnerable to danger than both nonclinical and psychiatric controls (Sookman, Pinard, & Beck, 2001; Steiner, 1972). As defined by the OCCWG, overestimation of threat includes perceptions about both the likelihood of negative events occurring and the severity of these possible aversive events. Therefore, individuals exhibiting this belief not only feel that an outcome is more likely to be negative, but also feel that any undesired outcome is likely to be quite severely negative. The overestimation of threat belief has also been described as an enduring belief that situations are dangerous until proven safe (see Kozak et al., 1987) and that the external world in general is to be constantly scanned for risk assessment.

The unique role that overestimation of threat plays in maintaining or generating obsessive-compulsive symptoms is not yet well understood. One way in which overestimation of threat could support obsessive-compulsive symptomatology is by altering the appraisals that individuals make about intrusive thoughts. The cognitive model of OCD (Rachman, 1993; Salkovskis, 1985; Salkovskis et al., 1998) states that the intrusive thoughts common to OCD are not pathological *per se*, but that the interpretations of these thoughts render them obsessive. Overestimation of threat may play a role in this appraisal process in that those with the disorder may interpret the

intrusions themselves as threatening. As with inflated responsibility, this attribution of threat creates distress at having had the intrusion, and results in subsequent attempts to suppress or neutralize the intrusions. By focusing attention on the thoughts and their perceived danger, increased significance is devoted to the thoughts and the level of threat perception intensifies. Overestimation of threat may also maintain symptoms by extending the range of anxiety-provoking cues in the external environment. Rachman (Rachman, 2002; Rachman & de Silva, 1978; Rachman & Hodgson, 1980) has extensively detailed the role of overestimation of threat in the sequelae of intrusions and their interpretations. He states that interpreting intrusions as threatening results in the individual perceiving otherwise benign objects and cues in the external environment as likewise threatening. Intrusions increase with the aid of these new threatening cues, thereby reinforcing threat perceptions.

Overestimation of threat has been linked to both clinical and analogue OCD (OCCWG, 2001, 2003; Steketee et al., 1998; Tolin et al., 2003). In their conceptualization of the genesis of anxiety, Beck and colleagues argued that anxiety is generated when internal or external stimuli are perceived as threatening to an individual's well being (Beck et al., 1985). Furthermore, the difference between adaptive and abnormal anxiety hinges on the extent to which the perceived threat is a reaction to realistic hazards. Therefore, from this viewpoint overestimation of threat would not be exclusive to OCD

and would be a prominent cognitive component of all disorders that feature anxiety. In accordance with this framework, there is some support for the prevalence of threat overestimation in other anxiety disorders (Clark, 1986; Foa, Franklin, Perry, & Herbert, 1996). Indeed, it has been noted that overestimation of threat may merely vary among different disorders in terms of the content that is deemed threatening (Beck & Clark, 1997; Sookman & Pinard, 2001).

Metacognitive Beliefs

In the original inquiry into obsessive beliefs conducted by the Obsessive Compulsive Cognitions Working Group, both overimportance of one's thoughts and the importance of controlling one's thoughts were proposed as potential OCD-related beliefs (OCCWG, 1997). Since the publication of that article, many researchers have tackled the question of how the importance attributed to one's thoughts and the amount of control one is compelled to exert over these thoughts relate to obsessive-compulsive diagnosis and symptoms. Overimportance of thoughts refers to the idea that one's thoughts, even inconsistent or fleeting ones, are significant and carry a great deal of meaning, either because they can affect outcomes external to the self, or because they reveal aspects of an individual's true character (e.g. "I have sinful thoughts; therefore, I am a sinner"). Importance of thought control refers to the belief that one's thoughts should be carefully monitored and kept under control. Although the two have been

conceptualized as theoretically distinct but highly correlated constructs, the ability to examine one without considering the other directly or indirectly is difficult. Moreover, a recent factor analysis of the six obsessive beliefs advanced by the OCCWG indicates that overimportance of thoughts and the importance of thought control tend to covary and may constitute a single factor (OCCWG, 2005). Thus, both of these beliefs will be examined in this section together.

These beliefs are thought to relate to a phenomenon known as thought-action fusion (Shafran, Thordarson, & Rachman, 1996). Thought-action fusion (TAF) is defined as the tendency to conflate one's thoughts with internal or external negative consequences. As such, individuals with TAF associate their thoughts with perceived moral consequences of having such a thought or with potential negative events that might result from the thoughts. Guidano and Liotti (1983) dubbed this phenomenon "omnipotence of thought" and noted its presence from a clinical standpoint. Thought-action fusion can take two different forms: moral TAF and likelihood TAF. The former is the belief that having a negative thought is as bad as performing a negative act. For example, such individuals may believe that harboring aggressive thoughts about loved ones is as morally detestable as actually aggressing upon their loved ones. Likelihood TAF, on the other hand, involves one's conception that having a thought about a negative consequence will heighten the probability of that consequence occurring. Thus,

a person who believes that thinking about the death of a loved one increases the chances of that loved one dying exhibits likelihood TAF. Research has demonstrated that TAF is a coherent construct and can be reliably measured in clinical, student and adult populations (Shafran, et al., 1996). Furthermore, multiple studies have found that likelihood TAF exhibits a variable but robust association with obsessive symptoms, with correlations ranging from .23 to .62 (Amir, Freshman, Ramsey, Neary, & Brigidi, 2001; Berle & Starcevic, 2005; Rachman, Thordarson, Shafran, & Woody, 1995; Rassin, Diepstraten, Merckelbach, & Muris, 2001; Rassin, Muris, Schmidt, & Merckelbach, 2000).

Numerous studies have documented the relations between beliefs about thought/thought control and OCD-related variables (Overton & Menzies, 2005; Pleva & Wade, 2006; Shafran & Rachman, 2004). Whether these beliefs can further distinguish individuals with OCD from others with psychopathology remains uncertain due to mixed findings from empirical studies. The Obsessive Compulsive Cognitions Working Group's studies of these two beliefs have consistently indicated that levels of overimportance of thoughts and importance of controlling one's thoughts are elevated in individuals with OCD when compared to both anxious and non-clinical controls (OCCWG, 2001, 2003, 2005). Other than these studies, however, there is little research explicitly examining overimportance of thoughts and thought control beliefs. Instead these studies have focused on correlates of the beliefs such as thought-action fusion and

thought suppression behavior. This makes drawing conclusions about the specificity of the beliefs more difficult. However, studies from both domains have suggested that metacognitive beliefs are likely elevated in individuals with a variety of anxious pathology (Abramowitz et al, 2003; Barrett & Healy, 2003; Berle & Starvecic, 2005; Ladouceur, Freeston, Rhéaume, Dugas, Gagnon, Thibodeau, et al., 2000; Rassin et al., 2001), but may be even more salient for those with OCD (Libby et al., 2004).

Thus, there is evidence that all of the obsessive beliefs identified as correlates of OCD are associated with the disorder; most also correlate with anxiety in general.

1.2.2 Obsessive beliefs demonstrate manipulability

In asserting that family characteristics play a role in the development of obsessive beliefs, it is helpful to demonstrate that the beliefs exhibit some degree of manipulability from external input. One line of research that supports the sensitivity of obsessive beliefs to psychosocial influences, such as the family, is experimental in nature. That is, researchers have successfully manipulated cognitions thought to be relevant to OCD in order to examine the effects that such thoughts have on obsessive-compulsive behavior. That many of the beliefs can be heightened within a laboratory setting supports the notion that beliefs develop with input external to the individual. More specifically, laboratory studies supporting the manipulability of beliefs have been

executed for inflated responsibility, thought-action fusion, perceived importance of thoughts and intolerance of uncertainty.

For example, in 1995, Lopatka and Rachman conducted a repeated-measures study with 30 obsessive-compulsive checkers. Responsibility was manipulated via instructions that the participant must give up responsibility to the experimenter (low responsibility condition) or personally take full responsibility for any outcomes (high responsibility). There was also a control condition in which no assignments of responsibility were mentioned. This study was designed to test the hypothesis that one's perceived responsibility would correlate with intrusion-related distress as well as the urge to engage in compulsive behavior. Consistent with hypotheses, the decreased responsibility condition was associated with decreases in discomfort, urge to check, assessment of probability of harm, severity of anticipated harm, length of time needed for checking, perceived panic, likelihood and severity of criticism. Responsibility has also been manipulated in other experiments successfully, such as by the presence or absence of the experimenter in the room during a task (Arntz, Voncken, & Goosen, 2007; Shafran, 1997).

There is evidence to suggest that biased cognitions regarding the overimportance of one's thoughts and the importance of controlling one's thoughts can be manipulated in both experimental and treatment settings. Rassin and colleagues found that thought-

action fusion could be experimentally induced via a very unique procedure (Rassin, Merckelbach, Muris, & Spaan, 1999). Participants hooked up to electrodes were notified that thinking of the word "apple" would administer a harmless shock to a fellow participant. Measures of likelihood TAF were successfully raised in this group and they experienced more intrusive thoughts of the word "apple" as well as more self-directed anger at having such thoughts. Similarly, Teachman and colleagues (Teachman, Woody, & Magee, 2006) successfully manipulated perceived importance of thoughts simply by telling participants that their intrusive thoughts were either significant and indicative of one's personal values or meaningless. A third group was told nothing about the importance of his or her thoughts. An implicit associations test then revealed that those in the high-thought importance category appraised intrusions as more negative.

Researchers have also used experimental methodologies to induce high levels of intolerance of uncertainty in the laboratory setting. For instance, a gambling procedure was implemented to increase intolerance of uncertainty successfully in one study of non-clinical individuals (Ladouceur, Gosselin, & Dugas, 2000). Two groups of subjects participated in a gambling game with the same stated odds (i.e., a one-in-three chance of winning) and the same outcome (money donated to a fictional foundation if they won). However one group was told that their odds were very poor, while the other group was encouraged and reminded that the foundation would receive money from other people

even if this particular person did not win. Participants who were given the former instructions scored higher on a measure of intolerance of uncertainty. These individuals likewise scored higher on a measure of worry than did those whose intolerance of uncertainty was lowered. Similarly, Grenier and Ladouceur (2004) manipulated uncertainty of intolerance and found that those with high induced intolerance reported higher levels of worry than those with low intolerance of uncertainty. That intolerance of uncertainty can be manipulated suggests that the bias is subject to external influences rather than constituting a stable trait.

1.2.3 Manipulability in the family setting

Although finding analogs to these experiments in the family context may seem imprudent, it is possible that parents impart similar beliefs about the power of thoughts to their children in a variety of less explicit ways. For example, some religious doctrines emphasize the power of thought in ways that mirror thought-action fusion. Additionally, a number of researchers have examined the role that parental input has on children's information processing in ambiguous situations. Families of anxious, oppositional, and non-clinical children were invited to participate in one series of studies investigating family enhancement of cognitive style in children (Barrett et al., 1996; Dadds et al., 1996). When asked to interpret and find solutions to hypothetical problem situations, anxious children were more likely than both aggressive and non-

clinical children were to endorse avoidant solutions to the scenarios. Moreover, when the family came together to discuss the task, the parents of anxious children reinforced these avoidant coping strategies and modeled caution more often than other parents. This in turn heightened the anxious children's propensity to endorse avoidant solutions. Such a finding suggests that parents of anxious children are more likely to reinforce and promote anxious coping styles than parents of non-anxious or oppositional individuals. Chorpita and colleagues likewise found that children's interpretations of various hypothetical situations (e.g. "On the way to school, you begin to feel funny in your stomach") were subject to influence after anxious input by parents (Chorpita, Albano, & Barlow, 1996). A similar study by Bögels and her colleagues however did not replicate the findings, discovering instead that parents' input about hypothetical stories actually reduced children's negative interpretations of the stories (Bögels, van Dongen, & Muris, 2003). This pattern was found regardless of parent or child anxiety level, and, surprisingly, regardless of parental negative interpretation. It appears, from the summation of the evidence presented above, that beliefs demonstrate a measure of manipulability from external input, including from parents' direct socialization.

1.2.4 Certain parenting characteristics are associated with obsessive-compulsive symptoms

Despite increasing evidence for the importance of beliefs in anxiety, thus far research on the origins of anxious beliefs is limited (Doron & Kyrios, 2005; Salkovskis et

al., 1999; Rector, Cassin, Richter, & Burroughs, 2009). However, given the prominence of the family as an agent of socialization, it is probable that the development of particular cognitions occurs with input from the family environment. Extant research has shown that the parents of individuals with anxiety disorders are more likely than those of non-clinical individuals to exhibit overprotective or overinvolved parenting behaviors (Barlow, 2000; Ginsburg, Silverman, & Kurtines, 1995; Hudson & Rapee, 2001; Messer & Beidel, 1994; Rapee, 1997), grant less autonomy (Moore et al., 2004), exhibit rejecting behaviors (Hibbs et al., 1991; Leonard, Swedo, Lenane, Rettew, Hamburger, Bartko & et al., 1993), demonstrate low warmth (Moore et al., 2004), show diminished confidence in the child (Barrett et al., 2002), and have low levels of family expressiveness (Suveg, Zeman, Flannery-Schroeder, & Cassano, 2005). Both observational research with children and retrospective recall studies with adult participants have supported the relations between these family factors and anxious symptoms. Below is a brief summary of the research in the areas of relevance to this particular study along with proposed connections between socialization practices and the five anxious beliefs of interest.

Multiple research programs studying both OCD in particular (Cavedo & Parker, 1994; Ehiobuche, 1988; Guidano & Liotti, 1983; Merkel et al., 1993; Turgeon, O'Connor, Marchand, & Freeston, 2002) and anxiety in general (Dadds et al., 1996; Rapee, 1997, 2001) have discovered that the parents of children who develop such disorders are more

likely than those of non-clinical children to exhibit overprotective or overinvolved parenting behaviors. Overprotective parenting refers to a cluster of behaviors that serve to shield the child from perceived harm. Such behaviors include attempts to control the child's potentially risky behavior and to restrict the child's independence. These parents are likely to model anxious behavior and may even display compulsive symptoms themselves (Waters & Barrett, 2000). One comprehensive model of this parenting behavior conceptualizes the development of overprotectiveness within the context of a reciprocal interrelation between the child's anxiety and the parent's behavior (Rapee, 1997, 2001). Anxious children likely have a constitutional sensitivity to anxiety and are thus easily aroused. Parents, in noting this anxiety, respond by becoming more involved and protective of the child in order to reduce distress. Children then begin to adopt heightened perceptions of threat and display increasingly avoidant behavior. In this manner, overprotective behavior begets anxiety, which in turn leads to more protective behavior. Indeed, a parent-education intervention for inhibited preschoolers, which targeted overprotective behavior among other parenting practices, demonstrated effectiveness over a control group in reducing child anxiety diagnoses (Rapee, Kennedy, Ingram, Edwards, & Sweeney, 2005).

In a study comparing depressed, obsessive-compulsive and panic disordered adolescents, maternal overprotection differentiated panic and OCD from depression but

not from one another, supporting the notion that overprotecting parents may confer a general risk for anxiety (Merkel et al., 1993). Similarly, another research group studying OCD and panic disorder found that individuals with these anxiety disorders could be distinguished from non-clinical individuals but not from one another in terms of retrospectively reported parental overprotection (Turgeon et al., 2002). Moreover, in a large sample of non-clinical subjects, a correlation between obsessionality on the Leyton Obsessionality Inventory (Cooper, 1970) and overprotection on the Parental Bonding Inventory (Parker et al., 1979) was obtained, after the influence of depression, trait anxiety and neuroticism was removed (Cavedo & Parker, 1994). Hafner (1988) also used the Parental Bonding Inventory in a group of OCD sufferers participating in a self-help group and likewise found elevated levels of patient-reported parental protectiveness, with respect to community norms.

Rewarding independence may also be less common for parents of children with OCD. Barrett, Shortt, & Healy (2002) obtained results indicating that parents of children with OCD were less rewarding of the children's independence, when compared to parents of children with other anxiety disorders, externalizing disorders and without clinical diagnosis. Finally, in an observational study of anxious children and their parents, Dadds and colleagues determined that, in comparison to oppositional and non-clinical children, those with anxiety disorders were more likely to have parents who

encouraged avoidant strategies (Dadds et al., 1996). In subclinical OCD, this pattern also emerges; in a study comparing asymptomatic individuals to those with mild obsessive-compulsive symptoms, the former group perceived their parents to be less overprotective (Frost, Steketee, Cohn, & Griess, 1994).

A prominent theory of parenting and its connection to anxiety development states that there are two main orthogonal parenting behaviors that contribute to the development of anxious and mood pathology (Rapee, 1997, 2001). The first concerns parental control, which can manifest as the restrictive and overprotective behavior just detailed. The second concerns rejecting behaviors and involves a negative and punitive stance toward the child. Although the latter has been implicated more in depression research than in anxiety research, there is some evidence that parental rejection and criticism may also correlate with child anxious pathology. For example, evidence from expressed emotion (EE) studies indicates that parental criticism may be elevated in individuals who have or develop OCD (Hibbs et al., 1991; Leonard et al., 1993). Expressed emotion refers to a cluster of behaviors that family members may exhibit toward one another and includes criticism, hostility and emotional overinvolvement. In these studies, rates of negative expressed emotion in families of obsessive-compulsive individuals were at least twice as high as those of non-clinical control families or families of children with externalizing disorders. Moreover, two studies reported more

rejecting behaviors in the parents of individuals with OCD as compared to non-clinical subjects, although measures of parental behavior in these studies were retrospectively reported (Alonso, Menchon, Mataix-Cols, Pifarré, Urretavizcaya, Crespo, et al., 2004; Ehiobuche, 1988). Finally, Barrett, Healy and Shortt (2002) found that parents of children with OCD could be distinguished from those of both non-clinical and non-OCD anxious children based on a diminished level of confidence in the child's ability to perform a task.

In addition to findings regarding critical and rejecting behaviors in the parents of individuals who develop OCD, there is some evidence that parents of obsessive-compulsive individuals display less warmth than do those of non-clinical children (Moore et al., 2004). Alonso and colleagues (2004) found that obsessive-compulsive subjects recalled their parents as being less warm than did control subjects, though it was only significant for those participants with hoarding compulsions. Moreover, it has been demonstrated that the parenting style most often endorsed by individuals with OCD is "affectionless control", a form of parenting in which control is high and warmth is low (Chambless, Gillis, Tran, & Steketee, 1996). This parenting style was endorsed by 41.2% of mothers and 42.5% of fathers in a mixed agoraphobic and obsessive-compulsive sample.

1.2.5 Parenting may influence the development of obsessive beliefs

Despite the copious evidence linking these parenting practices to OCD, few studies have parenting style with respect to the specific obsessive beliefs. In this section, proposed connections between family socialization practices and obsessive beliefs are presented, along with the limited empirical work currently available that supports these connections. In each section, empirical work will first be presented where available, with theoretical connections following. Thus, in addressing this question, the present study will contribute to and expand upon a small body of existing research, and will address a more complete range of obsessive-compulsive beliefs in its analyses.

Inflated Reponsibility. In an effort to contextualize the origins of inflated responsibility, Salkovskis and colleagues (1999) proposed a number of pathways through which an individual might develop this cognitive bias within the childhood environment. One such pathway concerns an implicit or explicit withholding of responsibility from the child. They posited that this shielding of responsibility would send strong messages to the child concerning both the relative danger of the world, and the incompetence of the child in navigating such an unsafe world. Therefore, the obsessive-compulsive patient's sense of responsibility may be in part a result of appropriating parental beliefs that preventing harm to the self or others in a dangerous world is of utmost importance. Overprotective parenting maps on well to this proposal,

given that these parents shield their children from a number of experiences. Recently, Coles has developed a scale to measure the factors that may contribute to inflated responsibility beliefs, including overprotection (Coles & Schofield, 2008). Using this scale (Pathways to Inflated Responsibility Beliefs scale), a correlation was found between inflated responsibility and overprotective parenting (.53 and .48, for mothers and fathers respectively), and this correlation exceeded that between overprotection and depressive symptoms. Additionally, significant correlations between critical parental behavior and inflated responsibility in children have been observed in at least one study (Rheaume, Ladouceur, Freeston, & Letarte, 1995).

Salkovskis and colleagues (1999), in their article on the origins of inflated responsibility, state that consistently targeting the child as a source of blame for negative occurrences within the family could heighten a child's perception of personal responsibility. The authors suggest that such behaviors may heighten a child's perceived sense of accountability and encourage the child to engage in behaviors aimed at preventing harm rather than promoting good. As guilt may be an important self-reflective emotion associated with feelings of responsibility, one hypothesis is that family environments that employ guilt-induction in parenting could maintain such a belief. Certainly, the aforementioned work concerning expressed emotion and OCD supports the notion that parents of patients with the disorder display high rates of

criticism, as perceived by their offspring (Hibbs et al, 1991; Leonard et al, 1993). Because criticism could include guilt-inducing statements or behaviors (e.g. calling a child selfish, telling a child that he/she has hurt the parent), it may prove worthwhile to more closely explore the content of such parent-child exchanges.

Perfectionism. Parental overprotectiveness, in the form of parental control, has been investigated as a precursor to perfectionism beliefs in children (Kenney-Benson & Pomerantz, 2005). More specifically, maternal use of control over school-aged children's behavior has been associated with the child's report of socially prescribed perfectionism, or the belief that others expect one to be perfect. Theoretically, this finding interfaces well with models of childhood anxiety that link parental control to children's development of an external locus of control and subsequent risk for disorder (e.g. Barlow, 2000; Chorpita & Barlow, 1998). Additionally, Kawamura and colleagues observed a positive association between critical parenting and perfectionism in college students (Kawamura, Frost, & Harmatz, 2002). More specifically, the perception that one's parents treated one in a harsh and authoritative manner has been linked to inflated concern over mistakes and doubts about one's actions on a measure of perfectionism, but not to more adaptive aspects of perfectionism (Kawamura et al., 2002). Although controlling behavior may or may not be a function of overprotection, the connection

between this behavior and perfectionism is of relevance to OCD and warrants further research.

