CHAPTER II

Method

Participants

Characteristics. 153 college students from Adelphi University participated in this study. On average they were 20 years old (Range: 18-37 years; SD=2.27). The majority were single (98%; n=150), Caucasian (73%; n=111 and women (84%; n=128). Half the sample was Catholic (54%; n=84). All participants were enrolled as full-time students; however, a third held part-time jobs (37%; n=56). Over 77% reported an income of $14,000 or less. The remainder of students reported a higher income and it is most likely that these students were reporting their parents' income (Table 1).

Inclusion/exclusion criteria. All university students attending undergraduate psychology courses were eligible. Initially, the only exclusion criterion was a history of Post-Traumatic Stress Disorder (PTSD). PTSD was assessed by asking students about past trauma such as rape or any previous experiences with violence. It was reasoned that such trauma could affect the type of and degree of fears. PTSD was weakly correlated with fears (*r*'s= .01 to .29) and it was decided that rather than exclude these participants from the study, to treat PTSD as a covariate in the analyses.

Recruitment. Four professors of psychology who among them taught six courses were asked to distribute questionnaires to their students. Students were offered extra credit in exchange for their participation. If students chose not to participate, they could

Table 1

Background Characteristics of Participants

Characteristics	Mean	Range	S.D.
Age	19.70	18-37	2.27

Income		% (n)	
14,000 & below		77.1% (118)	
14,000-20,000		6.5% (10)	
20,000-30,000		2.0% (3)	
30,000-40,000		2.0% (3)	
40,000-50,000		.7% (1)	
50,000-100,000		1.3% (2)	
100,000 and above		2.6% (4)	
Gender			
Female		84% (128)	
Male		16% (25)	
Marital Status			
Single		98% (150)	
Married		.65% (1)	
Divorced		.65% (1)	
Race		72.5% (111)	
Caucasian		9.8% (15)	
Latino		7.8 %(12)	
African American		1.9% (3)	
Asian			

complete an alternative assignment to earn credit. The majority of students opted to participate and completed the packet of questionnaires independently which they returned to the professor, who in turn gave the packets to the researcher.

Measures

Participants were asked to complete a battery of instruments. The instruments measured four major constructs in the following order: Fear (adulthood and childhood), Attachment style [adulthood and childhood (mother and father)], Views of Parents (mother and father), and Anxiety. Demographics and additional information on fears were also collected.

Fearfulness Measures

Fear Survey Schedule for Children (FSSC). The FSSC, developed by Scherer and Nakamura (1968) with minor changes made by Ollendick (1983), was based on the adult Fear Survey Schedule by Wolpe (1968) to address specific fears of children. The FSSC is generally administered to children, however, in this study participants were asked to recall their childhood fears.

The FSSC consists of 80 items of common childhood fears that are grouped into six subscales (derived by factor analysis) that are accepted and widely used (Ollendick, 1983): (1) Failure and criticism (23 items: Example item: Getting punished by my mother); (2) The Unknown (18 items: Example item: Ghosts or other spooky things); (3) Minor injury and small animals (17 items: Example item: Lizards); (4) Danger and death (12 items: Example item: Death or dead people); (5) Medical fears (4 items: Example item: Having to go to the hospital); (6) Other (6 items: Example items: Riding in the car, riding on the bus). Each item is rated on a five-point Likert scale ranging from not at all

(1) to very much (5). Participants were asked to rate the degree of disturbance caused by a particular item. The theoretical range for the total scale is 80 to 400. The theoretical range for each subscale is as follows, subscale 1: 23-115, subscale 2: 18-90, subscale 3: 17-85, subscale 4: 12-60, subscale 5: 4-20, subscale 6: 6-30.

The FSSC has undergone extensive psychometric testing. Ollendick (1983) tested the FSSC for construct validity using a known-groups design and found that the FSSC discriminated between normal and school phobic children. The FSSC also discriminated between students rated as high or low on fearfulness by their teachers (McCathie & Spence, 1991). Children reported greatest fears of death, illness, and severe injury.

