ABSTRACT

EXPLORING THE IMPACT OF PARENTAL OVERPROTECTION ON ADULT SOCIAL ANXIETY VIA PERFECTIONISM: A MEDIATION MODEL

by Prashant Banerjee

This study investigated the mediating role of three dimensions of perfectionism on the relationship between parental overprotection and social anxiety. The three dimensions of perfectionism – Concern over Mistakes, Doubts about Actions and Parental Criticism – were measured using the Frost Multidimensional Perfectionism Scale. Two hundred and eighty participants completed questionnaires measuring dimensions of perfectionism, social anxiety and retrospective report of parental overprotection. Results supported hypotheses about these dimensions of perfectionism as mediators of the relationship between parental overprotection and social anxiety. Mediation occurred for both measures of social anxiety used i.e. the Fear of Negative Evaluation Scale and the Social Anxiety and Distress Scale. Implications for future research, based on the mediation model linking parental overprotection, perfectionism and social anxiety, are discussed.
EXPLORING THE IMPACT OF PARENTAL OVERPROTECTION ON ADULT SOCIAL ANXIETY VIA PERFECTIONISM: A MEDIATION MODEL

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Although descriptions of individuals with social fears have been documented in the past, the term social phobia did not enter the diagnostic nomenclature until 1980 with the release of the DSM-III by the American Psychiatric Association (Heimberg, Liebowitz, Hope, & Schneier, 1995). Social phobia is currently defined in the fourth edition of the Diagnostic and statistical manual of mental disorders (DSM-IV) as a “marked and persistent fear of one or more social or performance situations in which the person is exposed to unfamiliar people or to possible scrutiny by others” (American Psychiatric Association, 1994, p. 416). The term social anxiety disorder is another label for this diagnostic category, which was introduced in the DSM-IV as an alternate label for this syndrome (Morris, 2001). People with social phobia have an excessive fear of being humiliated or judged negatively in social situations. In feared situations, persons with social phobia tend to be self-conscious and self-critical. Physical symptoms of anxiety, such as blushing, palpitations, sweating, and trembling are often experienced; the fear of humiliation or embarrassment may arise out of perception of people noticing these symptoms. The extent of feared situations can range from one or two discrete social settings, such as public speaking, or to most social situations (Alden, Ryder, & Mellings, 2002).

Social phobia is a relatively common disorder. A wide range of lifetime prevalence rates has been reported for social phobia. Seven cross-national epidemiological studies conducted in the 1980s reported on lifetime prevalence rates of DSM-III social phobia in the general population (Chapman, Mannuzza, & Fyer, 1995). Among them, an Epidemiologic Catchment Area study (ECA; Schneier, Johnson, Hornig, Leibowitz, & Weissman, 1992) in the United States showed a lifetime prevalence rate of 2.4%. In contrast to this prevalence rate, a National Comorbidity Survey (NCS) preliminary report estimated the lifetime prevalence rate for social phobia in the U.S. population to be 13.3 % (Kessler, McGonagle, Zhao, Nelson, Hughes, Eschleman, Wittchen, & Kendler, 1994). This is the third highest lifetime rate for a DSM-III disorder, after major depressive episodes and alcohol-related diagnoses (Chapman et al., 1995). Although similar lifetime prevalence rates have been quoted more recently (e.g., Alden et al., 2002), a much lower lifetime prevalence rate of 7.3% was reported by Wittchen and
Fehm (2001). The kind of sample used in these studies probably contributes largely to the differences in rates (Wittchen & Fehm, 2001). Subclinical levels of social anxiety may be relatively common in the general population, and it has been suggested that symptoms of social anxiety are far from being rare within the normal population (Purdon, Antony, Monteiro, & Swinson, 2001). Studies have shown that between 50% and 61% of individuals in the general population report social anxiety in at least one situation (Hofmann & Roth, 1996; Stein, Walker, & Forde, 1994). Gender differences in prevalence of social phobia tend to indicate that social phobia is more common in women. According to the ECA data (Schneier et al., 1992) mentioned earlier, lifetime rates for women were 3.1% and in men, 2%. Whereas, in the NCS report by Kessler et al. (1994), females reported 15.5% lifetime prevalence and males, 11.1% prevalence. Also, a sex ratio of approximately 3:2 female-to-male was reported, which was consistent with other ECA findings (Chapman et al., 1995). In clinical samples, however, the sexes are either equally represented or the majority are male (American Psychiatric Association, 1994, p. 414). Social phobia is more common in individuals who are young, poorly educated, of low socioeconomic status, and unmarried (i.e. never married, divorced or separated; Schneier et al., 1992).

Studies on social phobia have started to emerge in the literature only in the past decade (Hudson & Rapee, 2000). This literature generally pertains to the nature, treatment, and clinical characteristics of social phobia, while its origins have remained largely under-researched (Lieb, Wittchen, Hofler, Fuetsch, Stein, & Merikangas, 2000; Rapee & Melville, 1997; Stemberger, Turner, Beidel, & Calhoun, 1995). It is also unclear at what age social phobia is likely to emerge (Hudson & Rapee, 2000). Retrospective reports indicate an average age of onset between early and late adolescence (American Psychiatric Association, 1994), though social phobics commonly state a life-long presence of their phobic condition (Morris, 2001).

Social Phobia and Parental Style

Several possible etiological factors involved in the development of social phobia have been proposed, including biological, familial, and genetic factors (Hudson & Rapee,
There is an increasing indication of the role of familial factors in the development of social phobia (Lieb et al., 2000). The nature of familial contributions is assumed to operate via genetic as well as family environmental influences (Hudson & Rapee, 2000; Lieb et al., 2000; Wittchen & Fehm, 2001). With regard to family environmental influences, research supports the role of childrearing practices (Rapee & Melville, 1997). However, there is a vast range of terms and labels used in measures of childrearing that makes it difficult to make systematic conclusions about the childrearing factors involved in a disorder (Rapee, 1997). Factor analytic studies of childrearing questionnaires suggest two main dimensions of childrearing practices, consisting of parental behaviors and attitudes toward the child. One dimension is related to parental control and protection on one pole with the other pole being autonomy. The second dimension is related to parental acceptance and warmth on one pole with the other pole being rejection (Rapee, 1997). Measures of childrearing practices use different terms that more or less tap into the above-mentioned dimensions (see Perris, Jacobsson, Lindstrom, von Knorring, & Perris, 1980; Parker, Tupling, & Brown, 1979; Schaefer, 1990).

Retrospective accounts of child-rearing practices by offspring indicate that adults with anxiety disorders tend to recall their parents as being high on rejection (less affection/less caring) and/or control (overprotection) (Lieb et al., 2000). Such a combination of rejection and overprotection has been termed Affectionless Control (Gerlsma, Emmelkamp, and Arrindell; 1990). Gerlsma et al. (1990) conducted a literature review on perceived parental rearing practices in depressed and anxious patients. It was concluded that various types of phobic disorders were related to a parental style of less affection and more control as compared to healthy controls. When there are differences among anxiety disorders in perceived childrearing, these have tended to indicate more consistent results of greater rejection and control for social phobics, as compared to individuals with other kinds of phobic disorders (Rapee, 1997). Parker (1979), in a controlled retrospective study, compared socially phobic and agoraphobic patients’ reports of their parents’ overprotectiveness and care. It was found that social phobics rated both their parents as less caring and more overprotective than agoraphobics, whereas agoraphobics rated only their mothers as having been less caring than normal.
controls. In a similar study involving a social phobic and an agoraphobic group, Arrindell, Kwee, Methorst, van der Ende, Pol, and Moritz (1989) showed that compared with non-patient controls, agoraphobic inpatients rated their parents as lacking in emotional warmth and their mothers as rejecting, but social phobic in-patients rated both parents as rejecting, lacking in emotional warmth, and overprotective. The socially phobic in-patients assigned ratings more negatively than the agoraphobic group. Rapee and Melville (1997), in another retrospective study, compared the reports of subjects from social phobia and panic disorder groups, and non-clinical subjects, with their mothers’ reports of maternal control, parental socialization and introverted behavior in offspring, early in their lives. Social phobics rated their mothers as more controlling than the other two groups. The mothers of social phobics gave more mixed results. They reported greater control over socialization compared to the other groups on a behaviorally operationalized measure of control but did not differ in their self-ratings on control on a measure of overprotectiveness (see Rapee & Melville; 1997). However, the data were more consistent for social phobia than for panic disorder. Finally, Lieb et al (2000), in a community study, examined the association between social phobia and parental psychopathology, parenting style, and characteristics of family functioning. Using self-report, it was found that parental overprotection and rejection were associated with the development of social phobia in offspring.

Although studies in this area typically tend to be retrospective accounts of childrearing by offspring, using self-report measures (Rapee, 1997), observational studies have also been conducted that involve a direct observation of parent-child interactions. Such studies provide additional support for the association between parental overprotection and anxiety in offspring. Hudson and Rapee (2001) observed the mother-child interactions of three groups of children - clinically anxious, oppositional defiant, and non-clinical - while performing a laboratory task. The clinically anxious and the non-clinical groups differed in levels of maternal involvement. Mothers of clinically anxious children offered more help and were more intrusive than those of non-clinical children. Such an overinvolvement discourages approach and autonomy, and is in line with an overprotective style of parenting. Replicating the results of this, Hudson and Rapee (2002) observed anxiety-disordered children and non-clinic-referred children, both with
siblings, interacting with their parents. Again, they found support for the association between maternal overinvolvement and anxiety in offspring.

Even as a parental style consisting of overprotection and rejection is related to anxiety disorders in general, and social phobia in particular, it is possible that overprotection may be more related to anxiety, while rejection may be more relevant for depression. In a literature review of childrearing factors in relation to anxiety and depression, Rapee (1997) analyzed studies of self-reports by offspring and parents, and observational studies of parent-child interactions. Although these studies consistently indicated that rejection and control by parents might be positively related to later anxiety and depression, it was also suggested that parental rejection (or lack of caring) may be more strongly related to depression, whereas parental control (or overprotection) may be more strongly related to anxiety. It is relevant to note here that control may be considered a component of overprotection (Parker, 1983). Models of maintenance of anxiety and depression support the idea of control and rejection being associated with anxiety and depression, respectively. It has been suggested that threat perception and control over potential danger is central to the maintenance of anxiety (Rapee, 1991; as cited in Rapee, 1997). Parental overprotection may convey to the child that the world is a dangerous place which, thereby, reduces opportunities for the child to learn otherwise (Rapee, 1997). Important from the point of view of developing social anxiety, such overprotectiveness may hamper the development of autonomy (Lieb et al., 2000) and keep the child from engaging in social situations where learning of social skills may be facilitated (Bruch, 1989). On the other hand, models of depression focus on loss and decreased perception of positives with an increased perception of negatives (Beck, 1976; as cited in Rapee, 1997). Therefore, parental rejection may convey to the child that not only are positives from a caretaker difficult to obtain but that they are not contingent on the child’s actions (Rapee, 1997). Such a rejecting attitude then may lead to the development of depression in the child.

Parental overprotection may arise out of multiple factors. It may be a result of perceptions of vulnerability in the child due to a history of life-threatening illness, child medical condition, or being first in birth-order (Thomassgard & Metz, 1997). Overprotectiveness may also occur in the absence of vulnerability in the child. It may be
due to either the parent’s own anxious temperament independent of anxiety in the child (e.g. Hudson & Rapee, 2002) or due to a shared genetic vulnerability to social anxiety (e.g. Lieb et al. 2002). Other factors related to aspects of a dysfunctional parental style may also contribute to social anxiety in the child. Bruch, Heimberg, Berger, and Collins (1989) and Bruch and Heimberg (1994) have shown through retrospective studies, comparing participants with social phobia to those with agoraphobia and non-clinical controls, that low family sociability and parents’ strong emphasis on opinion of others were related to social phobia.