It has also been postulated that perfectionist thinking may arise from a system of conditional positive regard of the child based on the child's behavior (Hamacheck, 1978). Further, behaviors associated with this kind of system may be parental criticism, a lack of clear standards for behaviors, or perfectionism displayed by parents (Barrow & Moore, 1983, cited in Vieth & Trull, 1999). If children do not evidence "perfect" behavior, then parents may criticize or withdraw warmth leading to a desire on the part of the child to attain perfection. One behavior associated with this kind of system is parental criticism associated with "incorrect" behavior. The fear of making mistakes is not an entirely surprising outcome of perceived criticism from parents. That is, criticism from a parent can deeply affect the child's desire to seek approval in the future, leading to increasingly perfectionist behavior. Perfectionism has also been associated with harsh or controlling parenting styles, with research indicating that the use of authoritarian parenting may lead to the adoption of rigid standards of behavior.

Overestimation of Threat. Perhaps the most obvious connection between overprotective parenting and the development of obsessive-compulsive beliefs concerns the development of the overestimation of threat belief. By shielding the child from a broad range of experiences in the external world, overprotective parents both prevent

children from developing comfort with novel situations as well as impart the idea that the world is rife with unseen risks. Thus, a child may develop a pervasive sense of external threat that is unlikely to be challenged by behavioral exposure. Rapee (2001) has provided a clear and detailed account of this phenomenon in which the parent's protective behavior and the child's anxiety influence one another, bringing about increased threat perceptions and subsequent anxiety on the part of the child. As both overprotective parenting and overestimation of threat beliefs demonstrate a positive correlation with anxious pathology (Clark, 1986; Foa et al., 1996; Ginsburg et al., 1995; Messer, & Beidel, 1994), it can be hypothesized that the two also share relations with one another. That is, it appears that overprotective parenting is a likely pathway by which threat-related beliefs are imparted to children, although further empirical evidence is necessary to clarify mechanisms.

Intolerance of Uncertainty. Few theorists have explicitly advanced models of how the family environment could potentially foster beliefs about certainty. However, given the possible connection between intolerance of uncertainty beliefs and overestimation of threat beliefs, family factors that contribute to the latter such as overprotective parenting may have relevance to the development of intolerance of uncertainty. That is, overprotective parents likely convey to their children that in order to avoid harm, one must be exquisitely careful prior to making decisions, even in situations with minimal

risk. Overprotective parents, in their withholding of independence, could also deprive their children of the opportunity to explore uncertain situations and develop a tolerance for them. Thus, limited coping skills and high levels of emotional distress surrounding anxiety might mediate the interrelation between parental behavior and the child's belief.

Metacognitive Beliefs. As with the development of inflated responsibility, socialization practices that serve to heighten the child's guilt may play a significant role in one's propensity to develop biases around the importance of thoughts and thought control. For instance, it has been demonstrated in two separate studies that thought-action fusion correlates strongly with measures of guilt (Rachman et al., 1995; Yorulmaz, Yilmaz, & Gençöz, 2004). This is not altogether surprising, as one would expect higher levels of guilt in individuals who believe that their negative thoughts can bring about negative consequences (since negative thoughts are somewhat difficult to avoid altogether). Higher levels of criticism and rejection could both elevate a child's propensity for guilt if the child attributes the parent's behavior to a reaction to his or her own negative behavior. Guilt would in turn lead a child to increase self-awareness of negative behaviors and, potentially to chronic vigilance about negative thoughts. Whether or not critical parenting itself induces guilt remains an open empirical question.

Although metacognitive beliefs have not been investigated as a mediator of the relations between parenting and symptoms, research from one study found that

misinterpretations of intrusive thoughts partially mediated the relations between responsibility attitudes and obsessive-compulsive symptoms, and between concerns over mistakes and obsessive-compulsive symptoms (Pleva & Wade, 2006). This lends support to the notion that cognitive components of OCD are particularly important in symptom maintenance.

1.2.6 Moral socialization and obsessive beliefs

Since morality and ethics relate to a number of the beliefs associated with OCD (e.g., inflated responsibility, importance of thought), some researchers have posited that growing up in an environment where such factors are emphasized may promote obsessive-compulsive symptoms (Rachman, 1993; Salkovskis et al, 1999). Furthermore, strict moral codes have been proposed as a potential correlate of the development of obsessive thinking by earlier authors as well, who assert that moral rigidity can be a predecessor of some of the biased beliefs (Guidano & Liotti, 1983). Just as the participants in Milgram's (1974) famous experiment on conformity were able to commit otherwise unthinkable acts when responsibility was assigned to an authority figure, so might those individuals with the inflated responsibility bias err toward the other extreme, seeking to prevent harm at any cost. Certainly, unless one subscribes to the notion that individuals are born either moral or immoral, external factors, such as family, influence a child's developing capacity for moral reasoning and decision-

making. In fact, research has borne out this connection, revealing that parental values, parental discipline, parenting style, and family religiosity relate to moral development in children; in fact, parental influence now constitutes the primary focus in the study of children's acquisition of values (Grusec, Goodnow, & Kuczynski, 2000).

Parents who themselves display prosocial or care-oriented values are more likely to have children who do so (Oliner & Oliner, 1988). Parental discipline also demonstrates an association with moral functioning. More specifically, parents who use induction, a practice that points out to the child the negative consequences that his or her actions have on another, are more likely to have children who exhibit higher levels of prosocial behavior and sympathy (Eisenberg & Fabes, 1998; Hoffman, 2000; Krevans & Gibbs, 1996). Three areas which were examined in this study – parental values, parental discipline and religiosity – are outlined below with respect to moral development and anxious beliefs. However, the amount of extant research connecting moral socialization practices and anxiety/cognitive beliefs varies. While research directly examining parental values and discipline as they pertain to obsessive beliefs is non-existent, there is a great deal of research examining religiosity and OCD symptoms/beliefs.

Parental Values. Most parents aspire to instill in their children moral values and standards similar to their own. Furthermore, the goal is not only to pass along these

values, but to ensure that they will be invoked by the child in various morally challenging situations without the parent's reinforcement or supervision (Grusec & Kuczynski, 1997). In order for children to adopt parental values, they must first be able to perceive those values accurately (Grusec & Goodnow, 1994). Okagaki and Bevis (1999) found that family discussion of values raises the child's ability to perceive accurately parental values. Not surprisingly, researchers have found that parents' own values correlate with their children's values and internalization of moral beliefs. In an extensive study of European citizens who rescued and/or housed Jews during the second World War, Oliner and Oliner (1988) conducted lengthy interviews with both rescuers and non-rescuers about their families of origin. The authors found a difference in the amount of emphasis placed on caring and generosity by participants' parents, with the rescuers' parents more often espousing these values. Rescuers recounted explicit discussions with their parents about these values, or remembered observing their parents engaging in behavior consistent with altruism. Parents and children likewise often share empathic qualities, with those parents higher in empathy more likely to have offspring with similar levels of the phenomenon (Eisenberg, Fabes, Carlo, Troyer, Speer, Karbon, et al., 1992; Eisenberg & McNally, 1993). Therefore, in investigating how parental values relate to the development of obsessive-compulsive beliefs, at least two factors seem pertinent:

1) that the parental values are explicit and clear to the child, 2) that the values promoted by the parents are consistent with the belief systems associated with OCD.

Although it may be that most parents aspire to instill basic moral values in their children (e.g. sharing, refraining from aggression), parents of individuals with obsessive-compulsive beliefs may stress care for others or moral responsibility to a greater extent than others. Children with a natural biological propensity for empathy who internalize such messages may subsequently express inflated responsibility beliefs. However, present research has not addressed the relations between parental moral values and OCD or obsessive-compulsive symptomatology.

Parental Discipline. As was previously mentioned, parents who include explanatory statements about moral conduct after child transgressions are more likely to have children who demonstrate prosocial behavior with peers than those parents who do not provide such explanations (e.g. Eisenberg, 2004; Hoffman, 2000). This form of discipline, called induction, may provide for the child a means to internalize a moral decision-making system, rather than relying solely on external motivation to guide actions. In this way, the child's capacity for empathy is strengthened and immoral acts are imbued with negative affect, encouraging the child to act in a morally competent manner even in the parent's absence (Grusec & Goodnow, 1994). The explanatory statements used in inductive parenting often appeal to the empathic capacities of the

child, such as "Think about how sad your brother feels that you are not sharing with him." Accordingly, researchers have noted connections between empathy and prosocial behavior in children (see Eisenberg, 2005, for a review). Induction may also promote internalization as it provides less external pressure than punitive methods, and thus encourages the child to seek internal attributions for future actions. That is, instead of punishment avoidance, children seek an internal value system to motivate future behavior (Grusec, 2006).

On the other hand, highly punitive discipline, such as physical punishment in the absence of explanation, can have the opposite effect, resulting in less prosocial behavior. One explanation for this is that highly power-assertive discipline can cause elevations in the child's emotional arousal (i.e. anger or fear), thereby inhibiting the child's ability to internalize the "lesson" being taught. Additionally, most power-assertive discipline strategies result in the child learning to behave in order to avoid punishment rather than to promote internalized moral values, and in reinforcing notions of aggression as an effective way to approach conflict (Hoffman, 1983, 2000). Finally, love-withdrawal discipline techniques may also arouse negative affect (i.e. sadness or fear) and inhibit a child's ability to focus on building a codified set of rules about morality. Moreover, unlike induction techniques, there is no explicit focus on the consequences of behavior for anyone other than the child and the parent. In studies

examining these three primary discipline strategies, researchers have consistently found not only that induction leads to better internalization of parental values, but also that induction is more influential in shaping positive behavior than other methods (Hoffman, 2000; Kuczynski, 1983).

Parental discipline has not been extensively studied within the context of obsessive-compulsive belief development. However, as previously mentioned, researchers have generally found that families of individuals with OCD or anxiety exhibit overprotective parenting (Cavedo & Parker, 1994; Ehiobuche, 1988; Guidano & Liotti, 1983; Merkel et al., 1993; Turgeon et al., 2002) and that "affectionless control" may characterize many of these families (Chambless et al., 1996). Although this level of control could also mean harsh discipline, further research is warranted to investigate how discipline relates to both obsessive-compulsive symptoms and beliefs.

Religiosity. Highly religious environments could be another avenue to exposure to concepts about morality. Indeed, religious themes can appear in the OCD symptom picture, especially for those individuals who identify as highly religious (Rasmussen & Tsuang, 1986). Moreover, in studies both with adult populations (e.g. Feinstein, Fallon, Petkova, & Leibowitz, 2003; Mataix-Cols, Rauch, Manzo, Jenike, & Baer, 1999) and with youth (Stewart et al., 2007), religious obsessions and compulsions have consistently comprised one of the main categories of OCD symptoms. Although religious

socialization *per se* has not been investigated with respect to obsessive-compulsive symptoms, studies examining religiosity and endorsement of these beliefs have revealed that a number of these beliefs (i.e. the need to control thoughts, the perceived import of thoughts, inflated responsibility) are related to higher levels of religiosity (Abramowitz et al., 2004; Rassin & Koster, 2003; Sica et al., 2002).

Empirical investigations of associations between religiosity and OCD in general have yielded mixed results (see Zohar, Goldman, Calamary, Mashiah, 2005, for a review). It seems that although OCD as a whole has not been consistently linked to higher levels of religiosity in general, associations may exist between obsessive-compulsive symptoms and specific religious denominations or subtypes of religiosity (Abramowitz et al, 2004; Hutchinson et al, 1998).

Research examining religion and religiosity within the context of OCD has yielded null findings as well. Steketee and colleagues (1991) obtained information about religious affiliation and religiosity from 33 patients with OCD and 24 with other anxiety disorders. Neither affiliation nor religiosity were associated with membership in the OCD group. However, within obsessive-compulsive participants, religiosity was associated with symptom severity. By contrast, in a Jewish sample, no relations were found between religiosity and OCD or symptom severity (Hermesh et al., 2003).

Three studies have measured the relationship between religiosity and the obsessive beliefs (Abramowitz et al, 2004; Rassin & Koster, 2003; Sica, Novara, & Sanavio, 2002), the results of which have indicated that inflated responsibility, perfectionism, overimportance of thought, importance of controlling one's thoughts, and intolerance of uncertainty all demonstrated an association with religiosity. However, the methods employed to measure religion varied across studies and did not differentiate between intrinsic and extrinsic religiosity. Each of these beliefs will be discussed below with attention to current research and theoretical links between religious socialization and belief expression.

To the author's knowledge no studies have specifically examined religious socialization as it relates to inflated responsibility beliefs. However, one study has specifically examined individuals' religiosity in relation to inflated responsibility. In this study, which utilized a predominantly Catholic sample (Sica, Novara, & Sanavio, 2002), it was demonstrated that more religious individuals scored higher on a measure of responsibility than less religious individuals. Therefore it may be that inflated responsibility explains, at least in part, the link between religiosity and obsessive-compulsive symptoms. It is important to note, however, that in this study, the criteria for religiosity were very unique. That is, those with jobs in the Catholic Church were considered to have high religiosity, whereas those who were in Catholic associations

were deemed of medium religiosity, and those with two or fewer hours spent in religious activities were placed in the low religiosity category. Therefore, it would be interesting and informative to see if such results were replicated with a dimensional and less idiosyncratic measure of the construct.

To the extent that religious socialization supports strict standards of behavior, parents who teach their children about these standards could encourage the development of perfectionist beliefs. This finding has been partially verified in at least one study, in which Catholic religiosity was associated with perfectionist beliefs (Sica, Novara, & Sanavio, 2002). However, the results from this study were somewhat puzzling. In looking at individuals with low, medium and high religiosity, the difference was obtained between high-religious and medium-religious subjects, with no significant differences for the low-religious group. More specifically, moderately religious people were less likely than those of high religiosity to evidence perfectionism. Moreover, in a comparable study with American Protestants, no significant differences were obtained in the realm of perfectionism beliefs between low-, moderate-, and high-religious groups (Abramowitz et al, 2004).

Given that some religious doctrines support notions that are similar in content to TAF (e.g., the idea that having adulterous thoughts is as morally wrong as acting on those thoughts, as in the *Sermon on the Mount*), one potential mechanism for the

socialization of the metacognitive beliefs is via a religious upbringing. In the aforementioned study by Sica and colleagues (2002), the researchers reported that of the Obsessive Compulsive Cognitions Working Group's six obsessive beliefs (1997, 2001), overimportance of thoughts and importance of controlling one's thoughts best differentiated highly religious individuals from less religious ones. Moreover, these beliefs were related to obsessive symptoms only in the highly religious group (i.e., the group comprised of individuals with religious professions). This suggests that religiosity and OCD-relevant biased cognitions interact in predicting symptom expression. A similar pattern linking elevations in religiosity to elevated metacognitive beliefs was found in the study by Abramowitz and colleagues (2004).

In another study of the association between obsessive beliefs and religiosity, modest correlations were obtained between moral TAF, a form of thought-action fusion in which individuals feel that unacceptable thoughts denote low morality, and self-reported religiosity (Rassin & Koster, 2003). However when religiosity was examined more closely, different patterns emerged for different religious groups. More specifically, in the Catholic sample, religiosity was also related to likelihood-other TAF, a form of thought-action fusion in which the individual believes that a thought will increase the likelihood of harm befalling someone else, and overall scores of obsessive-compulsive symptomatology. Conversely in the Protestant sample, religiosity was

positively correlated with moral TAF, but negatively correlated with likelihood-self TAF, a form in which the individual believes that a thought will increase the likelihood of harm befalling oneself. The authors state that this discrepancy may be related to differences in the beliefs espoused by these groups, namely that Protestant teaching involves divine pre-determinism and would therefore not increase likelihood beliefs. That is, believing that one's thoughts have an impact on the likelihood of events is less likely for those individuals who believe that the future has already been determined.

Finally, exposure to religious socialization could bolster cognitions regarding the tolerance of uncertainty. Accordingly, Abramowitz and colleagues (2004) found that highly religious Protestant individuals endorsed significantly higher ratings of intolerance of uncertainty than did atheist and agnostic individuals, though this finding was not obtained in a Catholic sample (Sica, Novara, & Sanavio, 2002). It is clear that more studies are warranted to further examine religious socialization as a potential mechanism through which biased beliefs are imparted to children. Questions to be addressed include the interactions between religiosity and obsessive-compulsive beliefs over development, and specific religious socialization techniques or beliefs that may be associated with the development of such cognitions.

1.2.7 Higher levels of guilt- and shame-proneness are found in individuals with OCD

Recent studies in the field of emotion have shifted from examining the structure and function of basic emotions, such as anger, fear, sadness and joy, to exploring self-conscious emotions such as guilt and shame (Tracy, Robins, & Tangney, 2007). Self-conscious emotions are labeled as such because they are predicated on the ability to form representations of self and to reflect on those self-representations. These emotions involve a higher level of cognitive complexity than basic emotions and serve the function of maintaining and promoting socially normative behavior (Tangney & Fischer, 1995). Whereas guilt generally follows from a negative evaluation of one's behavior, shame is focused on the self as the object of disapproval. For example, if one were to cause a minor accident, a guilty individual might think, "I feel bad about having caused that accident," whereas a shameful person might think, "I am a bad person for having caused that accident." Further, guilt can be characterized as arising from internal, specific and situational attributions, while shame can be characterized as arising from internal, stable and global attributions (Tangney & Dearing, 2002).

The role of guilt and shame in psychopathology has been studied within a variety of disorders, and results have generally indicated that when the shared variance is parsed out of each construct (resulting in shame-free guilt and guilt-free shame), shame is more highly correlated with psychopathology than guilt (see Tangney &

Dearing, 2002, for a review). In fact, the relations between guilt and mental health may be positive in nature, in that guilt is correlated with empathy, social competence, and positive anger coping strategies. It is generally accepted that shame is related to negative mental health outcomes, such as depressive symptoms, anxiety, hostility and obsessive-compulsive symptoms (Abramowitz & Berenbaum, 2007; Allan, Gilbert, & Goss, 1994; Andrews, Brewin, Rose, & Kirk, 2000; Gramzow & Tangney, 1992; Harder, Cutler, & Rockart, 1992; Pineles, Street, & Koenen, 2006; Tangney & Dearing, 2002; Tangney, Wagner, & Gramzow, 1992). However, the role of guilt in psychopathology is less well understood, and extant studies have generated mixed results. Moreover, because of the salience of personal responsibility and harm in some obsessive-compulsive symptoms, researchers have suggested that guilt may be a particularly important emotion for OCD (Rasmussen & Eisen, 1991; Shafran et al., 1996; Tallis, 1994).

Several studies have investigated the proposed relations between guilt and OCD. Comparing a measure of guilt in patients with OCD to previously published norms, Steketee and colleagues (1991) did not find any significant differences between the scores of those in the study and the non-clinical norms. The authors posited that the type of guilt associated with obsessive-compulsive symptomatology may differ qualitatively from normative guilt. In another study, examining 30 patients with OCD and 30 non-clinical controls, researchers found that those in the obsessive-compulsive

group reported more trait and state guilt than non-clinical participants (Shafran et al., 1996). Additionally, even after controlling for depression and anxiety, trait guilt predicted obsessive-compulsive symptoms in both groups. Notably, measures of shame were not obtained in this study; thus it is unclear whether this result would be obtained after the variance shared with shame was removed from guilt. Guilt may be especially elevated for individuals with so-called autogenous obsessions. Whereas reactive obsessions are generally activated by external stimuli (e.g. contamination thoughts after coming in contact with dirt), autogenous obsessions appear without an antecedent external event (Lee & Kwon, 2003). In a study of these obsessive subtypes, autogenous obsessions were associated with a higher level of guilt than reactive obsessions (Belloch, Morillo, & Garcia-Soriano, 2007). Because autogenous obsessions often contain taboo themes, such as aggressive, sexual or religious content, their association with guilt is not surprising. Additionally, when compared with the intrusive thoughts of non-clinical individuals, intrusions experienced by individuals with OCD and depression are associated with higher levels of guilt (Morillo et al., 2007).

Some authors have posited that guilt serves as a source of information for making judgments about threat situations and preventative behavior (Gangemi, Mancini, & van den Hout, 2007; Mancini & Gangemi, 2006). In this manner, individuals with OCD or other anxiety disorders may use their guilty affect as an indicator of

increased risk and decreased effectiveness with respect to harm prevention. Indeed, in a non-clinical study of individuals high and low on trait guilt by Gangemi and colleagues (2007), high-trait-guilt participants were more likely to perceive risk after a guilt induction task than their low-trait-guilt counterparts. This was true only after guilt induction and not after instilling neutral affect or anxiety. That is, individuals who were more guilt prone in general tended to be affected by guilt induction in a way that heightened risk perception. Additionally, these authors have found that individuals experience a higher intolerance for risk within the context of guilt (Mancini & Gangemi, 2004). Indeed, individuals with obsessive-compulsive symptomatology may not only have higher levels of guilt, but may also be characterized by a high fear of guilt. These findings point to the important role of affect in the aforementioned cognitive processes.

In addition to studies with clinical samples, Frost and colleagues (1994) found that participants with subclinical OCD symptoms reported higher levels of guilt than did those without symptoms. Kyrios and colleagues, examining a cross-cultural non-clinical sample comprised of students from Australia and Italy, demonstrated that state and trait guilt were particularly associated with certain symptom domains of OCD including mental control and checking (Kyrios, Sanavio, Bhar, & Liguori, 2001).

Two cognitive correlates of OCD– perfectionism and thought-action fusion (OCCWG, 1997, 2001, 2003) – have demonstrated relationships with guilt and shame.

For example, it has been demonstrated that negative perfectionism, the tendency to commit perfectionist behaviors in order to avoid aversive outcomes, is positively associated with state shame and guilt, and shame proneness (Fedewa, Burns, & Gomez, 2005; Tangney, 2002). Additionally, two separate studies have noted that thought-action fusion, the conflation of a thought with either an external or moral consequence, correlates strongly with measures of guilt (Rachman et al., 1995; Yorulmaz et al., 2004). That shame is a particularly important emotion for psychopathology is also supported by research examining guilt and shame in perfectionism. A recent study examined the experience of pride, shame, and guilt in individuals who were either healthy perfectionists (high perfectionist strivings with low perfectionist concerns), unhealthy perfectionists (high perfectionist strivings with high perfectionist concerns), or non-perfectionists (low perfectionist strivings; Stoeber, Harris, & Moon, 2007). Although both healthy and unhealthy perfectionists demonstrated elevated proneness to guilt relative to non-perfectionists, an interesting pattern emerged with shame. Unhealthy perfectionists and non-perfectionists alike were more likely to experience both state shame and shame proneness than their healthy perfectionist counterparts were. These findings echo the work of previous researchers who have noted relations between shame and negative perfectionism (Fedewa, Burns, & Gomez, 2005). Because the cognitive patterns in OCD have been likened to unhealthy perfectionism (Frost et al.,

2002), one might expect that shame would be elevated in individuals with high levels of obsessive-compulsive symptoms or beliefs.