Test-retest reliability at 1 week (r=.82) and 3 months (r=.55) were satisfactory (Erol & Sahin, 1991). Using Cronbach alpha, internal consistency was found to be high (∞= .94) for the total scale (Scherer & Nakamura, 1968). However, internal consistency of the subscales were not reported. According to Murdoch, James, Reynolds and Dunbar (1994), internal consistency ranged from .92 to .95 and test-retest reliability at one week was .82 and at 3 months, .55. In this study, internal consistency for the total scale was high (Cronbach ▯= .95) and moderate to high for all the subscales (Cronbach alpha ranging from .55-.90) (Table 2).

Fear Survey Schedule (FSS) (for adults). The FSS was developed by Wolpe and Lange, (1968) to measure adults' fears and to assess change in order to plan the course of behavior therapy in treating individuals suffering from phobic fears.

The FSS consists of 108 items of common fears such as failure and criticism, receiving injections, criticism, darkness, small animals, looking foolish, dogs.

Table 2

Internal Validity of the FSSC in the Current Study

	Cronbach α
FSSC Total	.79
Subscale 1 (Failure and criticism)	.90
Subscale 2 (The Unknown)	.85
Subscale 3 (Minor Injury and small Animals)	.86
Subscale 4 (Danger and death)	.88
Subscale 5 (Medical fears)	.79
Subscale 6 (Other)	.55

Participants rated each item on a five-point Likert scale ranging from not at all (1) to very much (5). Participants are asked to rate the degree of disturbance caused by a particular stimulus. The theoretical range is 108 to 540.

The FSS has undergone extensive psychometric testing. There have been a number of factor analyses on various populations. For example, Adams, Rothstein and McCarter (1973) established that there were 16 fear factors with a psychiatric population.

Given that this study examined fears of university students, a factor analysis was conducted for this study. Using a varimax rotation, a three factor structure was extracted, (1) Threats to the self, (2) Small animals and (3) High places. The items were reduced from an 108 item scale to a 76 item scale that was used in this study (see results section).

Geer (1966) found validity with galvanic skin response (GSR). Participants who reported fear of spiders on the FSS were shown slides of the feared object and had higher GSRs than the control group. Kamil (1970) also demonstrated validity by showing that participants who reported fear of snakes on the FSS were not willing to touch a harmless snake. The FSS has been found to correlate with the Taylor Manifest Anxiety Scale (r=.46) (Grossberg & Wilson, 1965). Test-retest reliability after 5 weeks, was found to be .72 (Suinn, 1969). According to Tasto and Suinn (1972) test-retest reliability after 10 weeks was .67.

Views of Parents Measure

The Parental Bonding Inventory (PBI) (Mother, Father). The PBI was developed by Parker (1990) to measure four types of parental bonding: (1) Optimal parenting (high care and low protection); (2) Affectionate constraint (high care and high protection); (3)

Affectionless control (low care and high protection); (4) Neglectful parenting (low care and low protection).

The PBI consists of 25 items of parental behaviors divided between statements that measure care (13 items: Example item- Was affectionate to me) and protection (12 items: Example item: Tended to baby me). The participant is asked to think back to their childhood and to rate the parent on each of the 25 statements using a 4-point Likert scale, not at all like my mother/father (1) to very much like my mother/father (4). The care-item scores are summed to yield a care score (Theoretical range: 12 to 48). The protection-item scores are summed to yield a protection score (Theoretical range: 13 to 52). The participant rates each parent separately.

Parker developed (1990) cut-off score for care and protection. For mother the cut off scores are: high care = >27; high protection = > 13.5. For fathers, the cut-off scores are: high care = >24; high protection = > 12.5. Participants are then placed in one of the four groups (optimal parenting, affectionate constraint, affectionless control or neglectful parenting) based on their scores.