Thus, research suggests that parental styles of rejection and overprotection have been found to be associated with anxiety disorders. Although research has shown that social phobics perceive their parents as both rejecting and overprotective (e.g., Arrindell et al., 1989; Parker et al.,1979), there may be a more consistent association between parental overprotection and anxiety, while parental rejection may be more strongly associated with depression (Rapee, 1997). Although a parental style of overprotection has been related with social phobia, there is no clear indication as to the mechanism by which parental overprotection impacts social anxiety in social phobia. Perfectionism may be one factor that may explain this relationship. Therefore, research relating social phobia with perfectionism may provide possible insights into this relationship.

Social Phobia and Perfectionism

Perfectionism has been conceptualized in several different ways. There have been one-dimensional conceptualizations that have included a focus on cognitive factors in the form of irrational beliefs (Ellis, 1962; as cited in Flett & Hewitt, 2002) or dysfunctional attitude (Burns, 1980; as cited in Flett & Hewitt, 2002). Multidimensional conceptualizations include both personal and interpersonal aspects. Frost, Marten, Lahart, and Rosenblate (1990) and Hewitt and Flett (1991) developed measures of perfectionism that promoted perfectionism as a complex, multidimensional entity (Flett & Hewitt, 2002). Other conceptualizations of perfectionism are in terms of generalized perfectionism versus specific domains of perfectionism, and adaptive versus maladaptive components of perfectionism (Flett & Hewitt, 2002). Frost et al. (1990) define
perfectionism as the setting of excessively high personal standards as well as a tendency
to be overly critical of one self, when those standards have not been met.

The most frequently used perfectionism measures, pertaining to research with
social anxiety, are the Frost Multidimensional Perfectionism Scale (FMPS; Frost, Marten,
Lahart, & Rosenblate, 1990) and the Hewitt & Flett Multidimensional Perfectionism
Scale (MPS; Hewitt, & Flett, 1991) (Alden et al., 2002). Because perfectionism has been
somewhat differently characterized by these measures, describing their subscales gives an
idea of the dimensions of perfectionism each has constructed and therefore, measures.
Hewitt and Flett (1991) suggest three dimensions of perfectionism based on the origin or
target of excessively high standards. Self-Oriented Perfectionism reflects the tendency to
set high standards for oneself and to stress the importance of meeting those standards.
Socially Prescribed Perfectionism involves the tendency to believe that other people set
excessively high standards and are overly critical when these standards are not met.
Other-Oriented Perfectionism involves the tendency to set excessively high standards for
others. Of the three dimensions, Socially Prescribed Perfectionism has been found to be
more associated with psychopathology (Saboonchi, Lundh, & Ost, 1999), compared to
the other two dimensions of the Hewitt and Flett MPS.

The second multidimensional model given by Frost et al. (1990) consists of
dimensions of high standards and critical self-evaluation. Five perfectionistic dimensions
and one related dimension constitute this conceptualization. Two dimensions involve the
nature of perfectionistic thoughts and evaluations: Concern over Mistakes (CM) and
Doubts about Actions (DA). The next two dimensions, Parental Expectations (PE) and
Parental Criticism (PC) reflect the perception that parents set extremely high standards
and are overly critical of attempts to meet them. The fifth dimension of Personal
Standards (PS) reflects the setting of excessively high standards for performance and
basing one’s self-evaluation on achieving them. The sixth dimension, Organization (O)
concerns the tendency to be orderly and organized. These six dimensions correspond to
the six subscales of the FMPS. CM and DA are considered maladaptive components
while PS is considered an adaptive component of perfectionism (Frost et al., 1990).

Perfectionism has been implicated in a variety of disorders such as obsessive-
compulsive disorder, eating disorder, depression, and has relevance to social phobia. The
Frost et al (1990) definition of perfectionism appears to be relevant for the experience of socially anxiety. Socially anxious individuals set excessively high standards of performance, in feared social situations, that are often unattainable, leading to their making ‘mistakes’ in social situations (Juster, Heimberg, Frost, & Holt, 1996). Hence, they develop excessive concern over making mistakes. Even when such individuals perform adequately in social situations, they tend to disqualify or devalue their performance as being atypical (Juster et al., 1996). Such tendencies to be overly concerned about making mistakes and doubting one’s competence are in line with a model of social phobia (Heimberg, Juster, Hope, & Mattia, 1995) described later.

Doubts about one’s competence experienced by socially anxious individuals are related to a fear of others coming to know that they are anxious in actual social situations (Juster et al., 1996). That is to say, socially anxious individuals fear that others would know about their lack of competence and evaluate them negatively. It should be noted that fear of negative evaluation is one of the features of social phobia (American Psychiatric Association, 1994). The anxiety about their incompetence arises from their expectations that they would act in an embarrassing or humiliating manner in anxiety provoking social situations. Such doubts about one’s competence and fear of negative evaluation appear to be related to perfectionistic tendencies. Indeed, research supports a relationship between perfectionistic tendencies and social anxiety in social phobia (Bieling & Alden, 1997; Juster et al., 1996; Saboonchi & Lundh, 1997; Saboonchi et al., 1999). Research has shown that social phobics tend to score higher on the Concern over Mistakes, Doubts about actions, and Parental Criticism subscales of the Frost MPS as compared to either non-clinical controls or individuals with other types of anxiety disorders, while they tend to score higher on the Socially Prescribed Perfectionism dimension of the Hewit and Flett MPS in similar studies.

Juster et al. (1996) examined the relationship between components of perfectionism and social phobia by comparing social phobics with non-clinical community volunteers using the F-MPS. It was found that social phobics scored higher on Concern over Mistakes, Doubts about Actions and Parental Criticism. Further, Concern over Mistakes and Doubts about Actions were consistently associated with greater social anxiety, trait anxiety, and general psychopathology. These FMPS subscales
were correlated at .50 (p< .002) and .43 (p<.002), respectively, with the Fear of Negative Evaluation scale (FNE; Watson, & Friend, 1969) for the social phobia group. Mean scores on Parental Criticism, for social phobics, were significantly higher at p< .04 than those for the community volunteers. The groups did not differ in levels of Parental Expectations and Personal Standards. Saboonchi and Lundh (1997) used both the FMPS and the Hewitt & Flett MPS to study the relationship between perfectionism, anxiety, and self-consciousness in a non-clinical sample. Concern over Mistakes and Doubts about Actions from the F-MPS and Socially Prescribed Perfectionism from the Hewitt & Flett MPS were significantly correlated with measures of social anxiety. The correlations among Concern over Mistakes and Doubts about Actions, and social anxiety measures, ranged from .47 to .65. In another study, Saboonchi et al. (1999) compared a social phobic group, a panic disorder with agoraphobia group, and normal controls. On Concern over Mistakes and Doubts about Actions, social phobics scored higher than participants with panic disorder. In a methodologically different study, Lundh and Ost (1996), using a stroop interference procedure, compared a social phobia group with controls and found that social phobics scored significantly higher than the controls on trait measures of perfectionism. They found a significant correlation between Concern over Mistakes and Stroop interference on socially threatening words. Finally, Bieling and Alden (1997) used the Hewitt & Flett MPS with social phobics and non-phobic controls. They found that social phobic individuals scored higher on Socially Prescribed Perfectionism. Perfectionistic traits were associated with higher standards in social phobics, but not in controls.

Thus, extant research provides support for a relationship between social anxiety and perfectionism. Using comparison studies that involve social phobia groups, other anxiety disorder groups, and non-disordered groups, this relationship is generally demonstrated between social phobia and the Concern over Mistakes, Doubts about Actions and, to a limited extent, the Parental Criticism dimension of perfectionism from the Frost Multidimensional Perfectionism Scale, and the Socially Prescribed Perfectionism dimension of the Hewitt & Flett Multidimensional Perfectionism Scale. Perfectionistic tendencies may arise from exposure to a childhood environment that fosters such tendencies. Parental style may be an important component of such an
environment. Therefore, in the following section, the relationship between perfectionism and parental style is discussed.

Perfectionism and Parental Style

Research supports a relationship between perfectionism and an authoritarian parental style. An authoritarian parental style is characterized by parents being restrictive, punitive, and overinvolved (Flett, Hewitt, & Singer, 1995). Hence, it overlaps considerably with parental overprotectiveness. The research in this area generally supports a relationship between maladaptive perfectionism and an authoritarian parental style. Flett et al. (1995) found an association between maladaptive perfectionism and offspring-reports of exposure to an authoritarian parenting style. This study, using the Hewitt and Flett MPS, examined gender differences in the relationship between perceived parenting styles and perfectionism. They found that only Socially Prescribed Perfectionism was related to an authoritarian parental style. Moreover, this relationship was present only in men. Similarly, Kawamura, Frost, & Harmatz (2002) examined the relationship between perfectionism and parental styles in non-clinical college samples of Caucasian Americans and Asian Americans. It was found that an authoritarian parental style was related to maladaptive, but not adaptive, components of perfectionism. The Kawamura et al. (2002) study also found gender differences in the relationship of parental style with perfectionism. An authoritarian parental style was related to maladaptive (Concern over Mistakes, Doubts about Actions) but not adaptive (Personal Standards) components of perfectionism in Caucasian American men and women and Asian American women.

Parental Overprotection, Perfectionism, and Social Anxiety: A Mediation Model

Although research supports a relationship between parental overprotection and social anxiety (e.g., Parker, 1979), social anxiety and perfectionism (e.g., Juster et al., 1996), and perfectionism and an authoritarian parental style (e.g., Kawamura et al., 2002), the extant literature does not appear to have related all three constructs together.
Given that family environmental factors may be implicated in the etiology of social phobia (Lieb et al., 2000), there is clearly a need for research investigating whether parental styles such as overprotection impact perfectionistic tendencies in the child, which in turn would contribute to social anxiety. Research linking social phobia and perfectionism that come close to addressing parental contribution to perfectionism are those have used the FMPS. It has been mentioned previously that social phobics tend to score high on the FMPS subscale of Parental Criticism in comparison studies with other anxiety disorder groups as well as with non-clinical controls. Studies linking perfectionism with an authoritarian parental style further lend support to the relationship between parental overprotection and social anxiety.

The relationship between parental overprotection, perfectionism and social anxiety can be explained in terms of an existing model of social phobia that incorporates early childhood experiences in understanding the origins of social anxiety. Heimberg and his colleagues (Heimberg et al., 1995) proposed that genetic susceptibility, combined with early experience, sensitizes individuals to view social situations as dangerous (humiliating). Along with the belief that social encounters are dangerous, they also come to believe that this danger can be averted only by high standards of performance in such situations. However, these individuals believe that they do not have the capability to achieve such standards. Hence, socially anxious individuals enter social situations with expectations of negative consequences, resulting in anxiety and often avoidance of such situations. In actual social situations, achieving high standards is hampered by their excessive concerns over mistakes, producing a vicious cycle wherein, due to expectations of mistakes resulting in an excessive focus on self-evaluation, such individuals cannot pay sufficient attention to the task at hand in the social situation. This increases the likelihood of making mistakes. Such mistakes then make achieving the high standards even more unlikely. This model is compatible with research establishing a relationship between a parental style of overprotectiveness with social anxiety. It also explicitly relates the child’s perfectionism to social anxiety.

