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Exploring the Interrelationship Between Anxiety, Interpretation Bias and Parenting Factors in Military Families.

by

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ABSTRACT

FACULTY OF SOCIAL AND HUMAN SCIENCES

Doctorate in Educational Psychology

Thesis for the degree of Doctor of Educational Psychology

EXPLORING THE INTERRELATIONSHIP BETWEEN ANXIETY, INTERPRETATION BIAS AND PARENTING FACTORS IN MILITARY FAMILIES

Sarah Lucy Owen

Theoretical frameworks suggest that increased anxiety symptoms are associated with a cognitive interpretation bias; anxious individuals are more likely to interpret ambiguous information as threatening and dangerous. Several models have considered the role of parents and parenting in the aetiology of cognitive biases that place children at increased risk for the development of anxiety. For example, parenting characterised by overprotection/ emotional overinvolvement and over control has been associated with anxiety disorders in children. The present research explored the association between parent and child anxiety, interpretation biases and parent-child relationships within military families, a population at greater risk of experiencing enduring anxiety.

Twenty children aged 8-11 years and their mothers reported their anxiety symptoms and completed a homophone task. Words could be interpreted as either threatening or non-threatening and were categorised into separation and general threat themes. Parents also completed the Five Minute Speech Sample, where they expressed thoughts and feelings about their child. Results revealed that parent and child anxiety was significantly positively correlated as expected. Children's anxious cognitions were significantly positively correlated to self-reported and maternal anxiety (*ps* <.05). In contrast to the expected hypothesis, children and parent interpretation biases were not significantly correlated. Although the research set out to examine the extent to which interpretation biases could act as a mediator between parenting and child anxiety, evidence for a mediated pathway could not be established within the present research. The impact of these findings are discussed with particular reference to the importance of understanding the aetiology of anxiety and exploring the role of the intergenerational transmission of anxiety.

Keywords: *Anxiety, Interpretation Biases, Parenting, Children.*

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DECLARATION OF AUTHORSHIP

I, SARAH LUCY OWEN declare that this thesis and the work presented in it are my own and has been generated by me as the result of my own original research.

'Exploring the interrelationship between anxiety, interpretation bias and parenting factors in military families'

I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;
2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
3. Where I have consulted the published work of others, this is always clearly attributed;
4. Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
5. I have acknowledged all main sources of help;
6. Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
7. None of this work has been published before submission

Signed:

Date: 11th June 2015

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Definitions and Abbreviations

α	Cronbach's Alpha
ACQ-C	Anxiety Control Questionnaire – for Children
ADHD	Attention Deficit Hyperactivity Disorder
ADIS	Anxiety Disorder Interview Schedule
ADIS-C	Anxiety Disorder Interview Schedule – Child version
ANOVA	Analysis of Variance
ASQ	Attachment Style Questionnaire
ASQ-C	Ambiguous Scenarios Questionnaire – Child Version
ASQ-EM	Ambiguous Scenarios Questionnaire – Expected Mother
ASQ-P	Ambiguous Scenarios Questionnaire – Parent Version
ASQ-PC	Ambiguous Scenarios Questionnaire – Parent Expectations of Child Version
ASR	Adult Self-Report
β	Beta
BAI	Beck Anxiety Inventory
BDI	Beck Depression Inventory
BI	Behavioural Inhibition
BII	Behavioural Inhibition Instrument
BHS	Beck Hopelessness Scale
BSI	Brief Symptom Inventory
CBCL	Child Behaviour Checklist
CDI	Children's Depression Inventory
C-FAT	Child Feelings and Thoughts Measure
CNCEQ	Children's Negative Cognitive Errors Questionnaire
d	Cohen's d (effect size)
DANVA	Diagnostic Analysis of Non-Verbal Accuracy
DASS-21	Depression Anxiety Stress Scale
DOMINIC	Questionnaire to assess symptoms of 7 prevalent DSM-III R disorders in children
DSM-V	Diagnostic and Statistics Manual for Mental Health Disorders(version 5)
DZ	Dizygotic (twins)
EASP	Anxiety and Overprotection self-report scale
EE	Expressed Emotion
EMBU-C	Egna Minnen Betraffende Uppfostran 'My memories of upbringing' questionnaire

EOI	Emotional Overinvolvement
EP	Educational Psychologist
F	A test statistic – overall differences in means between groups.
FACI	Family Assessment Clinician Interview
FES	The Family Environment Scale
FES-CV	The Family Environment Scale – Child Version
FMSS	Five Minute Speech Sample
GAD	Generalised Anxiety Disorder
HADS	Hospital Anxiety and Depression Scale
IS	Initial Statement
κ	Cohen's Kappa Co-efficient
K	Kurtosis
K-SADS	Schedule for Affective Disorders and Schizophrenia for School-Age Children
LEC	Life Events Checklist
LEI	Life Events Inventory
LLCI	Lower Limit Confidence Interval
M	Mean
MASC	Multidimensional Anxiety Scale for Children
MOD	Military of Defence
MZ	Monozygotic (twin pair)
n / N	Number
ns	Non-significant
OCD	Obsessive Compulsive Disorder
ODD	Oppositional Defiant Disorder
p	Significance value (minimum level <.05)
ps	All significant values (minimum level <.05)
PBI	Parent Behaviour Interview
PBQ-AC	Parent Beliefs Questionnaire on Anxiety in Children
PCIQ	Parent-Child Interaction Questionnaire
PWM	Parent Worry Measure
r	Pearson correlation coefficient
rs	All Pearson correlation coefficients
R^2	Correlation coefficient squared (correlation of determination)
RAF	Royal Air Force
RBQ	Rearing Behaviour Questionnaire
RCADS	Revised Child Anxiety and Depression Scale

RCMAS	Revised Children's Manifest Anxiety Scale
REL	Relationship
S	Skewness
SAD	Separation Anxiety Disorder
SADA	Separation Anxiety Diagnosis – Adults
SAI-P	Separation Anxiety Inventory - Parents
SCARED-R	Screen for Child Anxiety Related Emotional Disorders – Revised version
SCARED-C	Screen for Child Anxiety Related Emotional Disorders – Child version
SCAS	Spence Children's Anxiety Scale
SCAS-C	Spence Children's Anxiety Scale – Child version
SCAS-P	Spence Children's Anxiety Scale – Parent version
SCID	Structured Clinical Interview for DSM-III R
SD	Standard Deviation
SDLC	Skills of Daily Living Checklist
SE	Standard Error
SPAI	Social Phobia and Anxiety Inventory
SPAI-C	Social Phobia and Anxiety Inventory – Child Version
SPAI -P	Social Phobia and Anxiety Inventory- Perceived by children
SPPC	Self-Perception Profile for Children
SSSC	Social Support Scale for Children
STAI	State-Trait Anxiety Inventory
STAI-C	State-Trait Anxiety Inventory – Child version
t	t-statistic (from a T-Test)
ULCI	Upper Limit Confidence Interval
WAR	Warmth
WASI	Wechsler Abbreviated Scale of Intelligence
WoS	Web of Science
WRAT	Wide Range Achievement Test
Z	*Z* - score

Chapter 1: Literature Review

1.1 Introduction

Cognitive theory and research indicates that information processing biases are central to the development and maintenance of emotional disorders such as anxiety and depression (Mathews & MacLeod, 1994). Several forms of information processing biases have been identified which include; attentional, interpretation and memory bias (Muris & Field, 2008a), each impacting differently on the way in which an individual filters information. It is suggested that an individual with elevated levels of anxiety is more likely to interpret ambiguous stimuli as threatening rather than neutral (interpretation bias) (Beck, Emery & Greenberg, 1985). Previous research has indicated that for children, parent anxiety, parenting styles and interpretation biases are linked to emotional disorders in offspring. This review will explore the interrelationships between anxiety, interpretation biases and parenting factors, as understanding the aetiology and maintenance of emotional disorders and cognitive biases will support the development of effective interventions to be developed.

1.1.1 Anxiety

Anxiety is a prevalent mental health disorder in both adults and children, with estimates indicating that 25% of people in the UK are likely to experience an anxiety related mental health problem in their lifetime (Mental Health Foundation, 2014). Although anxiety can work adaptively in the context of threat or danger, persistent and severe anxiety can interfere with an individual's normal functioning and ability to perform everyday tasks (Anxiety UK, 2014). Anxiety disorders are described as an excessive concern or worry that an individual finds difficult to control (Diagnostic Statistics Manual-V, DSM-V, 2014).

In addition to diagnostic categories of anxiety, researchers also note that some individuals can experience elevated trait anxiety or anxiety proneness, a continuous characteristic that represents general vulnerability to negative emotional states. In contrast, anxiety disorders refer to the cluster of symptoms in relation to specific content and stimuli, for instance specific phobias of

snakes (DSM-V, 2014). Moreover, individuals who experience elevated trait anxiety are also likely to report more feelings of current state anxiety when faced with threat (i.e. strong feelings of apprehension and nervousness when giving a speech to unfamiliar people). Specific personality traits and characteristics, along with temperament have been identified as correlating with greater levels of anxiety, specifically, neuroticism (in adults) and Behavioural Inhibition (BI) in children. Hypervigilance in new or unfamiliar situations and a reluctance or hesitance to engage with others at times of greater uncertainty typify anxious behaviours (Degnan, Almas & Fox, 2010).

Anxiety disorders typically follow a developmental course; and as such, different forms of anxiety are more commonly identified at different ages and stages of child development (Ollendick, Grills & Alexander, 2001). In early childhood, fears about strangers and separation from a child's caregiver (separation anxiety) are most commonly identified. At ages five and six, children become more fearful of items outside of their reality, for example monsters and may also begin to develop specific phobias, for instance fears of spiders, small spaces or the dark (DSM-V, 2014). In later childhood and early adolescence, anxiety is more common in relation to a fear of failure. Additionally, social phobias are also more common during adolescence, as relationships with peers become increasingly important (Hadwin & Field, 2010).

Recent studies indicate that 10% of children aged 5-16 years had a clinically significant mental health problem (Green, McGinnity, Meltzer, Ford, & Goodman, 2005). Surveys within the United Kingdom have found that approximately 5% of the adult population have an anxiety disorder, with 2% to 5% of children also being affected (Mental Health Foundation, 2014). Without treatment and support, anxiety can contribute to a range of longer term difficulties which can include co-morbidity with depression and substance misuse (Cartwright-Hatton, McNicol, & Doubleday, 2006a; NICE, 2011; Ollendick, Grills & Alexander, 2001). Furthermore, anxiety can negatively impact on social relationships, self-esteem, academic achievement, and school attendance (Stallard, 2009). Despite this knowledge, many adults experiencing anxiety disorders report that their symptoms often began in childhood. Recent research has therefore focused on exploring the role that parents may play in the aetiology of anxiety (Negreiros & Miller, 2014) as

early identification and the continued development of effective treatment programmes for children are required (Dubi & Schneider, 2009).

1.1.2 Cognitive theoretical models of anxiety

Cognitive theories were developed over the last 30 years where focus has been on understanding the role of biased information processing in the onset and maintenance of emotional disorders (Beck, Emery & Greenberg, 1985). Cognitive frameworks highlight different pathways in which an individual's information processing biases place them at greater risk for developing emotional disorders. These focus on early attentional processes (attention biases) as well as the subsequent interpretations of new or ambiguous information (interpretation bias) and the propensity with which biased information is remembered (memory bias) (Muris & Field, 2008b). The activation of one of these pathways is argued to result in an individual focusing on small amounts of information, affecting their subsequent thoughts and behaviours. For anxious individuals, a sustained vigilance (apprehensive expectation) for threat and danger may occur, which acts to reinforce their negative emotional state (Stallard, 2009).

Beck, Emery & Greenberg (1985) proposed a three staged schema-based information processing perspective to explain the way in which anxious individuals over-assigned threat meanings to new, ambiguous and often harmless stimuli. The first stage in the model 'initial registration' outlines the rapid identification of stimuli and the level of priority assigned to it for further processing. At this stage speed is essential in determining the likely threat that the stimuli presents, in order to maximise survival. The second stage of the model 'immediate preparation' is responsible for the activation of appropriate schemas (e.g. schemas of threat, danger and safety). Based on the limited information available, an individual is able to form an impression of the likely threat and the extent to which further processing must continue. This stage is characterised by the narrowing of cognitive processing, increasing the likelihood that inaccuracies in information processing are made. The third and final stage of the model 'secondary elaboration' requires greater reflective processing in order to make effective decisions regarding their ability to use known coping resources (see also Beck & Clark, 1997).

Kendall's (1985) cognitive theory in relation to childhood anxiety developed the core constructs outlined in Beck's theoretical framework, emphasising the existence of 'distorted' or 'dysfunctional' cognitions in anxiety. Distorted thoughts are suggested to manifest into schemas that focus on threat and danger. Once a schema becomes activated, subsequent information processing may be affected by this interference, resulting in a disproportionate focus on particular information and an increased likelihood of interpreting stimuli in a biased way (Daleidan & Vasey, 1997). Chronic over-activity of threat schemas is suggested to act as a reinforcing mechanism of the negative emotional states an individual experiences. Kendall's (1985) model also proposes that individuals with dysfunctional cognitions also have an inability to access and implement adaptive cognitive and coping mechanisms.

Extending the models above, Dodge and colleagues (Dodge, 1991; Crick & Dodge, 1994) suggest a more detailed sequence of steps through which information is processed (see Figure 1). This step-wise framework enables researchers to investigate the extent to which cognitive biases exist at each point of information processing (Beck & Clark, 1997; McNally, 1995). The primary stages of the model 'encoding' and 'interpretation' refer to the processes of selecting information to further attend to, whilst attaching meaning to it. For anxious people this is more likely to be information that requires further assessment in relation to whether it poses a threat. Once interpreted, in accordance with memories already stored from previous experiences, threat-related schema may be activated, increasing the likelihood that an interpretation of threat and danger is made. Once meaning has been attributed, it is then possible for a response to be made, this is known as the 'response access or construction' and decision stages. Finally, 'enactment' refers to the individual's production of the most appropriate strategy in response to the perceived threatening stimuli. For anxious individuals this would typically involve avoidance of the situation, which reinforces the anxious experience.

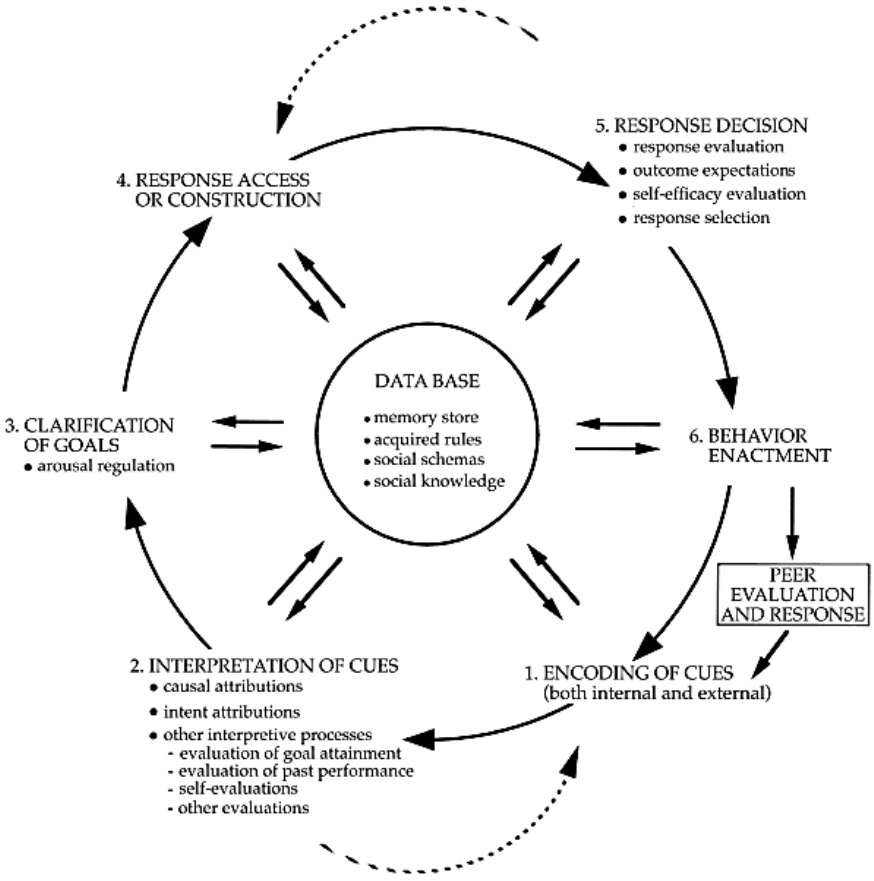


Figure 1. A re-formulated social information processing model of children's adjustment (Crick and Dodge, 1994, p.76)

Muris and Field (2008) combined Kendall (1985) and Dodge's (1991) information processing models, in order to demonstrate the influence that cognitive distortions have on the processing of threat-related information in relation to children and adolescents as previous models have predominantly been applied to adults (see Figure 2 below). As a result, many similarities across the models can be noted, including the proposed cognitive processes involved in information processing (encoding and interpretation). Additionally both models present a cognitive-behavioural representation of information processing biases, demonstrating the inter-relationship between the thoughts and actions of an individual. Where the models differ is the emphasis that is placed on an individual's over-active schema. In this second model (Muris and Field, 2008) once schema are activated, all subsequent information processing stages are likely to be influenced. As a result of the over-active and primed cognitive system towards threat, individuals are more likely to attend to,

encode and interpret danger in their environment. As a result, an individual is likely to experience heightened emotional arousal, which constricts their rational thinking processes. This may affect their ability to deploy effective coping strategies and provides negative emotional feedback reinforcing negative emotional states (anxiety) (Muris & Field, 2008b).

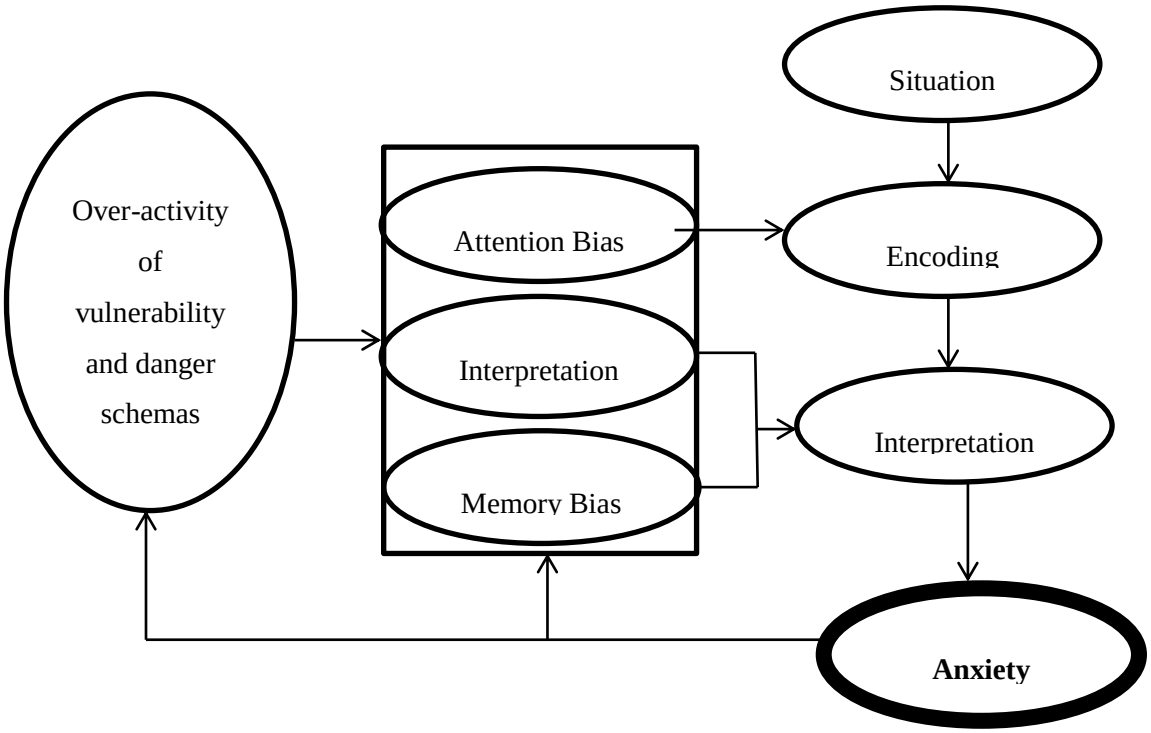


Figure 2. Theoretical model showing the influence of cognitive distortions on the processing of threat-related information. Elements within the model are hypothesised to play a role in the maintenance and/or exacerbation of childhood anxiety (Muris & Field, 2008, p.398).

