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The current study extends the work of Barrett, Rapee, Dadds, and Ryan (1996) by attempting to further parse apart the FEAR effect with a continuous approach that examines degree differences within a response category, as well as examining both social and general anxiety. A community sample was obtained that consisted of 86 youngsters grades four through eight. There were 45 girls and 41 boys and the age range was from nine years old to fourteen years old. Youngsters were administered measures of social anxiety and general anxiety and a vignette measure developed by Barrett, Rapee, Dadds, and Fox (1996) that assesses children's responses to potentially anxiety provoking situations. Children's responses were solicited before and after discussion with one of their parents to examine potential parental influences. A new coding procedure was developed to be more sensitive to changes that may occur following the family discussion. In addition, it was hypothesized that children's social and general anxiety scores would predict response changes for social and general situations, respectively. Although there were no significant findings for these hypotheses, the current study was able to extend the current literature on the FEAR effect by examining social anxiety, using a community sample, and attempting to develop a more sensitive approach to examining the FEAR effect.

# EXAMINATION OF THE FEAR EFFECT WITH CHILD SOCIAL AND GENERAL ANXIETY

by

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### CHAPTER 1

### INTRODUCTION

Anxiety is one of the most common types of child adjustment issues in childhood and adolescence (Bernstein, Borchardt, & Perwien, 1996; Kashani, Orvaschel, Rosenberg, & Reid, 1989). One of the defining features of anxiety is fear or worry about a certain event or situation, with the type of event or situation determining the type of anxiety manifested. The specific areas of child anxiety that will be focused on for this study are child social and general anxiety.

Child *social anxiety* is characterized by marked concern when having to face social situations or instances in which evaluation may be present (Albano, DiBartolo, Heimberg, & Barlow, 1995). Child social anxiety is associated with both cognitive and behavioral symptoms (American Psychiatric Association, 2000). Cognitively, the child with social anxiety may be pre-occupied with how others judge him/her and will often interpret others' judgments to be negative. Due to this fear, the child may physically avoid such circumstances or bear them with difficulty (Beidel, Turner, & Morris, 1999).

Social anxiety can affect children's overall functioning through being associated with lower social acceptance, self-esteem, and positive peer interactions (Ginsburg, La Greca, & Silverman, 1998). In addition, the child with

social anxiety may have negative perceptions of social-evaluative situations, as well as his/her expected performance in social situations (Spence, Donovan, & Brechman-Toussaint, 1999). Children with social anxiety also display less social skills than non-anxious peers (Spence, Donovan, & Brechman-Toussaint, 1999). However, there may be a bidirectional effect present for childhood social anxiety, as peer problems have also been shown to predict greater stability of child social anxiety, which may lead to depressive symptoms later on in development (Gazelle & Ladd, 2003).

Child *general* anxiety is characterized by concern about multiple events or activities (American Psychiatric Association, 2000). Typically the child's concern will center on the perceived ability to perform in a competent manner in school or at sports, but the content area may vary over time. Along with these worries, physical symptoms such as fatigue or muscle tension, concentration difficulties, irritability, or disturbed sleep may be present (Eisen & Engler, 1995).

The child's worry may affect school, home, or social situations. Because of the child's worry about his/her performance, he/she may frequently seek reassurance and approval from others or may do tasks over until done "just right" (Strauss, 1990). In addition, children with general anxiety have a tendency to overrate the likelihood of negative outcomes, misjudge their ability to cope in difficult situations, or over-exaggerate the potential consequences of an event (Albano, Chorpita, & Barlow, 2003).

Much recent research has examined the various factors that may influence the development or maintenance of social and general child anxiety. For example, researchers have developed a paradigm of how <u>parents</u> may influence child anxiety through the child's interpretation of events (Barrett, Rapee, Dadds, & Ryan, 1996). The literature regarding this topic will be reviewed, beginning with a basic consideration of the threat interpretations made by children with anxiety. Then, a study will be described that examined the link between parental behavior and child social anxiety.

### Threat Interpretation Bias

The manifestation of anxiety in children and adolescents is often related to children's threatening appraisal of peer social behavior. Specifically, children with anxiety tend to exhibit a threat interpretation bias, or the tendency to interpret an ambiguous action as being threatening, more so than their non-anxious peers (Bell-Dolan, 1995; Muris, Merckelbach, & Damsma, 2000; Taghavi, Moradi, Neshat-Doost, Yule, & Dalgleish, 2000). When given a choice of interpretations for an ambiguous situation, children with anxiety are more likely to choose negative or threatening interpretations as opposed to neutral or positive ones (Barrett, Rapee, Dadds, & Ryan, 1996; Chorpita, Albano, and Barlow, 1996; Shortt, Barrett, Dadds, & Fox, 2001). Also, when presented with ambiguous situations, children with anxiety more often select avoidant responses (e.g., responses related to escape) as opposed to prosocial responses (e.g.,

responses that involve appropriate coping) than do children without anxiety (Barrett, Rapee, Dadds, & Ryan, 1996; Chorpita, Albano, & Barlow, 1996).

Although children with anxiety have been shown to display threat interpretation biases and select avoidant responses, we do not fully understand yet all the influences on threat interpretation. Specifically, threat interpretations that children with anxiety make about peer social situations are potentially influenced by peers (Hoglund & Ledbetter, 2007); however, parents likely play a role as well. Evidence suggests that a child's anxiety may be related to negative feedback received from parents (e.g., discouraging words) as well as to parenting style (Krohne & Hock, 1991; Rapee 2001). This feedback not only may affect the way in which children interact with their environment but may also be related to the type of negative threat interpretations that children with anxiety display. Therefore, to understand how the threat interpretations may develop or be maintained, parental influence should be examined.