1.2.8 Parent and child reports of parenting

As was previously mentioned, a number of studies have investigated parenting correlates in the families of children with anxiety disorders (e.g., Barlow, 2000; Ginsburg, Silverman, & Kurtines, 1995; Hudson & Rapee, 2001; Messer & Beidel, 1994; Rapee, 1997). These studies have generally relied on either observational coding of parent-child interaction, parent-reported parenting, or child-reported parenting as the outcome variable of interest. Because individual factors such as personality and psychopathology may influence one's perception of parenting behavior, using multiple informants for the measurement of parenting could provide a fuller understanding of the ways in which parenting, or more accurately perception of parenting, relates to anxious symptoms. Previous studies have revealed that parent and child indices of parenting are modestly correlated, but differ in important ways (e.g. Feinberg, Neiderhauser, Howe, & Hetherington, 2001; Kowal, Krull, & Kramer, 2006). For example, in Feinberg and colleagues' (2001) study of 720 families, parent-child correlations in ratings of warmth and negativity were .38 and .28 for fathers, and .31 and .39 for mothers. Additionally, in a study examining parent and child perception of parents' weight-related parenting behavior, parents and children disagreed on the presence or absence of a categorical

measure of parenting behavior by as much as 30% for some constructs (Haines, Neumark-Sztainer, Hannan, & Robinson-O'Brien, 2008).

Moreover, to the extent that child and parent reports differ from one another, different relations may emerge between parenting and other constructs of interest based on the informant used. For instance, in a study of 36 parents with anxiety disorders and 36 controls, different aspects of parenting emerged as predictors of disorder status based on whether the child or the parent was reporting (Lindhout, Markus, Hoogendijk, Borst, Maingay, Spinhoven et al, 2006). Specifically, parents with anxiety disorders endorsed a less nurturing and more restrictive parenting style than controls. Additionally, children from the anxiety sample reported higher levels of overprotective parenting than did those from the control sample. In the present study, both parent and child indices of parents were obtained in order to reduce single-informant bias.

1.3 Summary of current study hypotheses

In summary, there are two substantial bodies of research that are particularly relevant to the current study: one examining obsessive beliefs and obsessive-compulsive symptoms, and one examining family socialization and obsessive-compulsive symptoms. The former indicates that certain beliefs are elevated in individuals with higher obsessive-compulsive symptoms relative to those with lower obsessive-compulsive symptoms (OCCWG, 1997; 2001; 2003). Although researchers have

demonstrated this connection in a variety of studies, the ways in which these beliefs develop is poorly understood. The second body of research points to a correlation between certain parenting behaviors and obsessive-compulsive symptoms. For example, overprotection and rejection have been associated with OCD (see Waters & Barrett, 2000). It is plausible that parenting behaviors such as these influence the development of obsessive beliefs, since prior research has demonstrated that the beliefs can be manipulated by external input. In addition, moral socialization may play a role in the development of obsessive-compulsive beliefs and symptoms may likewise influence obsessive belief development. Researchers have demonstrated that religiosity is associated with obsessive belief endorsement (Abramowitz et al., 2004; Rassin & Koster, 2003; Sica et al., 2002), but other areas of moral socialization have not yet been examined with respect to obsessive beliefs.

The current study investigates the relations between obsessive beliefs, parenting, moral socialization, and obsessive-compulsive/anxious symptoms. In addition to investigating the relations between socialization, cognition and anxiety on a broad level, the researcher also examined moral socialization more thoroughly via qualitative methods with a subset of individuals high and low in obsessive belief endorsement. Semi-structured interviews allowed participants to provide information about their moral socialization (including religious practices and experiences) without the

researcher imposing *a priori* categories on the data. Two secondary aims of the study include examining self-conscious emotions as an additional variable in analyses and integrating parent-reported measures of parenting into analyses. The primary hypotheses are as follows:

1. Obsessive beliefs (i.e. inflated responsibility, perfectionism, overestimation of threat, intolerance of uncertainty, and metacognitive beliefs), parenting factors (i.e. overprotective and rejecting parenting) and symptoms (i.e. anxiety and OCD symptoms) will be positively related to one another.
2. Obsessive beliefs will at least partially mediate the relations between parenting factors and obsessive-compulsive and anxious symptom levels.
3. Adding self-conscious emotions as an additional covariate in analyses will improve the model outlined in Hypothesis 1. That is, these emotions will account for additional variance in the model not otherwise accounted for by existing primary variables.
4. Moral socialization will be positively related to obsessive-compulsive belief endorsement. More specifically, higher levels of parental care-

based values, certain discipline techniques, and religious socialization will be related to higher levels of obsessive belief endorsement.

2. Method

2.1 Participants

Two-hundred and ninety-five undergraduate students from a medium-sized private university in the Southeast participated in the study. Valid data were obtained from 289 of these students, and will be reported in analyses below. Data were considered to be invalid if items from any of the main domains of interest (i.e. obsessive beliefs, symptoms, or parenting) were missing in full, or if the data followed a response pattern that was clearly invalid (e.g. a participant endorsing the same response for each item). The mean age of the sample was 19.4 with a range of 17 to 28. Sixty-seven percent of participants were female. With respect to ethnicity, 57.1 percent of the participants identified as Caucasian, 22.1% as Asian/Pacific Islander, 9.7% as African-American, 7.6% as Hispanic, and 3.5% as Multiracial. While the majority of participants reported American nationality (90.7%), international students were also represented (9.3%).

Participants were recruited through two means: through the university's undergraduate subject pool (n = 250) and through campus flyers (n = 38). Those in the former group were enrolled in psychology or other social science courses and participated in the study to obtain class credit. Participants recruited through flyers were paid six dollars for their participation. All participants completed the first wave of data collection.

Of the 289 participants, those with scores on the measure of obsessive beliefs that fell either one standard deviation above or below the mean score were invited to take part in another procedure. Eighty-nine participants met this criterion and were re-contacted. Of these, 34 participants (16 low on obsessive beliefs and 18 high on obsessive beliefs) returned for the second prong of the study, which consisted of a short questionnaire and follow-up interview. Additionally, a letter was sent via electronic mail to all 289 participating students regarding parental involvement in the study. Interested students forwarded the letter to their parents who then contacted the investigator. Sixty-three parents and guardians participated in the caregiver arm of the study.

2.2 Procedure

The research consisted of three prongs of data collection: the first involving all of the participants, the second with a subset of these individuals and the third with the caregivers of participants. To distinguish between these different prongs, they will be referred to as Wave One, Wave Two, and Caregiver Wave, respectively.

After obtaining consent, Wave One participants (N=289) validly completed a battery of questionnaires indexing obsessive beliefs, family socialization, and obsessive-compulsive and anxious symptoms. All Wave One measures were completed digitally and data were stored on a secure server prior to being downloaded and de-identified. Individuals who chose to participate for a monetary incentive completed measures on a

computer in a quiet university classroom at a predetermined time. The investigator was present to answer questions. Those individuals participating for class credit completed the study remotely at their convenience. For these participants, a link to the primary investigator's electronic mail address was provided during the battery in the event that questions arose. There was no penalty for choosing to end the study early or for skipping questions in the battery; that is, participants completing at least 75% of items received the full incentive. Those completing less than 75% of the study were compensated at a level commensurate with their level of completion. After Wave One measures were completed and downloaded by the investigator, participants were given their incentive (cash or class credit) and were sent electronic mail regarding the caregiver participation wave.

For the second wave of data collection, participants with relatively high or low scores (at least one standard deviation above or below the sample mean) on a measure of obsessive beliefs were contacted and informed of the opportunity to complete another procedure for compensation. They were told that they could meet with the investigator to complete two questionnaires and a 30-minute interview and about moral socialization within the family. Interested participants (N=34) were individually administered questionnaires pertaining to parental values, personal values and religiosity. They then completed a 15-20 minute semi-structured interview about moral socialization, which was developed specifically for the purpose of this research study. Consenting participants for the second wave of data collection were given $10 for their participation. Participants were told that they may

refuse to answer specific questions; however, compensation was contingent upon their completion of the semi-structured interview.

2.2.1 Wave One measures

Each participant in the first wave of the study filled out the following questionnaires electronically, with a completion time of approximately 45 to 60 minutes: the Obsessive Beliefs Questionnaire (OBQ-44; OCCWG, 1997; 2001), the Pathways to Inflated Responsibility Scale (PIRBS, Coles & Schofield, 2008), the My Memories of Upbringing Scale (EMBU, Perris, Jacobsson, Lindström, Von Knorring, & Perris, 1980; Ross, Campbell, & Clayer, 1982), the Obsessive Compulsive Index-Revised, short version (OCI-R, Foa, Huppert, Leiberg, Langner, Kichic, Hajcak et al., 2002), the Brief Symptom Inventory (BSI; Derogatis & Melisaratos, 1987), and the Test of Self-Conscious Affect (TOSCA-3, Tangney & Dearing, 2002). A demographics form including information about the participant's gender, ethnicity and religion was also included in the battery. Finally, the participant completed a re-contact form to indicate whether or not he or she was willing to be contacted for the opportunity to complete another procedure for compensation.

Demographics. All participants were asked to report their gender, ethnicity, age, religious affiliation, nationality, and birth order. Although the questions for gender, religious affiliation and race/ethnicity were multiple-choice in nature, participants had

the opportunity to choose an "other" category and provide a description if a particular choice was not available.

Obsessive Beliefs Questionnaire. The OBQ-44 (OCCWG, 2005) was developed by an international group of researchers to reliably measure six beliefs commonly endorsed by obsessive-compulsive and anxious individuals. The short version contains 44 items, each of which consists of a belief statement with six endorsement options for the individual to rate how true the statement is for him or her. The measure has demonstrated excellent internal consistency with Cronbach's alphas ranging from .79 to .96 across the six belief subscales, and acceptable to high test-retest reliability for subscales ranging from .48 to .82 (OCCWG, 2001; 2003). Furthermore, scores on the OBQ-44 are positively correlated with obsessive-compulsive symptoms and with clinical OCD (OCCWG, 2005). The OBQ-44 measures six aspects of cognition in OCD: inflated responsibility, perfectionism, intolerance of uncertainty, control over thoughts, importance of thoughts, and overestimation of threat. However, as the scales demonstrate significant intercorrelation, it has been suggested with factor analysis that either three scales be used (responsibility/overestimation of threat, perfectionism/intolerance of uncertainty, and importance/control of thoughts) or that the total score be used. For the purposes of this study, the three scale scores were used as indicators of underlying obsessive beliefs.

Pathways to Inflated Responsibility Beliefs Scale (PIRBS-23). This 23-item instrument (Coles & Schofield, 2008) was developed to measure potential pathways to inflated responsibility beliefs. An article by Salkovskis and colleagues (1999) provided the content areas for three of the scales, which include 1) heightened responsibility as a

child, 2) rigid and extreme codes of conduct and duty, and 3) overprotective parenting. Two other scales, regarding early experiences with contributing to others' misfortune and perceived contributions to other's misfortune, comprise the measure, but will not be used in analyses since they do not pertain to family socialization. Participants rate how frequently they feel particular statements characterized their childhoods on a Likert-type scale with five choices. For example, "As a child, my family had strict rules to be followed" and "As a child, I was responsible for the cooking" are two items. Preliminary psychometric data suggest that the PIRBS has strong internal consistency across subscales (α = .78 - .91) and good convergent validity. More specifically, scores on the PIRBS are correlated with both overall report of OCD symptoms and distress caused by symptoms.

Memories of My Upbringing Scale. The EMBU (Egna Minnen Beträffande Uppfostran; Perris et al., 1980; Ross et al., 1982) is a 60-item scale that was originally developed in Sweden by Perris and colleagues, and has been adapted for use in a variety of populations and languages (Gerlsma, Emmelkamp, & Arrindell, 1990). The instrument provides separate scores for mothers and fathers on three aspects of parenting: overprotection, rejection, and affection. The EMBU has been used in several countries and has consistently retained both its psychometric qualities and factor structure (Arrindell et al, 1994).

The Obsessive-Compulsive Inventory-Revised, Short Form. This self-report instrument (Foa et al., 2002) contains 18 items, each rated on a 5-point Likert scale. The OCI-R is intended to measure obsessive-compulsive symptomatology and is comprised of five scales: washing, checking, ordering, obsessing, hoarding, and mental neutralizing. Research has shown that despite its brevity, it is a sensitive measure with respect to fluctuations in OCD symptoms (Abramowitz, Tolin, & Diefenbach, 2005). The total score, of interest to this study, is considered a global index of obsessive-compulsive concerns. The OCI-R has demonstrated good internal consistency and test-retest reliability with coefficients alpha of .81-.93 for the total scale in anxious and non-clinical populations, and test-retest correlations of .82-.84 (Foa et al, 2002). Additionally, the instrument has convergent validity with other established OCD instruments. Moreover, other studies examining obsessive-compulsive symptoms with undergraduate participants have obtained significant results using the OCI-R , suggesting that its use is appropriate for the current inquiry (see e.g. Tolin et al., 2003).

Brief Symptom Inventory. The Brief Symptoms Inventory (Derogatis & Melisaratos, 1983) is a 53-item measure of psychological functioning in adults. The instrument has nine primary symptom dimensions (somatization, obsessive-compulsive symptoms, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism) and three global indices of functioning. Obsessive-compulsive symptoms, depression, anxiety, and phobic anxiety are of particular interest to this study. In a recent study comparing the accuracy of different anxiety screeners (Hoyer, Becker, Neumer, Soeder, & Margraf, 2002), the BSI's anxiety subscale demonstrated better sensitivity and specificity than

the Beck Anxiety Inventory (Beck, Epstein, Brown, & Steer, 1988; Beck & Steer, 1990) and the Anxiety Sensitivity Index (Peterson & Reiss, 1987).

Test of Self-Conscious Affect-3. This self-report instrument (TOSCA3; Tangney & Dearing, 2002) measures guilt and shame proneness by assessing the likelihood of adopting different reactions to hypothetical scenarios. For example, one item pertains to hitting a small animal while driving. It is followed by a number of potential emotional and cognitive reactions, each of which is rated on a 5-point Likert scale. Reactions to the situations that involve negative feelings about the behavior indicate guilt, while reactions that engender negative feelings about the self indicate shame. As in previous studies, the measures of guilt and shame were modestly correlated at $r = .41$, $p < .001$.

To ensure that any signs of participant distress were addressed in a timely manner, the principal investigator downloaded and checked data from the BSI within 48 hours of its completion. Specifically, the investigator scanned item nine of the BSI, which pertains to thoughts of ending one's life at this time. Participants who endorsed "quite a bit" or "extremely" for this item were contacted immediately, via e-mail. This e-mail acknowledged the potential presence of distress and invited the participant to contact the investigator for mental health resources. In the event that the participant did not contact the investigator within five days, another e-mail was sent out with these resources.

2.2.2 Wave Two measures

Those individuals who qualified for and enrolled in the second wave of data collection met individually with the investigator to complete two short questionnaires

about values and religiosity and to participate in an interview about moral socialization in the family. Participants who completed this wave were given ten dollars for their time. To qualify for follow-up, individuals must have obtained scores on the OBQ either higher than one standard deviation above the sample mean or lower than one standard deviation below the mean. Wave Two took place in a quiet university classroom, and interviews were digitally recorded and later transcribed. The following self-report and interview measures were used.

Ideal Value Ratings Questionnaire – Self, Mother, and Father Versions. This short questionnaire developed by Arnold and colleagues (Arnold, 1993; Pratt, Arnold, & Hilbers, 1998; Pratt, Arnold, Pratt, & Diessner, 1999) consists of a list of twelve nouns and adjectives representing commonly endorsed values. It is used to measure the extent to which one feels that certain values are characteristic of oneself or others. Participants rate each word or phrase on a seven-point Likert scale, ranging from zero (Not Important) to six (Very Important), with reference to how strongly they feel that that the individual (self, mother, or father) would endorse these values as important. Six of the words are traditionally moral in content (e.g. fair/just, good citizen), while six pertain to other values (e.g. open communication, ambitious). That these words measure prototypically moral and non-moral domains was validated in a study asking individuals to indicate the extent to which the words were "typical of a moral person" (Pratt, Hunsberger, Pancer, & Alisat, 2003). The instrument has been used to measure ideals for the self and for one's parents,

and was used for both purposes in the current study. The instructions on the self form instruct the rater to make choices based on his or her own values, while the parental forms instruct the rater to make choices based on perceptions of parents' values. The forms that pertain to parents contain a blank in which the participants write the relationship of their two primary caregivers (e.g. mother, father, grandparent, etc). Additionally, there are two blanks for participants to add in other important values that are not listed on the form. The researcher administered this instrument immediately prior to the moral socialization interview so that the participant would have thought about his or her caregivers' primary values prior to answering questions about these values.

The Age-Universal Intrinsic/Extrinsic Scale-Revised. This instrument (Gorsuch & McPherson, 1989) was developed to measure intrinsic and extrinsic dimensions of religiosity. Allport (see Allport & Ross, 1967) initially made the distinction between intrinsic and extrinsic religiosity in order to assess the extent of ego-involvement in religious beliefs. For example, an individual with high extrinsic religiosity who attends religious services to establish a social network may be very different from one with high intrinsic religiosity who attends services based on a firm belief in the tenets espoused by the faith, or someone who endorses both reasons for involvement. The measure consists of 14 items, each of which is rated on a five-point Likert scale according to the extent to which the respondent agrees with particular statements. In initial psychometric studies,

scales showed internal consistency with values ranging from .65 to .83 (Gorsuch & McPherson, 1989; Venable, 1982).

Moral Socialization Semi-Structured Interview. Each follow-up participant completed an individual semi-structured interview with the researcher, specifically developed for the purpose of this study to elicit information about participants' moral socialization. The interview included questions in three main content areas: parental values, parental discipline, and religious upbringing. In each domain, participants were queried about direct and indirect socialization. Interview questions were developed by combing through extant literature on moral development and religious socialization and generating questions pertaining to relevant content areas. That is, questions were derived based on empirical evidence linking particular family patterns to moral development (e.g., Eisenberg & Fabes, 1998; Hoffman, 2000; Oliner & Oliner, 1988). The researcher also examined a number of existing instruments that measure religiosity in adults and extracted salient themes pertaining to socialization. For example, modified items from the Duke University Religion Index (Koenig, Parkerson, & Meador, 1997) were included to measure religious involvement in childhood. Sample questions include *How did your caregivers demonstrate their primary values? What were the consequences for bad behavior like in your family? What emotions were experienced by you and your caregivers surrounding discipline?* and *Growing up, how often did you attend church,*

mosque, synagogue, temple, or other religious meetings? The complete interview and the preliminary coding system for it are appended at the end of this document.

In addition to brief written notes taken during interviews, all interviews were recorded and transcribed to provide data for content analysis. This interview was piloted with a small group of adult volunteers (N = 10) prior to its use in the study to ensure its understandability and its ability to capture the constructs of interest. The interview script is provided in the appendix, along with a coding manual. Moreover, a chart has been included with examples of codes, the content of which has been culled from various participants' interviews. To ensure reliability of the coding system and to assess rater drift, 20% of the interviews gathered were double-coded by both the primary investigator and another graduate student. These interviews were selected at random, and Kappa statistics were examined to determine which scales were sufficiently reliable. Most of the variables are dichotomous (e.g. presence versus absence of parental self-focused values); however, some have multiple levels (e.g. frequency of religious service attendance). The coders read through the transcripts in full prior to making judgments in each domain of interest. Results will be presented only from those scales with Kappa values that exceeded .75. All coding discrepancies were discussed and coded by consensus.

2.2.3 Caregiver Wave measures

After individuals participated in Wave One of data collection, they were sent an electronic message with information about parent participation. This letter outlined the purpose of the study and invited caregivers to contact the researcher for additional information. Interested parties (N=65) were sent two questionnaires to complete, the parent version of the EMBU and the parent version of the PIRBS. All questionnaires were sent, along with a consent form, via postal mail with a stamped and addressed envelope. In total, 63 parents completed participated in this wave of data collection. Information about the instruments is provided below.

Memories of My Upbringing Scale – Parent Version. This questionnaire was developed to provide a way for parents to report on their child rearing behavior and was derived from the EMBU (Egna Minnen Beträffande Uppfostran; Perris et al., 1980; Ross, Campbell, & Clayer, 1982). This 52-item instrument measures parenting behavior from the parent's perspective. It consists of a series of statements (e.g. "You have punished your child even for small offenses") that parents rate on a Likert scale from one to four. The measure has four scales: Rejection, Control Attempts, Emotional Warmth, and Favoring Subject. The first two are of relevance to this study as indicators of rejecting and overprotective parenting behavior, respectively. In one study, internal consistencies were 0.75 for Rejection and 0.76 for Control Attempts using Cronbach's alphas (Castro, de Pablo, Gomez, Arrindell & Toro, 1997).

Pathways to Inflated Responsibility Beliefs Scale, Parent Version (PIRBS-PV).

Developed by Cole (unpublished) to measure socialization factors thought to be associated with the development of inflated responsibility, this brief 15-item instrument consists of statements that are rated on a five point Likert scale based on the individual's agreement with each item. Items pertain to the allotment of responsibility to children (e.g. "my child had more responsibility than most kids his/her age"), rigid rule adherence in the home (e.g. "our family cared a lot about following rules"), and overprotective behavior (e.g. "my spouse and/or I did many things to protect our child"). These categories correspond to pathways initially proposed by Salkovskis and colleagues (1999) regarding the development of inflated responsibility beliefs. Because the measure is fairly new, psychometric data are not yet available for the PIRBS-PV. However, the self-report version of the PIRBS has demonstrated good internal consistency and is correlated with obsessive-compulsive beliefs.