1.1.3 Interpretation biases: empirical evidence

Research with adult populations has found evidence to confirm the tendency to interpret information as threatening in individual's with higher trait anxiety and those with a clinical anxiety disorder. Researchers have developed a range of methodologies, which includes the use of ambiguous stories to explore the existence of anxious interpretation biases in adults and children. Using ambiguous information has been popular with researchers as it stimulates an individual's

need to determine whether the information presented poses a threat to themselves, or whether it cab identified as benign (Eysenck, MacLeod, & Mathews, 1987). Research paradigms have included: ambiguous stories (with child and adult relevant content); homophones and homographs (the use of words which sound the same and/or are spelt the same, but also have more than one meaning); and vignettes themed in accordance with specific anxiety disorders (e.g. social or physical threat themes).

In one early study, adults with generalised anxiety were expected to be more likely to interpret ambiguous material as threatening than those without this diagnosis (Butler & Mathews, 1983). Moreover, anxious adults were expected to report aversive events as more threatening than non-anxious participants. Thirty-six adults (n=12 anxious, n=12 depressed, n=12 controls) completed a questionnaire describing ten brief ambiguous scenarios (e.g. "you wake with a start in the middle of the night, thinking you heard a noise, but all is quiet"), after providing an initial response to the scenarios, participants were asked to select one of three possible statements as an explanation that was most similar to their own. A composite threat score was calculated by asking participants to rate items, on a 0-8 scale, in answer to the questions "how bad would it be for you?" and "how likely would it be that this event happens to you? 'Not at all likely' to 'extremely likely'". The results supported the hypothesis that anxious adults were more likely to make greater threat interpretations than non-anxious controls. However, the participants with depression scored similarly to anxious participants, indicating that threat perceptions may not be exclusive to the anxious clinical population (Butler & Mathews, 1983).

Further studies have aimed to demonstrate the same effects within child samples, in addition to exploring the possibility that interpretation biases are content specific (associated with different sub-types of anxiety). Bogels & Zigterman (2000) utilised ambiguous stories with children (M=12.2 years) diagnosed with anxiety, another clinical disorder (e.g. ADHD) or no disorder (non-clinical control). The stories contained separation, social and generalised anxiety situations (e.g. "You have decided to start playing football. In the dressing room, you see a group of children. You don't know any of them" - social). Children were asked to report what they would do if they were in each situation (open response), and rate a range of emotions and thoughts in response to each

story (forced choice). The results indicated that the anxious group reported significantly more negative thoughts about the ambiguous situations than children from the other two groups, but were unable to draw any firm conclusions regarding the specificity of the content of the stories.

Muris and colleagues also used stories with differing themes of anxiety content (social, separation, generalised), with children (M = 10.5 years), to examine their influence on subsequent interpretations; see Muris, Kindt, Bogels, Merckelbach, Gadet & Moulaert, 2000). Children were asked to indicate which stories would have 'good' or 'bad' endings, as well as giving their own interpretations about what would happen at the end. Greater (self-report) anxiety symptoms were positively associated with threat perceptions of the story endings, however no significant differences in relation to the specificity of story content was observed. A similar pattern of results were reported in a further study examining content specificity of the stories, except for the results in one of their anxious groups. Children reporting high separation anxiety also reported significantly greater interpretation biases in the separation-related vignettes (Bogels, Sneider & Kindt, 2003).

Further research designs have utilised the ambiguity of the English language. Homographs, words which have more than one meaning but the same spelling (e.g. letter to post, or a letter in the alphabet), and homophones, words which sound the same, have different meanings and may or may not be spelt the same (e.g. rose – the flower, or the past tense of rise; and to, two, or too) have been used as a measure of interpretation bias.

In one study, single homophones were read to adults who were asked to spell each word (Eysenck, MacLeod & Mathews, 1987). Homophones with a threatening and neutral interpretation were used (e.g. die versus dye). The results showed that adults who reported greater levels of trait anxiety were significantly more likely to produce spellings in the threatening form than individuals with lower levels of trait anxiety. Repetition of this study was conducted with a group of clinically anxious adults, recently recovered clinically anxious controls and non-clinical controls (Mathews, Richards & Eysenck, 1989). Similar results were reported for the clinically anxious population: greater anxiety was associated with more threat interpretations.

In a further study, adults with GAD, recovered GAD controls and non-anxious controls were required to make interpretations of ambiguous sentences (Eysenck, Mogg, May, Richards & Mathews, 1991). The sentences included both social and physical threat homographs. For example, "the doctor examined little Emma's growth" (physical), which could be interpreted as a cancerous growth (threat) or in relation to her height (neutral). The results indicated that clinically anxious adults made more threatening than neutral interpretations in comparison to both control groups, they support the conclusions drawn by Mathews et al. (1989) and provide a more contextually meaningful methodological design than presenting words in isolation.

Homophone tasks have been adapted for use with children (Mogg, Bradley, Miller, Potts, Glenwright & Kentish, 1994). Ambiguous words, accompanied with pictorial representations of both a threatening and neutral interpretation (e.g. "bark" – dog versus tree or "tank" – fish versus an army tank) were presented (Hadwin, Frost, French & Richards, 1997). The results showed that greater threat interpretations were made by children (aged 7 and 9 years) who reported higher trait anxiety than their less anxious peers. In a further study where children (aged 8-17 years) were asked to use homographs in a sentence (e.g. pane vs. pain), similar findings were made; more anxious individuals used more threatening interpretations of the ambiguous words (Taghavi, Moradi, Neshat-Doost, Yule & Dalgleish, 2000).

Research using a range of experimental paradigms and methodologies has reported consistent findings across adult and child, clinical populations. Individuals with greater anxiety are more likely to make biased interpretations of ambiguous information. There is little evidence thus far in relation to the impact of content specific information; however limited evidence is beginning to suggest that there may be susceptibility for populations of children with separation anxiety to interpret greater separation-related threats. Recognising that biases exist in anxious populations is important, but it is also necessary to understand how the biases manifest and how they are maintained.

1.1.4 Aetiology of cognitive biases

A growing body of research has aimed to understand the origin of anxiety and cognitive processing biases in children and adolescents. Currently it is widely accepted that both genes and the environment operate in a complex interaction which influences the development and maintenance of anxiety and information processing biases (Eley, 2011).

Genetic research using 'twin' studies, suggests that anxiety is moderately heritable accounting for 30 – 40% of its existence (Eley et al., 2008). Eley et al, (2008) assessed negative interpretation biases, anxiety and depression symptoms in 300, 8 year old monozygotic (MZ) and dizygotic (DZ) twin pairs. The results indicated that correlations between children's self-report emotional states (anxiety, SCARED; depression, Children's Depression Inventory) and threat interpretations (homophones and ambiguous scenarios) were more significantly correlated in MZ twins than DZ twins, indicating a strong genetic influence.

Environmental factors that are argued to contribute to the development of anxiety include stressful life events (e.g. unemployment, bereavement, and divorce) and for children, moving school and parental separation (Bayer, Hiscock, Ukoumunne, Price & Wake, 2008). While stressful life events place individuals at increased risk, some individuals can experience traumatic events without developing anxious conditions, indicating that other factors such as social support and personal coping strategies are additionally important in protecting against anxiety onset (Eley, 2011).

Research has consistently found associations between parenting and the development of emotional disorders in offspring. Studies have reported associations between children's attachment style to their primary caregiver and their self-reported anxiety (Bogels & Brechman-Touissant, 2006). Moreover, recent research has aimed to understand the role of cognitive biases in understanding the links between parenting factors and child outcomes. Researchers have argued that parents can elicit anxious affect and cognitive biases in their offspring by transmitting threat information through a range of pathways (Rachmann, 1977; Ollendick et al, 2001). The extent to

which parents are involved in this transmission is further explored as it is likely to be central in the aetiology and maintenance of anxiety and information processing biases in children.

1.1.5 Parenting

For most children and adolescents, their primary caregivers are largely constant figures in their lives and therefore have the greatest opportunities to influence their offspring's thought processes and behaviours. Social learning theory suggests that the people with whom an individual spends most of their time, affects the types of behaviour that they will observe and learn, particularly if they are of the same gender (Bandura, 1971). Learning from key adults around them can provide children with the necessary information to successfully understand new situations in addition to being taught less adaptive or successful strategies.

Research has indicated that learning can occur through direct modelled behaviour, verbal information or vicarious learning (Rachmann, 1977). A parent repeatedly providing a neutral response to a threatening situation is likely to instil greater tolerance and resiliency in their children, as opposed to parents who may themselves respond to potential threat with 'shrieks', gestures to move away or warnings of the possible danger. This can influence a child's schema if repeated across multiple events, and may reinforce negative threat interpretations to be made, as evidenced in experimental research (Askew & Field, 2007; (Muris, Steerneman, Merckelbach & Meesters, 1996; Wood, McLeod, Sigman, Hwang & Chu, 2003). Furthermore, research conducted by Barrett, Rapee, Dadds and Ryan (1996) used adapted ambiguous situations to explore the extent of familial influence. After providing their own independent response to a given ambiguous situation, they were then asked to discuss a further scenario with their family and provide a final response. The results indicated that anxious children more frequently interpreted the ambiguity of a situation as threatening in comparison to the control group. Moreover, the family consolidated anxious individual's responses, often confirming the appropriateness of taking avoiding action in relation to the scenario presented. Confirmatory results were also achieved in a nonclinical population, perhaps indicating the importance placed on familial influence (Chorpita, Albano & Barlow, 1996).

A current model representing the intergenerational transmission of anxious interpretation biases (Murray, Creswell and Cooper, 2009; see Figure 3) provides a helpful framework for exploring and explaining the existence and manifestation of similarities between parent and child anxious interpretation biases. It suggests that parents' cognitions and interpretations of threat may influence their own behaviour with their child, either directly or indirectly. Furthermore, parents' own anxiety and cognitions (see Figures 1 and 2) may influence the expectations that they have regarding their child's responses to threat, interfering with their ability to cope and stimulates their avoidance, caution and overprotection (Ginsburg & Schlossberg, 2002). These behaviours increase their children's vulnerability to anxiety and threat interpretation biases as they learn that these actions are functional in temporarily reducing anxiety.

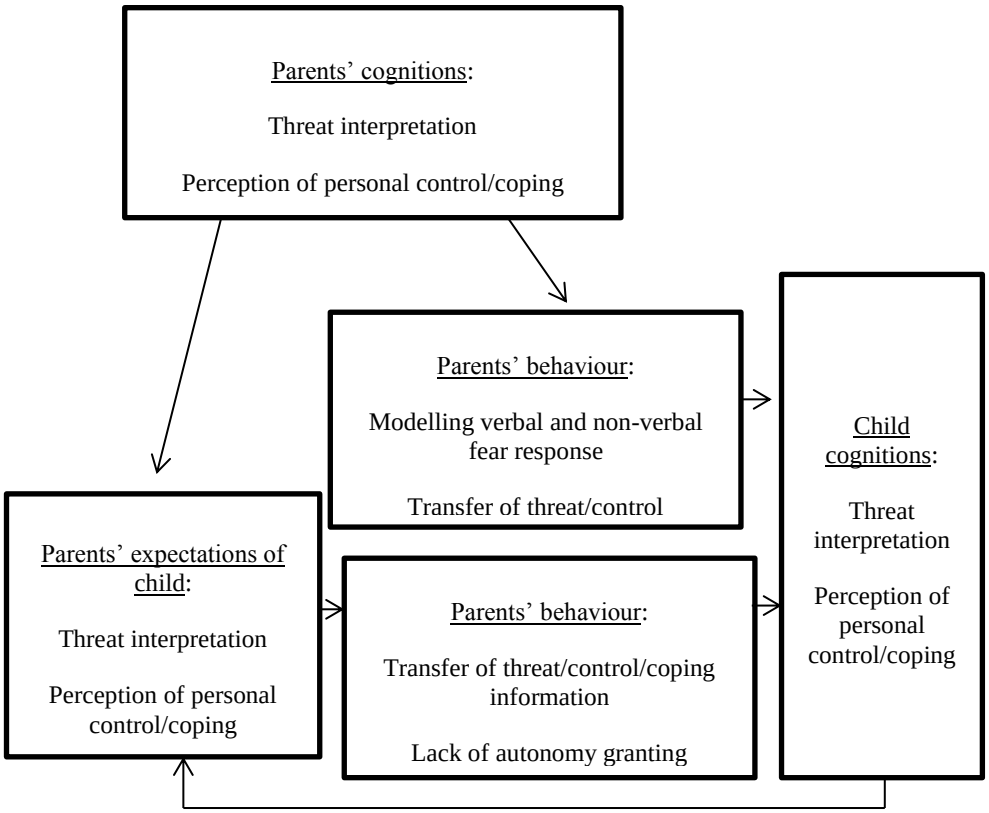


Figure 3. A cognitive-behavioural model of the intergenerational transmission of anxious interpretation biases. Based on Murray, Creswell and Cooper (2009), sourced from Hadwin & Field (2010) *Information Processing Biases and Anxiety. A Developmental Perspective* p.289

Rejection and controlling parenting styles have been reported to have greater associations with anxious and depressed youth (Rapee, 1997). Parental 'overcontrol' has been described as the excessive regulation of children's activities and lack of autonomy granting (Bogels & Brechman-Toussaint, 2006). Similarly, 'overprotection' has been explained as behaviours serving to protect the child from harm (Rapee, 1997) (e.g. reluctance to support risk taking).

Parent-child interaction tasks have provided opportunities for researchers to observe parenting behaviours. In a review, 6 papers were reported to use observational studies, of these, 70% identified positive associations between overcontrolling relationships and childhood anxiety symptoms with medium to large effect sizes (Bogels & Brechman-Toussaint, 2006). A subsequent review however reported less significant parent effects on child anxiety (4% of the variance: McLeod, Wood & Weisz, 2007)..

The discreet parenting variables acceptance, warmth and sensitivity, have all been associated with less inhibited and more socially adaptive behaviours in children, and as a result fewer reports of child anxiety symptoms (Degnan et al., 2010). In contrast, lack of autonomy granting, criticism and overinvolvement have been associated with less socially adaptive behaviours and greater childhood anxiety. It should be noted however that reports concerning parental warmth have been less conclusive than investigations of control and over-protection, indicating that it may be a less reliable variable in assessing the influence of parenting on child anxiety (Ginsburg, Siqueland, Masia-Warner, Hedtke, 2004).

This review aims to further examine parenting and child anxiety associations, with the addition of cognitive processing biases (namely interpretation biases). The main objective is to explore how parents contribute to the manifestation and more importantly, the maintenance of anxiety and interpretation biases in children by exploring possible risk factors and pathways for transmitting anxious information.

1.2 Method

The review used two electronic databases for the literature search, PsychInfo EBSCO and Web of Science (WoS). Search terms were generated and used in each database, with related terms identified in the thesaurus' (See Appendix A). An initial search in both databases retrieved a total of 107 papers (16 PsychInfo and 91 WoS). Additional records were found through looking at reference lists from papers in the initial search, as well as those identified via discussion. This yielded a further fifteen papers, resulting in a total of 122 possible papers for review.

Initial inclusion criteria accepted papers published in peer reviewed journals, those written in English and published from 2000 to the present day. Excluded papers comprised unpublished works (e.g. dissertations and conference papers) and review articles. .

Papers were further excluded if they did not include human participants or the research topic did not match the present research; if there were duplications between databases or the handpicked search, or if it was not possible to obtain full copies of the text. This resulted in forty four papers being removed. A further set of inclusion criteria were used with the remaining 46 papers. Papers were included if they reported findings for school-aged children (5-17 years) and/ or the parents of this age group, who were from community or a mixed community-clinic samples were included. Additionally, papers reporting measures assessing anxiety symptoms in parents and /or children, interpretation biases and parenting variables, such as control, warmth and criticism were also included. Once these criteria had been applied, a further twenty seven papers were removed and a final set of nineteen papers remained for evaluation (see Figure 4).

1.3 Results and Discussion

The systematic search reviews recent research exploring the role and contribution that parents have in the onset and maintenance of anxiety disorders in children and adolescents. Of particular interest in the current review are the specific methods by which parents may transmit anxious information to their children and how this impacts on the development of interpretation biases and anxiety symptoms.

A range of methodologies and designs were adopted in the studies, which include: questionnaires, direct observation and experimental designs. Typically, questionnaire measures have been used to collect data regarding parent and child affect, specifically in relation to anxiety. Observational techniques have been predominantly used to assess parenting variables, whilst experimental designs are frequently used to determine the presence or absence of cognitive biases.

The papers will be reviewed in accordance with the constructs that they set out to measure (e.g. cognitive biases, impact of parenting variables etc.) and will be used to consider the following questions: How are parents involved in the transmission of anxious information to their children and how does their involvement contribute to the aetiology and maintenance of anxiety disorders?