While both parental overprotection and parental criticism can contribute to an early childhood experience that the Heimberg et al. model mentions, parental overprotection and parental criticism may represent distinct patterns of attitudes and
behaviors directed toward the child. Overprotection can be described as involving excessive parental involvement aimed at controlling the child’s environment in order to minimize aversive experiences for the child (Parker, 1990; as cited in Chorpita & Barlow, 1998). This construct may be different from criticism, which is essentially faultfinding and therefore, harsh. Criticism may possibly be construed as parents’ evaluation of the child’s behavior in negative terms that may or may not arise out of their perception of aversive experiences that the child needs to be saved from. Therefore, parental overprotection may not always lead to criticism toward children. Criticism may be one among other possible behavioral and attitudinal patterns parents use in combination with overprotectiveness, such as rejection, mentioned previously.

Parental criticism can be either overt or criticism implied through the imposition of high standards and expectations. Rice, Ashby, & Preusser (1996) found that subjects with maladaptive perfectionistic styles reported their parents as being more demanding and critical as compared to those with adaptive perfectionistic styles. As a result, children of parents who are demanding may not themselves learn less critical ways of evaluating their own performance (Kawamura et. al, 2002). Such a self-critical tendency may contribute to social phobia, in line with negative self-evaluation being a core component of social phobia. Hence, social phobics tend to perceive their parents as critical, from the FMPS, and they also tend to perceive their parents as overprotective/controlling, as research indicates. Therefore, there is a need for research to investigate whether parental criticism mediates between parental overprotection and social anxiety. Also, excess concern over mistakes and doubting one’s actions are compatible with a negative self-evaluation, which may contribute to social anxiety. Therefore, research also needs to document whether these dimensions mediate the impact of parental overprotection on social anxiety.

Hypotheses

The purpose of the present study was to investigate a mediation model of parental overprotection, perfectionism and social anxiety to determine whether parental
overprotection influenced adult social anxiety, via the mediation of certain dimensions of perfectionism.

First, based on the extant research relating parental overprotection to social anxiety, discussed previously, it was hypothesized that parental overprotection would be correlated with social anxiety. The second hypothesis was also aimed at replicating findings that relate certain dimensions of perfectionism, using the Frost Multidimensional Perfectionism Scale (FMPS; Frost et al., 1990) with social anxiety. Therefore, it was hypothesized that social anxiety would be more strongly correlated with Concern over Mistakes, Doubts about Actions, and Parental Criticism, than with Parental Expectations, Personal Standards, and Organization. The FMPS was used for the study because of the relevance of its subscales to the study of parental overprotection, as discussed earlier. Third, based on research suggesting a relationship between parental overprotection and perfectionism (e.g., Kawamura et al., 2002; Flett et al., 1995), it was hypothesized that parental overprotection would be more strongly correlated with the three perfectionism dimensions of Concern over Mistakes, Doubts about Actions, and Parental Criticism than with the other three perfectionism dimensions of Parental Expectations, Personal Standards, and Organization. Fourth, in order to test a mediation model involving overprotection, dimensions of perfectionism, and social anxiety, it was hypothesized that the three dimensions of Concern over Mistakes, Doubts about Actions, and Parental Criticism would mediate the relationship between parental overprotection and social anxiety. This hypothesis involved only these three perfectionism dimensions because research has shown that the Personal Standard and Organization dimensions are related to positive personal characteristics (see Frost et al., 1990). Parental expectation is thought to be more closely related to Personal Standards, which measures self-expectations (Juster et al., 1996). Conceptually, Parental Criticism is related with negative aspects of perfectionism, especially concern about making mistakes (Juster et al., 1996). Also, research supports a stronger relationship between Concern over Mistakes, Doubts about Actions, Parental Criticism and psychopathology (Frost et al., 1990; Saboonchi et al., 1999). This general association with psychopathology is supported by research establishing a link between these dimensions of perfectionism and social anxiety, as was discussed earlier. Moreover, the mediation model proposed in this study sought to
conceptually relate the constructs of parental overprotection, dimensions of perfectionism and social anxiety, based on extant research that has already shown specific associations among these dimensions of perfectionism, using the FMPS, and social anxiety in social phobia. Parental care was not tested in the mediation model because of some suggestions in the extant research that parental rejection (or lack of care) was more relevant for depression, whereas parental control (or overprotection) was more strongly associated with anxiety (Rapee, 1997).

**Method**

**Participants**

All participants were students enrolled in Introductory Psychology at Miami University. They were recruited from the subject pool of the Department of Psychology. There were no qualifications on participation other than the requirement that participants be at least 18 years of age. For their participation, students were given one research credit toward their course requirements. A total of 280 students participated in the study. However, 15 participants were excluded from the analyses due to incomplete data. Hence, the final sample of participants was 265. Participants had a mean age of 19.08 years ($SD = 1.13$); 46.04% were male and 53.96% female. Most participants were Caucasians (91.70%) with marginal percents of other races such as Black/African-American (2.26%), Hispanic/Latino (1.51%), and Asian (2.64%). There was also a very small percentage (1.13%) of participants who identified themselves as biracial. Most participants were raised in their family of origin (96.98%) and most (81.13%) were also living away from their family of origin at the time of the study, for an average of 1.65 years.

**Materials and Procedure**

The advertisement, to which participants responded, stated that this was a personality study exploring the relationship between aspects of personality, parental style, and perfectionism. The term, “social phobia” or “social anxiety” was not used, due to
possible issues of social desirability that might have altered responses on the measures of social anxiety.

Participants were tested in 30 sessions in groups of no more than twenty. At the beginning of the experimental session, participants signed informed consent forms (see Appendix A). Each participant was given a numbered experimental package containing a set of six questionnaires. After each participant completed all questionnaires, a debriefing about the goals of the study was given both verbally and in writing (see Appendix B). Each participant completed a demographic questionnaire, the Parental Bonding Instrument, Mother and Father Form (Parker et al., 1979), the Frost Multidimensional Perfectionism Scale (Frost et al., 1990), the Social Anxiety and Distress Scale (Watson & Friend, 1969), and the Fear of Negative Evaluation Scale (Watson & Friend, 1969), in this order. Each questionnaire is described in detail (also see Appendix C).

Demographic questionnaire. This questionnaire contained items pertaining to participants’ age, gender, year in school, marital status, race/ethnicity, whether they were living with their family of origin, and other information about parents.

The Parental Bonding Instrument (PBI). The PBI, developed by Parker et al. (1979), is a self-report measure consisting of 25 items with responses made on a four-point Likert-type scale. It consists of two scales: the Care scale and the Overprotection scale. It is filled out retrospectively by adults to describe the parenting they received in their first 16 years. The questionnaire is filled out once to rate each parent, yielding four subscales: Maternal Care, Maternal Overprotection, Paternal Care, and Paternal Overprotection. Twelve items pertain to the care scale and 13 to the overprotection scale. Scores for both scales are obtained by summing up the scores pertaining to these items. Higher scores on both scales represent greater care and overprotection, respectively.

Using a development sample of 150 subjects from a non-clinical population, mean scores of 24.9 for the care scale and 13.3 for the overprotection scale were obtained (Parker et al., 1979). There was a significant difference in ratings based on gender of parent. The results indicated that mothers ($M = 26.9$) were experienced as more caring than fathers ($M = 23.8$), and somewhat more overprotective ($M = 13.3$) than fathers ($M = 15$).
Gender of respondents did not influence ratings for parents. A more general set of population norms using a more representative group of 410 subjects was obtained. Mean score on the care scale was 25.4, and on the overprotection scale, 12.9. Again, in terms of gender differences, the same pattern as that in the development sample was found (Parker, et al., 1979). The test-retest reliabilities for the four subscales range from .87 to .92 in a sample of depressed patients (Parker, 1981; as cited in Chorpita, & Barlow, 1998), and from .63 to .76 in a non-clinical sample (Parker et al., 1979). Test-retest reliability for the two scales of care and overprotection, using the development sample, gave Pearson correlation coefficients of .76 and .62 for care and overprotection, respectively. Split-half reliability coefficients were .87 and .73 for the care and overprotection scales, respectively (Parker et al., 1979). The dimensions identified seem robust in that they are consistent with a diversity of related measures that have yielded theoretically similar two-factor models (Gerlsma et al., 1990). Concurrent validity of the scales was determined by correlating two independent raters’ scores on care and overprotection obtained by interviewing participants, and those determined by administering the PBI to these participants. On the care scale, for both raters, a correlation of .77 between the scores determined by the two methods was obtained. On the overprotection scale, the coefficients were .47 and .50, respectively (Parker et al., 1979).

The PBI was used for this study because the scale of parental overprotection was relevant for testing the mediation model. The PBI has been used in many studies of parental style and social phobia. Moreover, the PBI has been called one among three best available retrospective measures of perceived parental rearing styles (Gerlsma et al., 1990). As compared to other measures, the PBI has much fewer items and therefore is efficient in self-administration.

The separate scores on maternal and paternal overprotection were combined to form one composite variable, termed parental overprotection. This decision was made after the difference between the correlations for maternal overprotection and FNE scores and paternal overprotection and FNE scores was found to be insignificant, t(264)= -1.25, p > .01. Similarly, the difference of correlations between maternal overprotection and SADS scores, and between paternal overprotection and SADS scores was found to be
insignificant, \( t(264) = -0.62, p > .01 \). Based on the results of these tests of difference between the two sets of correlations, it was decided to combine maternal and paternal overprotection scores. It was assumed that keeping them separate would not provide any additional information in the mediation model. Moreover, keeping the scores separate would have meant conducting twice the number of regression analyses, which would have inflated the experiment-wise error.

_Frost Multidimensional Perfectionism Scale (FMPS)._ The FMPS is a 35-item self-report measure designed to assess multiple dimensions of perfectionism. As mentioned previously, it consists of six subscales: Personal Standards (PS), Concern over Mistakes (CM), Doubts about Actions (DA), Parental Expectation (PE), Parental Criticism (PC), and Organization (O). Responses are made on a five-point Likert-type scale in terms of how much a respondent agrees with the item. Each of the six subscales is scored by summing items pertaining to that scale. In addition, there is an overall perfectionism score which is the sum of the subscales except the subscale of Organization which has the weakest correlation with the other subscales. Higher scores on each subscale represent greater levels of the dimension measured.

Antony, Purdon, Huta and Swinson (1998) calculated sample means for the scales from non-clinical volunteers and participants with anxiety disorders. Means on the six scales for the volunteers were, CM, 17.43 (\( SD = 5.25 \)); DA, 7.74 (\( SD = 3.15 \)); PS, 22.74 (\( SD = 6.07 \)); PE, 13.63 (\( SD = 4.31 \)); PC, 8.69 (\( SD = 3.65 \)); O, 22.57 (\( SD = 4.38 \)). Significantly elevated means in the clinical group were on Concern over Mistakes: Panic disorder, 24.14 (\( SD = 8.21 \)); OCD, 21.53 (\( SD = 7.87 \)); and social phobia, 27.48 (\( SD = 8.35 \)). For Doubts over Actions, participants with OCD reported a mean of 14.44 (\( SD = 4.34 \)), and those with social phobia reported a mean of 13.03 (\( SD = 4.03 \)). Participants with social phobia reported a mean of 11.33 (\( SD = 4.54 \)) on the Parental Criticism subscale. The FMPS has a Chronbach alpha of .91. The reliability coefficients of the subscales are, CM = .91, PS = .81, PE = .82, PC = .77, DA = .79, O = .94 (Frost et al., 1990). The FMPS is highly correlated with other major measures of perfectionism. However, this high correlation is in part due to item overlap between the FMPS and these other measures (Frost et al., 1990).
The FMPS was chosen for this study due to the relevance of the subscales of Concern over Mistakes, Doubts about Actions, and Parental Criticism for this study. Moreover, the FMPS, together with the Hewitt and Flett MPS are believed to be the most frequently used perfectionism measures (Alden et al., 2002).