### Parental Influence on Threat Interpretation Bias

Parents play an important role in a child's development. For example, research has shown a connection between overprotective parenting styles and anxiety in children (Hudson & Rapee, 2001; Rapee, 1997). In addition, Rapee (2001) proposes a model of child social anxiety development and maintenance that examines parental behaviors. In his model, he hypothesizes the following chain of events. Child anxiety is associated with distress in intimidating or anxiety-provoking situations. In response, the parent excessively increases

his/her involvement and protection of the child to prevent the child's distress. This involvement and protection reinforces the child's threat perception, which in turn lowers the child's perceived control of the situation and increases the child's avoidance of anxiety-provoking situations. Thus, parents may directly affect their children's tendency to have negative interpretations. What does this phenomenon actually look like during parent-child interactions? This question has been explored partially in a series of studies on the FEAR effect in child anxiety. This paper will also review some of the gaps in the literature and describe a study that attempts to address those gaps.

### The FEAR Effect

Barrett, Rapee, Dadds, and Ryan (1996) sought to examine threat interpretation bias in children with anxiety and how parents may be involved. To examine these issues, Barrett and colleagues (1996) developed a family discussion paradigm consisting of 12 ambiguous situations. In these vignettes, children are presented with a potentially anxiety-provoking situation and are asked to interpret the situation. Then children are presented with two possible neutral outcomes and two possible threatening outcomes and asked which outcome is most likely to occur. For example, one of the situations is, "You arrange to have a party at 4:00 p.m. and by 4:30 p.m. no one has arrived." First, the child is asked "What do you think is most likely to have happened?" (freechoice interpretation). Then the child is asked which of four possible explanations he/she agrees with most (forced-choice interpretation). A neutral

interpretation would be, "They are late because the traffic is very heavy;" whereas a threatening or negative interpretation would be, "They don't want to come because they think it will be really boring." Finally, the child is asked, "What would you do about it?" Children may select a prosocial response such as "I would wait longer for my friends to arrive," or an avoidant response, such as "I would go upstairs to my room and cry." Parents are also presented with the same vignettes in a separate room and asked to predict how they think their child will respond to the questions described previously. Next, child and parent dyads discuss two of the vignettes: one social situation and one situation involving physical symptoms of anxiety. The social situation is used to tap into social anxiety concerns. Likewise, the physical symptoms situation is used for more general worry and anxiety. The parent and child are asked to work together to derive a final response: at the end, the child is asked to report the final response. They are not told explicitly to come to a consensus; thus parents must interpret how involved they should be.

Using the family discussion paradigm, Barrett, Rapee, Dadds, and Ryan (1996) demonstrated that children with an anxiety disorder negatively interpreted ambiguous scenarios. In addition, children with anxiety who selected prosocial responses to a vignette before the family discussion had a tendency to change to avoidant responses after discussing the scenarios with their parents. Thus, interactions that occurred during the family discussion appear to influence the child's selected response, suggesting that parents influence their children's

negative interpretation of social situations. This pattern occurred more often for children with anxiety than for children without anxiety; the authors described this tendency as the "family enhancement of avoidant responses", or the FEAR effect.

The FEAR effect is illustrates elements of Rapee's proposed model (2001), which asserts that parents of children with anxiety encourage their children to avoid potentially anxiety-provoking situations. Specifically, parents of children with anxiety seem to influence their children to avoid a "risk" which would be associated with undertaking a more prosocial response (Dadds, Heard, & Rapee, 1992). The parent may communicate doubt in the child's ability to effectively carry out a prosocial response by providing information about possible negative effects associated with participating in the social activity or solving the situation effectively. Parents may also express encouragement of the child's avoidance or not reinforce appropriately the child when she provides a response that indicates approach behaviors. (Dadds, Heard, & Rapee, 1992).

Of note, the FEAR effect as described in Barrett, Rapee, Dadds, and Ryan (1996) examines category change (i.e., changing from a prosocial to avoidant response), but it does not consider changes that may occur *within* categories following family discussion. For example, a child may initially give an avoidant response that becomes more avoidant after the family discussion which would suggest parental influence but would not comprise a category change. In contrast, a child's prosocial response may become less so after the discussion

but still not be classified as avoidant. Thus, the current study will extend their work by examining responses on a more detailed continuum of prosocial to avoidant. This method will provide an approach that is more sensitive to differences that may occur from pre to post- family discussion. This approach will also allow for differences to be examined that may be detectable in a community but not a clinical sample.

Since Barrett and colleagues (1996) published their initial paper on the FEAR effect, only a handful of studies have explicitly considered this phenomenon (See Table 6 for a summary of FEAR effect studies). In general, these studies have supported the FEAR effect by finding that children with anxiety as measured by either a questionnaire or clinical interview change their responses to be more negative or avoidant following a family discussion. For example, Chorpita, Albano, and Barlow (1996) found evidence of parental influence as children with anxiety changed their responses after a family discussion.

Logsdon-Conradsen (1998) is the only study that examined children diagnosed with social phobia but did not measure general anxiety. They found some evidence of the FEAR effect; specifically, children's responses became more avoidant on one of her vignettes (i.e., one taking place in the cafeteria) but not the other (i.e., one taking place in the classroom). This study will also examine social anxiety as well as general anxiety to investigate differences between the two with regard to the FEAR effect. Participants for this study will

be from a community sample, which will allow analysis of whether the FEAR effect is seen in non-clinical samples. Because we used a questionnaire measure of social anxiety, we will also be able to use a dimensional approach in examining children's responses and the FEAR effect.