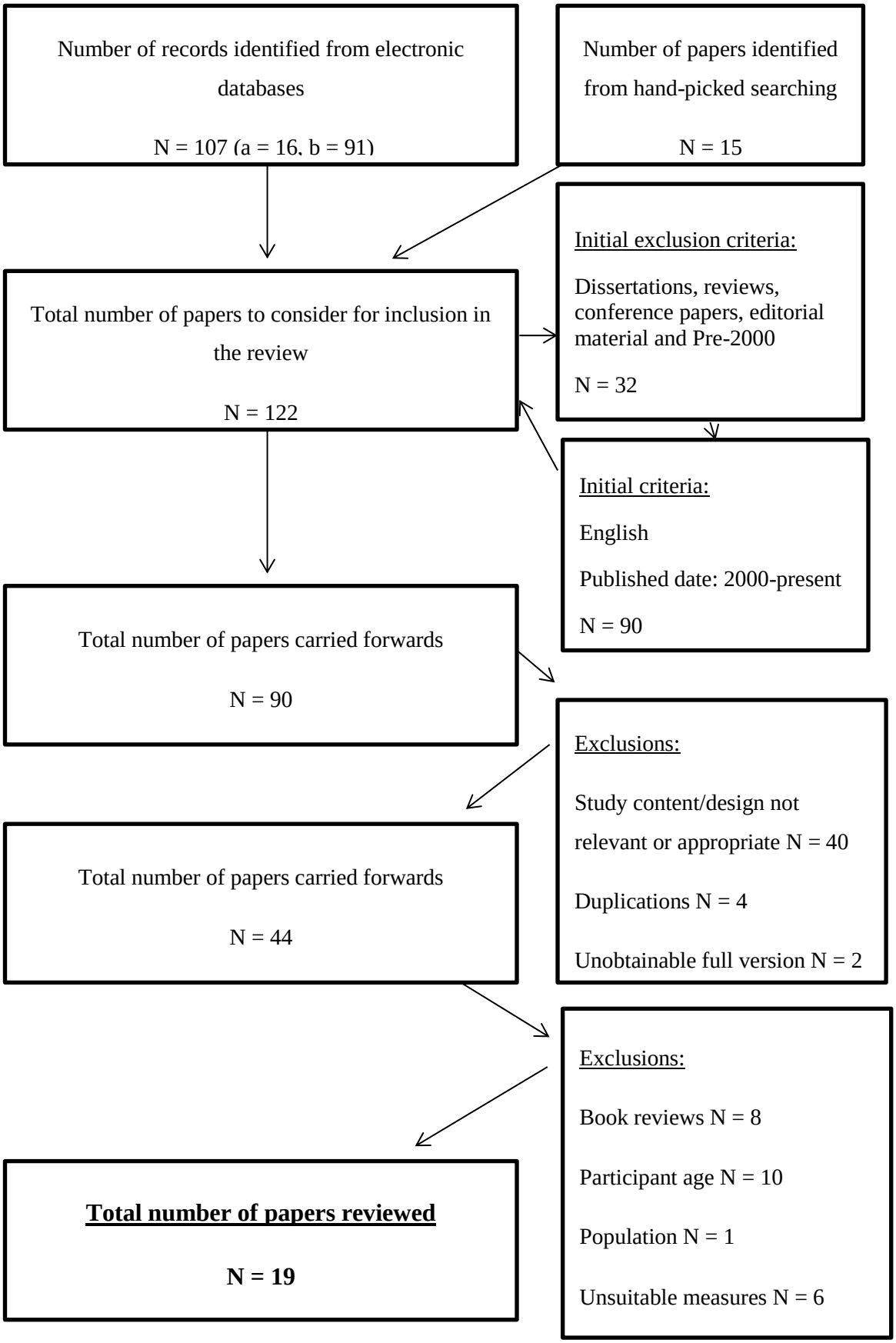


Figure 4. Selection process of papers within the systematic literature search

Table 1. Systematic Literature Paper Summary.

Author (s) & date	Country	Population (n) and community/ clinical/ mixed	Demographics (gender, age, adult/child)	Design	Anxiety measures	Cognition measures	Parenting measures	Other measures	Significant Findings
1.Bögels, Stevens, & Majdandžić (2011).	NL	144 (8-12 year olds) Community	Children 8-12 years and parents.	Self-report Observation	SPAI-C SPAI SPAI-P	Ambiguous social situations	Anxiety vs. Confidence	n/a	Parent anxious behaviours correlated with children's greater social anxiety. Fathers more influential to children with greater social anxiety.
2.Burstein & Ginsburg (2010).	USA	25 families Community	Children 8-12 years Parents 24-53 years	Self-report Observation	ASR CBCL SCARED STAIC C-FAT	Interpretation of parent behaviour	Anxiety vs. Confidence	WRAT spelling test	Greater anxiety symptoms in the anxious experimental condition. Fathers associated with more child anxiety.
3.Creswell & O'Connor (2006).	UK	65 Community	Children 10-11 years and mothers.	Self-report	STAIC STAI	ASQ-C ASQ-P ASQ-PC	EMBU-C adapted	LEC LEI-modified	Positive correlation between maternal and child cognitions. Child anxiety significantly positively associated with children's interpretation biases.
4.Creswell, O'Connor & Brewin (2006).	UK	65 Community	Children 10-11 years and mothers.	Self-report	-	ASQ-C ASQ-P ASQ-PC	-	-	Significant longitudinal effect: mother's anxious cognitions (threat) time 1 and children's anxious cognitions (threat) time 2.
5.Crosby Budinger, Drazdowski & Ginsburg (2013).	USA	66 Mixed	Children 7-12 years old and Mothers 31-58 years old.	Self-Report Experiment/ Observation	ADIS – C ADIS – P SCARED BSI	-	Etch-a-sketch task	-	Parents with a SAD diagnosis demonstrated less warmth and more critical comments than parents without a SAD diagnosis

Author (s) & date	Country	Population (n) and community/ clinical/ mixed	Demographics (gender, age, adult/child)	Design	Anxiety measures	Cognition measures	Parenting measures	Other measures	Significant Findings
6.Eley, Napolitano, Lau & Gregory (2010).	UK	530 Community	Twin children 8 years and mothers.	Self-report Experiment/ Observation	SCARED	-	Etch-a-sketch task	Genetic analysis	Children reporting greater anxiety experienced more maternal control. Strong genetic implications.
7.Festa & Ginsburg (2011)	Not specified	63 Community	Children 7-12 years and parents 28-58 years	Self-report Experiment/ Observation	ADIS – C SCARED – C STAI	-	EMBU-C FMSS	Peer variables: SPPC SSSC	Positive correlation between parent and child social anxiety. Children's perceptions of overprotection significantly, positively correlated with social anxiety.
8. Gar & Hudson (2008).	Australia	135 Mixed	Children and Adolescents 4-16 years and mothers	Self-report Experiment/ Observation	ADIS-C ADIS-P SCAS-C SCAS-P DASS-21	-	FMSS Speech preparation task		Maternal overinvolvement significantly related to child self-reported anxiety.
9.Gifford, Reynolds, Bell & Wilson (2008a).	UK	56 Mixed	Children 7-12 years and mothers	Self-report Experiment	ADIS-C ADIS-P SCAS STAI	Homophone Paradigm (Interpretation Bias)	-	CBCL WASI	Maternal interpretation biases were significantly positively correlated with children's anxiety symptoms.
10.Hudson & Rapee (2001).	Australia	95 Mixed	Children 7-15 years and mothers	Self-report Experiment/ Observation	ADIS-C ADIS-P RCMAS BAI BDI	-	Tangram task Scrabble task	CBCL	Mothers of anxious children were significantly more involved and significantly less positive compared with control groups.

Author (s) & date	Country	Population (n) and community/ clinical/ mixed	Demographics (gender, age, adult/child)	Design	Anxiety measures	Cognition measures	Parenting measures	Other measures	Significant Findings
11.Lester, Field, Oliver & Cartwright-Hatton (2009).	UK	40 Community	Mothers (M=38.75) of children 4-10 years	Self-report Experiment	STAI	Ambiguous sentences (threat vs. non-threatening)	-	-	Parent trait anxiety was associated with more threat interpretation biases. A mediated pathway was reported.
12.Lester, Seal, Nightingale & Field (2010).	UK	92 Community	Children 6-11 years and mothers	Self-report	STAI STAI-C	ASQ-C ASQ-EM	-		Children's self-report anxiety and children's expectations of their mothers' interpretation biases mediated a pathway between maternal anxiety and children's self-reported cognitions.
13.Pereira, Barros, Mendonca & Muris (2013)	Portugal	80 Community	Children 7-12 years and parents	Self-report	SCARED-R CNCEQ STAI	ASQ-C ACQ-C	EMBU-C		Significant and positive association between child trait anxiety and maternal overprotection.
14.Perez-Olivas, Stevenson & Hadwin (2008)	UK	129 Community	Children 6.3 – 14.58 years and mothers	Self-report Experiment	RCADS RCADS-P	Visual search task – angry faces	FMSS		Children >10 years old with increased anxiety recorded faster response times for detecting angry faces. Children's attentional biases were only partial mediators between maternal EOI and child SAD.
15.Perez-Olivas, Stevenson & Hadwin (2011).	UK	60 Community	Children 7-14 years and mothers	Self-Report Experiment	APPQ RCADS-P	Story Interpretation Paradigm	-	BDI-II	Children who made more separation threat interpretations were significantly associated with mothers reporting elevated depression symptoms.

Author (s) & date	Country	Population (n) and community/ clinical/ mixed	Demographics (gender, age, adult/child)	Design	Anxiety measures	Cognition measures	Parenting measures	Other measures	Significant Findings
16.Raudino, Murray, Turner, Tsampala, Lis, De Pascalis & Cooper (2013)	UK and Italy	109 (n=49 UK; n=60 Italy) Community	Children 8-10 years and mothers	Self-report Experiment/ Observation	SCAS	-	Etch-a-sketch Belt-buckling task PCIQ	SDLC	Significant cross-cultural differences; Italian mothers more intrusive and less autonomy granting, but also significantly warmer than English mothers.
17.Schrock & Woodruff-Borden (2010)	Not specified	158 Mixed	Children 3-12 years and mothers	Self-report Experiment/ Observation	ADIS-P ADIS-C	-	Behavioural interaction – cognitive and social task	-	Non-anxious parents and non-anxious children performed fewer negative behavioural interactions. Non-anxious dyads were considered to have more positive relationships than anxious dyads
18.Turner, Beidel, Roberson-Nay & Tervo (2003)	USA	191 Mixed	Children 7-12 years	Self-report Observation	K-SADS	-	Risk room assessment PBI FES CV-FES	-	Parents without an anxiety disorder stood closer to their child. No group differences between the numbers of negative statements given. Anxious parents reported more peak distress than non-anxious parents.
19.Verhoeven, Bogels & van der Bruggen (2012)	NL	306 Community	Children 8-12 Adolescents 13-18 and parents	Self-report	SCARED-R	-	RBQ (MFP and CRPBI).	-	Children's anxiety symptoms were positively correlated with higher levels of both maternal and paternal overcontrolling and rejection behaviours.

Note: All abbreviations can be found at the start of this paper.

1.3.1 Associations between parent and child anxiety

Researchers have consistently found a positive association between anxiety symptoms in parents and their children (Beidel & Turner, 2005). From the nineteen papers reviewed, six papers included details that commented directly on the association between parent and child anxiety symptoms. Three of the study samples consisted of children and their parents from community groups. In one study, children aged 6-11 years and their mothers completed anxiety symptom measures on the State-Trait Anxiety Inventory (STAI; Speilberger, 1968) and respective child version. The researchers reported a significant positive association between mother and child trait anxiety (Lester, Seal, Nightingale & Field, 2010). In a further study, Creswell and O'Connor (2006) assessed anxiety symptoms in children (aged 10-11 years) and their mothers also using the STAI and STAI-C. These results showed a non-significant association between mother and child self-reported trait anxiety symptoms.

Bogels, Stevens and Majdandzic (2011) asked children (aged 8-12 years) and their parents to complete respective versions of the Social Phobia and Anxiety Inventory (SPAI) to assess trait social anxiety. Children also completed an additional version of the measure, reporting perceptions of their parents' social trait anxiety. Results indicated no correlations between child self-report and parent self-report trait social anxiety. However, child self-report and child perceived reports of parent symptoms were significantly, positively correlated suggesting an indirect relationship existed.

The remaining three studies commenting directly on parent-child anxiety used a combination of community and clinic samples. In the first, three groups of mother-child dyads were recruited. Children aged 7-12 years who met criteria for a primary diagnosis of anxiety formed the anxious group, children meeting the Child Behaviour Checklist (CBCL) criteria for an externalising behaviour were included in the externalising clinical-control group, and children of the same age with no diagnoses formed the non-clinical control group. Children's anxiety was measured using the Spence Children's Anxiety Scale (SCAS) and parents completed the STAI – Trait scale. Results indicated significant group differences between mother and child reported anxiety

symptoms. Child self-report anxiety was greater in the anxious group than in the externalising and control groups. Additionally, mothers of children in both clinic groups reported significantly greater anxiety than mothers of children in the control group (Gifford, Reynolds, Bell & Wilson, 2008).

A further study selected children scoring above the 80th percentile and below the 50th percentile on the SCARED-R as participants to high and low anxiety groups (Pereira, Barros, Mendonca & Muris, 2014). Children aged 7-12 years and their parents participated. Children completed the Screen for Child Anxiety Related Emotional Disorders – Revised version (SCARED-R), whilst the STAI (Trait scale) was administered to parents. Significant positive associations between maternal and child anxiety symptoms were found, but were not significant for fathers.

Festa and Ginsburg (2011) recruited children aged 7-12 years and their parents. Of the 63 parents, 26 were identified as having an anxiety disorder (41%), as measured on the ADIS. The remaining parents and all children had no psychiatric diagnoses. Results indicated that there was a significant positive correlation between parent and child social anxiety. Subsequent regression analyses indicated that parental anxiety significantly predicted child social anxiety, accounting for 15% of the variance within the model.

The findings from these seven studies largely support the proposition that parent self-report and child self-report anxiety symptoms are positively related. The findings compliment previous research and suggest that self-report measures and interviews are reliable and valuable sources of ascertaining the presence or absence of generalised or trait anxiety disorders within families. The review goes on to report papers which explore the role that parents may have, not only in their own psychopathology, but also in their parenting as a contributor to the aetiology and maintenance of children's anxiety disorders.

1.3.2 Associations between parenting and child anxiety

The role that parents play in the lives of their children is being more deeply explored in relation to the way in which anxious information is transferred between generations (Creswell, Murray, Stacey & Cooper, 2011). Out of the nineteen papers reviewed, fourteen reported at least one parenting variable.

Bogels et al., (2011) used social situations to explore children's responses to parent's confident or anxious behaviour. Vignettes were presented to children (aged 8-12 years), who were asked to imagine that they were experiencing the situation themselves and to rate their level of anxiety on two scales: very safe to very afraid and very confident to very shy. The results indicated that there was a main effect for type of parental behaviour, whereby children reported greater social anxiety if the parent acted anxiously. Moreover, children with greater social anxiety were more significantly affected by any action of fathers (confidence or anxiety), when considering their own personal states (confidence and anxiety). In contrast however, children with lower social anxiety were more significantly affected by the actions of mothers. This study begins therefore to identify the potentially different roles that fathers and mothers have in the development of child anxiety.

The second study manipulated anxious and confident parent behaviour (Burstein & Ginsburg, 2010) whilst children (aged 8-12 years) were asked to complete two spelling tests. Prior to the assessments, parents were trained to give both an anxious and confident 'performance' whilst waiting with their child for the spelling test to begin. Children's exposure to their parents was for approximately 2 minutes and typically involved the parent holding the test paper out of the child's view whilst modelling each behaviour. The manipulation check indicated that the conditions were effective. A main effect for condition was reported; greater anxiety symptoms were reported by children in the anxious experimental condition ($d = 1.38$, large effect size). Children who participated with their fathers tended to report greater anxiety than children who participated with mothers ($d = 1.00$) but significance wasn't reached. The research suggests that parents' modelling affects children's self-reported anxiety whilst also indicating the potentially different roles that mothers and fathers have on children's anxiety.

A further study investigated parent overprotection and concern using the Anxiety and Overprotection self-report scale (EASP), as well as emotional warmth using the EMBU-C, a scale to measure children's perceptions of parent rearing behaviours (Pereira et al., 2014). A significant, positive association between child trait anxiety and maternal overprotection was reported. Fathers' overprotective behaviour had a significant effect (14%) on children's anxiety; however maternal anxiety was reported as a stronger predictor. This further indicates differences in parent contributions to child anxiety; whereby maternal affect but paternal cognition impacts significantly.

Verhoeven, Bogels & van der Bruggen (2012) examined four different parenting variables in relation to youth anxiety. Both children and parents completed the SCARED-R as a measure of child anxiety, in addition to the Rearing Behaviour Questionnaire (RBQ), which assessed the parenting constructs: autonomy granting, control, acceptance and rejection. The young people involved in the research were divided into two groups according to their age: children 8-12 years and adolescents 13-18 years. Maternal autonomy granting was found to increase and maternal control decreased as children were older. Paternal behaviour was not significantly associated with differences in child age, nor were effects found in relation to child gender. Children's anxiety symptoms were positively correlated with higher levels of maternal and paternal overcontrol and rejection; however maternal overcontrol demonstrated the strongest effect. Adolescents reported similar results for mothers and fathers across all of the parenting dimensions. The one significant correlation indicated that paternal overcontrol was positively associated with adolescents' anxiety symptoms, whereas maternal overcontrol was not. This study concluded that mothers' were more influential with younger children and fathers significantly more influential during adolescence.

Further observational tasks which require parents and children to participate collaboratively enable researchers to identify supportive and controlling parent behaviours. Crosby-Budinger, Drazdowski and Ginsburg (2013) investigated a range of parenting variables with anxious parents (with or without a current separation anxiety disorder (SAD) diagnosis) and their children (aged 7-12 years) with no anxiety diagnosis. Parents and their children completed either a speech task or an etch-a-sketch task together. Parents with a diagnosis demonstrated less warmth, more critical comments and greater doubts regarding their child's competence than parents without a diagnosis

(medium and large effect sizes). No significant differences were reported between parent autonomy granting and overcontrolling behaviours. The study indicates therefore that parental warmth and critical comments had a greater association with children's SAD, in contrast to previous findings, which suggested that overcontrol was not significantly associated with anxiety. Different anxiety disorders may be affected by parenting variables to a greater or lesser degree.

Festa and Ginsburg (2011) recruited 7-12 year old children (no clinical diagnoses) and their parents (41% meeting the criteria for an anxiety disorder), to participate in an interaction task preparing a speech about themselves. Parent behaviours (overcontrol and autonomy granting) were rated by independent observers. Additionally, children's perceptions of their parents' overcontrol and rejecting behaviours were collected (EMBU-C parenting scale). The results indicated that children's perceptions of overprotection were significantly, positively correlated with their social anxiety and in a subsequent regression model, child perceptions were a significant predictor of their own anxiety. In a further regression analysis, parent anxiety and parent rejection were also found to be significant predictors of child social anxiety, explaining 15% of the model. It appears therefore that parents with their own anxiety diagnoses contribute significantly to children's anxiety levels (Crosby-Budinger et.al, 2013; Festa & Ginsburg, 2011).

Turner, Beidel, Roberson-Nay and Tervo (2003) investigated parent behaviour while their children (7-12 years) played in a 'risk room'. Observers were looking at differences in behaviours between parents with and without an anxiety disorder. It was hypothesised that parents with greater anxiety and feelings of distress during the play activity would demonstrate a greater overprotective parenting style in comparison to those who were less anxious. Parents also completed the Parent Behaviour Interview (Turner et al., 2003) which measured overprotective parenting. Few overprotective parenting examples were observed across the cohort and therefore few conclusions could be drawn in relation to this variable. Group differences regarding other parenting styles were observed; parents without an anxiety disorder stood closer to their child as they played on the equipment, whereas anxious mothers stood farther away. No group differences were found between the number of negative statements given or in the amount of concern or caution expressed by parents. Differences in parent overall peak distress during the play activity differed significantly, as

expected, in line with the presence of anxiety. Overall, the study provided little evidence to suggest that parents would act differently depending on their state of anxiety.

A further observational study used the etch-a-sketch task to explore evidence of 'extreme control' from mothers with 8 year old MZ and DZ twin pairs (Eley, Napolitano, Lau & Gregory, 2010). The results suggest that children experiencing greater maternal control, report higher levels of anxiety (as measured by the SCARED). Furthermore, analysis revealed that the correlational effects were larger for MZ twins than DZ twins, suggesting that common genetic factors account for much of the association between extreme maternal control and self-reported anxiety.