**Social Avoidance and Distress Scale (SADS) and Fear of Negative Evaluation (FNE).** The FNE and the SADS are self-report measures that were developed together by Watson and Friend (1969), to tap into two constructs that reflect social-evaluative anxiety. They are among the most widely used measures of social anxiety (McNeil, Ries, & Turk, 1995). The FNE consists of 30 items pertaining to expectation and distress related to negative evaluation from others, while the SADS is made up of 28 items measuring distress in, and avoidance of, social situations. For both measures, responses are in the true-false format. Both scales do not have any time period specified (Antony, Orsillo, & Roemer, 2001). Each takes about 10 to 15 minutes to administer. On both scales, each item is rated as either *true* or *false* and one point is given for responding to these items with true or false, respectively. Higher scores on both scales reflect more anxiety.

Using a development sample of 297 college students, the mean on the SADS was 11.2 for females and 8.24 for males, while on the FNE, the mean for females was 16.1, and 13.97 for males (Watson & Friend, 1969). Patients with a diagnosis of social phobia scored an average of 20.7 ($SD = 5.1$) on the SADS and 21.9 ($SD = 5.8$) on the FNE (Oei, Kenna, & Evans, 1991; as cited in Antony et al., 2001). In a sample of college students, the internal consistency of the SADS was excellent; Kuder-Richardson Formula 20 yielded a correlation of .94. The internal consistency of the FNE using the Kuder-Richardson 20 was excellent as well, ranging from .94 to .96 (Antony et al., 2001). Test-retest reliability coefficients after a 1-month interval were $r = .68$ for the SADS and $r = .78$ for the FNE in a college student sample (McNeil et al., 1995). A factor analysis on the items comprising the SADS and the FNE supported the independence of the two scales. However, the two scales are moderately, but significantly, correlated with each other at $r = .40$ (Oei et al., 1991; as cited in Antony et al., 2001).
The FNE and SADS were used in the present study because they are seen as more appropriate for assessing social anxiety than social phobia per se (Antony et al., 2001). This was because both measures were developed before social phobia was introduced as a diagnostic category in the DSM-III; subsequent measures may be more tuned to assessing diagnostic criteria for social phobia, which was not relevant for the non-clinical sample of population investigated in this study. Moreover, it was believed that each measure tapped into a different but related aspect of social anxiety; the FNE assessed the cognitive component of negative self-evaluation while the SADS assessed affective and behavioral components of distress and avoidance associated with social anxiety.

Results

Statistical Procedures

Pearson’s correlations and regression analyses were conducted to investigate whether Concern over Mistakes, Doubts about Actions, and Parental Criticism mediated the relationship between parental overprotection and social anxiety.

Correlations Between Measures of Parental Overprotection, Dimensions of Perfectionism, and Social Anxiety

Pearson’s correlations were computed among the parental overprotection and parental care subscales of the PBI, the six subscales of the F-MPS, and the FNE and SADS. In order to control experiment-wise error arising out of conducting multiple correlations, an alpha level of .01 was used for all tests of correlation. Table 3 displays the correlations among the variables used in the study. From Table 3, it can be seen that the first hypothesis regarding a correlation between parental overprotection and social anxiety found support, although the correlations between parental overprotection and FNE, and between parental overprotection and SADS were weak ($r = .19$ and $.17$, respectively). The second hypothesis of stronger correlations between Concern over Mistakes, Doubts about Actions, and Parental Criticism, and social anxiety as compared to those between Parental Expectations, Personal Standards, and Organization, and social anxiety was also supported. Concern over Mistakes, Doubts about Actions, and Parental
Criticism showed moderate to weak correlations with FNE (mean $r = .40$) and with SADS (mean $r = .31$). As can be seen, the correlations between these FMPS dimensions and FNE were stronger than those with SADS. The third hypothesis that parental overprotection would be more strongly correlated with Concern over Mistakes, Doubts about Actions, and Parental Criticism as compared to with Parental Expectations, Personal Standards, and Organization found partial support. While parental overprotection showed the strongest correlation with Parental Criticism ($r = .55$), it had the second strongest correlation with Parental Expectations ($r = .38$), contrary to expectations. Nevertheless, parental overprotection showed stronger correlations with Concern over Mistake and Doubts about Actions (mean $r = .26$) than with Personal Standards and Organization (mean $r = .09$).

Mediation Analyses

Analyses for testing mediation were conducted in accordance with the recommendations of Baron and Kenny (1986). Because this was a non-experimental study, the term ‘predictor’ was used in place of independent variable. The relationships among the predictor, mediator and criterion variables used in the present study are illustrated in Figure 1.

In order to test the mediation of Concern over Mistakes (CM), Doubts about Actions (DA), and Parental Criticism (PC) on the relationship between parental overprotection (PO) and social anxiety (using FNE and SADS scores), a series of separate regression equations were obtained for each mediator. A set of three linear regression equations were obtained for testing mediation of each of the three subscales of the FMPS. In the first equation, the dependent variable (FNE/SADS) was regressed on the predictor (Parental Overprotection), yielding a standardized coefficient ($\beta = c$). In the second equation, the mediator (CM/DA/PC) was regressed on the predictor, yielding a standardized coefficient ($\beta = a$). In the third equation, the dependent variable was regressed on both the mediator and predictor, yielding standardized coefficients ($\beta = b$ and $c'$) for the mediator and predictor, respectively. Because this study included several tests, in order to control experiment-wise error, an alpha level of 0.01 was used in
determining significance of each standardized coefficient obtained from a regression equation.

*Concern over mistakes as a mediator between parental overprotection and social anxiety.* The mediation of Concern of Mistakes (CM) was assessed between parental overprotection and social anxiety using CM, PO and FNE scores. As expected, PO scores predicted FNE scores in the first equation, $t(264) = 3.14$, $p < .01$, and CM scores in the second equation, $t(264) = 4.6$, $p < .001$. Also, as expected, CM predicted FNE scores in the third equation, $t(263) = 7.95$, $p < .001$. Parental overprotection and Concern over Mistakes together accounted for 23% of the variability in FNE scores, in the third equation. The mediated effect was statistically significant, $z = 3.98$, $p < .01$.

Similarly, CM as a mediator between parental overprotection and social anxiety was assessed using SADS instead of FNE scores as the dependent variable. PO predicted SADS scores in the first equation, $t = 2.73$, $p < .01$, and CM in the second equation, $t(264) = 4.60$, $p < .001$. In the third equation, CM predicted SADS scores, $t(263) = 4.60$, $p < .001$. PO and CM scores together accounted for 9% of the variability in SADS scores, in the third equation. The mediated effect was statistically significant, $z = 3.25$, $p < .01$.

*Doubts about Actions as a mediator between parental overprotection and social anxiety.* Second, the mediation of Doubts about Action (DA) was assessed between parental overprotection and social anxiety using DA, PO and FNE scores. As was already established, PO scores predicted FNE scores in the first equation. In the second equation, PO scores predicted DA scores, $t(264) = 4.23$, $p < .001$. Also, as expected, DA predicted FNE scores in the third equation, $t(263) = 8.12$, $p < .001$. PO and DA scores together accounted for 22% of the variability in FNE scores, in the third equation. The mediated effect was statistically significant, $z = 3.75$, $p < .01$.

For SADS scores as the dependent variable, PO predicted SADS and DA scores, from the above analyses, and DA predicted SADS scores, $t(263) = 6.10$, $p < .001$, in the third equation. PO and DA scores together accounted for 14% of the variability in SADS scores, in the third equation. The mediation effect was significant, $z = 3.48$, $p < .01$. 
Parental Criticism as a mediator between parental overprotection and social anxiety. Finally, the mediation of Parental Criticism (PC) in the relationship between parental overprotection and social anxiety was assessed. In line with the hypothesis, besides PO scores predicting FNE scores in the first equation, PO scores predicted PC scores in the second equation, $t(264) = 10.67, p < .001$, and in the third equation, PC scores predicted FNE scores, $t(263) = 3.25, p < .001$. PO and PC scores together accounted for 7% of the variability in FNE scores, in the third equation. The mediated effect was statistically significant, $z = 3.11, p < .01$.

With SADS scores as a measure of social anxiety, PO significantly predicted SADS and PC scores from the above analyses. PC predicted SADS scores in the third equation, $t(263) = 3.46, p < .001$. PO and PC scores together accounted for a 6% of the variability in SADS scores, in the third equation. The mediation was statistically significant, $z = 3.29, p < .01$.

Table 4 displays the standardized regression coefficients and p values for mediation effects, in testing mediation of CM, DA, and PC between parental overprotection and social anxiety. Mediation occurred if $a$, $b$, and $c$ were statistically significant and $c'$ was either reduced to zero or non-significant The table demonstrates that when social anxiety, using FNE and SADS scores separately, was regressed on parental overprotection and CM, DA, or PC, the predictive power of parental overprotection was reduced to non-significance. Hence, the results supported the hypothesis that the three dimensions of perfectionism, namely Concern over Mistakes, Doubts about Actions, and Parental Criticism mediated the relationship between parental overprotection and social anxiety. Figures 2–7 illustrate the mediation model for each of the three mediators, for both FNE and SADS.

Parental Expectations as a mediator between parental overprotection and social anxiety. A mediation of Parental Expectations between parental overprotection and social anxiety was tested, since among the three subscales of PE, PS, and O that were not predicted to mediate parental overprotection and social anxiety, PE was the only subscale that was correlated with parental overprotection ($r = .38$), and FNE ($r = .17$). These correlations fulfill the conditions (see Barron & Kenny; 1986) for testing possible
mediation of Parental Expectations in the mediation model. Mediation was tested only for FNE as a measure of social anxiety, since PE was not correlated with the SADS at the .01 alpha level (see Table 3). In the first equation, PO predicted FNE scores, as had been established in previous analyses. In the second equation, PO predicted PE scores, $t(264) = 6.70$, $p < .001$. However, PE failed to predict FNE scores in the third equation, $t(264) = 1.70$, $p = .092$. Therefore, it was concluded that Parental Expectations, in addition to the Personal Standards, and Organization dimensions of the FMPS, did not mediate the relationship between parental overprotection and social anxiety.

**Sobel Test**

For all analyses, significance of the mediated effect was tested using the Sobel test (Howell, 2002). The use of the Sobel test was to determine whether the path coefficient $c - c'$, i.e. the path from the predictor to the mediator to the dependent variable, was significant. This test was conducted because complete mediation was not achieved for any of the mediators. In other words, the Sobel test was conducted to confirm that each of the three hypothesized dimensions of perfectionism carried the influence of parental overprotection to social anxiety. For this purpose, a computer program for the Sobel test, developed by Preacher and Leonardelli (2001) was used. A significant $p$ value meant that the path, $c - c'$, showed a mediation effect. As displayed in table 4, the mediating path $c - c'$ for each of the three mediators is significant at $p < .01$, for both FNE and SADS scores as the dependent variable.