In contrast, a few studies have not supported the FEAR effect. For example, Shortt, Barrett, Dadds, and Fox (2001) and Cobham, Dadds, and Spence (1999) did not find clear differences in the FEAR effect between children with anxiety and non anxious children. In Shortt, Barrett, Dadds, and Fox's study (2001), seven of the twelve original vignettes from the family discussion paradigm developed by Barrett and colleagues (1996) were used, with the majority relating to social anxiety. Children in the anxiety group did not differ from children in the externalizing and control group on changing to avoidant responses after family discussion. This result is inconsistent with prior results that found a change in the opposite direction (from prosocial to avoidant) after family discussion. However, with the social anxiety item, more children changed to avoidant responses after family discussion, but not with the general anxiety item ( $\chi^2(3) = 19.19$ , p < .001). Perhaps a more sensitive examination of the vignette responses would have resulted in finding evidence of parental influence after family discussion. Alternately, perhaps there are more differences apparent when considering specific types of anxiety. Shortt, Barrett, Dadds, and Fox (2001) included children with general anxiety in their sample, and compared the children to externalizing and non-anxious children.

In another study examining the FEAR effect, Cobham, Dadds, & Spence (1999) used family discussion and an experimental task. Children were categorized into anxious, clinical control, and non-clinical control groups. Families were told that the child would give a speech about her/himself while being videotaped. After the first speech the family was told that the child had the option of giving a second speech about whatever scared him/her the most, but the child only had to participate if he/she wanted. The decision whether to participate in the second task or not was considered a prosocial or avoidant response, respectively. Children in the anxious group did not differ from the clinical and non-clinical control group in avoidance of the second task. In addition, children with anxiety were not more likely to change to an avoidant response, contrary to expectations. One of the reasons for this finding may have been due to the fact that parents in the anxiety group in this study may have misinterpreted the second talk as a part of the assessment and therapy process and not as a measure of the study. Consequently, they framed the talk as helpful and thus did not increase the child's avoidance. Because the current study will use hypothetical situations for the interview and family discussion as opposed to experimental tasks, this misinterpretation should be avoided. Although there are benefits to using experimental tasks, other studies (Barrett, Rapee, Dadds, & Ryan, 1996; Logsdon-Conradsen, 1998) have been able to show that using hypothetical situations are useful to examine the FEAR effect.

### Summary and the Current Study

The FEAR effect (Barrett, Rapee, Dadds, & Ryan 1996) has been identified as the tendency for parents of a child who is anxious to behave in a manner that is related to changes in the child's responses. These behaviors may include communicating doubt in the child's abilities to successfully respond to an anxiety-provoking situation or encouraging the child's avoidance of the situation (Dadds, Heard, & Rapee, 1992). These behaviors typically result in a change from a prosocial response to an avoidant response. The FEAR effect has been supported by some studies (Chorpita, Albano, and Barlow, 1996; Logsdon-Conradsen, 1998), but not by other studies (Cobham, Dadds, & Spence, 1999; Shortt, Barrett, Dadds, and Fox, 2001). In addition, although the FEAR effect has supported in a number of studies, gaps in this literature still exist that relate to some of the mixed findings.

Specifically, the previous research has not examined differences that may occur between child *social* and *general* anxiety such as the match between the type of anxiety and the type of ambiguous situation the child is presented. Additionally, the current study is different in that it examines social anxiety, which only Logsdon-Conradsen (1998) has considered thus far.

In addition, the literature has examined the FEAR effect as the response change between categories but has not investigated responses on a more detailed continuum. Responses that change following a family discussion from more prosocial to less prosocial or less avoidant to highly avoidant may indicate

as much parental influence as a category change from slightly prosocial to slightly avoidant. This potentially more sensitive approach may aid in allowing one to better examine changes that may occur in a community sample, where the levels of anxiety may not be as high. Thus, the goals of the current study are to address these gaps by examining the FEAR effect using a dimensional approach as well as including child *social* and *general* anxiety.

For this study, *high social anxiety* is defined by those children scoring in the top tertile of the sample on a child social anxiety measure, and *low social anxiety* is defined by those children scoring in the bottom tertile of the sample on a child social anxiety measure. *High* and *low general anxiety* groups will be defined in the same manner mentioned above as measured by a child general anxiety measure. *Response continuum difference* is defined by the change from pre to post- family discussion in the child's final response to a vignette, rated on a scale from most prosocial to most avoidant.

It is hypothesized that:

- A response continuum difference will be found from pre- to post- family discussion for a) children with high social anxiety and b) children with high general anxiety; this change will not be evident for a) youth with low social or b) youth with low general anxiety.
- 2. Children's *social* anxiety scores will predict continuum response change for *social* situations after controlling for continuum response change in general situations as well as general anxiety.

3. Children's *general* anxiety scores will predict continuum response change for *general* situations after controlling for continuum response change in social situations as well as social anxiety.

# CHAPTER II

### METHOD

### Participants

The sample consisted of 86 youngsters and their parents. A power analysis indicated that *approximately* 91 participants were needed to obtain a medium effect size, which was expected based on effect sizes in previous studies examining the FEAR effect. Participants consisted of children ranging in grades four to eight and their parents (see table 1). The age range of participants in the current study was 9 years to 14 years, with a mean age of 11.3 years old. Participants were recruited from private and charter schools and day camps. All participating children received \$10.

Of the 86 youngsters in the study, over half (59.3%, n=51) of the participants attended a private school, with the remaining participants attending a public charter (33.7%, n=29) or public school (7%, n=6). An Anova was conducted to examine between group differences; there were no significant differences on measures of anxiety found for the children attending types of schools (F(39) = .67; p = .9). There were 45 girls and 41 boys.