Further studies have explored parenting styles in their associations to children with anxiety versus other clinical diagnoses. Young people aged 7-15 years and their mothers participated in tangram and scrabble interaction tasks (Hudson & Rapee, 2001). The sample consisted of three child groups: clinically anxious, ODD diagnoses and no diagnoses. The results showed that while completing the tasks, mothers of anxious children were significantly more involved and significantly less positive compared with both other groups. Additionally, the results indicated that children's self-report anxiety (measured using the RCMAS) was significantly positively correlated with maternal involvement and negativity. Moreover, these results were consistent across ages, (7-9, 10-11, and 12-15) suggesting a consistency across developmental stages. The results provide evidence that parenting variables influencing child anxiety differ to those of children with other clinical diagnoses.

Further research with a mixed sample of anxious / non-anxious children and parents used the speech preparation task to explore the association between parent emotional overinvolvement and negativity, to children's anxiety (Gar & Hudson, 2008). The sample consisted of four diagnostic groups: non-anxious children with non-anxious mothers; non-anxious children with anxious mothers; anxious children with non-anxious mothers; and anxious children with anxious mothers. The parenting variables were coded from the interaction task and the Five Minute Speech Sample, where mothers expressed feelings and emotions regarding their child. The interaction task results were consistent with previous research (e.g. Bogels & Brechman-Toussaint, 2006) indicating that mothers of anxious children were significantly more involved than mothers of non-anxious children

and were also more critical (regardless of their own anxiety). No significant differences in negativity were reported. Overall this suggests that maternal overinvolvement is an influential parenting style on children's self-reported anxiety.

Further interaction tasks explored a range of parent-child behaviour in a mixed clinical sample (Schrock & Woodruff-Borden, 2010). Children were required to complete a social and cognitive task, either telling a story or preparing to give a speech (social) and completing a series of puzzles or unsolvable anagrams (cognitive). The observations differed somewhat to previous studies in regard to the descriptions attached to the behaviours, for example, researchers coded for: productive engagement (e.g. non-verbal listening, praise, offering assistance), negative interactions (e.g. complaints, disruption, off-task behaviour), withdrawal (e.g. ignoring or silence) and overcontrol (e.g. directive command, choice making or behaviour regulation). Non-anxious parents and non-anxious children engaged in more frequent productive engagements and fewer negative interactions in comparison to anxious children and parents. A significant difference existed between the non-anxious parent-child dyad and the anxious dyad across all four behaviours observed. Non-anxious dyads were considered to have more positive relationships than the anxious dyads. Researchers concluded that both individuals contributed significantly to the overall interaction, supporting theoretical models of the transmission and maintenance of anxiety in childhood (Murray et al., 2009).

The final study in this section compared parenting influence on children cross-culturally (Raudino, et al., 2013). Mothers and children aged 8-10 years, from the United Kingdom and Italy took part in the research. Mother-child dyads were video-recorded completing two tasks, enabling parent behaviour to be subsequently coded. In the etch-a-sketch task observations were made of mothers' overcontrol, lack of autonomy granting and warmth. In the belt-buckling task an aggregate of behaviours were compiled to create a rating of maternal overprotection. Additionally, children's anxiety was self-reported using the SCAS questionnaire. Results indicated significant cross-cultural differences; Italian mothers were rated as significantly more intrusive and less autonomy granting, however they were also rated as significantly warmer than English mothers. Children in both samples did not differ significantly in their reports of overall trait anxiety or

separation anxiety (subscale on the SCAS). Although Italian mothers were found to express more anxiety inducing behaviours (intrusiveness and control), their greater amounts of warmth indicates a moderating influence on their other behaviours and how they influence child anxiety. Implications from this research suggest that increasing maternal warmth may reduce or limit the effect of controlling behaviours and the extent to which anxiety develops in child populations.

The research reported within this section of the review indicates that a range of discreet parenting styles are significantly associated with children's generalised and social anxiety symptoms. Most frequently, parent overcontrol was significantly associated with child anxiety. Studies have begun to identify the different impact that mothers and fathers have on children and adolescents' anxiety. The next section of the review goes on to explore the associations between parent and child anxiety and cognitive processing, in accordance with the information processing models outlined in the introduction.

1.3.3 Associations between parent and child interpretation biases

From the systematic search, seven out of the 19 papers aimed to investigate the existence of interpretation biases in samples of children and adolescents and their role in relation to childhood anxiety. A range of methodologies were used by the seven papers, including: ambiguous stories, sentences, and homographs; however the most popular tool used was the Ambiguous Scenarios Questionnaire (ASQ).

Creswell & O'Connor (2006) worked with a community sample of 10-11 year olds and their mothers. In addition to completing anxiety measures (STAI and STAI-C), mother-child dyads also completed self-report versions of the ASQ. This measure includes 12 ambiguous situations, six relating to physical and six to social scenarios, all of which can be interpreted as threatening or non-threating. Participants are initially asked to give a 'free' response, before choosing between a threat or non-threat explanation for the scenario. The same scenarios can be presented to mothers so that they are able to predict how their child will respond. Additionally, mothers were asked to complete their own set of 12 scenarios in the same way. The results indicated a significant positive correlation between maternal and child cognitions. Furthermore child anxiety was significantly

positively associated with children's threat interpretation biases. Additionally, researchers explored whether maternal expectations mediated the relationship between maternal and child interpretation biases. When added to the model, it reduced the association between mother and child interpretations by nearly 25% meeting the criteria for a partial mediation effect.

Creswell, O'Connor and Brewin (2006) repeated the ASQ measures with the same participants 6 months later. They aimed to test their hypothesis that maternal cognitions and expectations would predict a change in children's cognitions over time. The results confirmed their prediction as a significant longitudinal effect was reported between mother's anxious cognitions (threat) at time 1 and children's anxious cognitions (threat) at time 2. In summary, both cross-sectionally and longitudinally, this study identified significant correlations between mother and child reports of anxious threat cognitions. The evidence suggests that the time for transmission of information between parents and children may result in delayed onset of anxious cognitions in children.

A third study to utilise the ASQ tool, recruited children aged 6 to 11 years and their mothers (Lester, Seal, Nightingale, & Field, 2010). Anxiety symptoms were measured using the STAI and STAI-C, whilst children's cognitive biases were assessed through self-report ASQ and children's expectations of how their mother would respond (ASQ-EM 'Expectations of Mother'). The results indicated that there was a significant positive correlation between maternal and child self-report trait anxiety. Greater maternal anxiety was also significantly associated with children who reported more threat interpretations. In accordance, children reporting greater threat in ambiguous situations were also more likely to expect their mother's to disambiguate situations for them in a threatening way. Children's anxiety was also significantly positively associated with their own anxious cognitions. The researchers performed a mediational analysis whereby children's self-report anxiety and children's expectations of their mothers' interpretation biases met the criteria for a fully mediated pathway between maternal anxiety and children's interpretation biases.

The final paper to report the use of the ASQ used the measure with a mixed sample of high and low trait anxious children (aged 7-12 years) and a parent (Pereira et al., 2014). Researchers reported that children's threat interpretations were significantly correlated with their own self-

report anxiety symptoms, however only a moderate association with maternal trait anxiety was established. Again a mediational model was run whereby children's interpretation biases fully mediated the relationship between maternal and child anxiety.

Three further papers used alternative ambiguous measures to explore the presence of interpretation biases. Eight story scenarios were depicted in black and white pictures, with 2-3 sentences describing the situation 'story task interpretation paradigm' (Perez-Olivas, Stevenson & Hadwin., 2011). The stories focused on separation related anxiety (n = 5) and generalised anxiety (n = 3). Children (aged 7-14 years) were asked to choose one of three possible interpretations (threat-related, positive or neutral) to explain the story. The results indicated that children who made more separation threat interpretations had a significant association with mothers reporting elevated depression symptoms.

Lester, Field, Oliver and Cartwright-Hatton, (2009) recruited parents of 4-10 year olds to participate in research exploring the extent to which interpretation biases transcended a personal context. Ten ambiguous sentences (threat and non-threat interpretations) portrayed personal situations (self-referent) and a further ten described situations involving children. Sentences were also themed into physical and social concerns in both self-referent and child-related contexts. Participants began by reading a sentence, imagining themselves within the scenario, indicating the extent to which it would be pleasant or unpleasant (a Likert scale 1-9 was used). Once all 20 sentences had been completed, participants were then provided with four alternative versions of each previously read sentence and were asked to rate how similar they were to the original (1 = very different to 4 = very similar). The interpretations across all sentences were similar, indicating that parents interpreted self- and child-related ambiguous information in a similar way. Heightened parent trait anxiety was associated with more threat interpretation biases in both contexts. The relationship between parental trait anxiety and parents' interpretations of child-related situations was fully mediated by the interpretation biases they made in relation to themselves, suggesting that individuals with higher anxiety make more biased interpretations towards threat regardless of the context.

The final study exploring interpretation biases used the ambiguous words (see Hadwin et al., 1997) with a mixed clinic-community sample of children aged 7-12 years and their mothers (Gifford et al., 2008). The homophone paradigm required participants to look at a pair of pictures (threat and non-threat options) and select one to explain the ambiguous word. Results indicated that anxious children made significantly more threat interpretations than non-anxious children; however no differences existed between children with externalising disorders and anxiety. Confirming their hypothesis, mothers of anxious children made more threatening interpretations in comparison to mothers of children in the control and externalising groups; however these results were not significant. Additionally, children's self-reported anxiety and interpretation biases were significantly positively correlated across the three groups of children, with anxious children reporting significantly greater threat interpretations. Further findings indicated that maternal interpretation biases were significantly positively correlated with children's anxiety symptoms and moreover, children's interpretations were significantly correlated with maternal anxiety. A direct association between maternal and child interpretations was non-significant which was perhaps a surprising finding considering the previously described positive association between other combinations of these variables.

The results from these seven papers report evidence for interpretation biases in both community and clinic samples, across children and their parents. Typically, individuals reporting greater anxiety also made greater threat interpretations of ambiguous information. The consistent use of the ASQ indicates that this is a strong and reliable tool for identifying the presence of interpretation biases. Furthermore, alternative methodologies have reported similar findings strengthening these conclusions. Mediated pathways have been explored within these studies as a means of understanding the process of anxious information transmission between generations. Several papers reported children's interpretation biases as mediators of child and parent trait anxiety (Pereira et al, 2014; Lester et al, 2010). A further study indicated that maternal (self-referent) interpretation biases mediated the pathway between parent anxiety and child interpretation bias (Lester et al, 2009), whereas Creswell and O'Connor (2006) were only able to evidence maternal expectations as a partial mediator between maternal and child interpretation biases. There

is some evidence to suggest therefore that interpretation biases are involved as mediators between parent and child factors; however these findings have not been consistently evidenced.

The final section of this review aims to draw together the three main constructs presented thus far: parenting variables, anxiety measures and cognitive biases

1.3.4 Parenting, child anxiety and bias

Two of the nineteen studies reported the impact of parenting variables on children's cognitive biases and anxiety symptomology. Although researchers in one study explored attentional biases, they reported significant findings regarding the role of maternal emotional overinvolvement (EOI) (Perez-Olivas, Stevenson & Hadwin., 2008) and for this reason remained within the systematic search. Children aged 6-14 years provided their anxiety symptoms (RCADS) and mothers' gave their perceptions of their child's anxiety. This research focused specifically on SAD. No data regarding maternal anxiety was collected. Maternal emotional overinvolvement was assessed using the Five Minute Speech Sample (FMSS). High EOI ratings were coded when over-protective behaviours or an emotional display (e.g. crying was evident), in addition to two of the following: excessive detail about the past, one or more statements of attitude (strong feelings of love), or more than 5 positive comments. Borderline and Low EOI ratings were also possible. Children completed a visual search task designed to explore threat attentional biases. Each child saw 72 faces representing angry, happy and neutral emotions. A target face was shown and children were asked to indicate if it was present on subsequent presentations. The speed in which children made their responses was collected. Faster response times were recorded when identifying angry and happy faces in comparison to neutral expressions. In relation to anxiety, child SAD symptoms were significantly predicted by responses to the angry faces for children aged 10 years and older. Children reported higher levels of anxiety and took less time to detect the angry face. The same effect was not found however for children aged 10 years and below. In regard to parenting variables, there were no ratings of High EOI, therefore in relation to borderline and low EOI scores, no significant differences in child separation anxiety symptoms arose. The extent to which children's attentional biases mediated the relationship between parent EOI and child (self-

reported) separation anxiety symptoms was explored. The analysis indicated that a child's attentional bias was only a partial mediator between maternal EOI and child SAD.

The second study to comment on the role of parenting in relation to cognitive biases used the ASQ for the presence of interpretation biases and the EMBU-C to measure anxious and overprotective parenting (Creswell & O'Connor, 2006). Maternal interpretation biases were found to be non-significant in relation to overprotection (child and parent ratings). Moreover, maternal overprotection was not significantly associated with children's interpretation biases. In contrast, children's reports of parent overprotection were significantly associated to children's interpretation biases, indicating a within-reporter effect.

The two papers exploring the relationship between parenting variables, children's interpretation biases and anxiety have been unable to demonstrate a direct association between parenting and cognitive biases. Attentional biases partially mediated the pathway between maternal EOI and child anxiety (Perez-Olivas et.al, 2008) which is the closest evidence in being able to explain the possible transmission of anxiety between parents and children using these variables.

1.4 Limitations, Conclusions and Future Research

1.4.1 Summary

The aim of this review was to present current literature exploring the interrelationship between parenting variables, interpretation bias and childhood anxiety. Moreover, it hoped to further understand factors contributing to the transmission of anxious information between parents and children. This body of research provides support for the position that in some contexts, children will experience and be exposed to more threat which acts as a risk factor for the development of anxiety disorders.

The review outlined key studies that have explored the relationship between parent and child anxiety, indicating that this negative emotional state is typically present across generations supporting its genetic component. Moreover, the review outlined key studies aiming to further understand parenting as a contributing environmental factor to the aetiology and maintenance of

childhood anxiety. A range of parenting styles and behaviours were reported, however the most consistent relationship existed between child anxiety and parental control (overprotection, overinvolvement and lack of autonomy granting). Researchers have begun to suggest that differences between maternal and paternal roles exist in the development of child anxiety disorders, particularly in the parenting style adopted when considering the age of the young person.

Finally, the review explored the existence of cognitive processing biases in children with greater anxiety symptomology; as well as considering whether interpretation or attentional biases, for the processing of threat, could mediate a relationship between parenting variables and child anxiety. Evidence suggests that interpretation biases towards threat are more prevalent in adults and children with heightened anxiety. Research has been consistently unable however to report significant associations between children's and parent interpretation biases; rather stronger evidence appears to suggest that maternal anxiety is associated with children's biases. Few papers have explicitly explored the transmission pathway and in those that did, the evidence suggests only partial or non-significant results.

In summary, children within families where anxiety disorders are already present are at greater risk of developing anxiety themselves. Moreover, adults and children with heightened anxiety identify more threat from ambiguous information. Parent factors vary in the degree with which they are associated with both child anxiety and children's interpretation biases, however most consistently; reports indicate that parental control is most significantly associated with child anxiety symptoms. Little evidence thus far supports the assertion that cognitive biases are central to anxious information transmission.

1.4.2 Limitations

Most of the studies presented within the review were cross-sectional in design and therefore although confirmatory evidence is reported for anxiety at a one-off time point, limited conclusions can be drawn regarding the maintenance of anxiety disorders and cognitive biases over longer durations. Research that incorporates a longitudinal design would further the existing knowledge in this area as it would allow for the stability of anxiety and interpretation biases to be examined over

longer durations (Ries, Zhang, Avenevoli, Acharyya, Neuenschwander & Angst, 2003). Moreover, it would be possible to explore and evaluate the impact of environmental factors and responses to significant life events, such as moving house (transitions), bereavements, parental separations, illness etc. on the presence or absence, onset or maintenance of anxious affect and cognitive bias. Additional advantages of longitudinal studies is the capacity not only to establish affect and bias trajectories, but also to begin establishing causality, whilst also recognising and identifying specific risk and resilience factors (Copeland, Angold, Shanahan & Costello, 2014; Grover, Ginsburg & Ialongo, 2014).

A further point to raise is that although the selection of papers collected data pertaining to a relatively small demographic cohort (range 4-15 years), few papers explored differences arising within these age bands. Further developmental research targeting more discrete age ranges e.g. 7-12 years (middle childhood) would be beneficial. Additionally, studies comparing the effects of parenting on child anxiety and interpretation biases across a much broader range of ages will help to further develop an understanding regarding the possible developmental trajectory of these disorders and biases.

Further issues regarding the studies reviewed concern parent participation. Although studies advertised for both mothers and fathers, many had either no fathers or a small number participating in the research. As several papers have begun to indicate, the roles of mothers and fathers in contributing to child anxiety and interpretation biases may be significantly different and as a result, much more research with fathers is particularly desirable within this field.

Finally, few of the papers included in the review directly measured both parent and child interpretation biases within the same study, using the same tasks. This factor may explain to some extent the limited evidence found to support the presence of an association between interpretation biases across generations. Moreover, this may affect the possibility of mediational analyses to be performed in order to explore the pathways of anxious information transmission between parents and children. Research exploring child and parent biases using the same measure in the same study would provide further knowledge to the field.

1.4.3 Future Research

As the research has indicated, living in contexts where anxiety disorders and threat interpretations are more salient indicates that some populations of children may be more at risk to developing these disorders and biases. Research has been limited with community populations that don't have anxiety disorders, but who are more susceptible to interpret threat within their context. These populations may include: looked after children, ethnic minority groups, traveller communities and children in military families. Moreover, research which examines parent and child interpretation biases in the same study, using the same measure would extend previous research. Additionally, the evidence is inconsistent regarding whether children are more influenced by the same or opposite-sex parent, which requires further research (Bogels & Pahres, 2008). Suggestions have been made that parental influence may be dependent on the developmental stage of the child, in addition to the gender of the child and the parent (Phares, Lopez, Fields, Kamboukos & Duhig, 2005; Bogels & Phares, 2008). Exploring parent – child gender interactions would also benefit from its incorporation into longitudinal research as it is possible that parental influence is likely to change over time (Rapee, 1997). Finally, future research which combines the three constructs presented in this review (parenting variables, interpretation biases and anxiety symptoms) would further develop knowledge regarding the aetiology, maintenance and intergenerational transmission of anxiety.

Chapter 2: Empirical Paper

2.1 Introduction

A recent report suggested that in every average class of 30 pupils, one child will have an anxiety disorder; therefore it is important to understand the aetiology, persistence and maintenance of anxiety disorders within child populations (Ford, Goodman & Meltzer, 2003). Research has consistently found that anxiety disorders are common within families. Heritability has been reported to account for approximately 30% of the variance in childhood anxiety symptoms, suggesting that shared and non-shared environmental factors are also likely to contribute significantly to the development of anxiety (Eley et.al, 2008).