**Parental Care**

Since research has shown that socially anxious individuals recall their parents as having been both overprotective and lacking in care (Parker et al., 1979; Arrindell et al., 1989), it was decided post hoc that the mediation model would also be tested using the parental care dimension of the PBI as a variable. Hence, a series of regression analyses were conducted using parental care as the predictor, in place of parental overprotection. The other variables in the model remained unchanged, i.e. Concern over Mistakes, Doubts about Actions, and Parental Criticism were potential mediators, and FNE and SADS scores were the dependent variables. As with parental overprotection, two sets of
regression analyses were conducted, once for FNE scores and a second time, for SADS scores. Results showed that in the first regression equation, parental care predicted FNE and SADS scores. In the second regression equation, parental care predicted each of the three mediators, i.e. Concern over Mistakes, Doubts about Actions, and Parental Criticism. In the third regression equation, whereas Parental Criticism failed to predict FNE or SADS scores, Concern over Mistakes and Doubts about Actions continued to do so, along with parental care predicting FNE or SADS scores, in the presence of these perfectionism dimensions. However, the significance of the parental care-FNE/SADS predictions was reduced, as reflected in lowered values of coefficients for the paths c’ (see Table 5). Since the coefficients for path c’ were not reduced to non-significance, Sobel tests for significance of the mediated effect was conducted. It has been suggested that when the path c’ coefficient does not become non-significant, but nevertheless, shows a lower value than the path c coefficient, the Sobel test should be conducted to test for a possible mediation effect (Howell, 2002). The results of Sobel tests showed that there was a significant mediated effect for Concern over Mistakes and Doubts about Actions for both FNE and SADS. Parental Criticism did not mediate for either FNE or SADS. Hence, it was concluded that Concern over Mistake and Doubts about Action mediated the relationship between parental care and social anxiety.

Discussion

Research has linked parental overprotection with social anxiety (e.g., Parker, 1979), social anxiety with perfectionism (e.g., Juster et al., 1996), and perfectionism with harsh and authoritarian parental style (e.g., Kawamura et al., 2002). However, the extant literature does not appear to have linked all three constructs together, even though they are related to each other in a pair-wise manner. The mediation model in the present study was an attempt to establish this relationship by determining a pathway from parental overprotection to adult social anxiety, via the mediating influence of perfectionism. It was hypothesized that dimensions of perfectionism, namely, Concern over Mistakes, Doubts about Actions, and Parental Criticism would mediate the relationship between parental overprotection and social anxiety. This hypothesis was supported by the results.
In the presence of each of the three mediators, the relationship between parental overprotection and social anxiety was reduced to non-significance, indicating a mediating influence of each dimension of perfectionism on the relationship. The results were obtained for both measures of social anxiety, the Fear of Negative Evaluation Scale, and the Social Anxiety and Distress Scale. Moreover, the results of this study replicate previous research that has shown an association of social anxiety in social phobia with parental overprotection, and with certain dimensions of perfectionism.

As predicted in the first hypothesis, parental overprotection was significantly correlated with measures of social anxiety, i.e. FNE and SADS. However, the correlations obtained were weak. Previous studies have either compared ratings of parental overprotectiveness from social phobics with those of individuals from other anxiety disordered and non-clinical groups (Parker, 1979; Arrindell et al., 1989; Rapee & Melville, 1997), or correlated social phobia with parental overprotection, in a community study using clinical interviews for diagnosing social phobia (Lieb et al., 2000). Thus, the present study does not seem to have a precedent to compare the correlation values of parental overprotection with FNE and SADS. It is possible that the weak correlations obtained may be due to the non-clinical sample used in the present study. It has been suggested that a relationship between parental control (overprotectiveness) and anxiety is seen more consistently in clinical, than in non-clinical populations (Rapee, 1997). This may be one reason for an attenuated relationship between parental overprotection and social anxiety seen in this study.

Predictions about the strength of correlations between social anxiety and dimensions of perfectionism, in the second hypothesis, were also supported. Research linking perfectionism with social anxiety in social phobia has shown that compared to non-clinical controls, social phobics score higher on Concern over Mistakes, Doubts about Actions, and Parental Criticism (Antony et al., 1998; Juster et al., 1996; Lundh & Ost, 1996; Saboonchi et al., 1999). In at least one study, only Concern over Mistakes and Doubts about Actions showed significant correlations with social anxiety in a non-clinical sample (Saboonchi & Lundh, 1997). However, because it was speculated that Parental Criticism played an important role in the development of social anxiety, it was included in the hypotheses of mediation. In line with expectations, Concern over

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Mistakes, Doubts about Actions, and Parental Criticism showed stronger correlations with both measures of social anxiety, compared with Parental Expectations, Personal Standards or Organization. The results support research that suggests a relationship between Concern over Mistakes, Doubts about Actions, Parental Criticism, and psychopathology (e.g. Juster et al., 1996). Parental Expectations was significantly correlated with FNE, while it was correlated with SADS at the .05 significance level. Previous research (Saboonchi & Lundh, 1997) did not find a significant correlation between parental expectations and other measures of social anxiety in a non-clinical population. It is possible that parental expectations may be more salient for the college-age sample used in this study, with a mean age of around nineteen years, than it is for older populations. The Saboonchi and Lundh (1997) study used a sample with a mean age of about twenty-eight years. Considering that all participants in the present study were in college, and a majority of them had stayed away from their families for less than two years, parental expectations to succeed may contribute to apprehensions about and expectations of negative evaluation – a component used in constructing the FNE (see Watson & Friend, 1969). Nevertheless, since Parental Expectations had a weaker correlation with the measures of anxiety, compared with Concern over Mistakes, Doubts about Actions, and Parental Criticism, combined with the sample in this study being non-clinical, the results generally support research that suggests that parental expectations may be not be strongly related to psychopathology (see Juster et al., 1996).

Personal Standards was not significantly correlated with SADS, and was weakly correlated with FNE. Organization was not significantly correlated with either SADS or FNE. These results generally support the idea that Personal Standards and Organization are related to more positive personal characteristics and affect (Frost et al., 1990). The weak but significant correlation between Personal Standards and FNE may be due to the nature of the sample used in this study. It is possible that facing academic and interpersonal demands leads to high personal standards, which in turn contribute to anxiety about negative evaluations from others, such as instructors and peers. It should be noted that previous studies used clinical samples of social phobia for which personal standards, an adaptive form of perfectionism, may not be salient. Further, in light of a self-presentational model of social anxiety (Schlenker & Leary, 1982), which explains
social anxiety as an outcome of self-presentational doubts arising from personal standards, among other individual differences, the results obtained make sense. There may be a subset of socially anxious people for whom high personal standards lead to social anxiety (Alden, Ryder, & Mellings, 2002).

As expected from the third hypothesis, Parental Criticism correlated more strongly with parental overprotection, than did Parental expectations, Personal Standards or Organization. However, contrary to expectations, Parental Expectations correlated more strongly with parental overprotection than did Concern over Mistakes and Doubts about Actions. This stronger correlation between Parental Expectations and parental overprotection may be because both constructs represent aspects of parenting that may be closely related to each other. Research has shown that a child is most likely to conform to parental expectations when such expectations occur in the context of authoritarian parenting (Lamborn et al., 1991; as cited in Flett et al., 1995). Authoritarian parenting is characterized by parents being overcontrolling, punitive, and overinvolved (Frost et al., 1995), and is, therefore, related to parental overprotectiveness. Although research suggests that Parental Expectations and Parental Criticism are associated with positive and negative aspects of perfectionism, respectively (Juster et al., 1996), Parental Expectations showed a strong correlation with Parental Criticism (r = .61). It may be the case that parental expectations contributes to negative aspects of perfectionism when associated with parental criticism. Parental expectation can be perceived as an implicit communication of a critical parental attitude toward the child (Kawamura et al, 2002).

A Mediation Model

A model of social phobia proposed by Heimberg and his colleagues (Heimberg et al., 1995) is relevant to the mediation model for its emphasis on the developmental basis of perfectionistic beliefs in early experiences of being parented. The results of the study can be explained in terms of this theory. Parental child-rearing practices characterized by overprotectiveness toward the child may lead to parents isolating the child from social situations in attempts to protect the child. Part of this overprotectiveness may come from perceptions of vulnerability of the child (Thomasgard & Metz, 1997) that may arise out of a child’s behavioral inhibition or anxious temperament (Rapee, 2001).
Alternately, it has been suggested that parental overprotectiveness may not be in response to the child’s temperament, but may represent a stable parental style arising out of the parent’s own trait anxiety (Hudson & Rapee, 2002). Such overprotectiveness, irrespective of its cause, prevents the child from engaging with the social world that could extinguish social inhibition. Moreover, when such parents also overemphasize others’ opinions, and deemphasize family sociability (e.g., Bruch et al., 1989), along with holding a critical attitude toward the child, the child does not learn less critical ways of evaluating him/herself (Kawamura et al., 2002) especially in social situations, due to an internalization of such parental criticism. Such a self-critical tendency leads to the development of perfectionism, significantly, concern over making mistakes, and doubts about one’s actions in social encounters. This striving for perfectionism may represent the child’s efforts to compensate for an internalized image of oneself as inadequate (Alden, Ryder, & Mellings, 2002). Such perfectionistic beliefs are brought to bear on social situations, wherein, a combination of pre-existing beliefs about such situations being threatening (due to childhood experiences of being overprotected from these situations) and a tendency for perfectionism (reflected in undue concern over mistakes and doubting one’s actions) results in the vicious cycle. This cycle then perpetuates social evaluative concerns, leading to anxiety and possibly avoidance of social situations. It is relevant to note here that social phobia, representing the clinical form of social anxiety, has an onset in early to late adolescence (American Psychiatric Association, 1994; Wittchen & Fehm, 2001). It is during this period that the child makes important transitions into newer environments (such as middle school to high school, or high school to college). Such transitions may exacerbate social evaluative concerns, due to an increase in public scrutiny (Bruch et al., 1989). Therefore, it seems, the perfectionistic tendencies of the adolescent are carried into adulthood and contribute to the development of adult social anxiety and possibly social phobia.

The mediation model was also supported for both the FNE and the SADS, as measures of social anxiety. The FNE and the SADS tap into different but related components of social anxiety (McNeil et al., 1995). While the FNE measures a cognitive component of social anxiety - negative self-evaluation, the SADS measures affective and behavioral components of distress and avoidance associated with social anxiety.
Therefore, results supporting a mediation of dimensions of perfectionism between parental overprotection and both measures of social anxiety can be explained using Heimberg et al.’s model of social phobia, since according to this model, perfectionism, arising out of early experiences, leads to both a fear of as well as actual avoidance of anxiety inducing social situations.

While the mediation model was supported in exploring the impact of parental overprotection on social anxiety, post hoc tests revealed that parental care also supported this model. However, in case of parental care, the mediation model was supported for Concern over Mistakes and Doubts about Actions, and not for Parental Criticism. It appears that the first two dimensions of perfectionism are relevant for a parental style of rejection or lack of care. As has been noted earlier, parental rejection may be more associated with depression. According to models of maintenance of depression, parental rejection conveys to the child that positives are not only difficult to obtain, but that they are not contingent on the child’s behaviors. There is also an associated decreased perception of positives and an increased perception of negatives by the child (Rapee, 1997). Therefore, an exposure to inadequate/lack of parental care may lead a child to be overly concerned about making mistakes, and doubtful of his/her actions, especially because positive reinforcements from parents, in response to desirable behavior, may not come by. The child grows up to feel uncertain about appropriate ways of responding in the interpersonal world. As a consequence, the adult person may experience social anxiety in situations where he/she wants to make a desired impact but is overly concerned about making mistakes and is not sure if he/she would be able to perform adequately. It has been suggested that parental anxiety and disappointment arising out of a child failing to meet parental perfectionistic standards can also be perceived as rejection by the child. As a result, the child begins to fear making mistakes and failing. He/she avoids situations involving a perception of a high likelihood of making mistakes, in order to be accepted and loved by his/her parents (Frost, Lahart, & Rosenblate, 1991). This tendency to be perfect and avoid failure may then lead to anxiety for and avoidance of social situations, in later life, where the individual expects to make mistakes and/or fail.