### Measures

Social Anxiety. The Social Phobia and Anxiety Inventory for Children (SPAI-C) (Beidel, Turner, & Morris, 1998) is a 26-item self-report measure of

social anxiety. Specifically, the child reports his/her level of distress for various social situations (e.g., "I feel scared when I meet new kids"). The scale consists of items relating to assertiveness/general conversation, traditional social encounters, and public performance (Beidel, Turner, & Morris, 1995). Also, because social anxiety can vary across specific situations, the scale also has 12 items that assess social anxiety in different contexts (e.g., with familiar peers, unfamiliar peers, and adults). Children respond on a scale of 0 (never or hardly ever) to 2 (most of the time, or always) for each item, and the total score can be calculated. Higher total scores indicate higher social anxiety, with a score over eighteen indicating probable social phobia. The SPAI-C has high internal consistency ( $\alpha$ =.95), and the test-retest reliability after two weeks is .86. For this study, we found a high internal consistency on the SPAI-C as well ( $\alpha$ =.93). (Beidel, Turner, & Morris, 1995). The age range suitable for the SPAI-C is 8 to14 years.

*General Anxiety.* The Multidimensional Anxiety Scale for Children (MASC; March, 1997) is a 39-item self-report measure that examines various anxiety symptoms. Specifically, children are presented with statements describing emotional, cognitive, and physiological symptoms of anxiety and asked to rate how true each is about them. Different subscales assess the following dimensions of anxiety: Physical Symptoms ("My heart races or skips beats"), Harm Avoidance ("I check to make sure things are safe"), Social Anxiety ("I get nervous if I have to perform in public"), Separation/Panic ("I avoid going places

without my family"). In addition, a Total Anxiety Score can be computed by adding together all of the subscale scores. Because the current study is separately assessing social anxiety with another scale, we will use the Total Anxiety Score minus the Social Anxiety Scale score as a measure of children's general anxiety. Responses for each item range from "1" (never true about me) to "4" (often true about me). The age range suitable for the MASC is 8 to19 years. The internal consistency of the MASC on the various scales and subscales is good, ranging from .50 to .89 across boys and girls. The current study yielded an internal consistency of .90. In addition, the test-retest reliability is also good (r = .79 after 3 weeks, and r = .93 after 3 months; March, Parker, Sullivan, Stallings, & Conners, 1997).

A revised version of the MASC is currently being normed and was used for this study. The MASC-R differs from the MASC primarily through the addition of an obsessive-compulsive scale (e.g., "I have to repeat things until it feels just right"); most other items from the original MASC were not changed significantly.

Vignette Measure. The vignette measure developed by Barrett, Rapee, Dadds, and Ryan (1996) was used for this study. The content of the 12 vignettes relates to social and general anxiety and examines school and home settings. The wording of some vignettes was adapted slightly to reflect differences between Australian and American English (e.g., "...some of their school lunch" instead of "...a bit of their school lunch"). Two vignettes were presented to the parent and child for discussion; one item was a social anxiety situation, and one

item was a general anxiety situation. Using two vignettes for the family discussion is standard procedure for this paradigm (See Table 6).

The coding procedure for the interviews was adapted from Barrett, Rapee, Dadds, and Ryan (1996). Forced-choice explanations chosen by the child and parent for each vignette were coded as socially threatening, physically threatening, or non-threatening (neutral or positive). A neutral interpretation would be one that is neither negative nor positive and the child perceives no threat. A positive interpretation would include positive language such as "good" or positive actions, such as "give." In addition, the responses (plans of action) for each of the vignettes as well as the child's final response for the two family vignettes were coded (Refer to Appendix B).

The primary adaptation made to the coding system involved adding categories to more fully reflect the degree to which the responses are avoidant, rated on a scale from "1" (most avoidant) to "7" (most prosocial). There was also a category added for aggressive responses ("8") and responses that could not be classified into the coding system ("9"). The "8" and "9" categories were not included in the ratings for analyses. Consider the vignette, "You see a group of students from another class playing a fun game. You walk over and want to join in and you hear them laughing." Specifically, a "1" response suggests physical escape from the situation described in the vignette (e.g., "I would walk away"). A "2" response involved emotional escape (e.g., "ignore them"). A "3" responses involved no action (a response of doing "nothing" would be coded here).

Responses 4-5 involved delegating the decision to someone else, such as telling the teacher ("4") or consulting with someone in order to not make a decision right away, such as asking a friend if they were laughed at also ("5"). Responses coded as "6" involved indirect ways to address the situation (e.g. "stand there and wait for them to ask me to play"), and a "7" (prosocial) response included positive and constructive solutions to the vignettes (e.g., "I would politely ask to join them").

The coding procedure was created by first taking into consideration the categories already available in the original coding scheme (Barrett, Rapee, Dadds, & Ryan, 1996). For the interpretation codes, the examiner began by determining what additional categories could be introduced to the coding scheme to increase the sensitivity of the ratings. There were several added categories with appropriate descriptions included. The changes included separating the "non-threat" category into "neutral" and "positive" interpretation categories, and adding a "general negative" interpretation category. After the categories were added, the codes were reviewed and discussed with three experts in child social anxiety. The system was then reviewed by a group of undergraduate students who were asked to provide feedback on the perceived validity of the categories. Several research assistants and the examiner then reviewed the categories and discussed the validity of each, as it related to the examples provided. This process lead to the final coding system. With the child's proposed action to each vignette, a similar approach was taken (see Appendix A). However, each

category was then applied to each of the vignettes with examples provided to assist with coding. That is, each vignette would include examples specific to the vignette under each category to help the coder understand how each category applied to the vignette.