The PBI was found to significantly correlate with an interview that was scored for parental bonding on the care and protection dimensions (care: $r = .77$ and protection: $r = .50$). The PBI was also correlated with other personality measures and parental care was found to be significantly associated with high scores on the DAS (Dysfunctional Attitude Scale) (r=.22, p<.05) and low self esteem on the Eysenck Personality Inventory (EPI) (r=.21, p<.05). Parental overprotection was significantly associated with low self esteem (r=.23, p<.05) on the EPI. Maternal care was associated with low self esteem on the EPI and the DAS and maternal protection was associated with neuroticism and self esteem on

the EPI, locus of control, and the DAS. Paternal care and protection were only associated with self-esteem on the EPI.

Using split half to determine internal consistency, Parker, Tupling, and Brown, (1979) found the two halves to be moderately correlated ($r = .70$). Participants completed the inventory on two occasions, three weeks apart, to assess test-retest reliability. Test-retest reliability was found to be high (care scale $r = .76$, protection scale $r = .63$). Test-Retest reliability was also found to be high over several months and moderate consistency has been shown for up to 10 years (care: $r= .76$ and protection: $r= .63$) (Parker, 1990). Intercorrelations of the care and protection sub-scales found a correlation of $r=-.24$ (Parker, Tupling, and Brown, 1979), suggesting that these are two distinct aspects of parenting.

For this study, internal consistency was high for both mothers (⍺=74) and fathers (⍺=.80). In terms of the subscales, the internal consistency was high for both care and protection for both mothers and fathers (Mother-care ⍺=.94, PBI-Mother-protection ⍺ =.89, PBI-Father-care ⍺=.94, PBI-Father-protection ⍺=.90).

Attachment Measures

The Relationship Questionnaire (RQ) (for adults). The Relationship Questionnaire (RQ) was developed by Bartholomew and Horowitz (1991) based on Bowlby's Attachment Theory (1969) to measure adult attachment. It combines psycho-dynamic models for measuring attachment with social psychology personality models. The RQ is a short form of the Relationship Scales Questionnaire mentioned below and is thought to be less sensitive to small variations (Bartholomew & Horowitz, 1991).

The RQ is a four-paragraph measure of security of attachment. Each paragraph is designed to tap one of four attachment styles, namely, secure attachment and three types of insecure attachments: namely, dismissing, fearful, and pre-occupied. An example of an item of secure attachment: It is easy for me to become emotionally close to others. I am comfortable depending on them and having them depend on me. I don't worry about being alone or having others not accept me. Participants are asked to rate themselves on each of the four paragraphs on a seven-point Likert scale ranging from not at all like me (1) to very much like me (7). Participants then are asked to select the style that best reflects their current close relationship style. Participants are assigned to one of the four attachment styles based on their highest scored item. In the case of a tied score, the participant is asked to select the best description of his/her attachment style.

Bartholomew uses a two dimensional model that yields a four-category prototype of attachment based on positive and negative models of self and other. The attachment models are: Secure (positive self, positive other), Preoccupied (negative self, positive other), Fearful (negative self, negative other) and Dismissing (positive self, negative other).

The RQ has undergone extensive psychometric testing (Bartholomew, 1991). Bartholomew (1994) assessed the validity of the self and other model dimensions by comparing the four category model of adult attachment with self reports, friend-reports, romantic partner reports, trained judges ratings of peer attachment, and trained judges ratings of family attachment. It was found that individuals' self-models as per Bartholomew's four axis model, converged with direct measures of their self-concepts.

Individuals' other models converged with direct measures of their interpersonal orientations.

Discriminant validity was established by proving independence of the RQ with the RSQ (Griffen & Bartholomew, 1994). Test-retest reliability over an 8 month period varied from .49 to .71 (Scharfe & Bartholomew, 1994). Reliability in this current study was found to be high (Cronbach $\propto$=-.68).