In light of research showing that both parental rejection and overprotection are related to social anxiety, as well as research that indicates that generally higher levels of
parental control and rejection are related to greater psychopathology in offspring (Rapee, 1997), it is quite possible that the diagnostic and conceptual boundaries between anxiety and depression that the literature imposes on psychopathology, may not be as distinct as is believed to be. Hence, due to a much greater overlap between anxiety and depression, it can be seen that parental care impacts social anxiety, along with parental overprotection, via the mediation of perfectionism, or at least certain dimension of perfectionism.

Strengths and Limitations of the Present Study

The present study used a non-clinical sample for testing mediation of perfectionism between parental overprotection and social anxiety. Studies that have shown an association between social anxiety and parental styles (e.g., Arrindell et al., 1989; Lieb et al., 2000; Parker, 1979) and between social anxiety and perfectionism (e.g., Antony et al., 1998; Juster et al., 1996; Saboonchi et al., 1999) have generally used clinical samples of social phobia. The results of such studies have been mostly replicated in this study. Because the mediation model linking these constructs has been supported in a non-clinical population, it points to the possibility that such relationships are even more pronounced in a clinical population of social phobia. This study, therefore, offers future directions in research that would aid a better understanding of the phenomenon of social anxiety in a clinical population.

Prior research in the broad areas covered by this study has been conducted with participants much older than those used in the present study. Therefore, such studies are retrospective accounts. Because social phobia has an average age of onset between early and late adolescence, using participants closer to this age range may contribute to understanding factors early on in the development of this disorder. Specifically, unlike older participants, most college students are directly influenced by their parents’ parenting styles. This includes cases when they live at home, or when they live on college campuses but visit their parents during school breaks. Therefore, reports of parent behavior in the PBI would, for many cases, would be out of immediate living experiences with parents who tend to be overprotective. As such, their perception of parental behavior
is not as ‘retrospective’ as it is for subjects much older than this age group used in other studies.

One limitation of the present study was that it did not explore the role of maternal and paternal overprotection separately in the mediation model. However, this was done due to concerns with elevation of experiment-wise error, as well as the non-significance difference in correlations between maternal and paternal overprotection scores with FNE and with SADS. Moreover, the theoretical literature may be insufficient to support specific hypotheses regarding the differential effects of maternal (vs. paternal) influences (Randolph & Dykman, 1998; as cited in Enns, Cox, & Clara, 2002).

In light of reports of parental overprotection in the PBI requiring recall of parental behaviors in the first sixteen years of one’s life, this study does have a retrospective element. Participants may have reported perceived rather than actual parental styles. Constructive and retrospective biases may contribute importantly to recollections of childrearing (Rapee, 1997). Moreover, since such retrospective accounts collapse across a large temporal range, it is possible that reporting a general parental style may be too diffuse to tap into crucial stages of development when childrearing practices optimally contribute to pathology in offspring (Rapee, 1997). However, in spite of limitations of retrospective studies of parental rearing styles, they are more practical than longitudinal studies that require vast financial and time commitments. They can also provide investigators opportunities to test possible relationships that can subsequently be explored in laboratory analog and longitudinal designs (Morris, 2001). It has also been suggested that perceived childrearing practices is more important in the development of later psychopathology in offspring, than actual childrearing practices (Parker, 1983 as cited in Rapee, 1997).

Finally, this study used a sample of predominantly Caucasian participants. As such, the results of the study cannot be generalized to other ethnic/racial groups. There may be differences in levels of perfectionism across ethnic/racial groups (e.g., Hanswijek de Jonge, & Waller, 2003) that may influence the relationship between parental overprotection and social anxiety. Therefore, this study offers future directions in research to determine if the mediation model is supported in other racial/ethnic groups.
Future Research Implications

Future research needs to investigate whether this mediation model finds support with a clinical population of social anxiety. The components of perfectionism measured using the F-MPS are thought to be more directly related to the psychopathology underlying anxiety disorders, including social phobia (Antony et al., 1998). Therefore, further research, using the F-MPS, would establish the mediation model with a clinical population of social phobia. While this study has established that parental overprotection impacts social anxiety via mediation of dimensions of perfectionism, it is not known whether parental overprotection is a risk factor or causally related to social phobia. Further research is necessary to examine the mechanisms involved in the development and maintenance of social anxiety in sub-clinical and clinical populations of social phobia.

Although it has been suggested that parental rejection might be associated more with depression than with anxiety (Rapee, 1997), it should be noted that studies have found an association between parental rejection and social phobia (Lieb et al., 2000; Arrindell, et al., 1989). In light of results of post hoc analyses involving parental care wherein parental care supported the mediation model with some dimensions of perfectionism, there is need for further research that can replicate this finding using both non-clinical and clinical populations.

While the results of this study supports a pathway from parental overprotection to social anxiety via specific components of perfectionism, research is needed to determine if this mediation is exclusive to the impact of parental overprotection on social anxiety, or whether dimensions of perfectionism also mediate overprotective parenting and other psychopathological conditions. For example, Enns, Cox, and Clara (2002) found that maladaptive perfectionism (measured using the concern over mistakes and doubts about actions subscales from the F-MPS and the socially prescribed perfectionism scale from the Hewitt and Flett MPS) mediated the relationship between harsh parenting and depression proneness. Harsh parenting was defined as consisting of critical parenting, lacking in care and overprotection. In light of social phobia having a high prevalence of comorbidity with depressive disorders (Wittchen & Fehm, 2001), it is possible that parental overprotection may impact depression proneness in addition to social anxiety,
via perfectionism, in the normal and clinical population. Future research using the mediation model may provide useful answers in this direction.

In the Enns et al (2002) study, harsh parenting was considered as consisting of stern, controlling, and critical parenting. While the present study has distinguished between parental overprotection as a parental style and parental criticism as one dimension of perfectionism, in investigating the mediation of the latter between parental overprotection and social anxiety, further research would need to determine whether they constitute part of a repertoire of parental behaviors defined as harsh or represent independent but associated parental styles/attitudes that need to be researched separately.

Future research may investigate the predictive ability of maternal and paternal overprotection separately on social anxiety, and the mediation of perfectionism on this relationship. Although, as mentioned previously, the extant literature may not support the differential impact of maternal vs. paternal childrearing practices on the child, such differences may exist specific to anxiety disorders in offspring. It has been suggested that paternal overprotection/overinvolvement may not be as influential in the development of anxiety in offspring, as compared to maternal overinvolvement/overprotection (Hudson & Rapee, 2002). Since we did not find differences between levels of maternal and paternal overprotection and between maternal and paternal care, we conducted further analyses using composite maternal and paternal overprotection and care scores. Future research can establish whether maternal and paternal overprotection and their different levels differentially impact social anxiety in the child.

Finally, this study has important implications for counseling of college-age populations, considering that social phobia has an onset between early and late adolescence, combined with a much more widespread occurrence of fears related to social situations, in the community (Wittchen & Fehm, 2001). More effective prevention and intervention programs for social anxiety with this age group would need to take into account the role of parental overprotection, along with other aspects of parenting, and perfectionism in the etiology and development of social anxiety.
References


Dear Participant:

Thank you for coming to this experimental session. You must be AT LEAST 18 years old to take part in this study. Please look over the following information carefully.

A. The present study looks into the relationship between aspects of personality, parenting style, and perfectionism. You are requested to fill out a set of six questionnaires related to the above-mentioned areas. You will be given an experimental package containing these questionnaires.

B. It is estimated that you would take approximately 40-45 minutes to complete the questionnaires. You are not required to come back for a second session.

C. The possible risks or discomforts of participating in this study are minimal, although some items on the questionnaires may cause some psychological discomfort due to remembering past experiences, in order to respond to these items.

D. Although there are no direct benefits of the study, your responses would help further research in this area, and possibly in the area of counseling practices for college populations.

E. Your participation is confidential. Only project personnel will have access to your responses on the questionnaires. Also, your responses will not be traced back to you. Your experimental package will be assigned a number, which shall be used to record your responses. You will NOT be asked to give any personally identifying information such as name, address, or contact information. Final reports of the study would be based on group data, and will not identify you or any other individual as being in this study.

F. The decision to participate in this study is up to you. You may decide to leave at any time during the study, without any loss of benefits. You may refuse to answer any question.

G. If you have any questions about the procedures used in this study, please call Dr. Mia Biran at (513) 529-2418 (O), or email at biranmw@muohio.edu. If you experience any psychological discomfort due to answering the questions and feel the need to talk to someone, please use the following resources below:

(a.) Miami University Student Counseling Service: 529-4634
(b.) Psychology Clinic, Benton Hall: 529-2423
(c.) Community Counseling and Crisis Center: 523-4146
H. If you have any questions or concerns about your rights as a subject, please contact the Office for the Advancement of Research and Scholarship (OAST), at (513) 529-3734, or email at humansubjects@muohio.edu.

You are at least 18 years old. You have read the consent form and your questions have been answered to your satisfaction. Your filling out the questionnaires means that you have agreed to participate in this study.

Thank you,

Prashant Banerjee
Principal Investigator
Email: banerjp@muohio.edu
APPENDIX B
DEBRIEFING SHEET

The study in which you just participated explores the relationship between social anxiety, parental style, and perfectionism. The term, “social anxiety” was not used in describing the study. This is because of the possible wish to appear socially desirable (even when assurance of confidentiality is given), so that participants may modify their responses to items on the questionnaires pertaining to social anxiety.

The purpose of this study is to determine if certain aspects of one’s perfectionistic tendencies influence the relationship between one’s exposure to overprotective parents as a child, and one’s adult social anxiety. Adults with social anxiety tend to report their parents as being overprotective. Dimensions of perfectionism, using one definition, on which adults with social anxiety have reported high scores in comparison studies, are “concern over mistakes”, “doubts about actions” and “parental criticism”. The present study is primarily interested in looking at these dimensions and linking them with both reports of parental overprotection and adult social anxiety.

If you are interested in reading more about the ideas this study investigates, please see:

If you have any other questions/comments about the study or are interested in obtaining the results of the study in the future, please contact Prashant Banerjee at banerjp@muohio.edu, or Mia Biran at biranmw@muohio.edu.

I appreciate your participation in this study.

Prashant Banerjee
(Principle investigator)
APPENDIX C

Demographic Questionnaire

Experimental Package No.________
(please provide the number on the envelop of your experimental package)

Please do NOT include any personally identifying information such as name, contact information, or address. Please fill out the bubble(s) in response to the following items.

Please note the following instructions:
Make dark marks that fill bubble completely.
Erase cleanly any answer you wish to change.
Make no stray marks on either side of this form.

| 1. Age (in years): | Tens | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| | Units | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Example: | Tens | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 1 in top row and 9 in bottom row equals 19 years old | Units | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

2. Gender:

- M Male
- F Female

3. Number of years in college (approx.):

- S Single

4. Marital Status:

- M Married
- C Co-habitation

5. Race/Ethnicity:

- C Caucasian
- B Black/African-American
- H Hispanic/Latino
- A Asian
- N American Indian/Alaska Native
- P Native Hawaiian/Other Pacific Islander
6. Were you raised in your primary family (consisting of either or both mother and father, and/or siblings)?