Several frameworks have aimed to understand the role of parenting behaviour as a risk factor for anxiety in offspring. Some studies have suggested that there are several pathways to anxiety including parent modelling and vicarious behaviour, as well as the transmission of anxious affect via negative verbal information (Muris et al, 1996). One study found that the verbal information that parents communicate to their children is a key factor in placing children at increased risk for the development of anxiety (Muris et al, 2009). This intergenerational transmission of anxious information is suggested to contribute to subsequent information processing biases for children (see Murray et.al, 2009, Figure 3, Chapter 1). Attention and interpretation of ambiguous information is likely to be in accordance with perceptions of threat and danger, reinforcing negative thoughts. Reactions to this form of stimuli are likely to result in greater avoidance behaviours in order to ensure that personal safety is maintained and not at risk from potential threat and danger (Beck, 1974).

Research has shown significant positive associations between these variables for both clinic (Eysenck et al, 1991) and community, child and adult samples (Lester et al, 2009; Gifford et al, 2008). While investigations have been conducted with children and adolescents who have reported similar findings to adult populations, few studies have investigated a direct association between the children and parent's interpretation biases, especially within high risk populations.

A central environmental factor, possibly contributing to the intergenerational transmission of anxiety is parenting. Parenting variables identified as having strong associations with anxiety include: lack of warmth, increased negativity, overprotection and excessive control (Degnan et al, 2010), however control has been shown to be significantly associated with childhood anxiety to a greater extent than other parenting variables (e.g. parental warmth, Ginsburg et al, 2004). The parenting construct 'control' is suggested to be a combination of over-involvement and lack of autonomy granting from parents (Ballash, Leyfer, Buckley & Woodruff-Borden, 2006). By limiting children's independence and supervising or intervening extensively, children can become more reliant on their parents' support. Moreover, children are likely to copy how their parents behave in novel stations and may listen more intently to their verbal information and cues regarding potential threat (Rachmann, 1977). In these situations, children are less likely to develop their own coping strategies and may view themselves as less competent in dealing with new, unfamiliar and ambiguous information.

Research indicates that parental over-involvement and controlling behaviours are significantly associated to children's separation anxiety and moreover, this association was partially mediated by children's threat interpretation biases (Perez-Olivas et al, 2008). The extent to which anxious information is transferred between parenting factors and child anxiety, via negative cognitions, in not yet fully clear and therefore requires further examination. This will hopefully further our understanding of the manifestation of the negative emotional state, anxiety, in childhood.

Anxiety, cognitive processing (interpretation bias) and parenting variable associations have been explored with both clinic and community samples. However the community samples selected have most often represented the general population. Little research with community populations that are at greater risk of developing anxiety disorders, based on their family or life characteristics, have been explored. Research with populations at greater risk of anxiety can help researchers to more clearly understand the role of threat processing in the development of anxiety in childhood. One such group that meet the description of being at greater risk to threat exposure within their daily environments are military families (Military of Defence, MOD, 2013; Ofsted, 2011). The

elements which make this population unique and at greater risk of exposure to threat include: the frequent separation from family members (either for deployment or training purposes), limited direct contact with family members during these absences; frequent changes in familial roles as the home transforms between a one and two parent household; in addition to the very real threat and danger to the health and wellbeing of the service personnel, increasing the feelings of worry and concern by the family members who remain at home (Marnocha, 2012; White, De Burgh, Fear & Iversen, 2011; Card et.al, 2011; Government UK, 2003; Government UK, 2014).

Within this population much focus has been given to the experiences of the serving personnel in order to better understand how support can be tailored to meet their needs, however, little is known about the experiences of the serving personnel's family (Marnocha, 2012). In a meta-analytic review of 12 studies, Card et.al (2011) reviewed the associations between deployment and child internalising symptoms in offspring of military personnel. The age of the child was found to significantly predict the association between parental deployment and child internalising symptoms, where a small to medium effect size was reported for children in 'middle childhood' (7-12 years). However alternative findings indicated that during periods of development, children's internalising and externalising behaviours, (in addition to their academic attainment) were not significantly different, suggesting that these children may have developed effective coping strategies to manage the temporary absence of a parent (Card et al, 2011). Siegel et.al (2013) reported on the stress experienced by families during deployments. They indicated that more than one-third of the children they asked were excessively worried about their parents' deployment. Moreover, the degree of at home parental stress was identified as the most significant predictor of children's psychosocial functioning during deployments (Siegel et al, 2013; Lester, Peterson, Reeves, Knauss, 2010; Flake et al, 2009).

These children need support beyond the typical emotional regulation skills support programmes offered by schools. Furthermore, support for spouses must be targeted at reducing their own levels of anxiety and distress in order to further prevent the transmission of anxiety to their children (Marnocha, 2012).

The aim of the present study is to explore the prevalence of anxiety, the extent to which threat interpretation biases exist, in addition to the role that parenting has in the transmission of anxious information within an at risk population. The research will provide valuable information regarding associations between emotional relationships within families and the presence of anxiety disorders. Additionally, further parental factors which may impact on familial emotions and relationships will also be explored, including parental depression and feelings of hopelessness and motivation in relation to the future. Moreover it will explore the role of information processing biases as mechanisms for understanding these associations. The research will inform interventions for individual children and their parents. It was hypothesised that children with greater anxiety would be positively associated with parents who provide greater self-report symptoms of anxiety. Further, it was hypothesised that children and parents who reported higher anxiety levels would be positively associated with threatening interpretations of ambiguous words, in comparison to their less anxious counterparts. Additionally, there would be a positive association between child and parent threat interpretations. Moreover, we hypothesised that emotional relationships between parents and children characterised by emotional over-involvement and control would be positively associated with both anxiety and cognitive interpretation biases for both child and parent and that interpretation biases would mediate the relationship between parenting styles and child anxiety.

2.2 Method

2.2.1 Participants

Charities, organisations and military Hives were contacted regarding participation in the present research. One charity responded, however they were unable to provide support to the research. Schools in geographical areas close to known military bases in the south of England were contacted. Fifty schools were contacted and 7 replied positively; see Appendix B. Of these replies, seven sent letters out to families who met the criteria to participate in the research. The other schools were not able to support the project or did not respond. From these schools, 182 parent-child dyads were invited to participate, 39 parents responded, with 12 declining and 27 expressing an interest to participate. One dyad was lost due to the timing of the research, 1 due to a child's

illness at the time of data collection, 2 parents could not be contacted and a further 3 provided incomplete information or did not complete all of the tasks.

The final sample consisted of 20 non-referred children, aged 8-11 years (M = 9.1 years, SD = .99, range = 3, 14 females). All participants were white British and all parents were mothers (*n* = 20), (no demographic information was collected regarding parents' age). Children had at least one parent serving in the British Armed Forces (Army *n* = 11; RAF *n* = 9), fathers were reported to have been deployed on average 3.6 times for a mean length of 5.1 months. Further participant demographic information is presented in Table 2.

2.2.2 Measures

Questionnaire Measures: Childhood anxiety

Child self-report anxiety. Children's anxiety was assessed using the Spence Children's Anxiety Scale (SCAS-C) (Spence, 1994). This questionnaire was developed for children aged 8-15 years. The SCAS-C contains 44 questions that ask participants to rate the frequency with which they experience each symptom on a 4-point scale from 'Never' (0) to 'Always' (3) (e.g. I worry about being away from my parents). Of the 44 items, 6 items are positively worded and are filler items not included in the scoring.

The remaining 38 items are divided across six domains of anxiety: generalised anxiety (6); panic/ agoraphobia (6 / 3); social phobia (6); separation anxiety (6); obsessive compulsive disorders (6; each with a possible score of 0-18) and physical injury fears (5; score 0-15). A total score of 0-114 is possible, where higher scores indicate greater levels of anxiety. Research has shown the SCAS-C has good reliability (Spence, 1998). (Internal consistency in the present study was good, $\alpha = .92$).

Table 2. Participant Demographic Information

Participant information		n	Percentage (%)	Mean
Child Age (years)	8	5	25	
	9	10	50	
	10	2	10	
	11	3	15	9.1 years
Child Gender	Male	6	30	
	Female	14	70	
Parent	Father	0	0	
	Mother	20	100	
School	A	8	40	
	B	1	5	
	C	2	10	
	D	5	25	
	E	4	20	
Military Branch	Army	11	55	
	RAF	9	45	
	Navy	0	0	
Number of times deployed	1	1	5	
	2	6	30	
	3	5	25	
	4	2	10	
	5	2	10	
	6	2	10	
	7	1	5	
	8	1	5	3.65 times
Length of deployment (average months)	3	2	10	
	3.5	1	5	
	4	5	25	
	4.5	1	5	
	5	2	10	
	6	4	20	
	6.5	2	10	
	7	2	10	
	8	1	5	5.18 months

Parent-report child anxiety. Parents were also asked to indicate their child's level of anxiety levels using the SCAS-P (parent version) (Spence, 2000). This version of the SCAS is identical to the child version, differing only in the wording of the questions from 'I' to 'My child'. In addition, it does not contain any filler items. Research has shown the SCAS-P has good reliability (Nauta et.al, 2004). (Internal consistency was good, $\alpha = .94$).

Child self-report state anxiety. Children completed the state anxiety questionnaire from the State-Trait Anxiety Inventory – Child version (STAI-C) (Speilberger, 1970). This questionnaire

was developed for children aged 9-12 years; though it can be administered to younger children. The state anxiety scale includes 20 items and participants are asked to respond to each item, "how they feel right now" (e.g. I feel…very calm, calm or not calm). Each item is scored using a 3-point scale, with a possible score range of 20-60, where higher scores indicate greater state anxiety. Research has shown the STAI-C to have good reliability (Speilberger, 1983). (Internal consistency in the present study was good, $\alpha = .92$).

Maternal questionnaire measures

Maternal anxiety. Mothers' anxiety was assessed using the Hospital Anxiety Depression Questionnaire (HADS) (Zigmond & Snaith, 1983). This questionnaire was developed for use with 16-65 year olds. The scale consists of two subscales, one measuring anxiety and the other depression, each scale consists of 7 items. Participants are asked to rate the frequency that they experienced or felt each item (e.g. 'I get sudden feelings of panic'). Responses are rated on a 4-point Likert scale and range from 0-3, resulting in a possible total score of 42 (21 on each subscale). Greater scores indicate both higher levels of anxiety and depression. Scores between 0 and 7 on each scale are considered 'normal or no anxiety (depression)', 8-10 indicates mild anxiety (depression), scores of 11 or higher indicate moderate to severe anxiety (depression). Research has shown the HADS has good internal consistency and construct validity (Zigmond & Snaith, 1983). (Internal consistency in the present study was good, $\alpha = .79$).

Parent state anxiety. Parent state anxiety was assessed using the State Trait Anxiety Inventory – Adult Version (STAI) (Speilberger, 1968). This questionnaire is similar to the STAI-C; it contains 20 items and a possible total score of 20-60. Research has shown that the STAI has good reliability (Speilberger, 1983). (Internal consistency in the present study was good, $\alpha = .87$).

Separation Anxiety. Adult's separation anxiety was assessed using the Severity Measure for Separation Anxiety Disorder for Adult Questionnaire (SADA) (Craske et.al, 2013). This questionnaire was developed for individuals aged 18 years and older. The SADA contains 10 items that ask participants to report the severity of their separation from 'home or people who are important to them' within the past 7 days (e.g. 'felt anxious, worried or nervous about being

separated'). Responses are rated on a 5-point scale from never (0) to all of the time (4). The total raw score ranges from 0 to 40, where higher scores indicate greater severity of separation anxiety. Additionally, this score can be converted into an average score, reducing the severity of separation to a 5-point scale (0 = none; 1 = mild; 2 = moderate; 3 = severe; 4 = extreme). The use of the average total score has shown good reliability (Craske et.al, 2013). (Internal consistency in the present study was good, $\alpha = .93$).

Maternal pessimism. Parent's pessimistic views about the future, motivation and expectations were assessed using the Beck Hopelessness Scale (BHS) (Beck, 1978). This questionnaire was developed for use with 17-80 year olds. The BHS contains 20 questions that ask participants to report how they feel at that present time (e.g. 'I look forward to the future with hope and enthusiasm') by responding either 'true' or 'false' to each statement. Higher scores indicate greater levels of pessimism and hopelessness and are related to depression. Total scores range from 0-20 and can be categorised according to their severity (none, minimal, mild, moderate and severe). The questionnaire has shown good reliability (Beck et.al, 1974). Internal consistency in the present study initially reached $\alpha = .41$. Removing item 13 from the analysis due to its negative correlation with all other items in the scale, improved the reliability of the measure $\alpha = .68$.

Parenting

Parent-child relationship. We used the Five Minute Speech Sample (FMSS) (Magana et.al., 1986) as an indicator of the parent-child relationship. This measure is designed to assess expressed emotion (EE) towards another family member. Parents are asked to provide their thoughts and feelings about their child, in addition to describing the relationship that they have had with their child over the past 6 months. Parents are required to talk for five minutes without any interruptions or questions. If a parent during the 5 minutes asks how much longer they have left, or feels that they don't have anything else to say, the researcher can prompt them as per the administration guidelines. The five minute samples were audio-recorded enabling subsequent transcription and coding.

Several relationship variables are assessed using this tool, including the Initial Statement (IS), parental warmth (WAR), parent-child relationship (REL) and Emotional Over-Involvement (EOI). Additionally, two frequency counts are recorded; the number of positive comments and the number of negative (or critical) comments made by the parent. Expressed Emotion is rated as either high or low based on certain combinations of global and frequency measures. High EE is coded if a parent reports greater criticism (either low warmth or negative relationship) as well as more critical than positive comments. Alternatively High EE can be rated if the parent is deemed to have high EOI. If these criteria are not met, Low EE is coded. A table illustrating the FMSS categories and their ratings are shown in Table 3.

Table 3. Descriptions of the Five Minute Speech Sample (FMSS) categories.

Category	Code	Description
Initial statement	IS	Global rating: Positive, neutral or negative
Warmth	WAR	Global rating: high, moderate or low (based on tone, spontaneity, concern/empathy)
Emotional Over-involvement	EOI	Global rating: evidence of statements relating to self-sacrificing and over-protective behaviour and lack of objectivity (e.g., emotional displays, excessive detail about the past).
Relationship	REL	Global rating: positive, neutral or negative (based on reports of relationship and time spent together)
Negative comments	NEG	Frequency count (based on tone and critical phrases about personality or behaviour)
Positive comments	POS	Frequency count (based on tone and positive phrases about personality or behaviour – praise, appreciation, approval)
Expressed Emotion	EE	Combined category of global measures and frequency comments (High or Low). High EE (either low warmth or negative relationship in addition to more negative comments than positive; or High EOI is rated).

Cognitive Processing

Experimental interpretation bias task. Cognitive processing biases for both mothers and children were measured using ambiguous words. Homophones (words which sound the same, but

have different meanings and may have different spellings) and homographs (words spelt the same, but which have different spoken meanings) with both a neutral and threatening meaning (e.g. flu versus flew) were used. Words were selected from previous research and internet sources (see Mathews, Richards & Eysenck, 1997; Hadwin, Frost, French & Richards, 1997, Richards & French, 1992). Subsequent reference to all words in this task for simplicity will be 'homophones'. Threat words were grouped into separation-related threat and general-threat words. Information regarding the frequency of each word within spoken English language was collected to enable unambiguous threat and neutral filler words to be matched according to word frequency (Leech, Rayson & Wilson, 2001). This produced a total of 60 words; 10 ambiguous separation threat and 10 ambiguous general threat words; 10 unambiguous separation words, 10 unambiguous general threat words and 20 unambiguous neutral words. A list of the words is shown in Table 4, the respective word frequencies are reported in Appendix C.

The words were orally presented using audio-recorded lists, in one of four fixed random orders, and where order presentation was consistent within dyads. For each participant, the same instructions were given requiring them to listen to the word (which was repeated twice) and to use the word in a short sentence. An example was provided before the administration began. If participants struggled to create a short sentence the researcher used a prompt to encourage them to say the things that they first thought of when they heard the word. All participant responses were audio-recorded.

Only responses to the 10 separation threat and 10 general threat ambiguous words were scored, 1 for each threat interpretation and 0 for a neutral interpretation. Separate totals were generated for each list of words, providing a proportion out of a possible of 10. Additionally, combining the two lists enabled a total threat interpretation bias score and proportion to be established for each participant, whereby higher proportions indicate that greater threat interpretations were made.

2.2.3 Procedure

Families who met the inclusion criteria (at least one parent in the armed forces, with at least one deployment experience) were sent an advert and initial information letter via the child's school. Upon receipt of their interest to participate, an information pack with a demographics form and 4 parent-report questionnaires (HADS, BHS, SADA and SCAS-Parent version) was sent to parents.

Table 4. Homophones and homographs presented to participants in the 'word task'.

Separation threat (ambiguous)	**Separation threat (unambiguous)**	**Neutral**	**General threat (ambiguous)**	**General threat (unambiguous)**	**Neutral**
Bye (/Buy)	Away	Man	Banned (/Band)	Argue	Apple
Here (/Hear)	Go	Work	Bark (/Brake)	Dark	Ball
Leaves (/Goes versus leaf plural)	Care	Tree	Blow (Fist versus mouth)	Ill	Candle
Meet (/Meat)	War	Carrot	Box (Fight versus cardboard)	Fall	Plant
Missed (/Mist)	Far	Boot	Break (/Brake)	Scared	Fence
Plane (/Plain)	Alone	Duck	Flu (/Flew)	Hit	Zip
Train (Transport versus Gym)	Apart	Stairs	Lose (/Loos – toilet)	Punch	Wheel
Wait (/Weight)	Went	Hat	Sink (drop to the bottom (underwater) versus a basin)	Spider	Dinner
Where (/Wear)	Time	Sell	Weak (/Week)	Ghost	Big
Write (/Right)	Worry	People	Witch (/Which)	Wasp	Day

A subsequent date was arranged to complete three short tasks over the telephone or in person; the homophone task, Five Minute Speech Sample (FMSS) and the STAI. After consent had been obtained from parents and informed assent was given by the child, the children's assessment took place individually, in a quiet room at their school. Children completed the SCAS-C, homophone task and the STAI-C. The questionnaires were read aloud to children, avoiding

problems of individual differences in reading, and the experimenter circled children's responses. At the end of the assessments, parents and children were debriefed.

2.2.4 Ethics

The present study was granted ethical approval from the School of Psychology Ethics Committee and Research Governance at the University of Southampton. Written consent was sought from parents for their participation in the research, as well as their child's. Children also gave their assent to participate (Appendix D). Because of the nature of the homophone task, the true aim (assessing interpretation biases) was only described in full during the debriefing process for parents and their children; see Appendix E. Because of the nature of the questionnaires, the debriefing statement also made reference to appropriate support for parents and children should they have subsequently experienced greater feelings of worry or upset.

Participants were given the right to withdraw at any time during or after the data collection had finished. All questionnaire data and audio recordings were kept securely on a password protected computer or in a locked storage cabinet. All information relating to the participants' identity were removed, with codes for each parent – child dyad created. Signed consent forms were kept in a separate and secure location to the raw questionnaire and audio data.

2.3 Results

2.3.1 Data analytic approach and preliminary analysis

Data from the questionnaires were checked for normality using histograms, p-plots and calculations of skewness and kurtosis (*z*-scores and boxplots) (see Appendix F). The *z* scores and visual graphics indicated that 6 measures (HADS – anxiety, depression and total score; SADA, STAI and revised BHS) were not normally distributed, with both skewness (n=6) and kurtosis evident (n=5). Measures were explored for outliers and those identified were removed from further analysis. All subsequent descriptive and statistical analyses are conducted on the amended data set.