2.2 Statistical analyses

In order to address missing data, values were imputed for those instances when at least 80% of an individual's data on a particular scale was present. In these cases, missing values were replaced with the individual's average score for the scale (Scale Total/N Valid Responses). For those scales missing more than 20% of data, all data for that scale were treated as missing and were not included in analyses. Prior to testing main hypothesis, a multivariate outlier analysis was conducted, and potential outliers

were identified based on Cook's d (values greater than 4/N) and Mahalanobis d^2 (values with $p < .05$; see Arbuckle, 1997). In this manner, one outlier was identified and removed from subsequent data analysis. The final sample size for Wave One analyses was 288 participants.

Structural equation modeling (SEM) techniques were employed to explore the relations between parenting behaviors, obsessive beliefs, symptoms (both obsessive-compulsive and anxious) and self-conscious emotions. The first three constructs of interest were indicated by multiple latent variables, while the last was indicated by a single scale. Various models, based on study hypotheses, were tested to ascertain the best fit for the data. Specifically, obsessive beliefs were indicated by the three subscales of the Obsessive Beliefs Questionnaire (Inflated Responsibility/Overestimation of Threat, Perfectionism/Intolerance of Uncertainty, and Metacognitive Beliefs). Parenting behaviors were initially broken into two large constructs, overprotective and rejecting parenting behaviors, but measurement model fit indices suggested that a single parenting factor was a better fit for the data. Therefore, parenting was indicated by the participant-reported overprotective and rejecting scales on the Memories of my Upbringing Scale (EMBU) and by the overprotective parenting scale on the Pathways to Inflated Responsibility Behaviors Scale (PIRBS). In order to preserve sample size, mean values of overprotective and rejecting parenting were calculated based on the participant's report of both parents. Therefore, participants with reports on only one

parent (e.g. children of single parents) could be included in analyses based on their report of this one parent's behavior. Symptoms were indicated by the total score on the Obsessive Compulsive Inventory, Revised (OCI-R), and three scales of the Brief Symptoms Inventory (BSI): those measuring obsessive-compulsive symptoms, anxiety and phobic anxiety. Self-conscious emotions were initially indicated by shame and guilt on the TOSCA-3; however the measurement model failed to attain good model fit with two indicators. Therefore, self-conscious emotions were represented by the shame scale alone of the Test of Self-Conscious Affect (TOSCA-3).

The rationale for using SEM was as follows. First, unlike multiple regression analyses, SEM allows for the use of latent variables, or multiple indicators of an underlying construct. Moreover, the hypothesized relations between these latent indicators and a given construct of interest can be validated and clarified with the use of a measurement model. Additionally, SEM entails the use of simultaneous regression equations, and conducting these analyses simultaneously reduces Type I error. Moreover, SEM allows the researcher to examine and account for linear and nonlinear effects between many variables, resulting in a more comprehensive view of variable interaction than traditional regression methods (McCallum & Austin, 2000). Three models were refined and compared: one with all direct pathways from parenting, obsessive beliefs, and symptoms included, as well as self-conscious emotions as a covariate; one with only an indirect pathway from parenting to symptoms to test

mediation; and one with self-conscious emotions removed from the model. Model fit was evaluated using model chi-square statistic, Tucker-Lewis Index (TLI), Comparative Fit Index (CFI), and root mean square error of approximation (RMSEA). Suggested criteria for good fit are non-significant model chi-square, TLI $\geq$ .95, CFI $\geq$ .95, and RMSEA $\leq$ .06 (Hu & Bentler, 1999). Additionally, chi-square change statistics (Δ chi-square) were calculated to compare models with one another. Standardized values are reported unless otherwise noted.

For the exploratory component of the study, which focuses on the relations between moral socialization and subsequent obsessive belief endorsement, Chi-square analyses were employed to compare interview responses from groups relatively high and low on the index of obsessive beliefs.

3. Results

Preliminary analyses were conducted to test for relations between demographics and those variables of most pertinence to research questions, i.e. obsessive beliefs, parenting behaviors, obsessive-compulsive symptoms, anxious symptoms, and self-conscious emotions. This was accomplished with a series of regression analyses and/or ANOVAs. Sample statistics can be found below in Table 1 and correlations can be found in Table 2. Only gender and ethnicity were significantly related to any of the main variables of interest and were therefore retained as covariates.

Table 1: Overall sample characteristics

	Mean (SD) or n (%)
Age	19.4 (1.3)
Gender	193 (67% female)
Ethnicity	n (%)
Caucasian	164 (57%)
Asian/Asian-American	64 (22%)
African-American	28 (10%)
Hispanic	22 (8%)
Other	8 (3%)
Current Religion	n (%)
Atheist	80 (28%)
Buddhist	4 (1%)
Christian- Protestant	99 (34%)
Christian- Catholic	45 (16%)
Hindu	8 (3%)
Jewish	36 (13%)
Muslim	2 (1%)
Other	8 (3%)

Table 2: Correlations between indicators

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. EMBU-OP-F													
2. EMBU-OP-M	.576** n=252												
3. EMBU-RP-F	.488** n=256	.325** n=252											
4. EMBU-RP-M	.412** n=252	.545** n=284	.546** n=252										
5. PIRBS-OP	.279** n=256	.472** n=284	.142* n=256	.266** n=284									
6. OBQ Resp/Threat	.237** n=256	.296** n=284	.103 n=256	.211** n=284	.310** n=288								
7. OBQ Perf/IOU	.238** n=256	.332** n=284	.218** n=256	.209** n=284	.338** n=288	.652** n=288							
8. OBQ Imp/Control	.074 n=256	.152* n=284	.025 n=256	.327** n=284	.246** n=288	.544** n=288	.487** n=288						
9. OCI-R Total Sx	.204** n=256	.229** n= 284	.227** n=256	.273** n= 284	.110 n=288	.378** n=288	.451** n=288	.294** n=288					
10. BSI OC sx	.151* n=256	.240** n=284	.307** n=256	.279** n=284	.208** n=288	.360** n=288	.308** n=288	.169** n=288	.512** n=288				
11. BSI Anxiety	.147* n=256	.184** n=284	.198** n=256	.258** n=284	.231** n=288	.367** n=288	.338** n=288	.253** n=288	.475** n=288	.538** n=288			
12. BSI Phobic Anx	.028 n=256	.140* n=284	.140* n=256	.246** n=284	.167** n=288	.359** n=288	.330** n=288	.252** n=288	.440** n=288	.521** n=288	.718** n=288		
13. TOSCA Guilt	.019 n=256	.039 n=284	-.043 n=256	.047 n= 284	.013 n=288	.162** n=288	.015 n=288	.129* n=288	-.021 n=288	-.067 n=288	-.039 n=288	-.092 n=288	
14. TOSCA Shame	.086 n=256	.182** n=284	.135* n=256	.194** n= 284	.278** n=288	.353** n=288	.344** n=288	.292** n=288	.255** n=288	.312** n=288	.274** n=288	.219** n=288	.404** n=288

** $p < .01$, * $p < .05$; Key: EMBU = Memories of My Upbringing Scale, OP = Overprotective Parenting, F = Father, M = Mother, RP = Rejecting Parenting, PIRBS = Parental Beliefs about Responsibility Scale, OBQ = Obsessive Beliefs Questionnaire, OCI-R = Obsessive Compulsive Inventory, Revised, BSI = Brief Symptoms Inventory, TOSCA = Test of Self-conscious Affect

Specifically, females in this sample exhibited higher levels of self-reported guilt, $t(287) = 4.96$, $p < .01$, and shame, $t(287) = 5.91$, $p < .01$, and lower levels of mother-reported overprotective parenting, $t(30) = -3.12$, $p < .01$ than their male counterparts. Asian ethnicity was related to higher student-reported overprotective behavior on the PIRBS when compared to Caucasian and Other-ethnicity respondents, $F(284,4) = 2.54$, $p = .04$. Participant age and religion were not systematically related to any main variables. Some variables were also transformed due to non-normality, including rejecting parenting and all symptom variables, which were subject to a logarithmic transformation; and overprotective parenting, which was subject to a square-root transformation.

3.1 Relations between parenting, obsessive beliefs, and symptom levels (Wave One)

Structural equation modeling techniques were employed using AMOS software, version 17.0, to test the hypotheses about relations between the primary variables of interest: parenting, obsessive beliefs and symptom levels. Specifically, models were compared to ascertain if obsessive beliefs served as a mediator of the relations between parenting and symptom levels. Means and standard deviations for indicator variables are provided in Table 3. First, variables were entered and associated with their presumptive latent constructs. These were then subject to a confirmatory factor analysis to determine empirically if theoretically linked variables loaded on the main constructs

of interest. This model was fully recursive (all pathways present) and was conceptualized as the baseline model (**Model 1**).

Table 3: Means and standard deviations of indicator variables

	Mean	SD
Overprotective Composite	68.8	12.0
Rejecting Composite	33.8	9.9
OBQ Responsibility/ Overestimation of Threat	55.3	15.1
OBQ Perfectionism/ Intolerance of Uncertainty	58.9	17.1
OBQ Metacognitive Beliefs	28.9	9.9
OCI-R Total Symptoms	10.4	9.3
BSI OCD Symptoms	4.7	3.7
BSI Anxiety Symptoms	3.2	3.4
BSI Phobic Anxiety Symptoms	1.7	2.4

Both direct and indirect pathways were estimated. **Model 1** also served as the comparison for subsequent more complex models. Two other models were then evaluated, one with no direct pathway between parenting and symptoms to test mediation (**Model 2**), and one with self-conscious emotions deleted from analyses (**Model 3**). Diagrams of each of these models can be viewed in Figures 1, 2 and 3.

Model 1 initially failed to converge due to significant multicollinearity in two of the variables, perfectionism/intolerance of uncertainty on the OBQ and the obsessive-compulsive symptoms as measured by the OCI-R. The model was respecified to allow the two to correlate and results indicated fairly good model fit, according to fit indices, $X^2(30, N=288) = 56.40$, $p = .002$; CFI = 0.971, TLI = 0.957, RMSEA = .055, see Table 3.

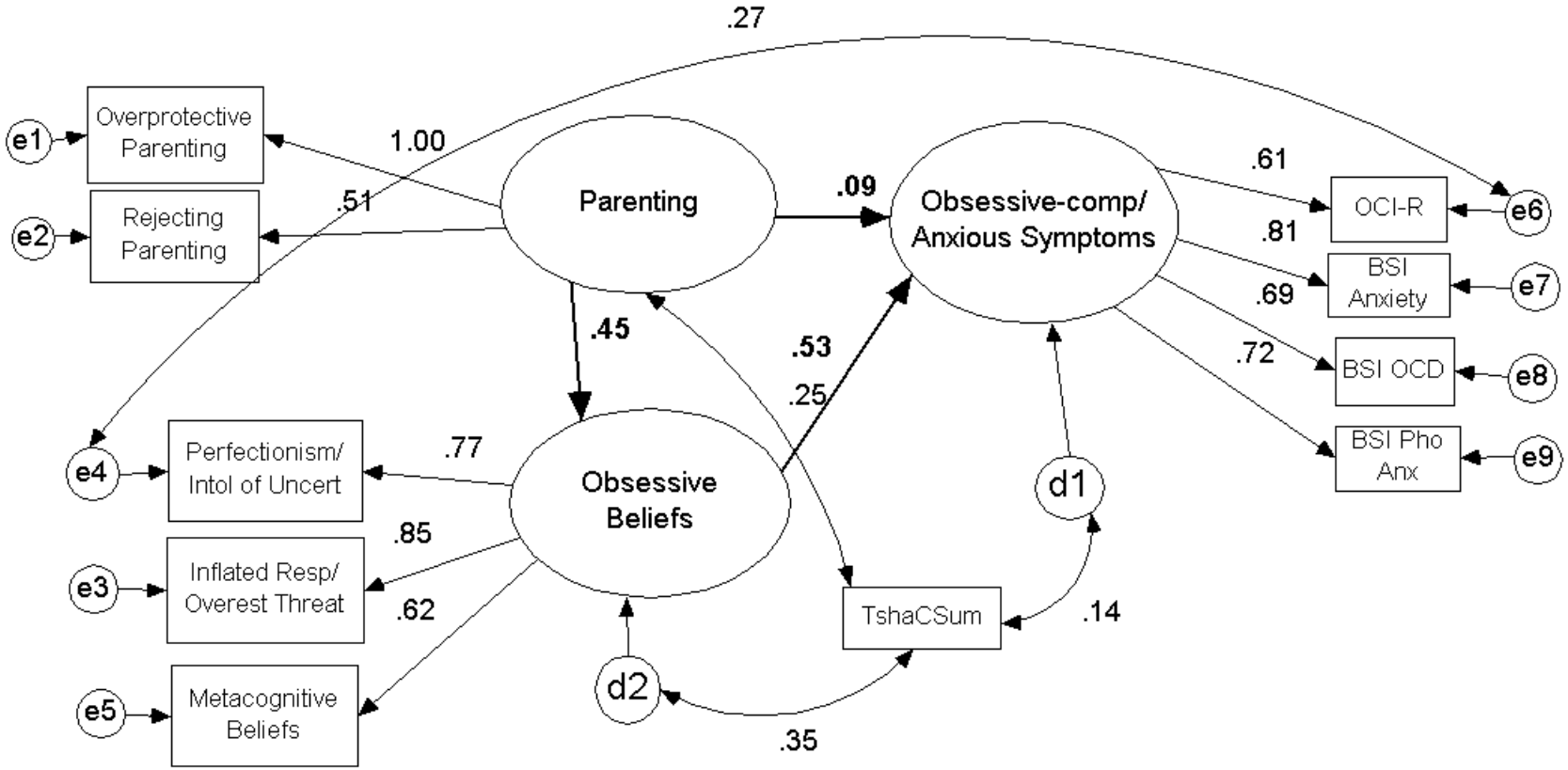

Figure 1: Model of Parenting, Obsessive Beliefs, Symptom Levels, and Shame (Model 1)

Individual standardized factor loadings for scales varied between .51 and .85, and all indicator variables were retained. Indirect and direct pathways were also reported, with direct β coefficients of .45 from parenting to obsessive beliefs, .09 from parenting to symptoms, and .53 from obsessive beliefs to symptoms. Notably, the direct pathway from parenting to symptoms failed to reach the critical ratio of 1.96, indicating non-significance. Path values between shame and parenting, obsessive beliefs, and symptoms were .25, .31, and .10, respectively.

In **Model 2**, the direct pathway coefficient from parenting to symptoms was set to zero such that only indirect effects were captured. The results again indicated good model fit, $X^2(31, N=288) = 58.07$, $p = .002$; CFI = 0.970, TLI = 0.957, RMSEA = .55, $\Delta X^2(1, N=288) = 1.67$, $p > .05$. Once again all indicators, other than Chi-square, were suggestive of acceptable fit. Moreover, there was no demonstrable change in X^2 either in the positive or negative direction, suggesting that the more parsimonious model (**Model 2**) is as good a fit as the fully recursive model. The standardized β coefficient from parenting to obsessive beliefs was .46, and the standardized β coefficient from obsessive beliefs to symptoms was .58. This suggests that obsessive beliefs serve as a mediator for the effects of parenting on symptom expression.

In **Model 3**, self-conscious emotions, as measured by TOSCA-3 shame were deleted from the model as a covariate. The model fit was variable, $X^2(24, N=288) = 53.21$, $p < .001$; CFI = 0.966, TLI = 0.951, RMSEA = .065, $\Delta X^2(7, N=288) = 4.86$, $p > .05$, but

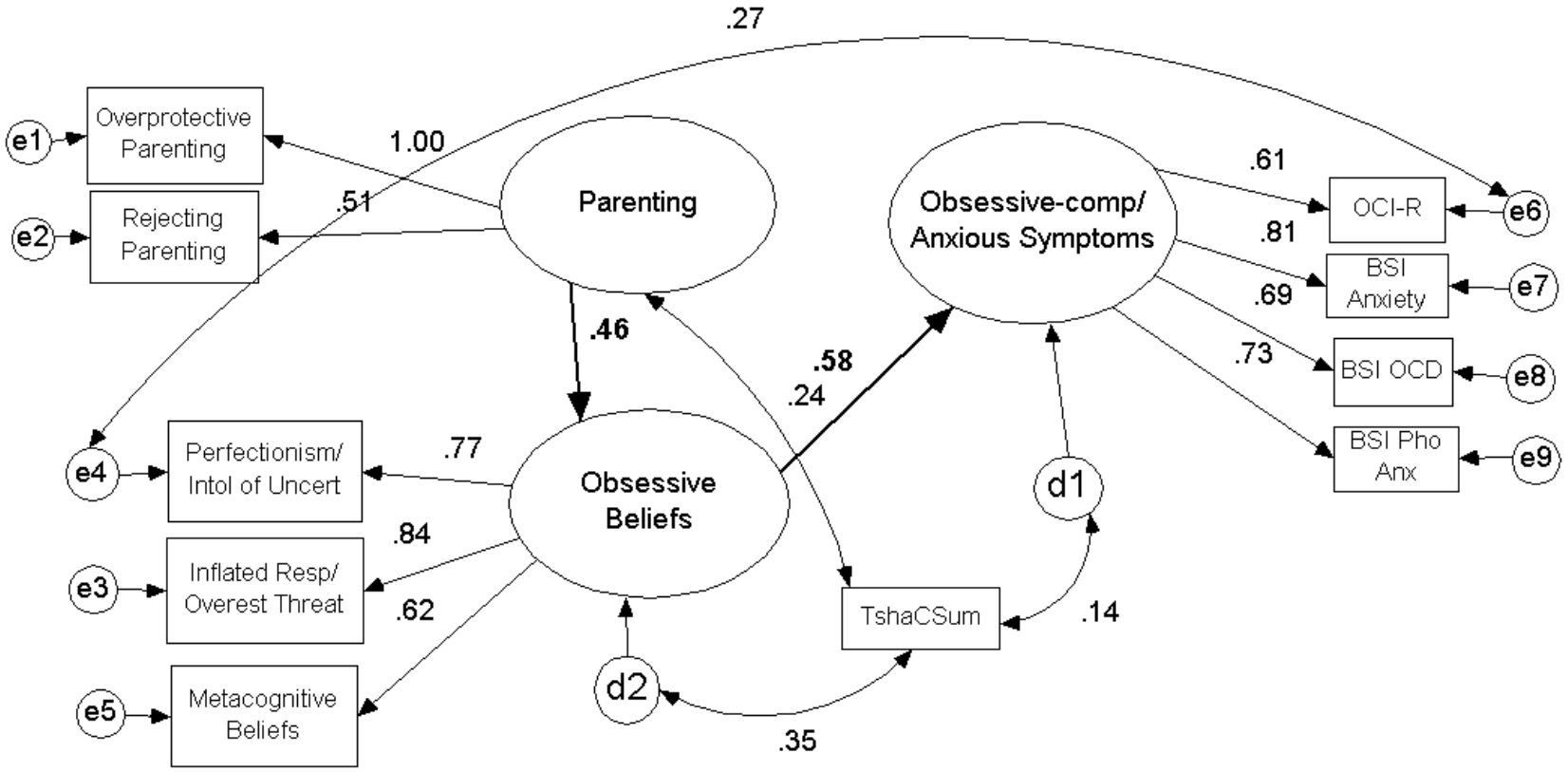

Figure 2: Model of Parenting, Obsessive Beliefs, Symptom Levels, and Shame (Model 2)

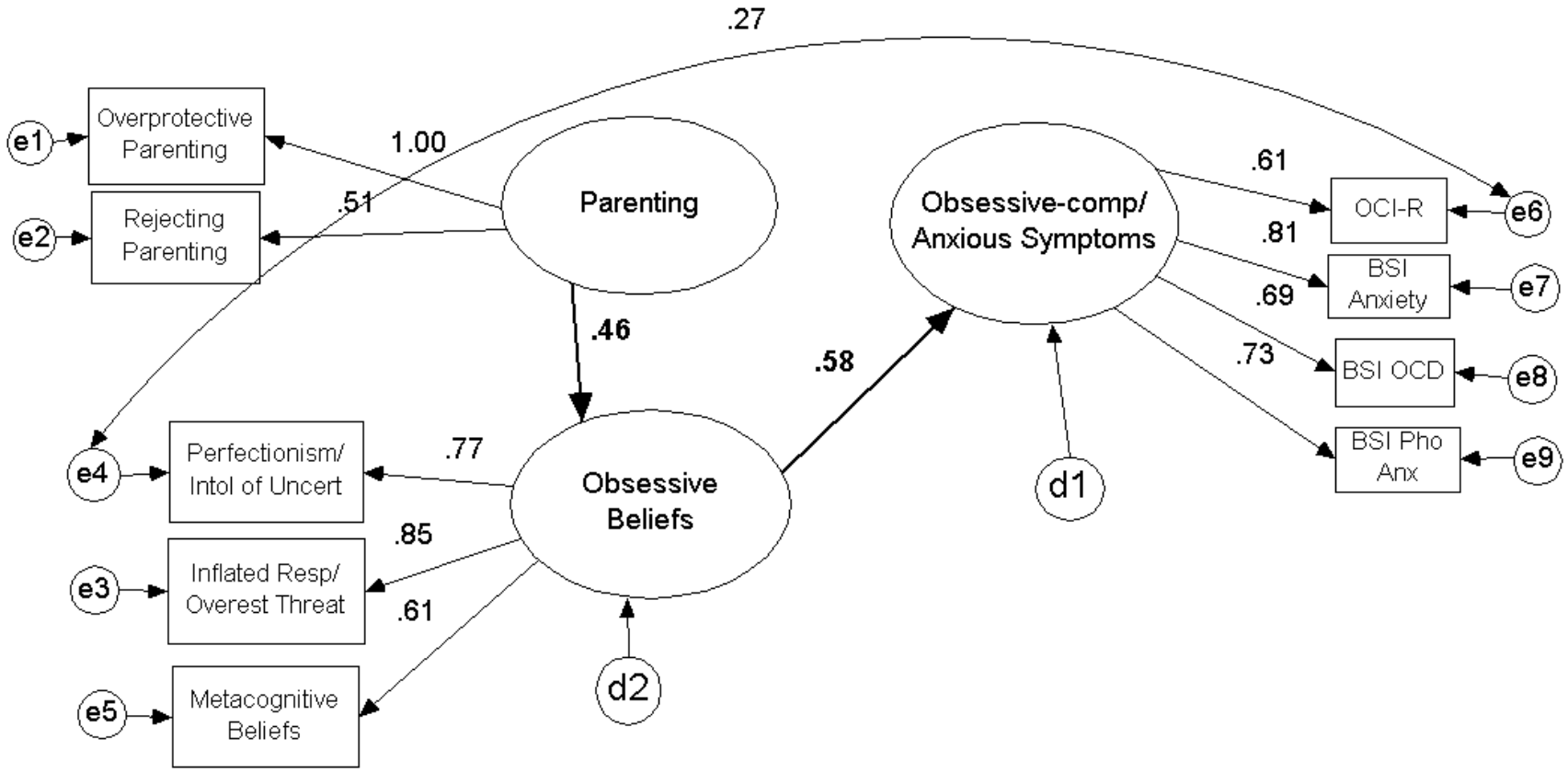

Figure 3: Model of Parenting, Obsessive Beliefs, and Symptom Levels (Model 3)

did not result in fit improvement from **Model 2**. This suggests that including self-conscious emotions as a covariate results in better model fit and therefore **Model 2** was selected as the most parsimonious model that best represents the data. In this model, parenting is positively related to obsessive beliefs and obsessive beliefs are positively related to symptom levels. However, there is no direct pathway from parenting to symptoms.