Yes ☑️
No ☐
If No, specify: __________________

7. Are you currently living away from your primary family?

Yes ☑
No ☐

If yes, for how long? (in approximate years)

Example:
0 in the top row and 2 in bottom row equals 2 years.

8. If primary family includes one parent, are your parents divorced/separated?

Yes ☑
No ☐

9. Is either of your parent deceased?

Yes ☑
No ☐

If yes, which parent?

M Mother
F Father
Parental Bonding Instrument (PBI; Parker, Tupling, & Brown, 1979)

**MOTHER FORM**

Experimental Package No.________
(please provide the number on the envelop of your experimental package)

This questionnaire lists various attitudes and behaviors of parents. As you remember your mother in your first 16 years, would you please fill the bubble under the most appropriate category next to each question?

**Please note the following instructions:**
Make dark marks that fill bubble completely.
Erase cleanly any answer you wish to change.
Make no stray marks on either side of this form.

<table>
<thead>
<tr>
<th>My Mother:</th>
<th>Very like</th>
<th>Moderately like</th>
<th>Moderately unlike</th>
<th>Very unlike</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Spoke to me with a warm and friendly voice</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>2 Did not help me as much as I needed</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>3 Let me do those things I liked doing</td>
<td>○</td>
<td>○</td>
<td>○</td>
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<tr>
<td>4 Seemed emotionally cold to me</td>
<td>○</td>
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<tr>
<td>5 Appeared to understand my problems and worries</td>
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<tr>
<td>6 Was affectionate to me</td>
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<tr>
<td>7 Liked me to make my own decisions</td>
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<td>8 Did not want me to grow up</td>
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<tr>
<td>9 Tried to control everything I did</td>
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<td>10 Invaded my privacy</td>
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<td>11 Enjoyed talking things over with me</td>
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<td>12 Frequently smiled at me</td>
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<td>13 Tended to baby me</td>
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<td>14 Did not seem to understand what I needed or wanted</td>
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<tr>
<td>15 Let me decide things for myself</td>
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<td>16 Made me feel I wasn’t wanted</td>
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<td>17 Could make me feel better when I was upset</td>
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<td>18</td>
<td>Did not talk with me very much</td>
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<td>19</td>
<td>Tried to make me dependent on her</td>
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<td>20</td>
<td>Felt I could not look after myself unless she was around</td>
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<td>21</td>
<td>Gave me as much freedom as I wanted</td>
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<td>22</td>
<td>Let me go out as often as I wanted</td>
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<td>23</td>
<td>Was overprotective of me</td>
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<td>24</td>
<td>Did not praise me</td>
<td></td>
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<tr>
<td>25</td>
<td>Let me dress in any way I pleased</td>
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</tbody>
</table>
Parental Bonding Instrument (PBI; Parker, Tupling, & Brown, 1979)

**FATHER FORM**

Experimental Package No.________
(please provide the number on the envelop of your experimental package)

This questionnaire lists various attitudes and behaviors of parents. As you remember your father in your first 16 years, would you please fill the bubble under the most appropriate category next to each question?

**Please note the following instructions:**
Make dark marks that fill bubble completely.
Erase cleanly any answer you wish to change.
Make no stray marks on either side of this form.

<table>
<thead>
<tr>
<th>My Father:</th>
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<th>Moderately unlike</th>
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Frost Multidimensional Perfectionism Scale (FMPS; Frost, Marten, Lahart, & Rosenblate, 1990)

Experimental Package No.________
(please provide the number on the envelop of your experimental package)

Please fill the bubble that best corresponds to your agreement with each statement below. Use the scale provided.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td>Neutral</td>
<td>Strongly Agree</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please note the following instructions:
Make dark marks that fill bubble completely.
Erase cleanly any answer you wish to change.
Make no stray marks on either side of this form

1. My parents set very high standards for me.  
2. Organization is very important to me.  
3. As a child, I was punished for doing things less than perfectly.  
4. If I do not set the high standards for myself, I am likely to end up a second rate person.  
5. My parents never tried to understand my mistakes.  
6. It is important to me that I be thoroughly competent in everything that I do.  
7. I am a neat person.  
8. I try to be an organized person.  
9. If I fail at work/school, I am a failure as a person.  
10. I should be upset if I make a mistake.  
11. My parents wanted me to be the best at everything.  
12. I set higher goals than most people.  
13. If someone does a task at work/school better than I, then I feel like I failed the whole task.  
14. If I fail partly, it is as bad as being a complete failure.
Only outstanding performance is good enough for my family.

I am very good at focusing my efforts on attaining a goal.

Even when I do something very carefully, I often feel that it is not quite right.

I hate being less than the best at things.

I have extremely high goals.

My parents have expected excellence from me.

People will probably think less of me if I made a mistake.

I never felt like I could meet my parents’ expectations.

If I do not do as well as other people, it means that I am an inferior human being.

Other people seem to expect lower standards from themselves than I do.

If I do not do well all the time, people will not respect me.

My parents have always had higher expectations for my future than I have.

I try to be a neat person.

I usually have doubts about the simple everyday things I do.

Neatness is very important to me.

I expect higher performance in my daily tasks than most people.

I am an organized person.

I tend to get behind in my work because I repeat things over and over.

It takes me a long time to do something “right”.

The fewer mistakes I make, the more people will like me.

I never felt like I could meet my parents’ standards.
Social Anxiety and Distress Scale (SADS; Watson & Friend, 1969)

Experimental Package No.________
(please provide the number on the envelop of your experimental package)

For the following statements, please answer each in terms of whether it is true or false for you. Fill out the bubble underneath T for true, and the bubble underneath F for false.

Please note the following instructions:
Make dark marks that fill bubble completely.
Erase cleanly any answer you wish to change.
Make no stray marks on either side of this form

1. I feel relaxed even in unfamiliar social situations. T F
2. I try to avoid situations which force me to be very sociable. T F
3. It is easy for me to relax when I am with strangers. T F
4. I have no particular desire to avoid people. T F
5. I often find social occasions upsetting. T F
6. I usually feel calm and comfortable at social occasions. T F
7. I am usually at ease when talking to someone of the opposite sex. T F
8. I try to avoid talking to people unless I know them well. T F
9. If the chance comes to meet new people, I often take it. T F
10. I often feel nervous or tense in casual get-togethers in which both sexes are present. T F
11. I am usually nervous with people unless I know them well. T F
12. I usually feel relaxed when I am with a group of people. T F
13. I often want to get away from people. T F
14. I usually feel uncomfortable when I am in a group of people I don’t know. T F
15. I usually feel relaxed when I meet someone for the first time. T F
16. Being introduced to people makes me tense and nervous. T F
17. Even though a room is full of strangers, I may enter it anyway. T F
18  I would avoid walking up and joining a large group of people.  
19  When my superiors want to talk to me, I talk willingly.  
20  I often feel on edge when I am with a group of people.  
21  I tend to withdraw from people.  
22  I don’t mind talking to people at parties or social gatherings.  
23  I am seldom at ease in a large group of people.  
24  I often think up excuses in order to avoid social engagements.  
25  I sometimes take the responsibility for introducing people to each other.  
26  I try to avoid formal social occasions.  
27  I usually go to whatever social engagement I have.  
28  I find it easy to relax with other people.
Fear of Negative Evaluation (FNE; Watson & Friend, 1969)

Experimental Package No.________
(please provide the number on the envelop of your experimental package)

For the following statements, please answer each in terms of whether it is true or false for you. Fill out the bubble underneath T for true, and the bubble underneath F for false.

Please note the following instructions:
Make dark marks that fill bubble completely.
Erase cleanly any answer you wish to change.
Make no stray marks on either side of this form

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>T</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I rarely worry about seeming foolish to others.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>I worry about what people will think of me even when I know it doesn’t make any difference.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>I become tense and jittery if I know someone is sizing me up</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>I am unconcerned even if I know people are forming an unfavorable impression of me.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>I feel very upset when I commit some social error.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>The opinions that important people have of me cause me little concern.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>I am often afraid that I may look ridiculous or make a fool of myself.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>I react very little when other people disapprove of me.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>I am frequently afraid of other people noticing my shortcomings.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>The disapproval of others would have little effect on me.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>If someone is evaluating me I tend to expect the worse.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>I rarely worry about what kind of impression I am making on someone.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>I am afraid that others will not approve of me.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>I am afraid that people will find fault with me.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Other people’s opinions of me do not bother me.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>I am not necessarily upset if I do not please someone.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
17 When I am talking to someone, I worry about what they may be thinking about me.
18 I feel that you can’t help making social errors sometimes, so why worry about it.
19 I am usually worried about what kind of impression I make.
20 I worry a lot about what my superiors think of me.
21 If I know someone is judging me, it has little effect on me.
22 I worry that others will think I am not worthwhile.
23 I worry very little about what others may think of me.
24 Sometimes I think I am too concerned with what other people think of me.
25 I often worry that I will say or do the wrong things.
26 I am often indifferent to the opinions others have of me.
27 I am usually confident that others will have a favorable impression of me.
28 I often worry that people who are important to me won’t think very much of me.
29 I brood about the opinions my friends have about me.
30 I become tense and jittery if I know I am being judged by my superiors.
### Table 1
Participant characteristics (N = 265)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>( n )</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Age</strong></td>
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<td></td>
</tr>
<tr>
<td>&lt; 18</td>
<td>1</td>
<td>0.38</td>
</tr>
<tr>
<td>18</td>
<td>76</td>
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<tr>
<td>19</td>
<td>107</td>
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<td>20</td>
<td>36</td>
<td>13.58</td>
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<tr>
<td>21</td>
<td>21</td>
<td>7.92</td>
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<tr>
<td>22</td>
<td>8</td>
<td>3.02</td>
</tr>
<tr>
<td>&gt; 22</td>
<td>0</td>
<td>0.00</td>
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<tr>
<td>Blank</td>
<td>16</td>
<td>6.04</td>
</tr>
<tr>
<td><strong>2. Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>122</td>
<td>46.04</td>
</tr>
<tr>
<td>Female</td>
<td>143</td>
<td>53.96</td>
</tr>
<tr>
<td>Blank</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td><strong>3. Years in college</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>157</td>
<td>59.24</td>
</tr>
<tr>
<td>2</td>
<td>66</td>
<td>24.91</td>
</tr>
<tr>
<td>3</td>
<td>16</td>
<td>6.04</td>
</tr>
<tr>
<td>4</td>
<td>23</td>
<td>8.68</td>
</tr>
<tr>
<td>5</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>&gt;5</td>
<td>1</td>
<td>0.38</td>
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<tr>
<td>Blank</td>
<td>2</td>
<td>0.75</td>
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<tr>
<td><strong>4. Marital Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Single</td>
<td>265</td>
<td>100.00</td>
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<tr>
<td>Blank</td>
<td>0</td>
<td>0.00</td>
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</table>
5. Race/ethnicity

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caucasian</td>
<td>243</td>
<td>91.70</td>
</tr>
<tr>
<td>Black/African-American</td>
<td>6</td>
<td>2.26</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>4</td>
<td>1.51</td>
</tr>
<tr>
<td>Asian</td>
<td>7</td>
<td>2.64</td>
</tr>
<tr>
<td>American Indian/Alaska Native</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Native Hawaiian/Other Pacific Islander</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Biracial</td>
<td>3</td>
<td>1.13</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>0.75</td>
</tr>
<tr>
<td>Blank</td>
<td>0</td>
<td>0.00</td>
</tr>
</tbody>
</table>