All variables were subject to bivariate correlational analyses (see Appendix I for a full of table of results). Pearson's correlation coefficients, *r* , produce an effect size which lies between -1 and +1, indicating whether variables are positively or negatively related. An effect size of .10 is considered small, .30 moderate and .50 large (Field, 2009). Directionality of the correlations between the main variables (parent- and child-anxiety, interpretation biases and parenting) were explored using Analysis of Variance (ANOVA). Planned contrasts were carried out to specifically identify where the differences between variables lay. Variables were analysed at the one-tailed level of significance as directionality was assumed.

Regression analyses and PROCESS (Hayes, 2014) were employed to test whether interpretation biases could mediate a relationship between parent and child anxiety and between parenting variables and child anxiety. Although all subscales of children's anxiety from the SCAS are reported in the descriptive statistics, the main focus of this analysis was on reports of separation and generalised anxiety symptoms. In addition, the overall total scores from child and parent-report were investigated.

2.3.2 Descriptive Statistics

Table 5 shows the descriptive statistics for all variables explored within the present research.

2.3.2.1 Demographics

Child Variables. The sample consisted of 14 girls (70%) and 6 boys (30%), age ranged from 8 to 11 years (M = 9.2, SD = 0.99). All children were white British and participated with their mothers. Children were recruited from 5 schools (equal numbers were not possible due to interest and attrition factors).

Military Context. Families reported fathers serving in the army (n = 11, 55%) and RAF (n = 9, 45%). No families from the Navy participated. The number of times fathers had been deployed ranged from 1 to 8 (M = 3.65, SD = 1.93). Their lengths of deployment ranged from an average of 3 months to 8.5 months (M = 5.18, SD = 1.51).

Table 5. Descriptive Statistics

	N	Range	Minimum	Maximum	M	SD
DEMOGRAPHICS						
Child Age (years)	20	3.00	8.00	11.00	9.15	0.99
MILITARY INFORMATION						
Number of Times Deployed	20	7.00	1.00	8.00	3.65	1.93
Length of Deployment	20	5.50	3.00	8.50	5.18	1.51
PARENT ANXIETY						
Maternal Anxiety (HADS - A)	19	8.00	0.00	8.00	4.16	2.48
Maternal Depression (HADS - D)	19	7.00	0.00	7.00	2.58	2.06
Maternal HADS Total Score (A+D)	19	13.00	0.00	13.00	6.74	3.46
Maternal Separation Anxiety (SADA scale)	19	11.00	0.00	11.00	3.32	3.84
Maternal Hopelessness (BHS)	19	6.00	0.00	6.00	2.05	1.54
CHILDREN's SELF-REPORT ANXIETY (SCAS)						
Total Anxiety Score	20	57.00	7.00	64.00	31.95	15.14
Separation Anxiety	20	13.00	0.00	13.00	5.75	3.42
Social Anxiety	20	14.00	0.00	14.00	5.10	3.48
Obsessive Compulsive Disorder	20	12.00	2.00	14.00	6.80	3.38
Panic Anxiety	20	12.00	0.00	12.00	4.80	3.56
Physical Anxiety	20	7.00	0.00	7.00	3.15	2.28
Generalised Anxiety	20	8.00	3.00	11.00	6.35	2.48
PARENT REPORT OF CHILD ANXIETY (SCAS-P)						
Total Anxiety Score	20	66.00	2.00	68.00	20.20	15.03
Separation Anxiety	20	13.00	0.00	13.00	4.95	3.66
Social Anxiety	20	12.00	0.00	12.00	4.70	3.56
Obsessive Compulsive Disorder	20	13.00	0.00	13.00	1.90	2.92
Panic Anxiety	20	13.00	0.00	13.00	1.55	3.17
Physical Anxiety	20	10.00	0.00	10.00	2.80	2.63
Generalised Anxiety Disorder	20	11.00	1.00	12.00	4.30	2.81
STATE ANXIETY						
Child State Anxiety (STAI-C)	20	23.00	21.00	44.00	31.15	6.23
Maternal State Anxiety (STAI-A)	18	18.00	20.00	38.00	25.83	5.15
CHILD INTERPRETATION BIASES						
Separation Threat Bias	20	0.80	0.00	0.80	0.49	0.19
General Threat Bias	20	0.50	0.30	0.80	0.50	0.14
Total Bias Score	20	0.40	0.25	0.65	0.49	0.10

	N	Range	Minimum	Maximum	M	SD
ADULT INTERPRETATION BIASES						
Separation Threat Bias	20	0.40	0.30	0.70	0.53	0.14
General Threat Bias	20	0.40	0.30	0.70	0.43	0.11
Overall Bias Score	20	0.30	0.30	0.60	0.48	0.07
FIVE MINUTE SPEECH SAMPLE (FMSS) - Parenting						
Positive Comments	20	12.00	4.00	16.00	10.95	3.32
Negative Comments	20	16.00	0.00	16.00	3.15	4.02

Note: M = mean; SD = Standard Deviation

2.3.2.2 Anxiety Measures

Child Anxiety. Children's self-reported total anxiety scores (SCAS-C) can range from 0 to 114. The current sample obtained scores ranging between 7 and 64 (M = 32.05, SD = 15.05). Separation and generalised anxiety subscales can range from 0 to 18 and in the present sample, separation scores were obtained between 0 and 12 (M = 5.75, SD =3.42) and generalised anxiety scores between 3 and 11 (M = 6.25, SD = 2.48). All boys' scores fell within a typical range (0-39), whereas four girls reported symptom levels which were considered 'elevated'. The SCAS descriptive statistics and gender differences for all subscales are shown in Table 5. Table 6 highlights the clinically elevated scores for all subscales on the SCAS-C.

Parent-reports of child anxiety are also shown in Table 5. Parent-reported scores could range between 0 and 114, the mean total score was 18.05, (SD = 15.02), 19 scores were in the typical range and 1 girl's score was elevated, reaching clinical significance. Parent reports of child separation and generalised anxiety could range between 0 and 18, in the present sample separation scores were obtained between 0 and 12 (M = 4.95, SD = 2.66) and generalised anxiety ranged from 1 to 12, (M = 4.30, SD = 2.81). The clinical significance scores are reported in Table 6.

Children reported significantly greater overall trait anxiety symptoms (M = 32.05, SE = 3.37) than mothers reported about their children M = 18.05, SE = 2.25, t (19) = 4.38, p = <.001, r = .50 (medium effect). Moreover, children reported greater generalised anxiety (M = 6.35, SE = .55) in comparison to parent reports (M = 4.3, SE = .63), t (19) = 3.19, p <.005.

Table 6: Number and percentage of sample according to gender reaching subclinical anxiety levels on the SCAS

SCAS Sub-clinical levels	**SCAS-C Child version**		**SCAS-P Parent Version**	
	Subclinical n	Percentage of gender in sample	Subclinical n	Percentage of gender in sample
Total trait anxiety score				
Girls	4	29%	1	7%
Boys	0	-	0	-
Separation anxiety				
Girls	5	36%	2	14%
Boys	0	-	2	33%
Generalised anxiety				
Girls	3	21%	1	7%
Boys	0	-	1	17%
Social				
Girls	2	14%	0	-
Boys	0	-	2	33%
Panic				
Girls	3	21%	1	7%
Boys	1	17%	0	-
Physical Injury anxiety				
Girls	3	21%	3	21%
Boys	3	50%	0	-
OCD				
Girls	0	-	1	7%
Boys	0	-	0	-

State anxiety. Based on the normative data of the STAI-C and the STAI, the levels reported by children (M = 31.15, SD = 6.23) and by mothers (M = 25.83, SD = 5.15) fell within the normal range for n = 14 children and n= 18 mothers, however n = 6 children and n = 2 mothers exceeded the clinical cut-off for elevated levels of state anxiety.

Maternal trait anxiety. Based on the normative data of the HADS (anxiety scale), the levels reported by mothers (M = 4.16, SD = 2.48) fell into the normal range for n = 17 mothers. 'Mild'

symptoms were reported for n=2 mothers and 'severe' clinical symptoms for n=1 mother. The depression scale scores (M = 2.58, SD = 2.06), indicated n = 19 mothers reported 'normal' depression symptoms, and n=1 mother exceeded the clinical cut-off.

Maternal Separation Anxiety. Mothers' separation anxiety raw scores (M = 3.32, SD = 3.84), no clinical cut-off points were exceeded. Raw scores were averaged and converted into a 5-point scale to indicate the severity of symptoms for each individual. The average scores indicated a range of severity: n=16 mothers had 'no' separation anxiety, n=3 'mild' and n=1 'moderate' separation anxiety. No mothers reported severe or extreme separation anxiety symptoms.

Parent Pessimism. The total scores on the revised BHS (removal of question 13) indicated that n= 3 mothers presented 'mild' pessimism and hopelessness, n = 15 with 'minimal' and n = 2 with 'none' (M = 2.05, SD = 1.54).

2.3.2.3 Cognition

Interpretation biases. A total of 10 separation and 10 generalised anxiety themed words could be interpreted as threatening or neutral. Proportions of anxious interpretations for each scale were calculated for children and mothers separately. Separation threat interpretations M = .49, SD = .19 (children) and M = .53, SD = .14 (mothers); generalised threat interpretations. Additionally an overall threat proportion (out of 20) was calculated for children (M = .49, SD = .10) and mothers (M = .48, SD = .70). Appendix H records the number of times each target word was identified as a threat by children and mothers. It shows that as a group, mothers made more separation threat interpretations than their offspring (106/200 versus 97/200) and children made more general threat interpretations (99/200 versus 86/200).

2.3.2.4 Parenting Measures

Parenting. The frequencies of results obtained within each category are reported in Table 7. Initial statements were equally split between positive (n=10) and negative (n=10) reports. Approximately two-thirds of the respondents illustrated high warmth; there were no indicators of low warmth between mother and child. A majority of moderate relationships were reported (n=14), positive relationships were described in five cases and there was one report of a negative

relationship. An equal number of mothers demonstrated high (n=10) and borderline (n=10) emotional over-involvement and equal emotional expression was also recorded (n=10 low, n=10 high). The frequency of positive comments ranged between 4 and 16 (M= 10.95, SD = 3.32) and the frequency of negative comments ranged between 0 and 16 (M = 3.15, SD = 4.02). Details regarding the types of comments made in relation to each FMSS category are recorded in Table 7 below.

Table 7: FMSS frequencies and means.

FMSS Category		*Frequency*	*Percentage (%)*
Initial Statement	Positive	10	50
	Neutral	10	50
	Negative	0	0
Warmth	High	13	65
	Moderate	7	35
	Low	0	0
Relationship	Positive	5	25
	Neutral	14	70
	Negative	1	5
Emotional Over-Involvement	High	10	50
	Borderline	10	50
Emotional Expression	High	10	10
	Low	10	10

	Mean	*Range*	*Min*	*Max*
Positive Comments	10.95	12	4	16
Negative Comments	3.15	16	0	16

Table 8. Examples of speech samples in the current study for each of the Five Minute Speech Sample (FMSS) categories.

Category	Coded	Category description example	Transcript: rating
Initial statement	Global rating: Positive, neutral or negative	"Okay, so Matthew* is in year 6 of primary school now"	Transcript 1: neutral
Warmth	Global rating: high, moderate or low (based on tone, spontaneity, concern/empathy)	"…she's been intently studying the family tree…so another sign that perhaps she's more grown up than her peers in maturity, which gives us pride but also worries us that she's growing up too fast…"	Transcript 19: High
Emotional Over-involvement	Global rating: evidence of statements relating to self-sacrificing and over-protective behaviour and lack of objectivity (e.g., emotional displays, excessive detail about the past).	"When Liam* was little he used to point to an aeroplane in the sky and he used to wave, er wave to Daddy because he thought daddy would sit on an aeroplane for 6 months…we'd have to stop and wave to daddy".	Transcript 10: High
Relationship	Global rating: positive, neutral or negative (based on reports of relationship and time spent together)	"…it's brought myself and Richard* closer together as we tend to do a lot more together…..it's lovely to have that bond with him".	Transcript 25: positive
Negative comments	Frequency count (based on tone and critical phrases about personality or behaviour)	"…she's really really bossy, she bosses her sisters around, erm, she's can be really really naughty, she can be really rude to adults".	Transcript 23: 3 negative comments
Positive comments	Frequency count (based on tone and positive phrases about personality or behaviour – praise, appreciation, approval)	"She's very strong and she's fiercely independent um she's certainly, she's amazing, um, she can see when things need to be done"	Transcript 6: 4 positive comments

**All names and identifying information has been changed to ensure anonymity and participant confidentiality is maintained*

2.3.2.5 Parenting Measures: Inter-rater reliability

The Five Minute Speech sample is recognised as a subjective measure due to its coding and interpretation requirements. Attempts were therefore made to gain an indication of how accurate and valid the tool was in ascertaining measures of parenting. Whilst reviewing written transcripts, the coders are encouraged to listen to the recording of the speech sample in order to listen to the tone of the speaker's voice for warmth, negativity and concern etc.

Inter-rater reliability was calculated on 4 of the 20 speech samples (20%). The second coder (who had also received training in the use and coding of the Five Minute Speech Sample) was provided with 4 pairs of transcripts and audio recordings and asked to independently rate the same measures as the first coder (as described in Table 8). The codes were then compared for their similarities. Additionally, the numbers of positive and negative statements were compared and any missed for either coder were noted as 'missed statements'. Cohen's Kappa was calculated in order to measure the agreement between the two coders, whilst subtracting the possible agreement due to chance.

This resulted in an overall value of $\kappa = 0.34$. This is relatively low reliability between two independent coders and indicates that this is not a highly reliable data set. A score greater than 0.7 is desired and as a result, the interpretations of the parenting measures must be considered with caution during the analysis of its impact.

2.3.3 Correlations

Details of correlations between all variables within the present study are reported in Appendix I, however the associations between the key variables (anxiety (generalised and separation), interpretation biases (general and separation), and parenting) are reported below. The correlations between these measures are presented in Table 9 within the text.

2.3.3.1 Demographic Variable Correlations

Significant associations between child age and anxiety were identified: younger children reported significantly greater separation anxiety than their older peers ($r = .47$, $p = <.05$). This finding supports a theoretical and developmental perspective regarding the onset of types of anxiety disorder (Ollendick, Grills & Alexander, 2001). Moreover, a gender difference was identified whereby girls reported significantly greater anxiety (M = 7.14, SD = 2.90) than boys (M = 2.50, SD = .85), $r = .41$, $p = <.001$, (medium effect sizes).

2.3.3.2 Military Context Correlations

In relation to the military context, the branch of the military that a father served in was found to be significantly correlated with the length of deployment experienced (r = -.85, p = <.001). Fathers in the Army tended to be deployed on average for longer durations (M = 6.32 months, SD = .98) than fathers in the RAF (M = 3.79 months, SD = .53), t (18) = 6.94, p <.001, r = .73 (large effect). Further results from a one-way ANOVA indicated that a significant difference existed in the amount of separation anxiety experienced by children, as reported by mothers, according to the division of the military that fathers served in F (1,18) = 5.72, p <.05 (see Figure 5).

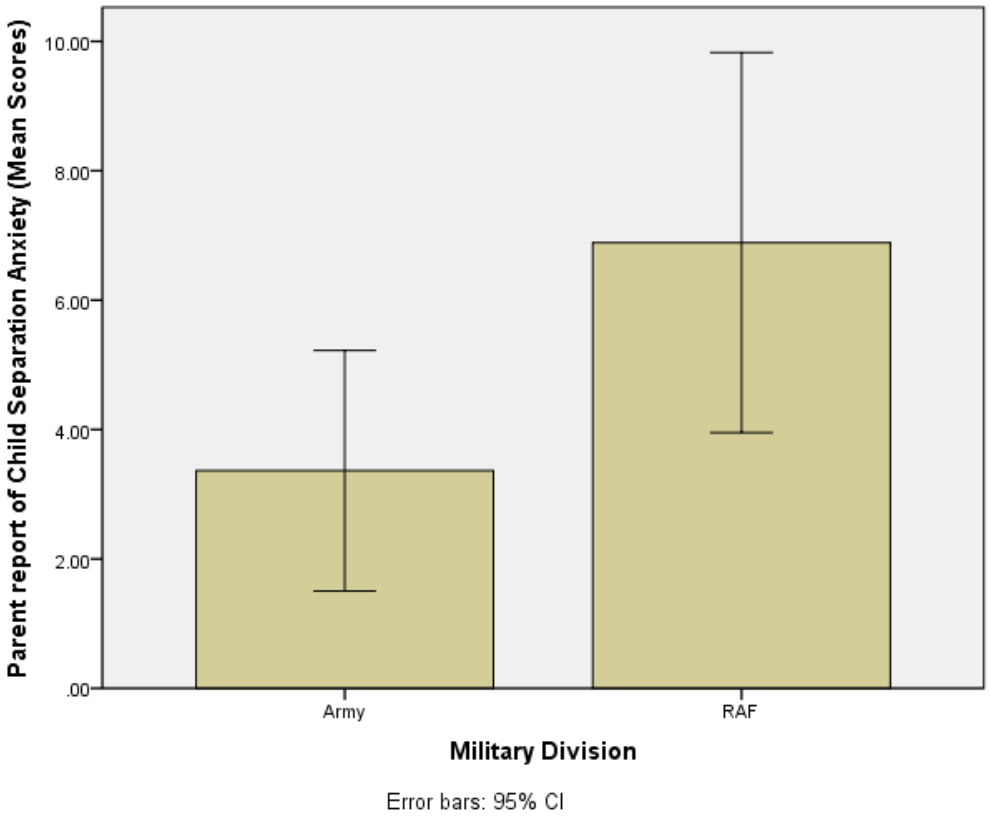


Figure 5: Parent reports of children's separation anxiety (mean) in relation to the division of the military that their fathers served in.

Furthermore, the number of deployments experienced were also found to be moderately positively associated with parent reports of children's separation anxiety (r = .49, p = <.05). However, from initial visual inspection of the data, it was apparent that a linear model may not be the best fit for this relationship. Therefore, when performing a trend analysis of the data, both a linear and curvilinear relationship of the variables was plotted. The results indicated that a

quadratic model fitted the data well. As maternal reports of child separation anxiety increased, so did the number of deployments a father experienced. Although this was only true for up to 6 deployments, as more than this was associated with parental reports of less severe child separation anxiety (R^2 = .33, p <.05) (see Figure 6).