*Parental Expectancies Scale*. The Parental Expectancies Scale (Eisen, Spasaro, Brien, Kearney, & Albano, 2004) is a 20-item parent-report scale assessing five dimensions of parents' expectations of their children. These five dimensions include: Academic Achievement (e.g., "I expect that academic success will be an important goal for my child"), Extra-Curricular Activities (e.g., "I expect that my child will distinguish him/herself with top performances in his/her extra-curricular activities"), Household Responsibilities (e.g., "I expect my child to become more responsible and self-sufficient in home-related activities"), Peer Activities (e.g., "I expect that popularity and an active social life will be important goals for my child"), and General Success (e.g., "I expect that experiences of success will be bets reinforcers for my child's self-confidence"). This scale was part of the larger study and was not initially intended for this thesis project; however, we present some data here using this scale as follow-up analyses. *Procedure* 

Parental consent forms describing the study and requesting child participation were distributed to children in private and charter school classrooms, as well as summer day camp. The forms requested that parents sign them and mail them to the Child and Family Assessment Lab at UNCG or

return them to the child's class. Parents who returned consent forms were contacted by project staff to arrange a data collection session in the Child and Family Assessment Lab (return rate = 22%). Data collection was conducted in the homes of those parents who are not able to come to the lab (n = 21). All parents read and signed informed consent forms for their own participation, and project staff read the assent forms to the children in the presence of the parents. Children were asked to sign the assent forms to participate. Then, the child and parent were separated into different rooms. In one room, a research assistant (RA) read the measures to the child, who marked responses on the surveys. The RA then administered the twelve vignettes in interview format. In the other room, the parent completed a packet of questionnaires related to a larger study, and afterwards, a research assistant presented twelve vignettes to the parent and his/her responses were recorded. Then the parent and child discussed two of the vignettes for five minutes each, with the interactions videotaped.

*Coder training.* The author reviewed the coding scheme with two coders over the course of several days. Once 80% reliability was obtained on a set of vignette examples, the coders completed the remaining coding. This author did reliability checks twice a week after approximately ten vignettes were coded. If the coder's reliability was 80% or higher, then the coders would be asked to continue coding ten more packets. If not, another training session was scheduled. There were initially four coders, but for a variety of reasons most of the data ended up being coded by this author and one additional coder. The

coder was tested for reliability against the first author, who had previously coded all of the participant's packets. Any disagreements were resolved by meeting to review the coding scheme and providing additional examples to assist the coder in better understanding the coding scheme.

# CHAPTER III RESULTS

The skewness and kurtosis of the main variables were within the normal range. For general anxiety, as measured by the MASC-R, scores ranged from 35 to 95. According to March (1997), the average total anxiety score for the 8 to11 year olds in the normative sample was 49.12 for girls and 42.06 for boys. For youngsters 12 to 15 years the average was 44.23 for girls and 36.70 for boys. For the data in the current study, the average total anxiety score for 8 to11 year olds was 68.9 for girls and 67.8 for boys. For youngsters 12 to 15 years, the average total anxiety score was 61.95 for girls and 56.6 for boys. These data indicate that the anxiety scores in our sample are higher than for the normative sample, although this difference was not tested statistically. Complete data to test the difference between our sample and the normative sample are not available. This difference suggest that our sample of children are elevated in anxiety which may aid in investigating anxiety in the current study; however these results may not generalize to other community samples. For social anxiety, as measured by the SPAI-C, scores in our sample ranged from 2 to 63, with a mean of 26.36. The normative sample included scores from 0 to 28.3 (Beidel, Turner,

and Norris, 1998) with a mean of 16.8 (Beidel, Turner, Hamlin, & Morris 2000). In the current study children with high anxiety and low anxiety were not purposefully over-selected, so this difference was unexpected.

There were no significant sex differences for any of the main variables. Differences were also examined between African-American and Caucasian groups (There were not enough children of other ethnic groups to do such comparisons). A significant difference was found for the response on the first social vignette given pre-family discussion (t (69) = 2.17, p < .05) with African-Americans scoring higher (M = 5.95, SD = 2.1) than Caucasians (M = 4.5, SD = 2.7). Both grade and age were considered in the analyses of the main variables, and there was significant difference between the two.

Correlations were also examined for the main study variables (See Table 2). As expected, the SPAI-C total score was correlated positively to the MASC-R total score and subscales. However, children's responses on the vignettes were not related to their scores on the SPAI-C. Similar results were found for the MASC-R, with only one significant correlation to variables; specifically, a negative correlation was found between the Harm Avoidance subscale and the post-discussion response for the social vignette.

Within the vignette responses, there was one significant finding of interest. Specifically, each of the pre- and post- discussion responses were significantly correlated within their categories. That is, the social response pre- discussion

was positively correlated with the social response post- discussion, as were the general responses.

Hypothesis 1 anticipated that a response continuum difference would be found from pre- to post- family discussion for a) children with high social anxiety and b) children with high general anxiety; this change will not be evident for a) youth with low social or b) youth with low general anxiety. T-tests were not significant for either general (M = -.44, S.D. = 2.81; (t(45) = -1.05, p > .10) or social anxiety (M = -.73, S.D. = 2.47; t(39) = -.97, p > .10). Thus, children with elevated anxiety did not change their responses to become more avoidant.

Hypothesis 2 asserted that children's social anxiety scores would predict continuum response change for social situations after controlling for continuum response change in general situations as well as general anxiety. We started by examining the range of responses. For the social vignette pre-family discussion, 22% of the participants stated that they would walk away from the game (which would yield a "1" coding) and 50% said that they would ask to play (which would yield a "7" in the coding scheme). After family discussion, only 15% stated that they would walk away ("1" in our coding), and 61.6% said that they would play ("7" in our coding). This suggests that there was some parental influence for change to more approach responses. This difference was not tested statistically. Children's responses changed not just from avoidant to approach, but also in the other direction. In addition, most children were more likely to select approach responses before family discussion. Also, 50% of the participants did not change

their responses at all from pre- discussion to post- discussion, even when using our more sensitive coding system. The lack of variability of responses in our sample likely influenced the regression results, in that there was little change in responses to examine statistically. In addition, a floor effect was present as most children picked a highly prosocial response initially, and then most also stayed with this option. A few (n = 10, 14.7%) of the participants changed their responses in the more avoidant direction. A regression analysis examined Hypothesis 2 using the social response change variable as the criterion (See Table 3); however, this regression was not significant.