6. Raised in family of origin*

<table>
<thead>
<tr>
<th>Response</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>257</td>
<td>96.98</td>
</tr>
<tr>
<td>No</td>
<td>1</td>
<td>0.38</td>
</tr>
<tr>
<td>Blank</td>
<td>7</td>
<td>2.64</td>
</tr>
</tbody>
</table>

7. Living away from family of origin

<table>
<thead>
<tr>
<th>Response</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>215</td>
<td>81.13</td>
</tr>
<tr>
<td>No</td>
<td>42</td>
<td>15.85</td>
</tr>
<tr>
<td>Blank</td>
<td>8</td>
<td>3.02</td>
</tr>
</tbody>
</table>

8. If yes, to item 7, duration of time (in years)

<table>
<thead>
<tr>
<th>Duration</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>131</td>
<td>49.43</td>
</tr>
<tr>
<td>2</td>
<td>43</td>
<td>16.23</td>
</tr>
<tr>
<td>3</td>
<td>12</td>
<td>4.53</td>
</tr>
<tr>
<td>4</td>
<td>24</td>
<td>9.06</td>
</tr>
<tr>
<td>5</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>&gt;5</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Blank**</td>
<td>55</td>
<td>20.75</td>
</tr>
</tbody>
</table>

9. Either parent deceased

<table>
<thead>
<tr>
<th>Response</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>5</td>
<td>1.89</td>
</tr>
<tr>
<td>No</td>
<td>245</td>
<td>92.45</td>
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<tr>
<td>Blank</td>
<td>15</td>
<td>5.66</td>
</tr>
</tbody>
</table>

10. If yes to item 9, which parent?

<table>
<thead>
<tr>
<th>Parent</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother</td>
<td>1</td>
<td>0.38</td>
</tr>
<tr>
<td>Father</td>
<td>4</td>
<td>1.51</td>
</tr>
</tbody>
</table>
* consisting of either/both parents (biological/step/foster) with/without siblings.
** the blanks include legitimate responses, based on responses to items 7 and 9.
Table 2

Mean, standard deviation and range of scores on parental overprotection and care scales, dimensions of perfectionism, and measures of social anxiety

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>Minimum-Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>PBI parental overprotection scale</td>
<td>11.06</td>
<td>5.36</td>
<td>0.00-27.00</td>
</tr>
<tr>
<td>PBI parental care scale</td>
<td>28.80</td>
<td>5.80</td>
<td>8.00-36.00</td>
</tr>
<tr>
<td>F-MPS concern over mistakes subscale</td>
<td>23.20</td>
<td>7.26</td>
<td>9.00-44.00</td>
</tr>
<tr>
<td>F-MPS doubts about actions subscale</td>
<td>10.52</td>
<td>3.38</td>
<td>4.00-20.00</td>
</tr>
<tr>
<td>F-MPS parental criticism subscale</td>
<td>8.40</td>
<td>3.47</td>
<td>4.00-20.00</td>
</tr>
<tr>
<td>F-MPS parental expectation subscale</td>
<td>16.56</td>
<td>3.48</td>
<td>6.00-25.00</td>
</tr>
<tr>
<td>F-MPS personal standards subscale</td>
<td>25.66</td>
<td>5.03</td>
<td>9.00-35.00</td>
</tr>
<tr>
<td>F-MPS organization subscale</td>
<td>22.79</td>
<td>5.74</td>
<td>7.00-30.00</td>
</tr>
<tr>
<td>FNE</td>
<td>13.72</td>
<td>8.63</td>
<td>0.00-30.00</td>
</tr>
<tr>
<td>SADS</td>
<td>5.55</td>
<td>5.94</td>
<td>0.00-26.00</td>
</tr>
</tbody>
</table>

Note. PBI = Parental Bonding Instrument; F-MPS = Frost-Multidimensional Perfectionism Scale; FNE = Fear of Negative Evaluation; SADS = Social Anxiety and Distress Scale.
Table 3

Intercorrelations among parental overprotection, parental care, dimensions of perfectionism, and measures of social anxiety

<table>
<thead>
<tr>
<th>Variable</th>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. PO</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. PCa</td>
<td>-.48**</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. CM</td>
<td>.27**</td>
<td>-.31**</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. DA</td>
<td>.25**</td>
<td>-.29**</td>
<td>.52**</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. PC</td>
<td>.55**</td>
<td>-.66**</td>
<td>.47**</td>
<td>.39**</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>6. PE</td>
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<td>-.29**</td>
<td>.45**</td>
<td>.27**</td>
<td>.61**</td>
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<td>7. PS</td>
<td>.12</td>
<td>-.08</td>
<td>.50**</td>
<td>.23**</td>
<td>.13*</td>
<td>.38**</td>
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<tr>
<td>8. O</td>
<td>-.07</td>
<td>.15*</td>
<td>.09</td>
<td>.10</td>
<td>-.15*</td>
<td>.02</td>
<td>.40**</td>
<td>--</td>
<td></td>
<td></td>
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<tr>
<td>9. FNE</td>
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<td>-.29**</td>
<td>.47**</td>
<td>.47**</td>
<td>.27**</td>
<td>.17**</td>
<td>.19**</td>
<td>.08</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>10. SADS</td>
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<td>-.31**</td>
<td>.30**</td>
<td>.38**</td>
<td>.26**</td>
<td>.12*</td>
<td>.04</td>
<td>-.06</td>
<td>.56**</td>
<td>--</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed)

Note: PO = Parental overprotection; PCa = Parental care; CM = Concern over mistakes; DA = Doubts over actions; PC = Parental criticism; PE = Parental expectations; PS = Personal standards; O = Organization; FNE = Fear of Negative Evaluation; SADS = Social Anxiety and Distress Scale.

Parental overprotection and parental care were measured using the Parental Bonding Instrument. Dimensions of perfectionism, CM, DA, PC, PE, PS, and O, were measured using the Frost Multidimensional Perfectionism Scale.

Social anxiety was measured using the FNE and SADS.
Table 4

Standardized coefficients and reductions in coefficients, using Parental Overprotection as a predictor

<table>
<thead>
<tr>
<th>MEDIATOR</th>
<th>Concern over Mistakes (CM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DV</td>
<td>( \beta_a )</td>
</tr>
<tr>
<td>FNE</td>
<td>.27**</td>
</tr>
<tr>
<td>SADS</td>
<td>.27**</td>
</tr>
</tbody>
</table>

** p < 0.01

<table>
<thead>
<tr>
<th>MEDIATOR</th>
<th>Doubts about Actions (DA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DV</td>
<td>( \beta_a )</td>
</tr>
<tr>
<td>FNE</td>
<td>.25**</td>
</tr>
<tr>
<td>SADS</td>
<td>.25**</td>
</tr>
</tbody>
</table>

** p < 0.01
<table>
<thead>
<tr>
<th>DV</th>
<th>$\beta_a$</th>
<th>$\beta_b$</th>
<th>$\beta_c$</th>
<th>$\beta_{c'}$</th>
<th>$c-c'$</th>
</tr>
</thead>
<tbody>
<tr>
<td>FNE</td>
<td>.55**</td>
<td>.23**</td>
<td>.19**</td>
<td>.06</td>
<td>.13**</td>
</tr>
<tr>
<td>SADS</td>
<td>.55**</td>
<td>.25**</td>
<td>.17**</td>
<td>.03</td>
<td>.14**</td>
</tr>
</tbody>
</table>

** $p < 0.01$

**Note.** DV = dependent variable; FNE = Fear of Negative Evaluation; SADS = Social Anxiety and Distress Scale; $\beta_a$ = path coefficient from predictor to mediator; $\beta_b$ = path coefficient from mediator to dependent variable; $\beta_c$ = path coefficient from predictor to dependent variable; $\beta_{c'}$ = path coefficient from predictor to dependent variable, controlling for mediator; $c-c'$ = reduction in absolute value of standardized coefficient, from c to $c'$. Sobel test was used to test the significance of the mediated effect.
Table 5

Standardized coefficients and reductions in coefficients, using Parental Care as a predictor

<table>
<thead>
<tr>
<th>MEDIATOR</th>
<th>Concern over Mistakes (CM)</th>
<th>Doubts about Actions (DA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DV</td>
<td>$\beta_a$</td>
<td>$\beta_b$</td>
</tr>
<tr>
<td>FNE</td>
<td>-0.31**</td>
<td>0.42**</td>
</tr>
<tr>
<td>SADS</td>
<td>-0.31**</td>
<td>0.23**</td>
</tr>
<tr>
<td>** $p &lt; 0.01$</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| DV                        | $\beta_a$ | $\beta_b$ | $\beta_c$ | $\beta_{c'}$ | $c-c'$ |
| FNE                       | -0.29**   | 0.43**    | -0.29**    | -0.16**      | 0.13** |
| SADS                      | -0.29**   | 0.32**    | -0.31**    | -0.21**      | 0.10** |
| ** $p < 0.01$              |
### MEDIATOR

**Parental Criticism (PC)**

<table>
<thead>
<tr>
<th>DV</th>
<th>$\beta_a$</th>
<th>$\beta_b$</th>
<th>$\beta_c$</th>
<th>$\beta_{c'}$</th>
<th>$c-c'$</th>
</tr>
</thead>
<tbody>
<tr>
<td>FNE</td>
<td>-.66**</td>
<td>.14</td>
<td>-.29**</td>
<td>-.20**</td>
<td>.09†</td>
</tr>
<tr>
<td>SADS</td>
<td>-.66**</td>
<td>.11</td>
<td>-.31**</td>
<td>-.23**</td>
<td>.08 †</td>
</tr>
</tbody>
</table>

** ** $p < 0.01$

† Sobel test was not conducted because $\beta_b$ was not significant.

**Note.** DV = dependent variable; FNE = Fear of Negative Evaluation; SADS = Social Anxiety and Distress Scale; $\beta_a$ = path coefficient from predictor to mediator; $\beta_b$ = path coefficient from mediator to dependent variable; $\beta_c$ = path coefficient from predictor to dependent variable; $\beta_{c'}$ = path coefficient from predictor to dependent variable, controlling for mediator; $c-c'$ = reduction in absolute value of standardized coefficient, from $c$ to $c'$. Sobel test was used to test the significance of the mediated effect.
APPENDIX E

Figure 1. The Mediation Model: Testing mediation of dimensions of perfectionism between parental overprotection and social anxiety. CM = Concern over Mistakes; DA = Doubts about Actions; PC = Parental Criticism.

Note. Parental overprotection was measured using scores from the Parental overprotection scale of the PBI; CM, DA and PC were measured using scores from the namesake subscales of the FMPS; Social anxiety was measured using scores from the FNE and the SADS.
Figure 2. Standardized regression coefficients showing mediation of *Concern over Mistakes* in the relationship between parental overprotection and FNE.
Figure 3. Standardized regression coefficients showing mediation of *Doubts about Actions* in the relationship between parental overprotection and FNE.
Figure 4. Standardized regression coefficients showing mediation of *Parental Criticism* in the relationship between parental overprotection and FNE.
Figure 5. Standardized regression coefficients showing mediation of *Concern over Mistakes* in the relationship between parental overprotection and SADS.
Figure 6. Standardized regression coefficients showing mediation of *Doubts about Actions* in the relationship between parental overprotection and SADS.
Figure 7. Standardized regression coefficients showing mediation of *Parental Criticism* in the relationship between parental overprotection and SADS.