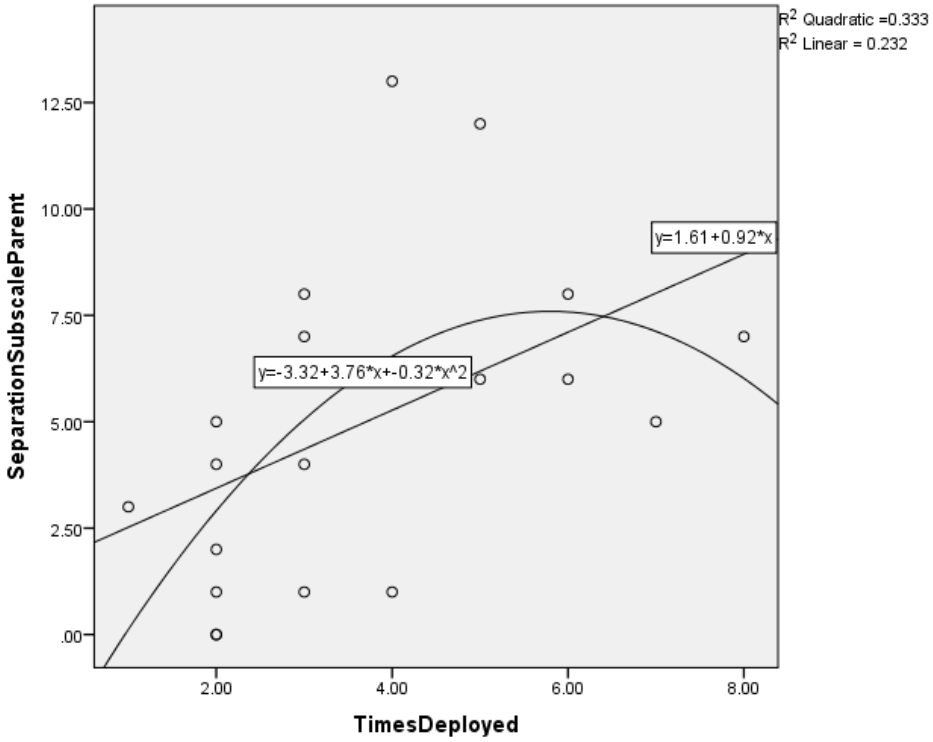


Figure 6: Linear and Quadratic trends illustrating the association between the number of military deployments and parent-reports of children's separation anxiety symptomology.

2.3.3.3 Parent-Child Anxiety Measure Correlations

Child Anxiety. Full details regarding the correlations between all SCAS subscale measures are reported in Appendix G, however in summary, children's self-reported anxiety (SCAS-C) across the subscales were significantly positively associated (all *rs* > .39, all *ps* <.05). Moreover, parent reports of child anxiety across all subscales reached significance (all *rs* >.42, all *ps* <.05), except for the association between panic and physical anxiety (*p* >.05). Children's reports of their overall trait anxiety was significantly positively correlated with their self-reported general, separation and state anxiety (all *rs* >.5 and *ps* <.01).

Parent Anxiety. Maternal trait anxiety (HADS) was significantly positively correlated with: overall HADS score (r >.5, and p <.05); maternal separation anxiety (r = .52, p <.05), and maternal state anxiety (r =.67, p<.01).

Maternal-Child Anxiety. The only significant correlation reported between maternal and child anxiety measures was the positive association between maternal trait anxiety (HADS) children's self-report generalised anxiety symptoms (SCAS-C GAD) (r =.43, p <.03) (see Table 9).

2.3.3.4 Parent-Child Interpretation Bias Correlations

Child Interpretation Biases. Children's separation and general threat interpretation biases were significantly positively correlated with their overall interpretations of ambiguous information (all *rs* >.44, *ps* <.05).

Parent Interpretation Biases. Parent's separation threat interpretation biases were significantly negatively correlated with parent's general threat interpretation biases (r = -.41, p <.05), in contrast to its significant positive correlation with overall threat interpretation biases (r = .70, p <.01).

Child – Parent Interpretation Biases. No significant direct correlations were found between parent and child interpretations of ambiguous information, across separation, general and overall threat, in all cases *rs* <.3 and *ps* >.1 (see Table 9). T-tests also indicted no significant differences between parent and child threat interpretation biases across all conditions: separation t (19) = -.88, p > .05; general threat t (19) = 1.66, p > .05 and overall threat t (19) = .41, p > .05, indicating that children and their mothers' reported similar amounts of threat within the experimental task.

2.3.3.5 Anxiety and Interpretation Bias Correlations

Child Interpretation Bias Correlations. Children's separation threat interpretation biases were found to be significantly positively correlated with their own self-reported anxiety (SCAS-C), and with parents' anxiety (HADS) (all *rs* = > .39 and *ps* <.05). Moreover, children's overall and general threat interpretations were significantly positively associated with parent trait anxiety (all *rs* = >.41 and *ps* < .05) (see Table 9). This appears to suggest that as children report greater anxiety

themselves, they are more likely to interpret ambiguous information as threatening. Moreover, if they have a more anxious mother, they are also more likely to perceive greater amounts of threat.

Parent Interpretation Bias Correlations. Parent interpretation biases were not found to be significantly correlated with any child or parent self-reported anxiety measures.

2.3.3.6 Anxiety, Interpretation Biases and Parenting Correlations

Parenting styles were analysed against both parent and child anxiety and interpretation biases (see Table 9).

Parenting variables and anxiety correlations. Results indicated that the parenting variable 'Relationship' was significantly negatively correlated with both parent (HADS anxiety) and child generalised anxiety (SCAS-C GAD) (all *rs* > -.47, all *ps* <.02). Suggesting that a more positive relationship between mother and child exists in cases where reports of anxiety symptoms from mother and child are lower, whereas a less positive relationship is more likely to exist when maternal and child anxiety symptom reports are higher.

A further significant negative association was evident between maternal state anxiety and Emotional Expression, indicating that as state anxiety increased for mothers (following the homophone task), the reports regarding their children became less positive (r = -.46, p <.05). Finally, warmth was found to be significantly negatively correlated with children's state anxiety (STAIC) (r-.50, p =.01), indicating that greater parental warmth is associated with lower reports of children's self-reported state anxiety and conversely the weaker the expressions of warmth, the more likely the greater children's self-reported state anxiety.

Parenting variables and interpretation bias correlations. The parenting variable 'relationship' was significantly negatively correlated with children's general and overall threat interpretation biases (all *rs* >-.43, *ps* <.05). In contrast, a significant positive association between maternal general threat interpretations and relationship was evidenced (r = .39, p < .05). This implies that children making more threat interpretation biases are likely to be associated with a less positive relationship with their mother. In contrast, mothers making more general threat interpretations are more likely to report a positive relationship with their child.

Children making more general threat interpretations were typically associated with receiving greater negative comments from their mothers (p <.05). In contrast, children's separation threat interpretations and maternal general threat interpretations were positively associated with negative comments (p <.05), therefore as anxiety increased so did the number of negative comments.

Table 9 – Key Variable Correlations: parent and child self-reported trait, separation and generalised anxiety; separation, general and overall threat interpretation biases; and global and frequency parenting variables.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Maternal Anxiety	1.Maternal Anxiety (HADS - A)	1																		
	2.Maternal Anxiety & Depression	.81**	1	.																
	3.MaternalSeparation Anxiety	.52*	.49*	1																
Child Self-Report Anxiety	4. Total Anxiety	.26	.38	-.11	1															
	5. Separation Anxiety	.10	.16	.12	.76**	1														
	6. Generalised Anxiety	.43*	.54**	.09	.84**	.50*	1													
Child Interpretation Biases	7. Separation Threat Bias	.48*	.41*	.07	.39*	.13	.29	1												
	8. General Threat Bias	.03	-.24	-.16	.10	.23	.20	-.26	1											
	9. Overall Threat Bias	.48*	.25	-.03	.43*	.28	.41*	.76**	.44*	1										
Adult Interpretation Biases	10. Separation Threat Bias	.24	.13	.12	.09	.03	-.03	.09	.04	.11	1									
	11. General Threat Bias	-.18	-.30	-.09	-.20	-.09	-.22	.17	.01	.17	-.41*	1								
	12. Overall Threat Bias	.10	-.10	.06	-.06	-.03	-.20	.23	.04	.25	.70**	.36	1							

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Five Minute Speech Sample	13. Initial statement	-.28	-.18	-.33	.33	.23	.31	-.13	.18	.00	.29	-.29	.07	1						
	14. Warmth	.22	.19	.11	-.26	-.23	-.28	.06	-.20	-.08	.14	.29	.37	-.11	1					
	15. Emotional Over-Involvement	.02	-.11	.17	-.33	-.35	-.06	-.29	.11	-.20	.00	.19	.15	.20	.31	1				
	16. Parent-Child Relationship	-.47*	-.28	.14	-.32	-.18	-.47*	-.08	-.52**	-.43*	-.13	.39*	.17	.00	.08	.00	1			
	17. Positive Comments	.20	-.04	-.07	-.09	-.17	-.12	.21	.23	.35	-.28	.18	-.14	-.57**	-.22	-.29	-.13	1		
	18. Negative Comments	-.05	.09	.03	-.02	.05	-.19	.40*	-.41*	.09	-.18	.49*	.20	-.17	.54**	-.12	.39*	-.07	1	
	19. Emotional Expression	-.16	-.23	.19	-.27	-.26	-.06	-.35	.04	-.30	.00	.29	.22	.20	.10	.80**	.20	-.23	-.12	1

**. Correlation is significant at the 0.01 level (1-tailed).

*. Correlation is significant at the 0.05 level (1-tailed).

2.3.4 Mediation Analysis

The present study aimed to investigate whether interpretation biases for threat (separation or general) were important in mediating any relationship concerning parent and child anxiety and parenting variables. Following previous studies, the focus was on whether any association between parent EOI (a construct of parental control) and child anxiety could be explained by interpretation biases (Perez-Olivas, Stevenson & Hadwin, 2008). Analyses considered the relationship between key variables, with a view to identifying pathways that could be tested in a mediation model.

Data were subject to analysis using the Process regression programme (Hayes, 2014). The significance between the pathway linking an independent variable (X) and a dependent variable (Y) were explored when a mediator (M) was entered into the model (see Figure 7).

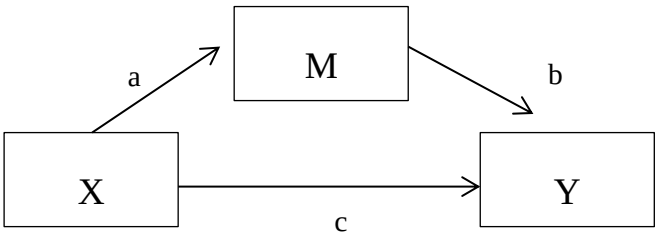


Figure 7. An example mediation model whereby the relationship between an independent variable (x) and a dependent variable (y) is explored via the addition of a mediated model (m). Pathways between variables: a, b, c.

Due to the likelihood of a small effect size, Bootstrapping was applied in the mediation analysis. Bootstrapping is a method to determine significance of an indirect effect, particularly when small samples are used (Field, 2009). One thousand bootstrap samples were created with this model.

The first mediation model to be considered can be seen in Figure 8, which aimed to explore the significance of the association between maternal and child anxiety with children's interpretation biases as a mediator. This was selected as there was some association previously identified in the

correlational results between parent and child anxiety, as well as children's overall interpretation biases.

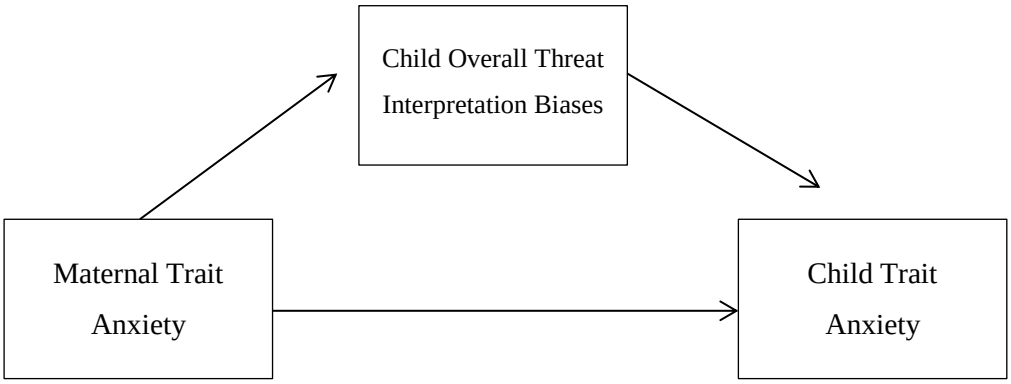


Figure 8. Mediation Model 1: Exploring the relationship between maternal and child anxiety with children's interpretation biases as a mediator.

The direct association between parent anxiety and child anxiety was not significant (r = .29, p >.2), but both variables were linked to child interpretation bias. When entered into the model, analysis showed that the indirect effect of parent anxiety on child anxiety via interpretation bias was not significant. There is no supporting evidence therefore in the present study for the indirect effect of parent anxiety on child anxiety via child interpretation biases, which may be somewhat surprising considering that the other pathways were significantly associated.

The present study aimed to also explore the mediating effect of interpretation biases, when considering the impact of parenting variables such as overinvolvement (EOI) on children's self-reported anxiety (see Figure 9). Unfortunately, due to a lack of association between EOI and interpretation biases and anxiety, the mediation model was not appropriate.

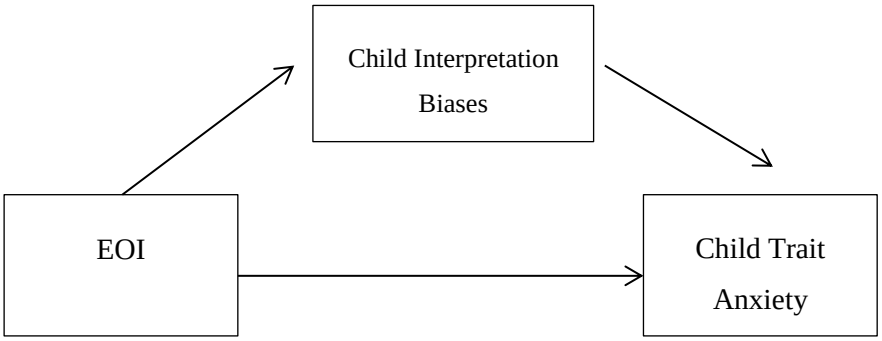


Figure 9. Mediation Model 2: Exploring the role of cognition as a mediating variable between parenting emotional over-involvement and trait anxiety.

2.4 Discussion, Limitations and Implications

2.4.1 Key findings

The findings from this exploratory study demonstrated a complex set of associations between parenting, anxiety and cognitive processing and their effects on children in middle childhood. Consistent with recent research children with elevated anxiety were those younger in age. In relation to the first hypothesis, children's self-reported anxiety was significantly positively associated with maternal self-report anxiety. Moreover, children's anxiety symptoms were also found to be significantly correlated with increased cognitive biases towards separation and general threat interpretations, confirming the second hypothesis. However, no significant association was found for an association between parent anxiety and parent interpretation biases, moreover, considering the third hypothesis; no association between parent and children's threat interpretation biases was reported. The fourth hypothesis regarding a positive association between parenting, anxiety and interpretation bias variables was also unsubstantiated in mediation models due to the limited significance of the pathways required in testing the model.

No significant correlations were reported between EOI and children's anxiety or interpretation biases. These findings may therefore be in line with McLeod et.al, (2007) who suggested that small effect sizes existed between parent EOI and child anxiety. Finally, in relation

to evidence for a mediated pathway, EOI was found to be an ineffective independent variable and so a mediation analysis concerning a parenting variable was not appropriate in the present study from the data gathered. The mediation model concerning the pathway between parent and child anxiety via children's interpretation biases also yielded a non-significant indirect effect. Again this is somewhat surprising considering in this model that all pathways except the final mediation were significant.

It was hypothesised that children may learn through the direct observation of their parents and the modelling of reactions to anxious, ambiguous or challenging situations provided (Murray, Creswell & Cooper, 2009). It may be that the parenting variable 'relationship; provides a less clear method of transference, unlike parental control. Therefore, clearer and more explicit definitions and explanations of what this variable represents may help to identify the specific pathway in which anxious information is shared with children, influencing their cognitions and ultimately, their negative emotional states. Additionally, the low Kappa rating calculated for the inter-rater reliability of the measures indicates that this may be too subjective for it to be used within this type of research. Alternatively, further training and practice in listening to the audio recordings may be required in order to increase the agreement between coders, particularly when interpreting the tone of voice of a participant, as well as identifying which statements should be recorded as positive and negative statements, if at all as this is where the greatest discrepancy between the coders in the present study arose. If further training and opportunity to jointly code is available, it may be helpful to consider utilising a parenting measure questionnaire so that although the results may be subjective in nature from the participant, greater reliability in the overall comparison of scores between participants could be achieved.

It was anticipated that children within this population may have developed less effective coping strategies to manage their concerns, particularly regarding the absence of their parent and as such, interest in separation anxiety and interpretation biases was maintained in the present study. The present sample may not have yielded the anxiety and interpretation biases that we were expecting for this population. Particularly in light of the almost equal threat/neutral interpretations made by parents and children across general and separation threat categories. Further exploration of

parenting within this sample is therefore warranted, including the use of ambiguous situations or vignettes in order to hopefully elicit more ecologically valid reactions and interpretations in relation to the stimuli. This may help in the development of a better understanding of the transmission of information between parents and children within this at risk population.

2.4.2 Limitations and Future Research

The present study is affected by a small sample size and although significant correlations between anxiety and interpretation biases across generations have been reported, the study must be considered as an initial, exploratory investigation of these factors. Conducting further cross-sectional research with a larger number of children and their parents from this 'at-risk' population will help to add considerable weight to the findings in the present study should they be replicated.

The way in which military families should be contacted needs further consideration and exploration before further research commences as the present study yielded a 10% return from those invited to participate. Therefore, this at risk population also appears to be a hard to reach population. An additional factor to consider regarding the existing sample concerns their self-selection to participate. Parents may have been more resilient and less anxious, and therefore could have been more likely to participate in the research, forming a less representative sample of military families. Those families not wishing to take part may have been more anxious and cautious regarding their participation and therefore it may be that these families could have reported greater anxiety and more threatening interpretation biases. As a result, finding ways to recruit these families would provide a better understanding of the severity of anxiety symptoms within the population. Additionally, the present research did not recruit families from the Royal Navy and therefore any discussion of these results at present cannot be extended to this section of the Armed Forces. Should future research find larger scale recruitment more challenging, adopting a case-control design may allow for a retrospective approach to identifying associations between parenting, cognitive and affective factors to be made. Selecting known individuals with anxiety (cases) and a group of participants with similar characteristics but no presence of anxiety (control

group) may allow for the analysis of interpretation styles and possible contributing factors such as parenting and other lifestyle characteristics.

A significant element of this research was that only mothers participated. Understanding the relationship between children's anxiety and interpretation biases can only be referenced in relation to maternal parenting and transmission of anxious information, not fathers. Limited findings exist regarding fathers' influences on childhood anxiety and this sample may be one which requires a different approach in order to ensure that fathers are able to participate.

Although not explicitly a limitation, the present study focused on exploring findings in relation to a limited cohort of children (7-11 years) as previous reports had detailed the existence and greater severity of anxiety and interpretation biases within this age group (middle childhood) in comparison to younger children and adolescents (Field, Cartwright-Hatton, Reynolds and Creswell, 2008). Findings are limited in their generalisation to other age groups however it is essential that research exploring the aetiology of anxiety disorders in children makes reference to the age group or developmental stage of those participating, in order to further our knowledge regarding the non-linear progression of anxiety. As mentioned above, a case-control design taking a retrospective approach to data analysis may allow for a wider range of age groups to be focused on. Moreover, longitudinal studies may provide information pertaining to the role of parenting factors on affective and cognitive processes across an extended period of time. Being able to monitor the co-existence (or not) of interpretation biases and anxiety for individuals over time may allow for more detailed analysis to take place regarding their etiology.