Hypothesis 3 asserted that children's general anxiety scores would predict continuum response change for general situations after controlling for continuum response change in social situations as well as social anxiety. When examining the responses for the general vignette pre-family discussion, 32% of the responses involved an avoidant response (e.g., "letting the situation pass", coded as a "2") and 44.2% of the responses involved direct action ("7" in our coding). After discussion, 15.4 % of the participants changed responses to more avoidant, and approximately half (47.7%) did not change their response. Therefore, most children chose approach responses before parent discussion and did not change after parent discussion. Regression was used to examine Hypothesis 3 with the general response change variable as the criterion (Refer to Table 4). This regression also was not significant.

Because the analyses demonstrated that parents in this sample exerted relatively little influence on children's responses to anxiety-provoking situations, we ran a set of follow-up analyses to examine the parent-child relationship in greater detail. Specifically, we were concerned that, in this non-clinical sample, that perhaps parental influences were negligible. These follow-up analyses therefore examine the link between one type of parent behavior/attitude -parental expectancies -- and child social anxiety. These data were not originally intended for this thesis project and were collected as part of a larger study; however, they help flush out more fully the influence that parents may have on child social anxiety in this sample. For this analysis, we conducted a step-wise regression analysis predicting children's SPAI-C scores (see Table 5). In step 1, we entered children's sex and age as well as mother's reports of their own anxiety on the Social Phobia and Anxiety Inventory (SPAI; Turner, Beidel, Dancu, & Stanley, 1989); step 2 included child attributions and mother's expectations of their children (i.e., the Parental Expectancies Scale). Even after controlling for mother's level of anxiety, mother's expectations were a negative predictor of children's social anxiety scores, suggesting a link between at least some aspects of the parent-child relationship and social anxiety, even in this community sample.

# CHAPTER IV DISCUSSION

This study extended the current literature on the FEAR effect in three ways. First, it attempted to examine the FEAR effect specifically in relation to childhood social anxiety. Only one other study thus far (Logsdon-Conradsen, 1998) has examined this effect in children with social anxiety. Lodgson-Conradsen (1998) indicated that there may be specific information of interest from examining social anxiety that would add to the current literature. There are particular elements of social anxiety such as avoidance of social situations (Beidel, Turner, & Morris, 1999) and negative appraisals of expected performance in social situations (Spence, Donovan, & Brechman-Toussaint, 1999) that seem to make it more likely for these children to choose more avoidant social responses. Not only did this study examine social anxiety, but general anxiety was also considered. As a result, we were able to compare general and social anxiety as they relate to children's responses and the FEAR effect.

There are benefits to using a community sample when examining a dimensional construct such as social anxiety; for example, results can generalize to the general population. When hypotheses 2 and 3 were not upheld, we wondered whether this finding suggested a lack of influence of the parent-child

relationship on child social anxiety when using this non-clinical sample. To address this issue, we conducted follow-up analyses using several measures not initially intended for this thesis document. These analyses demonstrated that aspects of parenting are linked to child social anxiety, even in this community sample. Specifically, mothers' reports of their expectations for their children's behavior (e.g., academic success, peer activities) were related negatively to child social anxiety, even after controlling for mother's social anxiety. The inverse nature of this link was of interest; we hypothesize that many parents may lower their expectations of their socially anxious children's success following repeated failures in the social realm; likewise, this may be related to parental overprotection, which is often related to child anxiety. Of course, whether the lowered expectations precede child social anxiety is not discernible from these data.

However, there is evidence suggesting that parenting behaviors, specifically from mothers, contributes to later prosocial behavior in children (Hastings, Rubin, & DeRose, 2005). Inversely, the same could be assumed for socially withdrawn or anxious behavior, as Hastings, Rubin, and DeRose (2005) also found to be related to maternal parenting. It has also been found that children's social inhibition at a young age contribute to a lack of parental encouragement of children's independence (Rubin, Nelson, Hastings, & Asendorpf, 1993).

A final contribution of the current study was an extension of the coding system developed by Barrett, Dadds, Rapee, & Ryan (1996) that attempted to be more sensitive in assessing the degree of avoidance in children's responses. The current study used this approach in order to investigate parental influence on children's responses in a nonclinical sample. Although we did not find differences with regard to children's responses on this measure (i.e., children with and without high levels of anxiety), this system would seem to merit further consideration and refinement.

By examining the responses of children pre- and post-family discussion, the current study found evidence that *some* children changed their responses in a negative manner after family discussion for both the social and general vignettes. Specifically, more youth changed in a "greater approach" direction than changed in a "more avoidant" direction for both vignettes. However, in this non-clinical sample, many participants did not change their responses at all preto -post family discussion. This result could have several possible explanations. First, perhaps some parents influenced their children to stay with his/her initial response, which would result in no directional change. In addition, there may have been a difference in the degree of involvement the parents had in discussing his/her child's response. There may have been parents who simply asked the child what they said before and allowed that answer to stand. Or, the parent and child may have become so involved in discussing the actual vignette that there was not enough time for the parent to evaluate the child's response.

Consequently, a possible step for a future study would be to examine the content of each participant's family discussion, which is beyond the scope of the current study. Depending on how much the parent interacted with the child, there may have been more or less involvement in the child's response, thus providing insight into how much the parent did or did not influence the child's answer. This study videotaped the family discussions, and we intend long-term to analyze more interactions.

Although this study added to the increasing literature on the FEAR effect by including child social anxiety and using a community sample, several limitations merit attention. One limitation was that a clinical sample was not examined. Using a non-clinical sample may have affected the amount of variability present, particularly with regard to the degree of avoidance of children's responses. On the other hand, the current study ended up with a large number of children with high anxiety scores. Thus, this sample may be more similar to a clinical sample than to a community sample, which presents strengths and weaknesses.