Table 4: Model fit indices for all models

	Df	$\chi 2$	TLI	CFI	RMSEA	$\Delta\chi 2$
Model 1	30	56.4	.957	.971	.055	
Model 2*	31	58.1	.957	.970	.055	1.67, *ns*
Model 3	25	54.9	.951	.966	.065	4.86, *ns*

* most parsimonious best fitting model with all four variables and no direct pathway from parenting to symptoms

3.2 Results from the Moral Socialization in the Family Interview (Wave Two)

Thirty-four individuals with relatively high (N=18) or low (N=16) scores on the Obsessive Beliefs Questionnaire (OBQ) participated in Wave Three. There were no differences between the groups on demographic measures including age, $t(32) = 1.275$, $p > .05$, gender, $X^2 = 1.124$, $p > .05$, and ethnicity (recoded into Caucasian vs. non-Caucasian to preserve adequate cell sizes, $X^2 = 2.242$, $p > .05$). As expected, high-OBQ participants had higher obsessive-compulsive symptom level scores than did low-OBQ participants on the OCI-R ($M = 20.42$, $SD = 12.43$ and $M = 5.44$, $SD = 4.84$, respectively, $t(32) = -4.518$, $p < .001$) and the BSI ($M = 7.00$, $SD = 3.11$ and $M = 2.94$, $SD = 3.11$, respectively, $t(32) = -3.32$, $p < .001$). Moreover, high-OBQ participants demonstrated higher levels of anxiety ($M =$

5.83, *SD* = 4.40 and *M* = 1.94, *SD* = 2.35, respectively, *t*(26.6) = -3.27, *p* < .01) and phobic anxiety (*M* = 3.44, *SD* = 3.52 and *M* = 0.72, *SD* = 1.24, respectively, *t*(21.6) = -3.08, *p* < .01) on the BSI than their low-OBQ counterparts. With respect to parenting practices, high-OBQ participants reported higher levels of maternal overprotective parenting than did low-OBQ participants (*M* = 46.00, *SD* = 9.17 and *M* = 34.50, *SD* = 6.71, respectively, *t*(32) = -4.13, *p* < .001), and higher levels of maternal rejecting parenting than did low-OBQ participants (*M* =47.21, *SD* = 17.71 and *M* = 34.84, *SD* = 9.13, respectively, *t*(26.07) = -2.60, *p* < .05). Neither paternal rejecting parenting nor paternal overprotective parenting was significantly related to OBQ status, *t*(27) = -0.80, *p* > .05 and *t*(27) = -1.70, *p* > .05, respectively.

Table 5: Characteristics of high- versus low-OBQ participants in Wave Two

	High OBQ (n = 18)		Low OBQ (n = 16)	
	Mean or %	SD	Mean or %	SD
Age	19.06	1.11	19.56	1.21
Gender	89% female		75% female	
Ethnicity	50% Caucasian		75% Caucasian	
OBQ Total**	209.89	23.20	89.40	12.84
OCI-R Total**	20.42	12.43	5.44	4.84
BSI Anxiety*	5.38	4.40	1.94	2.35
BSI Phobic Anx*	3.44	3.52	0.72	1.24
BSI OCD*	7.00	3.91	2.94	3.11

** *p* < .001

* *p* < .05

Reliability statistics were calculated to assess the extent to which the two interview coders agreed. Overall, there were 49 codes examined in six major categories, i.e. Parental Values, Demonstration of Values, Discipline Techniques, Emotion in

Discipline, Compliance Motivation, and Religiosity. Kappa values are reported in Table 6 and ranged from 0 to 1.0. Of the 49 codes, 34 attained high or acceptable Kappa levels of ≥ .75; these were retained for analyses.

Table 6: Cohen's Kappa values for Moral Socialization in the Family interview

Scale Name	*Kappa Value*	*Scale Name*	*Kappa Value*
Parental Values		Child Sadness/Resignation	.85*
Moral Care	.86*	Child Other	.42
Moral Non-Care	.85*	Parent Anger/Frustration	1.0*
Self-focused	1.0*	Parent Disappointment	.92*
Religiosity	.84*	Parent Self-Conscious	.71*
Other Non-Moral	-0.05	Parent Sadness	.71*
Demonstration of Values		Parent Confusion	1.0*
Interpersonal Modeling	.60	Parent Other	1.0*
Individual Modeling	.55	**Motivation for Compliance**	
Indirect Instruction	.79*	Avoidance	.86*
Demonstration Contrary to Values	1.0*	Relationship Preservation	.86*
Discussion of Values	.55	Intrinsic Motivation	1.0*
Discipline		Little Motivation to Follow Rules	1.0*
Clarity/Consistency of Rules	.67	Little Motivation to Break Rules	1.0*
Loss of Privileges	.59	Role Models	1.0*
Corporal Punishment	1.0*	**Religiosity**	
Relationship-Centered	.82*	Religious Attendance	1.0*
Induction	.54	No Home Practices	.82*
Addition of Other Neg. Stim.	.73*	Home Customs	.87*
Verbal Warning	.48	Religious Teaching	.68
Absent/Infrequent Discipline	1.0*	Individual Religious Practice	.64
Few Opportunities for Dis.	.86*	Religion for Soothing/Coping	.76*
Fairness/Consistency	.82*	Criticism of Religion	1.0*
Emotions in Discipline		Level of Demonstration	.67
Child Anger/Frustration	1.0*	Positive Discussion	.86*
Child Self-conscious Emotion	.75*	Negative Discussion	.64
Child Fear	1.0*	No Discussion	.64
Child Confusion	0		

While Landis & Koch (1977) recommend using .61 as a cut off for substantial agreement, a more conservative approach was taken since many of the Kappa values were calculated with only two categories, and therefore tended to be larger. A complete

listing of the codes and their definitions, as well as an interview script and coding manual can be found in the Appendix.

Chi-square tests of independence and t-tests were performed to examine the relation between OBQ status and aspects of moral socialization. There were no differences in the endorsement of parental care-centered morals between the high- and low-OBQ groups, for mothers, $X^2(1, N=34) = 0.08$, $p = .77$, or for fathers, $X^2(1, N=32) = 1.66$, $p = .20$. Further, the groups did not differ with respect to their report of religious socialization. Specifically, neither group was more likely to report religion as a primary parental value, $X^2(1, N=34) = 0.39$, $p = .53$, for mothers, and $X^2(1, N=32) = 2.30$, $p = .13$ for fathers, and rates of religious service attendance were comparable between the groups, $t(32) = -.925$, $p = .36$. There were no differences in the endorsement of child guilt or shame within the context of discipline, $X^2(1, N=34) = 1.46$, $p = .30$. The relation between OBQ status and relationship-centered discipline was significant, $X^2(1, N=34) = 5.015$, $p < .05$. Specifically, individuals with higher levels of obsessive beliefs reported that their parents used the parent-child relationship as a vehicle for discipline (38.9%) more often than their low-OBQ counterparts (16.7%). There were no other differences obtained between groups with respect to discipline, including use of corporal punishment, loss of privileges, and induction techniques.

3.3 Parent-reported and participant-reported parenting measures (Caregiver Wave)

Although data were collected from both parents and participants regarding recall of parenting behavior, only 12.5% of the participants had parents who participated in the study (59 parents total from 36 participants). Therefore, insufficient data were available from parent-report measures to include in the SEM analyses. However, in order to ensure that participant-rated measures of parenting behaviors were convergent with reports from other sources (i.e. mother and father), correlations were obtained between parent and student reports of parenting behavior. These ranged from -.021 to .603 (see Table 7), suggesting a wide range of correlation strength. Specifically, neither mother- nor father-reported overprotective parenting on the PIRBS was related to participant-reported overprotective parenting on the PIRBS (r = .19 and .02, respectively). Additionally, mother-reported overprotective parenting on the EMBU was unrelated to participant-reported maternal overprotective parenting (r = 25). Mother-reported rejecting behavior however was positively correlated with participant report of maternal rejecting behavior at r = .51. Both father-reported overprotective and rejecting behavior were related to participant reports of the same constructs (r = .40 and .61, respectively).

Parent-reported data were also examined to determine if similar relations would emerge between mother- and father-reported parenting practices, participant-reported obsessive beliefs, and participant-reported symptom levels. Hierarchical regression

Table 7: Correlations between parent- and participant-reported scales on the EMBU and PIRBS

	1	2	3	4	5	6	7	8	9	10
1. Participant-reported EMBU overprotective (mother)										
2. Participant-reported EMBU overprotective (father)	.543** n=253									
3. Participant-reported EMBU rejecting (mother)	.575** n=285	.402 n=253								
4. Participant-reported EMBU rejecting (father)	.315** n=253	.476 n=257	.516** n=253							
5. Participant-reported PIRBS overprotective	.408** n=285	.264 n=257	.266 n=285	.134* n=257						
6. Mother-reported EMBU overprotective	.252 n=32	.224 n=30	.177 n=32	-.095 n=30	.238 n=32					
7. Father-reported EMBU overprotective	.266 n=28	.404* n=28	.084 n=28	-.035 n=28	-.046 n=28	.427 n=23				
8. Mother-reported EMBU rejecting	.149 n=32	.063 n=30	.508** n=32	.374 n=30	.238 n=32	.359* n=32	.035 n=23			
9. Father-reported EMBU rejecting	.230 n=28	.039 n=28	.215 n=28	.607** n=28	.171 n=28	.420* n=23	.336 n=28	.672** n=23		
10. Mother-reported PIRBS overprotective	.309 n=31	.492** n=29	.231 n=31	-.120 n=29	.190 n=31	.500** n=31	.160 n=22	.353 n=31	-.045 n=22	
11. Father-reported PIRBS overprotective	.184 n=28	.129 n=28	.052 n=28	.249 n=28	-.021 n=28	.088 n=22	.365 n=28	.169 n=23	.429 n=28	.193 n=22

** $p < .01$, * $p < .05$

Lightly shaded boxes indicate mother- and participant-rated correlations; darker boxes indicate father- and participant-rated correlations

analyses were carried out to this effect. No signficant relations emerged between parent-reported overprotective parenting and obsessive-compulsive symptoms, either on the OCI-R or the BSI (*p*s < .05). Likewise, no significant relations were obtained between parent-reported overprotective parenting and anxious symptoms (*p*s < .05). Similarly, parent-reported rejecting parenting was not significantly related to either obsessive-compulsive or anxious symptoms, as measured by the OCI-R or the BSI (*p*s < .05). Neither parent-reported rejection nor overprotection were significantly related to obsessive beliefs.

To investigate whether these findings were attributable to insufficient power or to discrepant relations between parent- and participant-reported parenting and other variables, two additional correlations matrices were constructed and examined, one with all participants whose mothers also participated and one with all participants whose fathers also participated. The matrices contain parenting factors and their correlations with symptom levels and obsessive beliefs (see Tables 7 and 8). These data suggest that parent- and participant-rated measures of parenting behavior do differ in the extent to which they correlate with other variables of interest and likely measure different phenomena. For example, in the sample with participating mothers, participant-reported maternal overprotective behavior was positively related to OBQ Responsibility/Overestimation of Threat (r = .461, p < .01), OBQ Perfectionism/ Intolerance of Uncertainty (r = .414, p < .05), and OCI-R total symptoms (r = .389, p < .05),

while mother-reported maternal overprotective behavior was not associated with any belief or symptom variables. Participant-reported maternal rejecting behavior was positively correlated with OBQ Perfectionism/Intolerance of Uncertainty (r = .607, p < .01), OCI-R total symptoms (r = .539, p < .01), and BSI OCD symptoms (r = .354, p < .05), while mother-reported rejecting behavior only correlated with OBQ Perfectionism/Intolerance of Uncertainty (r = .385, p < .05).

Table 8: Correlations between mother/participant-reported parenting scales and symptoms/beliefs for participants with mother-reported data (n=32)

	OBQ ROT	OBQ PIU	OBQ MCB	OCI-R	BSI OCD	BSI Anx	BSI Pho
Participant-reported EMBU overprotective (mother)	.461**	.414*	.124	.389*	-.145	.028	.020
Participant-reported EMBU rejecting (mother)	.331	.607**	.346	.539**	.354*	.229	.440*
Participant-reported PIRBS overprotective	.056	.209	.167	.028	.132	.076	-.134
Mother-reported EMBU overprotective	-.015	.198	.154	.021	-.059	-.142	-.171
Mother-reported EMBU rejecting	-.123	.385*	.238	.137	.237	-.026	.154
Mother-reported PIRBS overprotective	.137	.330	.256	.261	-.076	-.079	-.127

** p < .01, * p < .05

KEY: OBQ = Obsessive Beliefs Questionnaire, ROT = Responsibility/Overestimation of Threat, PIU = Perfectionism/Intolerance of Uncertainty, MCB = Metacognitive Beliefs, OCI-R = Obsessive-compulsive Inventory, Revised, BSI = Brief Symptom Inventory

The pattern with fathers was even more discrepant: although no relations were obtained between father-reported parenting variables and any of the belief or symptom variables, participant-related paternal overprotective parenting was positively related to OBQ Responsibility/Overestimation of Threat (r = .478, p < .05) and participant-reported

paternal rejecting behavior was positively related to Perfectionism/Intolerance of Uncertainty (r = .469, p < .05), OCI-R total symptoms (r = .410, p < .05), and BSI OCD symptoms (r = .605, p < .01).

Table 9: Correlations between father/participant-reported parenting scales and symptoms/beliefs for participants with father-reported data (n=28)

	OBQ ROT	OBQ PIU	OBQ MCB	OCI-R	BSI OCD	BSI Anx	BSI Pho
Participant-reported EMBU overprotective (father)	.478*	.288	.027	.001	-.216	-.170	-.266
Participant-reported EMBU rejecting (father)	.212	.469*	.293	.410*	.605**	.210	.284
Participant-reported PIRBS overprotective	.323	.389*	.363	.052	.352	.074	-.142
Father-reported EMBU overprotective	.046	-.064	-.106	-.129	-.160	-.227	-.279
Father-reported EMBU rejecting	.087	.355	.049	.034	.206	-.170	-.069
Father-reported PIRBS overprotective	.041	.083	-.190	.222	-.037	-.216	-.043

** p < .01, * p < .05

KEY: OBQ = Obsessive Beliefs Questionnaire, ROT = Responsibility/Overestimation of Threat, PIU = Perfectionism/Intolerance of Uncertainty, MCB = Metacognitive Beliefs, OCI-R = Obsessive-compulsive Inventory, Revised, BSI = Brief Symptom Inventory

3.4 Relations of obsessive beliefs to anxious and obsessive-compulsive symptoms

As a supplemental analysis, correlations between the obsessive belief scales and anxiety symptom measures were compared to those between the obsessive belief scales and obsessive-compulsive symptom meaures, using the method proposed by Meng and colleagues (Meng, Rosenthal, & Rubin, 1992). It was found that the OCI-R scale's

correlation with the Perfectionism/Intolerance of Uncertainty scale of the OBQ was significantly higher than either the BSI-Anxiety or the BSI-Phobic Anxiety scale's correlations with Perfectionism/Uncertainty on the OBQ ($Z = 1.98$ and 2.23, respectively, $p < .05$). No other differences were noted in the relative strength of correlations with obsessive beliefs between anxious and obsessive-compulsive measures.

4. Discussion

Support was obtained for a model in which cognitive beliefs mediate the relations between recall of parenting and symptom levels. Specifically, the model in which parenting related to symptom levels only through the indirect effects of obsessive beliefs constituted the most parsimonious model that best fit these data. That is, the direct pathway from parenting to symptoms was non-significant in the fully recursive model and there was no demonstrable change in fit statistics between the recursive model and the indirect model. Although prior research has demonstrated that particular parenting behaviors are positively associated with particular symptom levels (Cavedo & Parker, 1994; Ehiobuche, 1988; Guidano & Liotti, 1983; Hibbs et al., 1991; Leonard et al., 1993; Merkel et al., 1993; Turgeon et al., 2002), the direct effects of the former on the latter were minimal after accounting for obsessive beliefs. This finding aligns well with the cognitive theory of obsessive-compulsive disorder, which posits that certain cognitions, such as attributing significance to intrusive thoughts, play a crucial role in disorder maintenance (Rachman & Hodgson, 1980; Salkovskis, 1985). Additionally, the inclusion of self-conscious emotion into the model yielded better fit indices than models without this variable. This suggests that shame accounted for a statistically significant amount of model variance.

Moral socialization was also explored to investigate possible correlates of obsessive belief endorsement. When moral socialization was examined for individuals

either relatively high or low on obsessive beliefs, few differences emerged between the groups. Neither group of students was more likely to report that their parents held moral care-centered values, that they experienced more guilt during discipline as a child, or that they received higher levels of religious socialization (through either attendance at religious services or faith-based discussion in the home). However, participants with relatively high levels of obsessive belief endorsement reported higher levels of relationship-centered discipline techniques than did those with relatively low levels of obsessive beliefs. Relationship-centered techniques entail using the parent-child relationship as a vehicle for implementing punishment. That is, in lieu of taking away privileges or adding other negative stimuli, parents using this technique to convey to the child that the parent-child relationship itself has been damaged.

A comparison of parent-reported and participant-reported recall of parenting yielded mixed correlations, with the highest levels of concordance obtained for rejecting behavior and paternal parenting in general. Interestingly however, when parent-reported measures of parenting were examined as potential predictors of obsessive beliefs or symptoms, no significant relations emerged. Although part of this may be due to insufficient sample size, subsequent analyses indicated that participant's perceptions were more important in determining obsessive beliefs and symptom levels than were the parents' perceptions of parenting. Each of these results and their associated implications are discussed below in greater detail.

4.1 Wave One data

Obsessive beliefs were found to mediate the relations between recall of parenting (overprotective and rejecting) and current reported symptoms (obsessive-compulsive and anxious). As was previously mentioned, extant research has revealed positive relations between parenting and symptoms, and between obsessive beliefs and symptoms. However, the relations between parenting and obsessive beliefs had remained poorly investigated prior to this study. Wave One analyses addressed this deficit by examining the relations between recall of parenting and current obsessive beliefs within the context of a model of symptom expression.

The initial study aims consisted of including overprotective and rejecting parenting as separate constructs, each indicated by unique indicators. However, high correlations between participants' reports of maternal and paternal overprotective and rejecting behavior precluded the use of a measurement model with separate parenting domains. That participants who rated parents as relatively high or low on overprotective behavior tended to rate them similarly on rejecting behavior measures suggests that participants' recall was likely influenced by the halo effect. The halo effect refers to the tendency of raters to use an overall global impression (e.g. good or bad) to respond to specific items about past behavior, performance or attributes (Cooper, 1981; Thorndike, 1920). This concept is most often discussed within the context of the

academic and workplace environments, but may also affect the manner in which adult children reflect upon their parents.

In the current study, parenting was positively related to obsessive beliefs. Although speculative, it is possible to surmise how both overprotective parenting behaviors and rejecting parenting behaviors may be related to the development or maintenance of obsessive beliefs. Previous research has demonstrated that parents of children with anxiety withhold autonomy to a greater extent than do parents of non-clinical children (Barrett et al., 2002). In the absence of experiences that foster independence, individuals may come to perceive their environments as threatening and unpredictable. Obsessive beliefs regarding overestimation of threat and intolerance of uncertainty could flourish in the absence of contradictory evidence. In addition to heightened perceptions of threat and avoidance of uncertainty, it is possible that overprotective parenting supports inflated responsibility beliefs, particularly as individuals make the transition from a highly controlled environment (e.g. the parent's house) to a less structured one (e.g. the college dormitory). That is, children of overprotective parents may perceive their parents as taking on extra responsibility by shielding the child from threat. When the adolescent then attempts to make the transition into adulthood, he or she may then feel that this burden of responsibility is now his or hers to bear, resulting in an inflated sense of responsibility.

It is possible to speculate on how parental overprotective behavior could also foster the metacognitive beliefs (i.e., overimportance of thoughts and thought control beliefs). In this case, links between overprotective parenting and these particular cognitive beliefs would likely be due to a generalized internalization of the importance of control. That is, parents who shield their children from certain experiences may implicitly encourage children to adopt avoidant patterns so as to avoid harm. Thus, if individuals with these beliefs perceive their own thoughts as part of the threatening world in general, then they would likewise strive to avoid certain thoughts. Such a connection, however, would seem to support a high covariance of metacognitive beliefs and overestimation of threat beliefs, an association that has been proposed but not been consistently empirically demonstrated (r = .545, p < .05, in this study). Additionally, there are no studies, to the author's knowledge, specifically examining the development of metacognitive beliefs within the context of overprotective parenting.

It is also possible to surmise how rejecting parenting could foster or maintain obsessive beliefs. Prior research has shown that perfectionism, specifically concern over mistakes and doubt about performance, positively relates to retrospective recall of parental criticism (Kawamura, Frost, & Harmatz, 2002). Individuals who perceive their parents as harsh judges of their behavior may develop a sense of self-worth that is contingent upon external approval or praise. Perfectionism may then develop as a means to ensure that one's behavior is likely to be met with this praise.