The Attachment Style Inventory(ASI) (for childhood, mother and father). The ASI was developed by Sperling (1988) who developed the questionnaire based on the theoretical integration of Ainsworth's attachment classifications and psychoanalytic theory. Sperling posits four styles of attachment: secure/dependent, avoidant, hostile and ambivalent. The hostile categorization is an addition to Ainsworth's classifications and Sperling reconceptualized the secure classification as dependent. The ASI consists of ratings of all these styles as well as the selection of one style that is most salient.

The ASI is used to measure adults' perception of attachment to mother and father as recalled in childhood. This scale consists of four categories, one for each type of attachment style, a best description question, and a Likert scale that obtains a rough measure of security of attachment. An example item is the secure/dependent paragraph: I tend to become very closely attached in relationships. I value dependence with others and feel almost compelled to have very strong closeness. The participant rates him or herself on each scale and then selects the best descriptor. Finally, the participant rates his or her security of attachment with each parent on a Likert scale (1 to 7). The questionnaire is completed separately for attachment to mother and attachment to father.

The psychometric properties of the ASI have been extensively studied. Sperling (1996) found high negative associations between secure/dependent compared with ambivalent, avoidant and hostile styles. Sperling, Foesch, and Grace (1996) studied the validity of the ASI. Convergent validity of the ASI and the Hazan and Shaver Attachment Self Report was high (measured as an ANOVA for the secure classification F=25.52, for the avoidant classification F=15.47). Within measure subscale intercorrelations were between .30-.65. Factor analysis showed a construct similarity in the ASI that differentiated it from other scales.

The Relationship Scales Questionnaire (RSQ) (for adults). The Relationship Scales Questionnaire was developed by Bartholomew and Horowitz (1994) to measure attachment style in adults. The RSQ consists of 30 short statements derived from three different attachment instruments: Hazan and Shaver's (1987) three-category measure, Bartholomew and Horowitz's (1991) four category measure, and the Collins and Read (1990) scale. The RSQ is an adaptation of Hazan and Shaver (1987) three paragraph scale used to derive a prototype of attachment style: secure, avoidant, and ambivalent. Bartholomew and Horowitz added a fourth style, namely, fearful, which denotes difficulties with intimacy (not general fearfulness) and changed the description of Hazan and Shaver's ambivalent style and renamed it preoccupied to be more accurate about what was measured.

The RSQ consists of 30 statements. Participants rate the extent to which each of the statements best characterizes their close relationships on a five point scale ranging from not at all like me (1) to very much like me (5). The statements contribute to each type of attachment pattern: secure (five items, Example item: I am comfortable

depending on other people), preoccupied (four items, Example item: I worry that I will be hurt if I allow myself to become too close to others), fearful (four items, Example item: My desire to merge completely sometimes scares other people away), and dismissing (five items, Example item: I am comfortable without close emotional relationships).

The psychometric properties of the RSQ have been widely studied. Griffen and Bartholomew (1994) report studies confirming the validity of their models as measured by the RSQ. Convergent validity was demonstrated by significant positive correlations between the attachment dimensions and a semi-structured attachment interview (self model=.37; other model=.48). Predictive validity was demonstrated in the significant correlation between the RSQ and how participants rated themselves and how their friends rated them on attachment-based interviews. This association remained stable over an 8 month period ($r = .72, .85$).

Scharfe and Bartholomew (1994) report studies confirming the reliability of the RSQ. Average Cronbach alpha coefficients range from .41 for the secure attachment style to .70 for the dismissing attachment style (Griffen & Bartholomew 1994). The current study found reliability to be high (Cronbach $\infty=.67$). Test-retest reliability over an 8 month period was moderately stable (females $r = .53$, males $r = .49$). Test-retest correlations for the attachment dimensions were similar whether compared at 2 weeks or up to 9 months.

(This scale is used in the exploratory results section.)

Anxiety Measure

The State-Trait Anxiety Inventory (STAI) (for adults). This scale was developed by Spielberger (1983) to provide reliable, brief self-report scales for assessing state and trait anxiety for research and clinical practice.