An additional factor to take into account is the consideration of the term "threat interpretation bias," which was mentioned earlier. Though this construct was not examined in detail in the current study, it warrants mention that there are some studies suggesting that socially anxious individuals are actually treated more negatively than their non-anxious counterparts (Blote, Kint, & Westenberg, 2007). Therefore, the threat interpretation bias serves as less of a bias, per se,

but actually an accurate interpretation of the individual's reality. Blote and Westenberg (2007) also found that not only do anxious individuals perceive this negative treatment, but other individuals are able to identify it as well. Therefore, in further studies it would be helpful to further parse apart this alternative perspective as it relates to the cognitive aspect of anxiety.

The current sample also consisted of many children from private schools. There may be differences in the type of children who go to private schools as opposed to a public school. As a result, this information may not readily generalize to some children although there was not a significant difference in terms of anxiety levels found in this sample for children from various types of school. In future studies, it would be beneficial to examine a more diverse population. Another limitation of the current study is the use of a new coding system that was intended to be more sensitive. Perhaps the system could be further investigated in future studies and re-evaluated for its effectiveness.

Future studies may also take into account a larger variety of vignettes to examine the FEAR effect. The focus here was more on the two vignettes previously examined in Barrett, Rapee, Dadds, and Ryan (1996). There may be additional information that could be obtained relating to change with a category based on the type of vignette presented.

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# APPENDIX A. TABLES

# Table 1

## Ages and Grades of Participants

| <u>Ages</u> | <u>n</u> | <u>Grades</u>   | <u>n</u> |
|-------------|----------|-----------------|----------|
| 9 years     | 9        | 4 <sup>th</sup> | 16       |
| 10 years    | 19       | 5 <sup>th</sup> | 23       |
| 11 years    | 23       | 6 <sup>th</sup> | 24       |
| 12 years    | 16       | 7 <sup>th</sup> | 10       |
| 13 years    | 12       | 8 <sup>th</sup> | 11       |
| 14 years    | 7        | 9 <sup>th</sup> | 2        |

| Intercorrelations Betwe | <u>en Main Stu</u> | ıdy Varia | bles   |        |        |        |        |        |        |        |        |        |  |
|-------------------------|--------------------|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|
| Subscale                | 1                  | 2         | 3      | 4      | 5      | 6      | 7      | 8      | 9      | 10     | 11     | 12     |  |
|                         |                    |           |        |        |        |        |        |        |        |        |        |        |  |
| 1. MASCR Tot            |                    | .820**    | .675** | .761** | .702** | .621** | .002   | 097    | .054   | .035   | 122    | 040    |  |
| 2. MASCPhys             | .820**             |           | .691** | .414** | .310** | .650** | .040   | .111   | .041   | .051   | .039   | .014   |  |
| 3. MASCSocAnx           | .675**             | .691**    |        | .478** | .308** | .729** | 078    | 056    | .075   | .024   | .047   | 040    |  |
| 4. MASCSepAnx           | .761**             | .414**    | .478** |        | .410** | .404** | 028    | 158    | .017   | 037    | 163    | 081    |  |
| 5. MASCHarmAvoid        | .702**             | .310**    | .308** | .410** |        | .306** | 022    | 280    | .066   | .053   | 207    | 041    |  |
| 6. SPAI-C               | .621**             | .650**    | .729** | .404** | .306** |        | 006    | .014   | .041   | .099   | .071   | .026   |  |
| 7. SocVigResp1          | .002               | .040      | 078    | 028    | 022    | 006    |        | .433** | 100    | 041    | 019    | 581    |  |
| 8. SocVigResp2          | 097                | .111      | 056    | 158    | 280**  | .014   | .433** |        | 246    | .033   | .209   | .482   |  |
| 9. GenVigResp1          | .054               | .041      | .075   | .017   | .066   | .041   | 100    | 246    |        | .464** | .550** | .030   |  |
| 10. GenVigResp2         | .035               | .051      | .024   | 037    | .053   | .099   | 041    | .033   | .464** |        | .030   | .550** |  |
| 11. SocRespChng         | 122                | .039      | .047   | 163    | 207    | .071   | 019    | .209   | .550** | .030   |        | .196   |  |
| 12. GenRespChng         | 040                | .014      | 040    | 081    | 041    | .026   | 581**  | .482   | .030   | .550** | .196   |        |  |

Note: \*p<.05; \*\*p<.01; N ranged from 84-86 for all anxiety measures; N ranged from 65-74 for all vignettes; MASC-R=Multidimensional Anxiety Scale for Children-Revised; MASCPhys=Physical Symptoms; MASCSocAnx=Social Anxiety; MASCSepAnx=Separation Anxiety; MASCHarmAvoid=Harm Avoidance; SPAI-C=Social Phobia Anxiety Inventory for Children; SocVigResp1=Pre-family discussion response for the social vignette; SocVigResp2=Post-family discussion response for the general vignette; GenVigResp1=Pre-family discussion response for the general vignette; GenVigResp2=Post-family discussion response for the general vignette; GenVigResp1=Pre-family discussion change: social vignette; GenRespChng=Pre-family discussion to post- discussion change: social vignette; GenRespChng=Pre-family discussion to post- discussion change: general vignette

Summary of Regression Analysis for Variables Predicting Social Continuum Response Change

|        | Variable       | <u>B</u> | <u>SEB</u> | <u>β</u> | <u>p-value</u> |
|--------|----------------|----------|------------|----------|----------------|
| Step 1 |                |          |            |          |                |
|        | Grade of child | .015     | .260       | .008     | .954           |
|        | Child's sex    | .635     | .758       | .119     | .400           |
| Step 2 |                |          |            |          |                |
|        | MASC-R Total   | 039      | .038       | 151      | .315           |
|        | GenRespChnge   | .185     | .150       | .169     | .222           |
| Step 3 |                |          |            |          |                |
|        | Calc Tot SPAIC | .027     | .035       | .139     | .440           |