Perceived rejecting behavior could also foster overestimation of threat beliefs, as children who grow up in punitive households may feel that their parents' punishment or criticism is a threat to be avoided. This could then generalize to a more global sense of threat perception, thus heightening one's propensity to endorse overestimation of threat beliefs.

The results of Wave One analyses have implications for how interventions are conducted with anxious individuals, especially those who spend a substantial amount of time with caregivers. Currently, parental involvement plays a substantial role in the treatment of anxiety and OCD in children and adolescents (e.g. Choate-Summers, Freeman, Garcia, Coyne, Przeworski, & Leonard, 2008). Because parents of children with anxiety and OCD frequently engage in accommodating behavior to assuage upset children and thereby reinforce anxious behavior, parental coaching aimed at reducing accommodation has been included in a variety of therapy protocols. Cognitive components are also common in therapy for children with anxiety. However, the use of cognitive techniques is limited in therapy for children with OCD, as some have proposed that behavioral techniques such as exposure and response prevention carry the majority of treatment effects (e.g. Kozak & Coles, 2005). However, insofar as children can develop obsessive beliefs and parents can support those beliefs, it may be important to address both parental and cognitive components to reduce the risk of symptom maintenance.

Obtaining data regarding parental levels of obsessive beliefs may also be helpful in family treatment settings. Recent research by Rector and colleagues (2009) has revealed that certain obsessive beliefs, namely inflated responsibility and overestimation of threat, were higher in the first-degree relatives of individuals with OCD than in the relatives of controls. Moreover, in the relatives of individuals diagnosed with OCD in childhood rather than in adulthood, the factor containing both intolerance of uncertainty and perfectionism was also elevated (Rector et al., 2009). This indicates that parents may socialize obsessive beliefs both by modeling behavior that is consistent with the beliefs and by directly conveying these beliefs in discussions. If parents are taught about how their beliefs likely affect their inclinations to act in anxiety-promoting ways and how this may affect their children, they can alter their beliefs and behavior to promote symptom reduction.

4.2 Wave Two data

Few differences were found in the moral socialization of participants relatively high or low on obsessive beliefs. However, relationship-centered discipline was reported at a higher level in those individuals high on obsessive beliefs. These strategies, which use the relationship as the vehicle for punishment, could lead to higher levels of self-conscious emotions (e.g. shame) and support obsessive cognitions. An example of these behaviors is provided from the transcript of a 20-year-old Caucasian female in the high-OBQ group, who describes the way that her mother disciplined her:

Interviewer: What were the consequences for bad behavior like in your family growing up?

Participant: Um, I was never really grounded or had any physical punishments or anything. They were more like emotional guilt trips and that kind of thing. 'Cause we were, we had a very close relationship and anytime, you know, things went wrong, it was more that it damaged our relationship and she made it on a grand scale, you know, that I was destroying our relationship, rather than you stayed out too late and you're grounded for a week. It was more like, you know, you're hurting me and what are you doing to us type thing.

I: And do you think that the discipline itself was fair and consistent?

P: I don't think it was fair, but it was consistent. (laughs)

I: And when you say it wasn't fair –

P: Um, I think that, it's my own personal opinion, but I think that by placing so much emphasis on, I would say minor grievances and I felt like, you know, she was allowing it to reflect on our relationship. Because a lot of the damage was caused because she was making me believe that I was causing it.

I: So it's not like when you were transgressing, you were thinking, "Oh, I'm gonna break up our relationship."

P: Exactly.

I: But it became about that.

P: Mm-hm.

In this case, it appears that rather than internalizing the values espoused by her mother, the participant followed the rules so as to avoid disruptions in the parent-child

relationship. This sentiment was echoed by others who recalled relationship-centered discipline (e.g. "I didn't want to cause friction between us").

Relationship-harming disciplinary techniques could support specific obsessive beliefs in children by substantially increasing one's awareness of his or her influence on others, an outcome that is consistent with the harm prevention outlook of inflated responsibility. Withdrawing affection also conveys a message of conditional positive regard based on the child's behavior (e.g. "I'll only love and accept you if you are compliant"), which can support perfectionist tendencies (Hamacheck, 1978). Finally, relationship-centered practices may serve to heighten the child's guilt and thus play a significant role in one's propensity to develop biases around the importance of thoughts and thought control. For instance, it has been demonstrated in two separate studies that thought-action fusion correlates strongly with measures of guilt (Rachman et al., 1995; Yorulmaz et al., 2004). This is not altogether surprising, as one would expect higher levels of guilt in individuals who believe that their negative thoughts can bring about negative consequences (since negative thoughts are somewhat difficult to avoid altogether).

In addition to the findings regarding relationship-centered disciplinary practices, there was a trend toward high-OBQ participants citing the preservation of the parent-child relationship as a motivator for compliance more often than the low-OBQ group

(50% vs. 18.8%, respectively, $p = .08$). One high-OBQ participant, when asked about her motivation to comply with rules in the home, stated:

> "[W]hen I was younger … it was more because we had such a great relationship and I agreed with her on so many things. We were really, really close and for most things, I understood why they were what they were – I had no desire to do otherwise. And then later in teenage years, when I was compliant about things I didn't want to be compliant about, it was more to get her off my back. So to avoid the discussions of the dynamics of our relationship and what was happening to it."

It is important to note that no other significant differences were found between the disciplinary techniques of the high- and the low-OBQ groups. That is, other techniques, such as the revocation of privileges and corporal punishment were equally common in the two groups. Moreover, induction was used equally often in the two groups (37.5% vs 27.8%, for low- and high-OBQ respectively). Additionally, even in the high-OBQ group, fewer than half of participants recalled the use of this strategy (seven of eighteen), which suggests that although it may be positively correlated with obsessive belief endorsement, it is by no means a necessary or sufficient condition for their development.

4.3 Caregiver Wave data

A secondary aim of the study concerned the comparison of participant-reported and parent-reported measures of parenting behavior, both to one another and to other variables of interest. When associations were examined between participant- and parent-reported parenting behaviors, mixed results were obtained. Specifically, there

were no relations obtained between the results of parents and participants on the PIRBS (one of two measures of overprotective parenting), and none between mother-reported overprotective parenting and participant-reported maternal overprotective parenting on the EMBU. However, mother reports of rejecting behavior were positively related to participants' report of maternal rejecting behavior. Moreover, both father-reported overprotective and rejecting parenting behaviors on the EMBU were positively correlated with participants' reports of these paternal behaviors. In sum, there was more agreement in parental and participant reports of rejecting behavior and of paternal parenting in general. It may be that while overprotective parenting is often subtle or subject to interpretation by observers, rejecting behavior is less ambiguous and more overt. That participants and their fathers demonstrated higher levels of agreement than did participants and mothers is intriguing and may be in part due to the high level of involvement that participating fathers have in their children's lives. That is, fewer fathers participated in the study and these may have been parents with particularly strong relationships with their children (and thus greater awareness of the impact of parenting practices).

Parent-reported data were also examined to investigate relations with participant-reported obsessive beliefs and symptom levels. No significant relations emerged between parent-reported parenting and obsessive-compulsive or anxious symptoms on any of the scales. Similarly, neither parent-reported rejection nor

overprotection were significantly related to obsessive beliefs. Despite the findings that fathers and participants demonstrated some degree of agreement on paternal parenting, their reports demonstrated different levels of association with symptoms and beliefs. That is, while significant relations were found between participant-reported paternal parenting and symptoms and beliefs, these relations were not replicated when examining parent-reported measures of parenting. These findings, which can be contrasted with the results obtained for participant-reported parenting, suggest that parent-reported parenting has less bearing on obsessive belief endorsement and symptom levels than participants' own perceptions of parenting. This is important to bear in mind when drawing conclusions about relations between these areas, since all of the related measures in this study shared the same reporter and were based on perceptions rather than observations.

4.4 Study limitations

The current study has a number of limitations which restrict the scope and nature of its conclusions. First, it is important to remember that the parenting information obtained in Wave One was from a retrospective recall measure rather than by a measure of current perceptions of parenting behavior. This was done in concert with the theory that early parenting experiences may contribute to subsequent development of obsessive beliefs. However, to execute an ideal mediation analysis, it is recommended that the collection of presumptive predictors precede that of mediator

and outcome variables. Therefore, in future studies of cognitive mediation, longitudinal study designs could help to clarify the development of symptoms and beliefs within the context of parenting.

Additionally, it is important to note that any conclusions from this study relate to *perceptions* of past parenting rather than to parenting itself. That is, there were no objectively obtained measures of parenting (e.g. participant-parent observation) to include in analyses. Because all of the major variables (retrospective recall of parenting, obsessive beliefs and symptoms) were obtained via the same self-report method, it may be that the relations between them are attributable to shared method effects. Moreover, although parent-reported measures were distributed to a subset of the sample, only a small proportion of participants' parents were able to contribute to the Caregiver Wave (N=59). This sample was insufficiently large enough to include in SEM analyses; thus, only participant perspective is represented in the main Wave One analyses. Therefore, the relations in Wave One could also be inflated due to reporter effects. In accordance with prior studies examining child- and parent-reported measures, there were mixed correlations across participant- and parent-reported parenting in this study with some demonstrating weak relations (e.g. maternal overprotective), some modest (e.g. paternal overprotective), and some strong (e.g. both maternal and paternal rejecting). This suggests that even with a sufficiently large sample in the Caregiver Wave, parent-

reported parenting would best be represented as one or more discrete latent constructs rather than as additional indicators of a global parenting construct.

Another limitation of the study is the inability to distinguish between, and thus to separately examine overprotective and rejecting parenting. While it may be that both parenting behaviors promote obsessive-compulsive beliefs, it is also possible that they do so to different extents or that each parenting behavior maps on to different specific beliefs. Additionally, parental rejecting behavior may be more likely to support the development of maladaptive beliefs that are germane to depressive symptoms as well as anxious ones. For example, prior research has demonstrated that rejecting parenting is associated with depression (see McLeod, Weisz, & Wood, 2007 for a review). Therefore, it may be that rejecting parenting affects core beliefs about the self and self-efficacy (rather than obsessive beliefs), and creates a vulnerability to both anxious and depressive symptomatology. Future research should address the mechanisms by which perceived rejecting parenting and overprotective parenting contribute independently to symptom expression.

Limited generalizability is another factor to consider when interpreting the results of the current study. This sample consisted of university students, the large majority of whom are likely to be non-clinical. It is uncertain whether similar findings and relations would be obtained in individuals with clinical OCD or anxiety. These individuals may have other important variables (e.g. physiological differences) that

independently contribute to symptoms or that interact with parenting and obsessive beliefs in different ways. Moreover, the pattern found in this study may not be applicable to individuals in different age groups or with different levels of education.

The current study adds empirical evidence to a body of literature on the cognitive theory of obsessive-compulsive symptom development. Using a non-clinical sample, parenting, obsessive beliefs, symptom levels, self-conscious emotions and moral socialization were examined and intriguing findings emerged. These findings have implications for our understanding of the roles of family and cognition in anxious symptoms and for the ways in which interventions are implemented for individual with clinical symptom levels.

5. Appendix

5.1 Wave One measures

Demographic Information

Please fill out the information below by placing a check next to the options that best correspond to you. Although there are options provided for some of the questions, you may also choose "other" and provide a category that best describes you.

Gender: _____ Female _____ Male

Ethnicity:

_____ African-American/Black
_____ Asian or Pacific Islander
_____ Caucasian/White
_____ Hispanic
_____ Multiracial, specify:
_____ Native American or Alaskan Native
_____ Other, description:

Current Religion:

_____ Atheist / No Religion
_____ Buddhism
Christianity:
_____ Catholic
_____ Protestant, specify church:
_____ Other, description:
_____ Hinduism
_____ Islam
_____ Judaism
_____ Other, description:

Religion of Upbringing:

_____ Atheist / No Religion
_____ Buddhism
Christianity:
_____ Catholic
_____ Protestant, specify church:
_____ Other, description:
_____ Hinduism
_____ Islam
_____ Judaism
_____ Other, description: _____

Obsessive Beliefs Questionnaire (OBQ-44)

This inventory lists different attitudes or beliefs that people sometimes hold. Read each statement carefully and decide how much you agree or disagree with it. For each of the statements, choose the number matching the answer that *best describes how you think.* Because people are different, there are no right or wrong answers. To decide whether a given statement is typical of your way of looking at things, simply keep in mind what you are like *most of the time.*

Use the following scale:

1	2	3	4	5	6	7
Disagree Very Much	**Disagree Moderately**	**Disagree A Little**	**Neither Agree Nor Disagree**	**Agree A Little**	**Agree Moderately**	**Agree Very Much**

In making your ratings, try to avoid using the middle point of the scale (4), but rather indicate whether you usually disagree or agree with the statements about your own beliefs and attitudes.

Factors: **RT = Inflated Responsibility/Overestimation of Threat**
PC = Perfectionism/Intolerance of Uncertainty
ICT = Importance of and Control over Thoughts

RT	1. I often think things around me are unsafe.	1	2	3	4	5	6	7
PC	2. If I'm not absolutely sure of something, I'm bound to make a mistake.	1	2	3	4	5	6	7
PC	3. Things should be perfect according to my own standards.	1	2	3	4	5	6	7
PC	4. In order to be a worthwhile person, I must be perfect at everything I do.	1	2	3	4	5	6	7
RT	5. When I see any opportunity to do so, I must act to prevent bad things from happening.	1	2	3	4	5	6	7
RT	6. Even if harm is very unlikely, I should try to prevent it at any cost.	1	2	3	4	5	6	7
ICT	7. For me, having bad urges is as bad as actually carrying them out.	1	2	3	4	5	6	7
RT	8. If I don't act when I foresee danger, then I am to blame for any consequences.	1	2	3	4	5	6	7

PC	9. If I can't do something perfectly, I shouldn't do it at all.	1	2	3	4	5	6	7
PC	10. I must work to my full potential at all times.	1	2	3	4	5	6	7
PC	11. It is essential for me to consider all possible outcomes of a situation.	1	2	3	4	5	6	7
PC	12. Even minor mistakes mean a job is not complete.	1	2	3	4	5	6	7
ICT	13. If I have aggressive thoughts or impulses about my loved ones, this means I secretly want to hurt them.	1	2	3	4	5	6	7
PC	14. I must be certain of my decisions.	1	2	3	4	5	6	7
RT	15. In all kinds of daily situations, failing to prevent harm is just as bad as deliberately causing harm.	1	2	3	4	5	6	7
RT	16. Avoiding serious problems (for example, illness or accidents) requires constant effort on my part.	1	2	3	4	5	6	7
RT	17. For me, not preventing harm is as bad as causing harm.	1	2	3	4	5	6	7
PC	18. I should be upset if I make a mistake.	1	2	3	4	5	6	7
RT	19. I should make sure others are protected from any negative consequences of my decisions or actions.	1	2	3	4	5	6	7
PC	20. For me, things are not right if they are not perfect.	1	2	3	4	5	6	7
ICT	21. Having nasty thoughts means I am a terrible person.	1	2	3	4	5	6	7
RT	22. If I do not take extra precautions, I am more likely than others to have or cause a serious disaster.	1	2	3	4	5	6	7
RT	23. In order to feel safe, I have to be as prepared as possible for anything that could go wrong.	1	2	3	4	5	6	7
ICT	24. I should not have bizarre or disgusting thoughts.	1	2	3	4	5	6	7
PC	25. For me, making a mistake is as bad as failing completely.	1	2	3	4	5	6	7
PC	26. It is essential for everything to be clear cut, even in minor matters.	1	2	3	4	5	6	7

ICT	27. Having a blasphemous thought is as sinful as committing a sacrilegious act.	1	2	3	4	5	6	7
ICT	28. I should be able to rid my mind of unwanted thoughts.	1	2	3	4	5	6	7
RT	29. I am more likely than other people to accidentally cause harm to myself or to others.	1	2	3	4	5	6	7
ICT	30. Having bad thoughts means I am weird or abnormal.	1	2	3	4	5	6	7
PC	31. I must be the best at things that are important to me.	1	2	3	4	5	6	7
ICT	32. Having an unwanted sexual thought or image means I really want to do it.	1	2	3	4	5	6	7
RT	33. If my actions could have even a small effect on a potential misfortune, I am responsible for the outcome.	1	2	3	4	5	6	7
RT	34. Even when I am careful, I often think that bad things will happen.	1	2	3	4	5	6	7
ICT	35. Having intrusive thoughts means I'm out of control.	1	2	3	4	5	6	7
RT	36. Harmful events will happen unless I am very careful.	1	2	3	4	5	6	7
PC	37. I must keep working at something until it's done exactly right.	1	2	3	4	5	6	7
ICT	38. Having violent thoughts means I will lose control and become violent.	1	2	3	4	5	6	7
RT	39. To me, failing to prevent a disaster is as bad as causing it.	1	2	3	4	5	6	7
PC	40. If I don't do a job perfectly, people won't respect me.	1	2	3	4	5	6	7
RT	41. Even ordinary experiences in my life are full of risk.	1	2	3	4	5	6	7
ICT	42. Having a bad thought is morally no different than doing a bad deed.	1	2	3	4	5	6	7
PC	43. No matter what I do, it won't be good enough.	1	2	3	4	5	6	7
ICT	44. If I don't control my thoughts, I'll be punished.	1	2	3	4	5	6	7

Memories of My Upbringing Scale
(EMBU; Perris et al, 1980; Ross, Campbell, & Clayer, 1982)

Please read the following questions and rate them based on how true you found them to be in your family growing up. Please complete the measure separately for your two primary caregivers (e.g. mother and father). If you only had one primary caregiver throughout childhood, you may fill out only one. Please indicate which caregiver you will be assessing below. Also note that some of the questions ask about siblings. You may skip these questions if they do not apply to you.

(Factors in bold: R= Rejection, E=Emotional Warmth, O=Overprotection)

In responding to this questionnaire, I will be talking about my _____.

	Never	Seldom	Often	Most of the Time
1. Did you feel that your parent's anxiety interfered in everything that you did? **O**	1	2	3	4
2. Did your parent show with words and gestures that they liked you? **E**	1	2	3	4
5. Did your parent refuse to speak to you for a long time if you had done something silly? **R**	1	2	3	4
6. Did it happen that your parent punished you, even for small offenses? **R**	1	2	3	4
7. Did your parent try to influence you to become "superior"? **O**	1	2	3	4
9. Do you think that your parent wished you had been different in any way? **R**	1	2	3	4
13. If you had done something foolish, could you then do to your parent and make everything right by asking their forgiveness? **E**	1	2	3	4
14. Did your parent want to decide how you should be dressed or how you should look? **O**	1	2	3	4
16. Did you feel that your parent liked your brother(s) or sister(s) more than they liked you? **R**	1	2	3	4
17. Did your parent treat you unjustly compared with how they treated your sister(s) and brother(s)? **R**	1	2	3	4
18. Did it happen that your parent forbade you to do things other children were allowed to do because they were afraid that something might happen to you? **O**	1	2	3	4
19. Did it happen that as a child you were beaten or scolded in the presence of others? **R**	1	2	3	4
20. Did your parents usually care about what you did in the evenings? **O**	1	2	3	4

	Never	Seldom	Often	Most of the Time
21. If things went badly for you, did your parents try to comfort and encourage you? **E**	1	2	3	4
23. Did it happen that your parent gave you more corporal punishment than you deserved? **R**	1	2	3	4
24. Would your parents become angry if you didn't help at home with what you were asked to do? **R**	1	2	3	4
25. Would your parent look sad or in any other way show that you had behaved badly so that you developed guilt? **O**	1	2	3	4
27. Did you feel it was difficult to approach your parent? **E (reverse)**	1	2	3	4
28. Did it happen that your parent narrated something you said or did in front of others so that you felt ashamed? **R**	1	2	3	4
31. Did your parent usually show they were interested in your getting good marks? **E**	1	2	3	4
32. If you had a difficult task in front of you, did you feel support from your parent? **E**	1	2	3	4
33. Were you treated like the "scapegoat" or "black sheep" of the family by this parent? **R**	1	2	3	4
34. Did it happen your parent wished you had been like somebody else? **R**	1	2	3	4
36. Did your parent usually criticize the friends you liked to frequent? **O**	1	2	3	4
37. Do you feel your parents thought it was *your* fault when they were unhappy? **R**	1	2	3	4
38. Did your parent try to spur you on to become the best? **O**	1	2	3	4
39. Would your parent demonstrate they were fond of you? **E**	1	2	3	4
41. Do you think your parent respected your opinions? **E**	1	2	3	4
43. Did you feel that your parent wanted to be together with you? **E**	1	2	3	4
44. Did you think that your parent was mean and grudging toward you? **R**	1	2	3	4
45. Did your parents use expressions like, "If you do that, it will make me sad"? **O**	1	2	3	4
46. When you came home, did you always have to account for what you had been doing to your parent? **O**	1	2	3	4
	Never	Seldom	Often	Most of

				the Time
47. Do you think that your parents tried to make your adolescence stimulating, interesting, and instructive (e.g. by giving you good books, arranging for you to take trips, taking you to activities, etc)? **E**	1	2	3	4
48. Did your parent often praise you? **E**	1	2	3	4
51. Did you ever feel guilty in relation to your parents because you behaved in a way they did not desire? **O**	1	2	3	4
52. Do you think that your parents had high demands when it came to grades, sport performances, or similar things? **O**	1	2	3	4
54. Could you seek comfort from your parent if you were sad? **E**	1	2	3	4
55. Did it happen that you were punished by your parent without having done anything? **R**	1	2	3	4
56. Did your parents allow you to do the same things as your friends did? **E**	1	2	3	4
57. Did your parent often say they did not approve of your behavior at home? **R**	1	2	3	4
59. Did you parents usually criticize you and tell you how lazy and useless you were in front of others? **R**	1	2	3	4
60. Did your parents usually take an interest in what kinds of friends you frequented? **O**	1	2	3	4
61. Were you the sibling usually blamed if anything happened? **R**	1	2	3	4
63. Was your parent abrupt with you? **R**	1	2	3	4
64. Would your parent punish you hard, even for trifles? **R**	1	2	3	4
65. Did it happen that your parents beat you for no reason? **R**	1	2	3	4
66. Did it happen that you wished your parent would worry less about what you were doing? **O**	1	2	3	4
67. Did your parent usually engage him/herself in your interests and hobbies? **E**	1	2	3	4
68. Did you often get beaten by your parent? **R**	1	2	3	4
69. Were you usually allowed to go where you liked without your parents worrying too much? **O (reverse)**	1	2	3	4
70. Did your parents put decisive limits on what you were and were not allowed to do – to which they adhered vigorously? **O**	1	2	3	4
71. Did your parent treat you in such a way that you felt ashamed? **R**	1	2	3	4

	Never	Seldom	Often	Most of the Time
72. Did your parent let your brother(s) or sister(s) have things that you were not allowed to get? **R**	1	2	3	4
73. Do you think that your parent's anxiety that something might happen to you was exaggerated? **O**	1	2	3	4
74. Did you feel that warmth and tenderness existed between you and your parent? **E**	1	2	3	4
75. Did your parent respect the fact that you had other opinions than they had? **E**	1	2	3	4
76. Did your parent get sour or angry with you without letting you know the cause? **R**	1	2	3	4
77. Did your parent ever let you go to bed without food? **R**	1	2	3	4
78. Did you feel that your parent was proud when you succeeded in something you had undertaken? **E**	1	2	3	4
81. Did your parent usually hug you? **E**	1	2	3	4

PIRBS-23

This questionnaire asks about what things were like for you as a child. There are no right or wrong answers, we are just interested in what things were like for you growing up. Please read each statement carefully and then darken a response to indicate how frequently that statement was true for you.