The STAI is a 40-item scale equally divided to assess state anxiety (e.g. I feel calm) and trait anxiety (e.g., I feel satisfied with myself). Each item is rated on a 4-point Likert scale, ranging from almost never (1) to almost always (4) in terms of the frequency with which the participant experiences anxiety. The theoretical range for trait and state anxiety is 20 to 80. A low score indicates feeling calm and serene and a high score indicates intensity of emotional feeling approaching terror and panic. There are no established cut off scores. The STAI was normed on college students by Spielberger (1983) (State Anxiety males M: 36.47, SD: 10.02, females M: 38.76, SD: 11.95 and for Trait Anxiety males M: 38.30, SD: 9.18, females M: 40.40, SD: 10.15).

The STAI has been widely used and its psychometric properties are robust. Spielberger (1983) reports that the STAI correlates with other widely used anxiety scales, the Taylor Manifest Anxiety Scale (r= .70) and Cattell & Scheier (1963) report that it correlates with the Anxiety Scale Questionnaire (r= .85). Construct validity is shown through studies that demonstrate that patients known to be suffering from anxiety disorders score much higher on the STAI than other types of patients (Spielberger 1983).

Internal consistency is high (State anxiety for males $\propto$= .91, females $\propto$= .93 and Trait anxiety for males $\propto$= .90, females $\propto$= .91) (Spielberger, 1983). The current study found reliability to be high for trait anxiety and state anxiety (Cronbach α=.93 and .94).

Additional Information (Background Characteristics and Fears)

Background data were collected on participants. Participants were asked about socio-economic status, religion, race, marital status, and level of income. Another set of questions asked if the participant experiences themselves as fearful (as a child and adult), if the participant had ever experienced a violent trauma, if so when and what, if the participant has ever been in therapy and how helpful they found it, if the participant was ever separated from their primary caretaker, and if so for how long and at what age. A description of parents and relationships with parents was requested to determine if fearfulness or specific attachment styles are related to idealization of parents. Participants were asked to give four adjectives to describe each of their parents and their relationship with each parent. Further questions assessed effects of parental fears/anxiety on the participants. Finally, in addition to the fears assessed by the FSS and FSSC, other fear questions were included as a separate questionnaire devised by the researcher to assess fears not included on the FSS and FSSC. These questionnaires were labeled Additional Fear Questions for Childhood (AFQC) and Additional Fear Questions for Adulthood (AFQA).

Procedures

The study received approval from the Internal Review Board (IRB) at Adelphi University in March 2002. The IRB concluded that the current study met criterion for ethics set by the university.

Students in six psychology courses were recruited for this study. The questionnaire packets were given to two professors who explained the study to students in their three classes and the researcher explained the study to the remaining three

classes. Students were told that the study dealt with childhood and adulthood fears and their relationships with their parents.

Each student received a packet of questionnaires organized in the following manner: a background questionnaire and additional information about fears, the Attachment Style Inventory (ASI) (completed separately for mother and for father), the Bartholomew Relationship Scales Questionnaire (RSQ), the Bartholomew Relationship Questionnaire (RQ), the Parental Bonding Inventory (PBI) (completed separately for mother and for father) the Fear Survey Schedule for Childhood (FSSC) with additional fear questions added on and scored separately, the Fear Survey Schedule (FSS) (for adulthood) with additional fear questions added on and scored separately, the State-Trait Anxiety Inventory (STAI) and questions asking about parental anxiety and brief descriptions of parents and relationships with parents. Questions were also asked to determine PTSD status.

Students were given the packet and asked to return the completed questionnaires to their professor within two weeks of receipt. Participants were given extra credit (about 5 points) by their professor upon return of the questionnaire. Professors returned the completed packet to the primary researcher.

As part of the packet, students were asked to sign an informed consent. The consent outlined the purpose of the study, the procedures undertaken to ensure the students' anonymity and safeguard confidentiality. Upon return of the packet, the informed consent along with all identifying information was removed. Students were also told that if they had any questions or needed psychological services, they could contact

the Center for Psychological Services at Adelphi University. Students were assigned a

code number and all results are reported as group data.