Note: N=86; MASC-R=Multidimensional Anxiety Scale for Children-Revised; GenRespChng=Prefamily discussion to post- discussion change: general vignette; Calc Tot SPAI-C=Social Phobia Anxiety Inventory for Children total score

Summary of Regression Analysis for Variables Predicting General Continuum Response Change

|        | Variable       | <u>B</u> | <u>SEB</u> | <u>β</u> | <u>pvalue</u> |
|--------|----------------|----------|------------|----------|---------------|
| Step 1 |                |          |            |          |               |
|        | Grade of child | .029     | .238       | .017     | .905          |
|        | Child's sex    | .518     | .685       | .106     | .452          |
| Step 2 |                |          |            |          |               |
|        | Calc Tot SPAIC | 007      | .024       | 041      | .765          |
|        | SocRespChnge   | .169     | .126       | .185     | .185          |
| Step 3 |                |          |            |          |               |
|        | MASC-R Total   | 026      | .047       | 110      | .585          |
|        |                |          |            |          |               |

Note: N=86; MASC-R=Multidimensional Anxiety Scale for Children-Revised; SocRespChng=Prefamily discussion to post- discussion change: social vignette; Calc Tot SPAI-C=Social Phobia Anxiety Inventory for Children total score

| Regression Analysis Predicting Child | dren's Soci | al Anxiety | v Scores (SPAI-C | C)        |            |  |
|--------------------------------------|-------------|------------|------------------|-----------|------------|--|
| Step and                             |             |            |                  |           |            |  |
| Predictor Variable                   | <u>B</u>    | <u>SEB</u> | <u>ß</u>         | <u>R2</u> | <u>ΔR2</u> |  |
| Step 1:                              |             |            |                  | .08       |            |  |
| Sex                                  | 1.43        | 1.82       | .09              |           |            |  |
| Age                                  | 61          | .61        | -1.13            |           |            |  |
| Mother's anxiety                     | .05         | .03        | .23 *            |           |            |  |
| Step 2:                              |             |            |                  | .35       | .31 *      |  |
| Sex                                  | 1.29        | 1.57       | .80              |           |            |  |
| Age                                  | 74          | .52        | 14               |           |            |  |
| Mother's anxiety                     | .04         | .02        | .17              |           |            |  |
| Child attributions                   | .15         | .03        | .52 *            |           |            |  |
| Mother's expectancies                | 10          | .04        | 22 *             |           |            |  |
|                                      |             |            |                  |           |            |  |

Note: \* *p* < .05; SPAI-C=Social Phobia and Anxiety Inventory for Children

### FEAR Effect Studies Information

| Study                                   | Ν   | Sample Type | Anxiety Measure | Age   | # of Vignettes | Anxiety Type |
|---|-----|-------------|-----------------|-------|----------------|--------------|
| Barrett, Rapee, Dadds, & Ryan (1996)    | 152 | Clinical    | ADIS-C          | 7-14  | 2              | General      |
| Chorpita, Albano, & Barlow<br>(1996)    | 12  | Clinical    | STAIC           | 9-13  | 4              | General      |
| Logsdon-Conradsen (1998)                | 23  | Clinical    | ADIS-C          | 13-17 | 2              | Social       |
| Shortt, Barrett, Dadds,<br>& Fox (2001) | 147 | Clinical    | DISCAP          | 6-14  | 2              | General      |
| Cobham, Dadds, & Spence<br>(1999)       | 73  | Clinical    | ADIS-C          | 7-14  | *              | General      |

Note: \* Cobham, Dadds, & Spence used an experimental task; ADIS-C=Anxiety Disorders Interview Scale for Children (Silverman & Nettles, 1988); STAIC= State-Trait Anxiety Inventory for Children (STAIC; Speilberger, 1973); DISCAP=Diagnostic Interview Schedule for Children, Adolescents, and Parents (Holland, & Dadds, 1995)

### APPENDIX B. RESPONSE CATEGORIES AND DESCRIPTIONS

1. Suggests physical escape from the situation including running away, leaving the room, and/or hiding

This category encompasses responses that indicate physical avoidance. The child is trying to get as far away from the situation as possible. In some extreme cases, the desire to flee the situation will involve running away or leaving the initial location.

2. Involves emotional escape from the situation by simply ignoring the situation These responses indicate that the child is emotionally avoiding the situation. These responses indicate thoughts that remove the child from the situation, such as thinking of something else. Or the child indicates that they will continue to do as they were before the situation occurred.

3. Implies no action or an action that avoids dealing directly with the problem Think of this category as a sort of "passive avoidance." Meaning, the child does nothing at all.

4. Involves delegating the decision-making responsibility to others These responses assume that the child is using another person to avoid dealing with the situation themselves. This person could be a teacher, friend, or relative.

5. Involves consulting with another person/other people first Think of this category as the "information gathering" category. The assumption is that the child plans on some type of action, but they need to check their decision by talking to someone else.

6. Is designed to address the situation without directly confronting the problem and/or person/people involved

This category can be thought of as passive confrontation. The child is obviously trying to address the problem, but they fall just shy of bring direct.

7. Involves addressing the situation directly by asking the person/people involved direct questions or making direct comments. These responses could also include doing a direct action.

When considering the vignette, these responses would include the most direct response. For these responses, the child is directly addressing the person or people involved in order to come up with a solution to the situation.

8. Involves aggressive actions and/or words in order to help address the problem Responses in this category will be obvious. Verbally, if the child indicates yelling, screaming, shouting, or cursing it would fall here. In addition, any threats or responses that could be deemed as verbally aggressive such as gossiping about someone, lying, or name-calling. Physically, any type of hitting, kicking, punching, shaking, biting, or any or physical aggression intended for the child or other person/people involved would fall here.

9. Does not fit into any of the other categories This category covers all of those responses that don't seem to fit any of the aforementioned patterns.