Factors in bold: HR = heightened responsibility, OP = overprotection, RR = rigid rules

	As a child . .	Never	Rarely	Sometimes	Often	Always
1.	. . .I was taught to follow a precise set of rules **RR**	1	2	3	4	5
2.	. . .I was responsible for protecting a family member/ family members **HR**	1	2	3	4	5
3.	. . .I was taught that rules were to be obeyed without discussion **RR**	1	2	3	4	5
4.	. . .I was responsible for the cooking **HR**	1	2	3	4	5
5.	. . .my family cared a lot about following rules **RR**	1	2	3	4	5
6.	. . .I was responsible for keeping our house functioning smoothly **HR**	1	2	3	4	5
7.	. . .my parent(s) frequently preferred to do things for me rather than have me do them myself **OP**	1	2	3	4	5
8.	. . .my parent(s) thought that I was unable to deal with danger **OP**	1	2	3	4	5
9.	. . .my parents strongly valued obedience **RR**	1	2	3	4	5
10.	. . .my parent(s) thought that I couldn't handle things **OP**	1	2	3	4	5
11.	. . .adults around me strictly enforced rules **RR**	1	2	3	4	5
12.	. . .my parent(s) thought that I couldn't protect myself **OP**	1	2	3	4	5
13.	. . .I was more like a parent than most kids my age **HR**	1	2	3	4	5
14.	. . .my parent(s) did many things to protect me **OP**	1	2	3	4	5
15.	. . .I had more responsibility for taking care of myself than most kids my age **HR**	1	2	3	4	5

(please continue on next page)

Now, please read the following instructions to answer questions 16 through 23.

Sometimes things that we do, or choose not to do, result in serious misfortune. For example, a surgeon's error may cause harm to a patient. Or, a mechanics failure to test a car's brakes may lead to an accident. The misfortune can have a catastrophic effect on the person's health or welfare. Also, this misfortune can occur to others or us. We are interested in whether your actions or inactions have ever resulted in a serious misfortune occurring.

		Never	Rarely	Sometimes	Often	Always
16.	I am confident that something *I did* resulted in *someone else* experiencing a serious misfortune	1	2	3	4	5
17.	I am confident that something *I did* resulted in *me* experiencing a serious misfortune	1	2	3	4	5
18.	I am confident that something *I did not do* resulted in *someone else* experiencing a serious misfortune	1	2	3	4	5
19.	I am confident that something *I did not do* resulted in *me* experiencing a serious misfortune	1	2	3	4	5

Sometimes it *appears that* something we think or do *may have* resulted in a serious misfortune. For example, a child may wish an adult dead and soon thereafter the adult dies. Therefore, it *appears like* their thoughts contributed to the misfortune. We are interested in whether it has ever *appeared that* your thoughts or actions have resulted in a serious misfortune occurring.

		Never	Rarely	Sometimes	Often	Always
20.	I believe that *something I did or did not do may have* contributed to so*meone else* experiencing a serious misfortune	1	2	3	4	5
21.	I believe that *something I did or did not do may have* contributed to *me* experiencing a serious misfortune	1	2	3	4	5
22.	I believe that my *thoughts may have* contributed to so*meone else* experiencing a serious misfortune	1	2	3	4	5
23.	I believe that my *thoughts may have* contributed to *me* experiencing a serious misfortune	1	2	3	4	5

The Obsessive-Compulsive Inventory – Revised
(Foa, Huppert et al., 2002)

The following statements refer to experiences that many people have in their everyday lives. Circle the number that best describes **HOW MUCH** that experience has **DISTRESSED or BOTHERED you during the PAST MONTH.** The numbers refer to the following verbal labels:

0	1	2	3	4
Not at all	A little	Moderately	A lot	Extremely

1. I have saved up so many things that they get in the way.	0	1	2	3	4
2. I check things more often than necessary.	0	1	2	3	4
3. I get upset if objects are not arranged properly.	0	1	2	3	4
4. I feel compelled to count while I am doing things.	0	1	2	3	4
5. I find it difficult to touch an object when I know it has been touched by strangers or certain people.	0	1	2	3	4
6. I find it difficult to control my own thoughts.	0	1	2	3	4
7. I collect things I don't need.	0	1	2	3	4
8. I repeatedly check doors, windows, drawers, etc.	0	1	2	3	4
9. I get upset if others change the way I arranged things.	0	1	2	3	4
10. I feel I have to repeat certain numbers.	0	1	2	3	4
11. I sometimes have to wash or clean myself simply because I feel contaminated.	0	1	2	3	4
12. I am upset by unpleasant thoughts that come into my mind against my will.	0	1	2	3	4
13. I avoid throwing things away because I am afraid that I might need them later.	0	1	2	3	4
14. I repeatedly check gas and water taps and light switches after turning them off.	0	1	2	3	4
15. I need things to be arranged in a particular order.	0	1	2	3	4
16. I feel that there are good and bad numbers.	0	1	2	3	4
17. I wash my hands more often and longer than necessary.	0	1	2	3	4
18. I frequently get nasty thoughts and have difficulty getting rid of them.	0	1	2	3	4

Brief Symptom Inventory
(Derogatis & Melisaratos, 1983)

This is a list of problems people sometimes have. Please read each one carefully, and circle the answer that best describes HOW MUCH THAT PROBLEM HAS DISTRESSED OR BOTHERED YOU DURING THE PAST 7 DAYS, INCLUDING TODAY. Please choose only one answer for each problem, and do not skip any items.

	Not at all	A little bit	Moder -ately	Quite a bit	Extre mely
1. Nervousness or shakiness inside	0	1	2	3	4
2. Faintness or dizziness	0	1	2	3	4
3. The idea that someone else can control your thoughts	0	1	2	3	4
4. Feeling others are to blame for most of your problems	0	1	2	3	4
5. Trouble remembering things	0	1	2	3	4
6. Feeling easily annoyed or irritated	0	1	2	3	4
7. Pains in heart or chest	0	1	2	3	4
8. Feeling afraid in open spaces	0	1	2	3	4
9. Thoughts of ending your life	0	1	2	3	4
10. Feeling that most people cannot be trusted	0	1	2	3	4
11. Poor appetite	0	1	2	3	4
12. Suddenly scared for no reason	0	1	2	3	4
13. Temper outbursts that you could not control	0	1	2	3	4
14. Feeling lonely even when you are with people	0	1	2	3	4
15. Feeling blocked in getting things done	0	1	2	3	4
16. Feeling lonely	0	1	2	3	4
17. Feeling blue	0	1	2	3	4
18. Feeling no interest in things	0	1	2	3	4
19. Feeling fearful	0	1	2	3	4
20. Your feelings being easily hurt	0	1	2	3	4
21. Feeling that people are unfriendly or dislike you	0	1	2	3	4
22. Feeling inferior to others	0	1	2	3	4
23. Nausea or upset stomach	0	1	2	3	4
24. Feeling that you are watched or talked about by others	0	1	2	3	4
25. Trouble falling asleep	0	1	2	3	4

	Not at all	A little bit	Moder -ately	Quite a bit	Extre me-ly
26. Having to check and double-check what you do	0	1	2	3	4
27. Difficulty making decisions	0	1	2	3	4
28. Feeling afraid to travel on buses, subways or trains	0	1	2	3	4
29. Trouble getting your breath	0	1	2	3	4
30. Hot or cold spells	0	1	2	3	4
31. Having to avoid certain things, places, or activities because they frighten you	0	1	2	3	4
32. Your mind going blank	0	1	2	3	4
33. Numbness or tingling in parts of your body	0	1	2	3	4
34. The idea that you should be punished for your sins	0	1	2	3	4
35. Feeling hopeless about the future	0	1	2	3	4
36. Trouble concentrating	0	1	2	3	4
37. Feeling weak in parts of your body	0	1	2	3	4
38. Feeling tense or keyed up	0	1	2	3	4
39. Thoughts of death or dying	0	1	2	3	4
40. Having urges to beat, injure, or harm someone	0	1	2	3	4
41. Having urges to break or smash things	0	1	2	3	4
42. Feeling very self-conscious with others	0	1	2	3	4
43. Feeling uneasy in crowds	0	1	2	3	4
44. Never feeling close to another person	0	1	2	3	4
45. Spells of terror or panic	0	1	2	3	4
46. Getting into frequent arguments	0	1	2	3	4
47. Feeling nervous when you are left alone	0	1	2	3	4
48. Others not giving you proper credit for your achievements	0	1	2	3	4
49. Feeling so restless you couldn't sit still	0	1	2	3	4
50. Feelings of worthlessness	0	1	2	3	4
51. Feeling that people will take advantage of you if you let them	0	1	2	3	4
52. Feelings of guilt	0	1	2	3	4
53. The idea that something is wrong with your mind	0	1	2	3	4

5.2 Wave Two measures

Ideal Value Ratings – Self, Mother and Father version

(Arnold, 1993; Pratt, Arnold, & Hilbers, 1999; Pratt, Arnold, Prett, & Diessner, 1999)

Please circle how important that you feel that the following values are for you (or your mother, your father). A rating of zero indicates that the value is not important at all while a 6 indicates that the value is very important. The blanks at the bottom are for other values not listed on this form.

For this questionnaire, I will be talking about

_____.

	Unimportant ----------Very Important						
Good Citizen	0	1	2	3	4	5	6
Honest	0	1	2	3	4	5	6
Fair/Just	0	1	2	3	4	5	6
Kind/Caring	0	1	2	3	4	5	6
Integrity	0	1	2	3	4	5	6
Trustworthy	0	1	2	3	4	5	6
Polite/Courteous	0	1	2	3	4	5	6
Loyal	0	1	2	3	4	5	6
Ambitious	0	1	2	3	4	5	6
Careful/Cautious	0	1	2	3	4	5	6
Independent	0	1	2	3	4	5	6
Open/Communicate	0	1	2	3	4	5	6
	0	1	2	3	4	5	6
	0	1	2	3	4	5	6

Moral Socialization in the Family Interview Script (MoSo-Fam)

Thank you for agreeing to participate in the second prong of this study. As you know, we are interested in how one's family upbringing contributes to anxiety. For this part of the study, we are particularly interested in how you learned about right and wrong from your family growing up. Before we get to the questions about right and wrong, I need to know some information about your parents or guardians growing up. Who would you say were your primary caregivers growing up? (Interviewer writes responses below.) (If more than two caregivers are listed, then ask the following.) Of these caregivers, who would you say were the two that most influenced your current moral views? (Circle these names.)

_____

_____

_____

Now you are going to fill out these two one-page questionnaires about the most important values for (name the caregivers listed above). When you are done with this, I'll ask you more specific questions about these values, as well as other questions about your experiences growing up.

As I mentioned before, for this part of the study, we are particularly interested in how you learned about right and wrong from your family growing up. When I say "growing up," I mean any time throughout your childhood, from when you were a toddler all the way up through when you came to college. There are no correct or incorrect answers for these questions as everyone's experiences are different. Please just do your best to answer honestly. Also, please remember that this interview is completely voluntary and you are free to refuse to answer any of the questions.

For the rest of the interview, when I ask you about your caregivers or your family, I am referring to (insert the one or two primary caregivers listed above). First, we're going to talk about values. Everyone has certain beliefs or characteristics that he or she holds in very high esteem. These beliefs influence people's thoughts, e[motions, and the decisions that they make. We will refer to these very influential and important beliefs as values.

1. On the Ideal Values Ratings questionnaire, you rated the extent to which your caregivers felt that certain characteristics were important. Tell me a little bit more about your caregivers' primary values growing up.

Remember to ask about both caregivers for this.

For ambiguous answers, you can say something like, "(Value X) can look different to different people. Can you tell me a little bit more about how (Value X) looked for your caregiver?"

2. How did your caregivers demonstrate these values?
If necessary, stress that this question is about actions rather than verbalizations.

3. How, if at all, did your caregiver(s) discuss these values with you?
If necessary, stress that this question is about explicit discussions rather than verbalizations that suggest that a value is important.

Next, we'll talk about discipline practices in your family growing up. By discipline, I mean any consequence issued by your caregivers in response to your negative behavior.

4. Were the rules in your house clear and consistent?
Prompt: How clear and consistent do you think they were as compared to other households?

5. What were the consequences for bad behavior like in your family growing up? Please tell me about consequences for both minor and major rule-breaking.

6. Was discipline fair and consistent?
Prompt: How fair and consistent do you think it was as compared to discipline in other households?

7. How, if at all, did your caregivers discuss discipline practices with you growing up?

8. What do you think motivated your compliant behavior growing up? That is, why did you follow rules?

Religion plays a big role for some families in the learning of right and wrong, while in others it does not. The next set of questions has to do with your family's religious beliefs and participation in religious activities.

9. Growing up, how often did you attend church, mosque, synagogue, temple, or other religious meetings with your caregivers?

10. How, if at all, was religion a part of your daily life at home?

11. How did your caregivers demonstrate their religious beliefs?

12. How, if at all, did your caregivers discuss their religious beliefs with you?

Coding Manual for MoSo interview
Subject ID: _____

This form is to be used to code responses to the Moral Socialization in the Family interview and has been designed to transform qualitative responses into categorical data by theme and, where applicable, intensity. Although the coding sheet is broken down in roughly the same manner as the interview questions, it is important that all relevant responses generated by the individual be coded in the appropriate section. That is, an individual may provide information relevant to the religion section during the values section of the interview or vice versa. Please take care to code all responses regardless of when they are stated.

Relationship of Caregiver #1 to Participant: _____

Relationship of Caregiver #2 to Participant: _____

Values

I) Content of Values

Value content can be coded from the interviewee's explicit endorsement of particular adjectives (such as those listed below) or by the interviewee's description of valued behavior. That is, if a respondent states that his mother felt that it was important for him "to do all the 'yes sir, yes ma'am, thank you' kind of stuff," then the coder would place a check in the box corresponding to Mother-Politeness/Social Graces.

For responses that invoke culture, examine the content to determine if the value fits best into the self-esteem/pride/confidence/identity category, or non-moral. All areas should be coded for presence vs. absence of theme; therefore it is not necessary to put multiple checks in one box should the respondent mention more than one adjective/concept corresponding to a category below. Codes are not mutually exclusive and will be collapsed into broader content areas, following the shaded/non-shaded items.

Themes Mentioned	Caregiver 1	Caregiver 2
Kindness/Care for Others		
Family Closeness		
Politeness/Social Graces		
Loyal		
Respectful – toward others in general		
Other Care-centered _____		
Honesty/Integrity		

Responsible		
Respect for Authority or Rules		
Fair/Just		
Other Non-Care Moral _____		
Independence/Self-Sufficiency		
Individuality/Uniqueness		
Self-Esteem/Pride/Confidence/Identity		
Ambition/Achievement		
Themes Mentioned	**Caregiver 1**	**Caregiver 2**
Religion/Spirituality		
Safety/Caution		
Other Non-Moral _____		

II) Demonstration of Values

The distinction between modeling-interpersonal and modeling-individual refers to whether or not the parent demonstrated the value with another person. Obviously, some values, such as "kindness/care for others" are necessarily interpersonal and any modeling would be done with respect to another person. For example, an interviewee who says that his mother is providing for his sister "the same kind of constant [emotional] support that [she provided] for us," would be indicating that his mother demonstrated this value interpersonally both with him and with other family members. Therefore, the coder would place a check in the "Mother-Modeling, interpersonal with interviewee" and the "Mother-Modeling, interpersonal with family" categories.

Other values may or may not be modeled with another person. For example, a mother who "wouldn't let me drive until I was 18 because she thought it was dangerous" would be interpersonally modeling safety/caution as a value with the interviewee, while a father whose "thought process was always dictated by the worst possible outcome" would be modeling the safety/caution in terms of his own behavior. The first response would correspond with a check in the "Mother- Modeling, interpersonal" with interviewee category while the latter would be associated with "Father-Modeling, individual."

The category for "No Demonstration" is to be used *only* if the individual states that he or she doesn't think that the parent displayed the value in any way. It is not to be used in the event that an interviewee states that he or she does not know or simply can't remember. Neither "No Demonstration" nor "Don't Know" can be coded with other responses. Therefore, if an interview indicated that he or she doesn't know and then provides another codeable answer, "Don't Know" should not be checked. Finally, if the participant is vague about which parent demonstrated the values (e.g. "In my house, honesty was everywhere"), code the behavior for BOTH parents.

NOTE: Direct instruction is no longer listed here, since it will be captured in the next question. Also discussion after transgressions is to be listed in the interpersonal modeling section.

Parental Demonstration of Values	CG #1	CG #2
Modeling, interpersonal with interviewee		
Modeling, interpersonal with other friends/family		
Modeling, interpersonal with strangers		
Modeling, individual		
Indirect Instruction (e.g. through fables, videos)		
No Demonstration of Particular Value(s)		
Demonstrated Behavior Contrary to Value(s)		
Don't Know		
Other _____		

III) Discussion of Values

This category is to be coded with respect to the presence of discussions as well as the frequency/intensity of these discussions if they are present. Examples of high and low frequency/intensity value discussions are provided below. In general, any indication that the discussion occurred more than sporadically would bump it up to a "high frequency" rating. **Without a clear indication, the default is "low frequency".** Intensity is to be taken into account too, as the main construct of interest concerns the *salience of values* in the family. That is, if an individual mentions that he or she remembers a few times when a parent sat him or her down to create a "values statement," as one pilot subject mentioned, this would qualify as a "high frequency/intensity" rating as the discussion was explicitly focused on values. Note that discussion of values refers to overt and explicit discussions about values, rather than verbalizations that indirectly reveal values (which would be coded in demonstrations above).

Low: "She'd mention [manners] every now and then, like before we had company over."
High: "[Values were] often discussed within the context of religion and church and the Ten Commandments and the teachings of Jesus and whatnot." Or "my dad would make up stories at night and they always had a moral lesson."

Presence of Discussions	----------
- high frequency/intensity	
- low frequency/intensity	

No Discussion	
Don't Know	

Discipline

IV) Clarity/Consistency of Rules

Rate the response based on the respondent's discussion of both clarity and consistency. High clarity ratings would contain indication that the respondent emphatically believes that rules were clear and consistent. Rules in these households may have been particularly salient. Medium ratings would indicate that the level of clarity and consistency was about what would be expected in most homes. Respondents who allude to mixed clarity/consistency (e.g., "They were very clear until I was a teenager;" "The rules were written in stone, but weren't consistently applied") can also be placed into the medium category. **Think of medium as the default value.**

Low clarity/consistency indicates that the respondent felt the rules were neither explicit nor consistently enforced. Examples of each from pilot interviews are provided below.

	Level (mutually exclusive)
High Clarity/Consistency	
Medium/Mixed Clarity Consistency	
Low Clarity/Consistency	

High Clarity/Consistency: "Definitely. You knew when you were doing something wrong, no doubt."

Medium Clarity/Consistency: "For the most part, yes."

Low Clarity/Consistency: "No. (laughs) We were good kids so that might be part of it, that they didn't need to enforces lots of rules. But no, we didn't have rules consistently."

V) Forms of Discipline

The code "Absent/Infrequent Discipline" is only to be used when the interviewee indicates that his or her parents did not punish even when he or she was misbehaving. For cases in which a respondent indicates that he or she was rarely punished because of good behavior, "Few Opportunities for Discipline" should be coded. Note that one can code these two categories *in addition to others*. Thus, if an interviewee states that she doesn't remember because "I was such a good kid to make up for my brothers," but then indicates that she was grounded, both "Few Opportunities" and "Loss of Privilege" would be checked. Many respondents will speak about discipline without

differentiating between caregivers and so the coding is only for presence and absence overall rather than for mother and father separately.

Discipline Practices	Presence
Loss of Privileges or Allowance	
Corporal Punishment	
Affective Consequences (Loss of Affection/Love Withdrawal/Guilt Trips)	
Induction (discussions about behavior/consequences)	
Addition of Other Negative Stimuli (e.g. chores, writing, soap in mouth)	
Verbal Warning or Scolding/Shouting	
Absent/Infrequent Discipline	
Few Opportunities for Discipline	
Don't Know	
Other _____	

VII) Fairness and Consistency of Discipline

This will be evaluated as a dichotomous outcome: high/medium and low fairness/consistency. **Think of high/medium as the default.** Responses like, "I guess so" and "for the most part" would not bump the rating down, but more extensive explanations would. For example, see below.

High/Medium Fairness/Consistency: "I mean, I felt like the discipline was pretty fair and consistent. There were a few times when I thought, you know, I'd been punished too harshly or something like that, but not much."

Low Fairness/Consistency: "It was inconsistent, yeah. Like I could never tell which parent was going to be the nice one and which wouldn't."

	Level (mutually exclusive)
High/Medium Fairness	
Low Fairness	

VIII) Child's Emotion

Participants are asked directly about their experience of emotion during disciplinary situations. Record any response mentioned here, even if the individual states that he/she rarely felt that way. For example, one pilot participant indicated that parental discipline was "very confusing" because he was never sure of exactly what kind of discipline he would receive after a transgression. He stated that he would occasionally get angry, but that confusion was the primary affect. In that case, both confusion and anger would be coded.

Take care to distinguish between anger at a parent and anger at oneself. The self-directed emotions will eventually be collapsed with guilt/shame, whereas anger will be grouped with irritation/frustration. Also, although every attempt was made in the interview to elicit emotion words, sometimes participants only described behavior. In these rare cases, match the behavior with the corresponding emotion (e.g. "I would cry and mope" with "Sadness").

To code a response in the No/Little Emotion category, the participant must allude to a subjective experience that either lacked emotion or was very low in emotion. That is, a participant who states "I don't think I felt anything; I just accepted it" or one who mentions feeling "stoic" would get this code. Because it may reflect low levels of emotion, it is permissible to use this code along with others. That is, if someone states that he/she felt "very little emotion, maybe a little bit of frustration," then both Little/No Emotion and Frustration would be coded.

Emotion	Presence in Child
Anger (at parent)	
Frustration/Irritation (and other lower level anger)	
Guilt/Shame	
Other Self-focused (e.g. embarrassment, anger at self)	
Fear/Anxiety	
Confusion	
Sadness	
Resignation	
Other _____	
No/Little Emotion Recalled	

IX) Parents' Emotion

Again, for parents' emotion, try to focus on the emotion being conveyed by the behavior. For example, a parent may cry out of anger, sadness, or guilt – try to use the context to determine which is the most appropriate response. The same rules as above apply to the Little/No emotion category – it may be coded with other responses.

Emotion	CG #1	CG #2
Anger (e.g. yelling, "flipping out")		
Frustration (and any lower level anger)		
Disappointment		
Guilt		
Sadness		
Confusion		

Positive Emotion		
Other _____		
No/Little Emotion Recalled		

X) Motivation for Compliance

This question is intended to elicit answers about individuals' motivation to follow rules and may give insight about the relationship between parent and child, as well as the level of internalization of values. The codes are not mutually exclusive and more than one may be checked, based on the interviewee's response. The "Relationship with Parents" category is intended to capture responses that allude to the child's desire to please his or her parents, or to preserve a positive relationship with parents.

Although the first three questions both have to do with avoidance, the target of that avoidance is different. For example, in the first category "Avoidance of Punishment," it is the actual caregiver-given consequence that is being avoided. In the second one, "Avoidance/Fear of emotion," it is the avoidance of feeling guilty, sad, or afraid, rather than the consequence. Finally, "Relationship with Parents," explained above can also be framed as avoidance (e.g. avoiding hurting my parent's feelings) or as promotion (preserving harmonious relationships). Both "little motivation to comply" and "little motivation to break rules" are to be coded exclusively. That is, they are only to be coded if they are the only thing stated by the participant. If the participant says anything else, then you can erase the initial designation in either of these categories.

Motivation:

Motivation	Presence
Avoidance/Fear of Punishment	
Avoidance/Fear of Emotion (e.g. guilt, fear)	
Relationship with Parents (didn't want to harm relations)	
Intrinsic Belief in Values	
Little Motivation to Follow Rules **	
Little Motivation to Break Rules **	
Role Models (e.g. siblings followed rules)	
Don't Know	
Other _____	

** = exclusive code

Religion

XI) Religious Attendance With Family

This one should be pretty straightforward. If the respondent states that attendance fluctuated, please code the most frequent period of time. Also note that

religious attendance is to be coded only with respect to attendance with caregivers. Therefore, if an individual says that he/she went to temple only once a year with family, but weekly as part of a religious club, then "Fewer than Monthly" would be coded. For in between answers, code the category that corresponds to "at least" – that is, if someone says that they go to church two times a month, then monthly would be scored.

Frequency (at least)	Response
Never	
Fewer than Monthly	
Monthly	
Weekly	
More than once per week	

XII) Religion in the Home

Participants are asked the question "How was religion a part of your daily life at home?" The responses from this question should be coded in one or more of the spaces below. Note that because this is an interview about socialization, family practice is to be coded, rather than the participant's engagement in the activities alone. That is, like the above question, praying with family would be counted here (or viewing parents pray), but the participant him/herself praying alone would not. Also, note that the first code, "none" cannot be coded with other responses.

	Presence
None	
Customs (saying grace, Shabbat dinner)	
Religious teaching (devotionals, Bible study)	
Visible individual practice (reading scripture, prayer)	
Use of religion to soothe or help coping	
Other-focused (e.g. praying for others)	
Criticism/skepticism about religion	
Other: _____	

XIII) Demonstration of Religious Beliefs

Demonstration of religious beliefs is rated on a three-point Likert scale from absent demonstration to a high level of demonstration. Below are examples from interviews that exemplify each category.

Very Demonstrative: "…She just demonstrated it a lot in her relationships with the people in church and you know making a real effort to make them a part of my family and have a really strong church background influence…"

Some Demonstration: "during major festivals we would have some sort of prayer so I guess that was more of like a family tradition"
No Demonstration: "[Religion] was a complete non-presence."
Note: Demonstration in this case is of actual religious beliefs, and therefore would not include things like criticism or religion or skepticism.

	Level (mutually exclusive)
Very Demonstrative	
Some Demonstration	
No Demonstration / NA	

XIV) Discussion of Religion

In the interview, participants are questioned about how their primary caregivers discussed religion with them. This scale integrates information about the presence, frequency, and valence of discussions. If the individual states that religion was discussed but does not indicate whether the talks were positive or negative, **code positive as the default.**

There may be some situations in which there is both positive and negative discussion of religion. In these cases, it is permissible to code both. Generally, in this case, they are both infrequent (a little bit of good and a little bit of bad), but in rare cases, one or both may frequent.

	Level (mutually exclusive)
Discussion – Positive	
Discussion – Negative	
No Discussion	

Moral Socialization in the Family (MoSo) Codes and examples

Code Name	**Example from Wave Two Participant Interviews**
Parental Values	
Care Based Moral	"My mom, values, you know… being kind and, being more …compassionate.
Non-care Based Moral	"I'm not sure, I guess it was always just really important that we were honest."
Self-sufficiency	"…I sort feel like [my dad valued] street smarts maybe, to know how to handle situations. And in order to do that, you have to experience a lot and you have to be independent."
Ambition/Achievement	"Okay I think that for both of my parents, they really emphasized hard work. Because they're immigrants and that was a really big thing in our household."
Religion/Spirituality	"I definitely think that her primary value would be her religious relationship with God and her prayer life and her spiritual life. She's very, um, has this um, ideal of wanting to be as pious as possible and reflect that."
Safety/Caution	"So for my mom, I'd probably say cautious…"
Other	"Exercising was a huge thing for her, like staying fit and stuff."
Demonstration of Values	
Interpersonal modeling	"Well, I think- she spent a lot of time with us when we were younger. She's a stay-at-home mom and that's something as I've gotten older, she's talked about how she was really happy as a stay-at-home mom because she liked being able to be there for us and to take care of us firsthand while we were growing up."
Individual modeling	"Yeah, her parents died pretty young and so, um, she basically had to take care of herself and with the support of her siblings. I think it was when she was seventeen or eighteen. And I think it just kind of shows a good deal of independence in her."
Indirect Instruction	"I know a lot of the, like, we grew up reading a lot of books so I'm sure through reading books she got some messages out."
Demonstrated Behavior Contrary to Values	well, I guess as a child I never really questioned if my parents were being honest with me, I always assumed they were being honest with me even though when I was in high school, maybe it was the summer before I came to college, I realized that there was a huge lie in my family which I'm not going to talk about what the lie was - but it was a really big lie which shocked me a lot.
Discussion of Values	
Low Frequency	"Not so much just telling me what to, but like just kind of mentioning it, like "oh that was nice to go up to that person and say hi."
High Frequency	"I guess when I was growing up she would take out the Bible and read stuff and … this is how you should live your life sort of. And then… I guess she would like point out certain things, like if I did something that she didn't feel was necessarily like the best way to act or whatever, she would point it out and say, *well, this is another way you could do it* or *maybe this is more beneficial because you have to consider other people's feelings*.
No Discussion	"No, neither of them really had conversations [about values]."
Clarity/Consistency of	

Rules	
High	"Definitely consistent. I have four other sisters so they were pretty fair about everything. You know, you get to do certain things at certain ages so if you kind of violated that, there would be some punishments."
Medium/Mixed	"Yeah, I think so. Pretty consistent."
Low	"Uh, no… my dad's a very inconsistent person. Like he'll, if I ask him if I can go to a party, or go to, I don't know, something when I was younger, the first reaction would be like, *No, you have to stay home, blah blah blah* and then he'd let me go. So, yeah."
Forms of Discipline	
Loss of Privileges	"Probably like not being able to have sleepovers with friends, or just not being able to like do things with other people and just kind of being housebound."
Corporal Punishment	"Well, when I was young, we used to get spanked and what have you."
Affective Consequences	"They were more like emotional guilt trips and that kind of thing."
Induction	"I guess they would explain why it would be bad to not go to bed and so it made sense. And like I guess, when I did do it, like say stayed up really late and woke up tired, they would say *well look, see this is why we do this.* Like *this is what happens when you don't listen.*
Addition of Other Negative Stimuli	"And so if my sister and I were acting up, she'd make us go outside and run around the house a few times. Well, because she also thought that we needed exercise."
Verbal Warning or Scolding	"They'd get mad and they'd yell. It was mostly yelling. But other than that… my parents really didn't intimidate me at all as I got older."
Absent/Infrequent Discipline	"I was getting away with a lot of stuff. But against the background of things [my siblings] were doing, and also getting caught since they weren't as clever as I was… I mean not… it's true, trust me. Yeah, I guess with that background it didn't seem so bad."
Few Opportunities for Discipline	"I honestly, like, can't think of any time that we misbehaved. Like the two biggest things I could think about were like when we would get in little petty fights with my mom about little things."
Fairness and Consistency of Discipline	
High/Medium	"Yeah, I think it was, because we were able to learn our own lessons that way. And we weren't just scared of the punishment, we'd just… we acted good on our own behalf.
Low	"I don't feel like it was always fair. A lot of it was just from parents having a long day or being in a bad mood."
Child's Emotion During Discipline	
Other-focused Anger	"Usually I felt… anger for thinking that the punishment was a little unnecessary."
Guilt/Shame/ Embarrassment	"I guess [I was] just embarrassed more than anything that my mom had said in front of the cashier: *you can't do that, that's bad, you need to go back over there and apologize to them.*"
Fear/Anxiety	"I guess it's like fear of my dad and just like his random acts of vengeance. Like we have to worry if he's in a bad mood and we do

	something that's not like perfect."
Sadness/Resignation	"Sad, and it definitely wasn't always toward her, of course it was a little bit toward her, but more like why did I do whatever I did to lose it."
Other	"Probably defensiveness."
Little/No Emotion Recalled	"I guess kind of, like, apathy."
Parents' Emotion During Discipline	
Anger	"He always looked really angry. I remember when I was little, he was really scary when he was angry."
Disappointment	"Yeah. It was just mainly disappointment probably."
Guilt	"I would say hers went anger to guilt. Anger like at first for me breaking the rules and then guilt for such a punishment when it was probably blown out of proportion."
Sadness	"She was more emotional. Like with, depending to the degree of what it was, um, she would cry… like a sadness that we didn't listen or obey her."
Little/No Emotion Recalled	"But he would, a lot of times, he would tell my mom to not say so much, to leave me alone or whatever. 'Cause he felt like that was getting in the way or whatever of developing as a person. So I don't really know what emotions he was feeling or how to describe it."
Motivation for Compliance	
Avoidance/Fear	"Oh I think probably because I didn't like privileges being taken away."
Relationship with Parents	"As I got older, you then start to see that, specifically with my dad, when he gets disappointed, you can tell it really, uh, has a… it seems that for someone to get disappointed in you is a different, elicits a different reaction than someone getting angry in you if that makes sense at all."
Intrinsic Belief in Values	"Thinking of the rules that they had, I agreed with them. Like I think they were right."
Little Motivation to Comply	"Um… I don't really think there was much. I mean, I did break the rules regularly. And I did things I knew they wouldn't like on a number of occasions."
Little Motivation to Break Rules	"We didn't have really strict rules. I mean I always had rules but there wasn't really a need to do the opposite a lot of times."
Role Models	"And most other people that I associated with, my friends… they seemed to comply with the rules too."
Religious Attendance with Family	Rated as Never, Fewer than Monthly, Monthly, Weekly, More than Once Per Week
Religion in the Home	
None	"It wasn't really a big part of our daily life at home. I mean my mom had a crucifix over the door and that sort of thing, but it wasn't a big, you know, it wasn't a huge part of our life at home or anything like that.
Customs	"We prayed before every meal. And when I was little they would tell me about God and like sometimes, I don't know, I lived in Columbia so instead of Santa Claus bringing presents, it was baby Jesus bringing presents."
Religious Teaching	"So, uh, we used to have like a fellowship group once a month and

	everyone would get together. And like the parents would do Bible study, but we, the kids, would kind of like, we'd have a lesson, but it was more play."
Visible Individual Practice	"There are these meditations, these practices, they're pretty popular in India. So yeah, so she started doing that so… and she started helping the organization who was, like, teaching it."
Use of Religion to Soothe or Cope	"She would pray, you know, pray and ask for help and strength to help you get through these things."
Criticism/Skepticism about Religion	"And my dad, he is more of the scientist and he doesn't, he doesn't believe in religion at all and um he kind of disapproves of it."
Demonstration of Religious Beliefs	
Very Demonstrative	"I would say by praying together, talking about it, anytime we'd have a question my parents would talk about it. Going to church and that stuff… like when I talk to my mom now on the phone, one of the last things she says is like, *Well, ok now what can I be praying about?*"
Some Demonstration	"Well, [my praents were] just like, *We're Jewish; you're gonna go to synagogue until you're 13, get a Bar Mitzvah and then do whatever you want.* And like my mom tried to make sure I'm culturally Jewish, but not religiously."
No Demonstration/NA	"Not at all. Like I was home a few weeks ago, or maybe a few months ago now, and my mom goes, *oh it's Palm Sunday* and I said, *what's Palm Sunday?*"
Discussion of Religion	
Frequent Positive	"But my mom is, she's very religious so she'll use religion to explain things and she'll refer back to it a lot."
Infrequent Positive	"My mom's been a pretty spiritual person all my life. So she liked to spend a lot of time in her garden because she said that she could communicate with god better there."
None	"Not really; we just … no, we didn't talk about that kind of stuff."

5.3 Caregiver Wave measures

Memories of My Upbringing Scale – Parent Version

(EMBU; Perris et al, 1980; Castro, de Pablo, Gomez, Arrindell, & Toro, 1997)

Please read the following questions and rate them based on how true you think they are for your upbringing of your son or daughter. Please rate the items based only on your interactions with the individual in the study, and not based on your interactions with your other children. Some of the questions ask explicitly about your behavior with this child in comparison to his or her siblings. If this does not apply (i.e. the child is an only child), you may skip those items.

	Never	Seldom	Often	Most of the Time
1. You have shown with words and gestures that you liked your child.	1	2	3	4
2. You have punished your child even for small offenses.	1	2	3	4
3. You have tried to influence your child to become something superior.	1	2	3	4
4. You have wished your child was different in some way.	1	2	3	4
5. You have been too strict with your child.	1	2	3	4
6. If your child has done something foolish, (s)he has been able to make things right again by asking for your forgiveness.	1	2	3	4
7. You have wanted to decide how your child should be dressed or how (s)he should look.	1	2	3	4
8. You have treated your child unjustly in comparison with your other children.	1	2	3	4
9. You have forbidden your child to do things that other children were allowed to do because you were afraid that something might happen to him/her.	1	2	3	4
10. You have beaten or scolded your child in the presence of others.	1	2	3	4
11. You have cared about what your child did in the evenings.	1	2	3	4

	Never	Seldom	Often	Most of the Time
12. If things have gone badly for your child, you have tried to comfort and/or encourage him/her.	1	2	3	4
13. You have been sincerely worried about the health of your child.	1	2	3	4
14. You have given your child more corporal punishment than (s)he deserved.	1	2	3	4
15. You have become angry if your child did not help at home with what (s)he was supposed to do.	1	2	3	4
16. You have looked sad or in any other way shown that your child behaved badly so that (s)he developed any real feelings of guilt.	1	2	3	4
17. You narrated something your child had done or said in front of others so that (s)he has felt ashamed.	1	2	3	4
18. You have shown that you were interested in your child getting good marks.	1	2	3	4
19. You have helped your child if (s)he had a difficult task in front of him/her.	1	2	3	4
20. You have said this kind of thing to your child: "Being so grown up, you can't behave like that."	1	2	3	4
21. You have been sad because of your child.	1	2	3	4
22. You have tried to spur your child to become the best.	1	2	3	4
23. You have demonstrated you were fond of your child.	1	2	3	4
24. You have trusted your child to allow him/her to act under his/her own responsibility.	1	2	3	4
25. You have respected your child's opinions.	1	2	3	4
26. If your child has had little secrets, you have wanted to know them.	1	2	3	4
27. You have wanted to be together with your child.	1	2	3	4
28. You think that you have been mean and grudging toward your child.	1	2	3	4
29. When your child has come back home, (s)he has always had to account for what (s)he had been doing.	1	2	3	4
30. You have tried to make your child's childhood and adolescence stimulating, interesting, and	1	2	3	4

instructive (e.g. by giving good books, arranging for him/her to go to camps, etc)?				
31. You have praised your child.	1	2	3	4
32. You have said this kind of thing to your child: "This is the way you show your gratitude for all the sacrifices we have made for you?"	1	2	3	4
33. If your child has been sad, (s)he has been able to seek comfort from you.	1	2	3	4
34. You have said that you did not approve of your child's behavior at home.	1	2	3	4
35. You have been interested in the kinds of friends your child has had.	1	2	3	4
36. This child has been the one whom you have blamed if anything happened.	1	2	3	4
37. You have been abrupt with your child.	1	2	3	4
38. You have punished your child harshly, even for trifles.	1	2	3	4
39. You have beaten your child for no reason.	1	2	3	4
40. You think your child has wished you would worry less about what (s)he was doing.	1	2	3	4
41. You have engaged yourself in your child's interests.	1	2	3	4
42. You have beaten your child.	1	2	3	4
43. Your child has been allowed to go where (s)he liked without you caring too much.	1	2	3	4
44. You have put decisive limits on what your child was and was not allowed to do – to which you have adhered vigorously.	1	2	3	4
45. You have treated your child in such a way that (s)he felt ashamed.	1	2	3	4
46. You have had an exaggerated anxiety that something might happen to your child.	1	2	3	4
47. You think that warmth and tenderness have existed between you and your child.	1	2	3	4
48. You have been proud when your child succeeded in something (s)he had undertaken.	1	2	3	4
49. You have shown that you were happy with your child.	1	2	3	4

PIRBS - PV

This questionnaire asks about what things were like for your son/daughter as a child. There are no right or wrong answers, we are just interested in what things were like for your child when s/he was growing up. Of note, some items read "my spouse and/or I". Please also consider romantic partners if applicable. Please read each statement carefully and then and then darken a response to indicate how frequently that statement was true for your child.

	When my child was young. . .	Never	Rarely	Sometime	Often	Always
1.	. . . my child was taught to follow a precise set of rules	1	2	3	4	5
2.	. . . my child was responsible for protecting a family member/ family members	1	2	3	4	5
3.	. . . my child was taught that rules were to be obeyed without discussion	1	2	3	4	5
4.	. . . my child was responsible for the cooking	1	2	3	4	5
5.	. . .our family cared a lot about following rules	1	2	3	4	5
6.	. . . my child was responsible for keeping our house functioning smoothly	1	2	3	4	5
7.	. . .my spouse and/or I frequently preferred to do things for our child rather than have him/her do them him/her-self	1	2	3	4	5
8.	. . .my spouse and/or I thought that our child was unable to deal with danger	1	2	3	4	5
9.	. . .my spouse and/or I strongly valued obedience	1	2	3	4	5
10.	. . .my spouse and/or I thought that our child couldn't handle things	1	2	3	4	5
11.	. . .adults around my child strictly enforced rules	1	2	3	4	5
12.	. . .my spouse and/or I thought that our child couldn't protect him/her-self	1	2	3	4	5
13.	. . . my child was more like a parent than most kids his/her age	1	2	3	4	5
14.	. . .my spouse and/or I did many things to protect our child	1	2	3	4	5
15.	. . . my child had more responsibility for taking care of him/her-self than most kids their age	1	2	3	4	5

5.4 Other Forms

Consent to be Contacted Regarding an Additional Study

We will be conducting an additional study concerning moral socialization and anxiety. This study will last from 15-35 minutes and you will be compensated $10 for your time. May we contact you about this additional study later in the semester? Participation in the additional study also is entirely voluntary and you are free to decline participation now and at any time in the future. You also are free to say that you do not want to be contacted.

Name_____

Email_____ Phone Number_____

Please check your preferred method of contact: _____ Email _____ Phone

_____ (Initial) YES, I give my permission to be contacted later this semester about participating in an additional study. I understand that I am under no obligation to give permission to be contacted or to participate in the additional study.

If 'Yes,' please provide the following information:
Birthdate: _____
Today's date: _____
Graduation date: _____

_____ (Initial) NO, I do not give my permission to be contacted later this semester about participating in an additional study.

E-mail to Participants with High Scores on Measure of Psychopathology

Dear (participant name):

This is Amy Mariaskin, the investigator of the psychology study that you completed for the subject pool on (date). The reason I'm writing is because we routinely glance over the questionnaires completed by study participants. When people give high ratings to certain complaints, we like to follow up with them.

The responses on a few of the questionnaires that you filled out suggest that things may be particularly rough for you right now. In cases like this, we contact people to see how they're doing and to see if they're aware of the resources that are available to them on campus for talking with someone or entering into counseling. I apologize if it seems intrusive, but we feel like it's our responsibility to follow up in situations like these and provide information to you if you want it.

Are you interested in receiving this kind of information? If you're facing a lot of challenges right now, seeking help may be a very constructive thing.

I apologize again for contacting you in this way, but please believe that our intentions are good. Thanks for your time, (participant name). Please reply when you get a chance – even just to let me know that you received this – and take care.

Best regards,
Amy Mariaskin

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Biography

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