In addition to identifying immediate environmental factors such as parents' own anxieties and parenting styles as factors related to a child's own anxieties and interpretation biases, the influence of wider environmental influencers are also important for consideration. For example, exploration of the role that the media and the influence that the transmission of threatening information has on the public. In recent years many wars, conflicts and army deployments have been publicised and regularly reported on in great detail across television, newspapers and social media. The continual presence of this threat-related information is likely to influence and affect all individuals, and it is likely to be particularly salient for those directly associated with the conflicts,

(families of armed forces personnel). Research which is able to explore the extent of this influence would be greatly valuable as it could significantly contribute to the way in which information is transmitted in addition to changing the way that individuals learn to manage and make sense of this information.

The measures used in the present study may have contributed limitations to the research as the self-report nature of the questionnaires may have elicited experimenter bias from participants. Answers to the questionnaires may have been thought about to a greater extent than had been recommended by the researchers. Moreover, the separation anxiety scale for adults elicited few indicators of separation anxiety concerns within the sample, therefore a more sensitive tool may be required in future research to explore the presence of this construct within adult populations. Additionally, the Beck Hopelessness Scale provided few significant results, perhaps due to the nature of the closed 'true' or 'false' possible responses. An adaptation of the measure using a Likert Scale may have provided more significant results in relation to parents' outlook regarding parenting and information processing.

Future research may wish to consider including an indicator of coping skills within a similar study, as this is often commented on within the broader literature. It is suggested that anxious individual's typically develop less well coping strategies or skills; or are unable to employ these effectively when situations demand their use. As a result they are considered to be more susceptible to interpreting information, particularly if it is ambiguous in nature, in threatening ways. A further addition to future research may also involve the FMSS for children. This would add an interesting opportunity to gain an insight into children's interpretations of how they are parented and would enable associations to their anxiety and cognitive processing to be explored, in addition to parent-reports of parenting styles.

The use of homophones was successful in eliciting a range of separation and threat interpretations from both parents and children in the present study. Several words were more likely to elicit a threatening or neutral response based on their frequency within English spoken language; however these were counterbalanced in the research. For the majority of words a mixture of threatening and neutral interpretations were made. It is important to note that the word 'box'

selected as a general threat word (hit versus cardboard) was interpreted as a cardboard box in the majority of cases. This was often presented in the context of packing due to frequent family relocations. This could therefore be deemed to be more of a separation threat word for this sample and indicates that further construction and editing of the word list may be required before its future use.

2.5 Conclusion and Implications

Exploring the extent to which anxiety is evident in a sample from military families adds new information to the literature. The severity of their negative emotional states varies considerably from no anxiety to clinical levels of anxiety in a small number of cases. Of further interest is the significant difference in anxiety reported between the branches of the armed forces that the fathers serve in. RAF families reported greater anxiety than Army families; moreover, the results indicate that the levels of self-reported anxiety can be dependent on the length of time that the father is deployed for (more anxiety associated with shorter lengths of deployment) and the number of times that they have been away on deployment.

The present study was able to offer some initial confirmatory evidence that child and parent anxiety is significantly associated within an at risk community sample. Moreover an individual's anxious emotional state is also positively associated with their tendency to provide biased threat interpretations of ambiguous stimuli. Unfortunately, this study has been unable to substantiate the hypothesis that parenting is also associated with increases in interpretation bias and anxious affect. The anticipated role of overinvolved parenting (EOI) was found in 50% of the cases within the sample; however it was limited in significant associations with other variables. As such, a mediated pathway between parenting and child anxiety was not evident in the present study. Future research would benefit from extending this exploratory research with a much larger sample of this at risk population before drawing any firm conclusions regarding the intergenerational transmission of anxious affect and cognitions, in order to further our understanding of the role that parenting plays in children's development and persistence of anxious affect and cognitive bias.

In line with recommendations from the Department for Education (2010), schools must be aware of the needs of service children and make any necessary provision for them, to ensure that their social, emotional and academic needs continue to be met from this research. As such, teachers and other school staff should be aware that children in service families are a population at risk of developing anxiety disorders and biases towards the way in which they process information, particularly that which could be interpreted as threatening. Staff becoming more aware of these issues are more likely to be able to respond to issues as they arise and tailor the support and provision required more effectively.

It is interesting to consider that this at risk group may not be the only group exclusive to developing these areas of difficulty in response to their unique life situations. It may be that children looked after in fostering or adoption placements are also vulnerable to anxiety and threat interpretation biases. Moreover, children who have witnessed domestic violence, have been subject to abuse or who are part of a minority ethnic group, speak English as an Additional Language or who are part of a traveller or gypsy community may also be populations where anxiety and threat interpretation biases are more prevalent. Future research should consider using similar experimental paradigms with other at risk groups in order to better understand the prevalence of these needs across the population as a whole.

A role for Educational Psychologists (EPs) in the context of this research may be to provide consultation and assessment work to a school that raises concerns for a child within a military family in order to work at a wider systemic level to ensure that a least intrusive method of supporting children's wellbeing can be adopted (Park, 2011). Additionally EPs may be required to raise the profile of service children to school staff to ensure that they are not overlooked, particularly given their transitory nature and unique familial circumstances. From anecdotal evidence gathered in the present study, mothers expressed their hesitance to seek help from others, both people within their community and the support provided by the military. It is therefore important that these families are given the opportunity to voice their concerns or share their needs should they wish to, particularly if issues are more likely to impact on their children's wellbeing and consequently as a by-product, their education.

Direct work with a child may be appropriate in some situations, which may focus on listening to anxieties and developing more helpful coping strategies. Use of a cognitive behavioural framework in direct work with children may begin to help them understand the relationship between their thoughts, feelings and actions, which may in turn facilitate and enable greater change to be made.

An Educational Psychologist may become involved in providing training to school staff on topics such as anxiety, cognition, cognitive-behavioural processes, as well as helping them to understand the uniqueness and challenge that some of these families may experience. Working with school staff to develop appropriate strategies designed to support individuals and family members may also be required. For example, in some schools in the South of England, clubs have been set-up in school for children in military families to attend. These clubs enable time with peers going through similar experiences, social support networks to be established, skill development and developing a greater understanding of their circumstances.

Additionally, schools with greater numbers of military personnel have established staff roles including home-school liaison or support officers, specifically for the military family populations. These staff members can organise parent mornings so that networks can be established within the local community for some of the parents experiencing their spouse deployment. Additionally, the staff member may be involved in supporting the child for forthcoming transitions e.g. either their parent leaving, or the whole family moving to a new area and therefore the change in home and school. Ensuring that whatever intervention or support is put in place for this cohort of families, it is important that they remain effective and purposeful; something which an EP can support schools to evaluate and monitor (Ofsted, 2011).

Finally, an Educational Psychologist may also be involved in developing interventions aimed at supporting parents directly. Helping parents to understand the role that they have in their child's emotional and cognitive development may be the most influential area to target in order to facilitate change. Currently in a local authority in the south of England, a parent support group has been set-up by several EPs. Their aims are to provide a social support group, as well as provide psychological, evidence-based information pertaining to the impact of anxiety, transitions,

resiliency etc. (Hogg, Hart & Collins, 2014). Future EPs may be able to continue and extend this type of project work in order to ensure that in supporting our children, we are working with the people who are going to be the most effective in instilling change, as well as providing support vicariously to the child, through their parents.

The present research contributed new information regarding the existence of anxious interpretation biases and their associations with parenting variables in a high risk population. Previous research has explored these associations with clinical and community samples; however community groups have typically represented the general population. Exploring the role of threat information processing and its' contribution to the development of anxiety in childhood, particularly in a population at greater risk of developing anxiety, has been an important step in extending researchers' understanding of these processes within this field. Moreover, it enables the needs of the children within this population to become better understood, managed and supported, highlighting areas for future research and themes for future interventions.

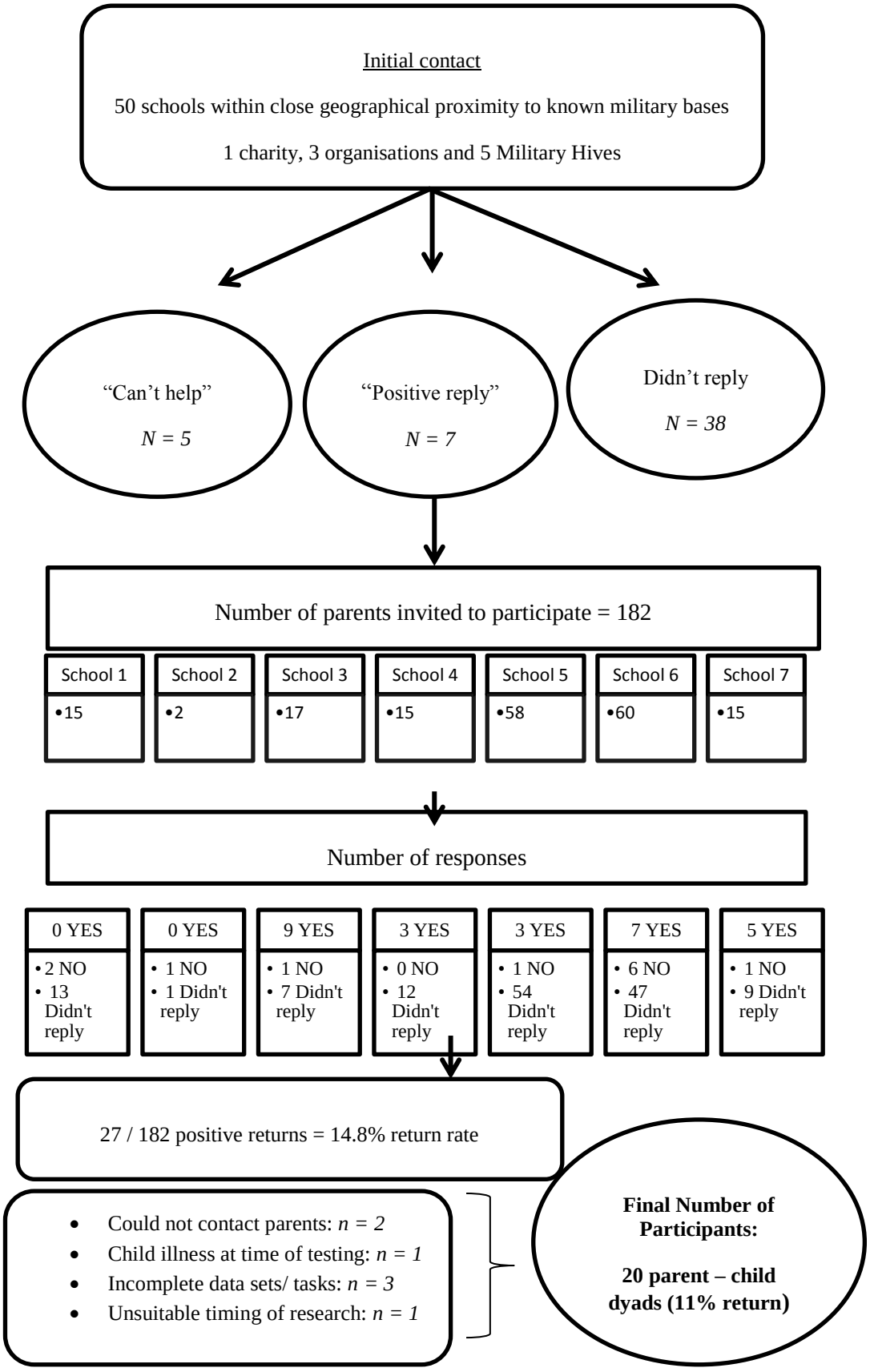
Appendices

Appendix A Systematic Literature Search Terms and Exclusion Criteria

The following search terms were used in each database. The search terms included a list of specific keywords generated by the authors of key articles, and related keywords generated in the thesaurus from each database. Search terms were combined with either an AND or an OR command.

PsychInfo (via Ebsco; 2000-2014): *Anxiety **OR** Anxiety Disorders* ***AND*** *Etiology* ***AND*** *Parent Child Communications **OR** Parent Child Relations **OR** Parental Involvement **OR** Parental Role **OR** Parent Expectations **OR** Parenting **OR** Parenting Style.*	**Web of Science (via Ebsco; 2000-2014):** *Anxiety **OR** Anxiety Disorders* ***AND*** *Etiology* ***AND*** *Parent Child Communications **OR** Parent Child Relations **OR** Parental Involvement **OR** Parental Role **OR** Parent Expectations **OR** Parenting **OR** Parenting Style.*
Total yield: N = 16	Total yield: N = 91
Limiters: English Exclude dissertations Date: 2000-present	Limiters: English Exclude dissertations, reviews, proceedings papers and editorial material Date: 2000-present
Combined with Handpicked papers: N = 90	
Excluded using the following criteria:	
Database error (study content/ design appropriate for research question)	N = 40
Duplications	N = 4
Unobtainable	N = 2
Literature/ Book or lecture reviews	N = 8
Participant age	N = 10
Population	N = 1
Inappropriate measures	N = 6

Appendix B Recruitment Flow Chart



Appendix C Homophone Frequencies

AMBIGUOUS:

Separation				
Word Number	**Threat**	***Word Frequency***	**Neutral**	***Word Frequency***
1	Bye	*264*	Buy	*415*
2	Here	*2003*	Here	*306*
3	Leaves	*20*	Leaves	*<10*
4	Meet	*58*	Meat	*<10*
5	Missed	*72*	Mist	*<10*
6	Plane	*<10*	Plain	*<10*
7	Train	*<10*	Train	*<10*
8	Wait	*<10*	Weight	*<10*
9	Where	*1649*	Wear	*144*
10	Write	*178*	Right	*1160*

General				
Word Number	**Threat**	***Word Frequency***	**Neutral**	***Word Frequency***
11	Bark	*<10*	Bark	*<10*
12	Blow	*<10*	Blow	*<10*
13	Banned	*<10*	Band	*<10*
14	Break	*60*	Brake	*<10*
15	Flu	*<10*	Flew	*<10*
16	Lose	*76*	Loos	*<10*
17	Sink	*<10*	Sink	*<10*
18	Box	*<10*	Box	*201*
19	Weak	*<10*	Week	*774*
20	Witch	*<10*	Which	*818*

NON-AMBIGUOUS – Filler words:

(matched for frequency and word type (threat / neutral)

Filler Words – Non ambiguous					
Word Number	**Separation - threat**	***Word Frequency***	**Word Number**	**Neutral**	***Word Frequency***
21	Away	*488*	31	Man	*436*
22	Go	*4192*	32	Work	*323*
23	Care	*31*	33	Tree	*<10*
24	War	*45*	34	Carrot	*<10*
25	Far	*78*	35	Boot	*<10*
26	Alone	*<10*	36	Duck	*<10*
27	Apart	*<10*	37	Stairs	*<10*
28	Went	*<10*	38	Hat	*<10*
29	Time	*1712*	39	Sell	*25*
30	Worry	*142*	40	People	*1114*

Filler Words – Non ambiguous					
Word Number	**General - threat**	***Word Frequency***	**Word Number**	**Neutral**	***Word Frequency***
41	Argue	*<10*	51	Apple	*<10*
42	Dark	*<10*	52	Ball	*<10*
43	Ill	*<10*	53	Candle	*<10*
44	Fall	*53*	54	Plant	*<10*
45	Scared	*<10*	55	Fence	*<10*
46	Hit	*112*	56	Zip	*<10*
47	Punch	*<10*	57	Wheel	*<10*
48	Spider	*<10*	58	Dinner	*198*
49	Ghost	*<10*	59	Big	*772*
50	Wasp	*<10*	60	Day	*876*

Appendix D Ethics consent and assent forms

UNIVERSITY OF Southampton

CONSENT FORM – Parent Version
(Version 1, 01.09.2014)

Exploring the relationship between parents and children in military families.
Researcher name: Sarah Owen
ERGO Study ID number: 12351

If you have read the participant information sheet, are happy with the details provided and are willing to participate in the research, please read the statements below and initial/sign the boxes to indicate your agreement with the statements.

I have read and understood the information sheet (version 1) and have had the opportunity to ask questions about the study	☐
I agree to take part in this research project and agree for my data to be used for the purpose of this study	☐
I agree for my son/ daughter to take part in this research project and agree for their data to be used for the purpose of this study	☐
I agree to the tasks being audio-recorded and used as part of the study	☐
I agree to the researcher contacting my child's school to collect Information about their attendance and attainment.	☐
I understand my participation is voluntary and I may withdraw at any time during the data collection period without my legal rights being affected	☐
I agree to include contact details so that I may be contacted by the researcher in order for the study to be completed and to receive information about the research findings at the end of the study.	☐

Name of participant (print name)……

Signature of participant…….

Name of son/ daughter (print name)……..

Date……

Please return to:
Sarah Owen (Trainee Educational Psychologist), Building 44a, Educational Psychology, The University of Southampton, SO17 1BJ.

ASSENT FORM
(Version 1, 01.09.2014)

TITLE: Exploring the relationship between parents and children in military families.

If the researcher has read you the information about the project and you are happy to take part, please answer the questions below and write your name.

Have you had information about this project? Yes/ No

Do you understand what this project is about? Yes/ No

Have you asked any questions that you may have? Yes/ No

Do you understand it's OK to stop taking part at any time? Yes/ No

Are you happy for the task to be recorded? Yes/ No

Are you happy to take part? Yes/ No

If you want to take part, please write your name below

Your name _____

Date _____

The person who explained this project to you needs to sign too:

Print Name _____

Sign _____ Date _____

THANK YOU FOR YOUR HELP!

Appendix E Ethics debriefing statements (parent and child versions)

Exploring the relationship between parent and child interpretations.

Debriefing Statement – Parent Version

(Version 1, 01.09.2014)

The researcher aimed to explore the relationship between parent characteristics and the presence of anxiety symptoms in themselves and their children. Additionally, the research aimed to explore the type of interpretations that parents and children from armed forces families made.

Some of the words that were presented in the word association task had two or more meanings. Those of particular interest were those words which had a neutral or a threatening interpretation *e.g. bark – of a tree or of an aggressive dog.*

It was hypothesised before the start of the research that parents who were 'more emotionally over involved' with their children, would have higher self reports of anxiety symptoms. Secondly, it was thought that parents with greater emotional over involvement would have children who expressed greater symptoms of anxiety, specifically separation anxiety. Finally, it was predicted that there would be a relationship between greater anxiety symptoms and greater anxious/threat word interpretations.

Your data will help our understanding of the factors that contribute to greater anxious or threatening interpretations of ambiguous information. As anxiety is more likely to be prevalent amongst spouses and children of individuals serving in the armed forces on deployment, it is expected that the results will support the need for a greater awareness of the impact of these situations and contribute to the support spouses may receive during times of deployment.

Once again, I wanted to reassure you that results of this study will not include your name or any other identifying characteristics. If you have changed your mind about your results being used in the analysis, please let the researcher know as soon as possible. After DATE, it will not be possible to remove your information from the collated data and analysis.

You also need to be made aware that the research did use deception during your participation. The researchers did not tell you the true purpose of the word association task as it may have influenced the answers that you gave, thinking more about the ways in which you could have interpreted the word.

You may have a copy of this summary if you wish and also of the research findings once the analysis has been completed.

If you have any further questions please contact me *Sarah Owen* at *slo1g12@soton.ac.uk* *or my supervisor Julie Hadwin at J.A.Hadwin@soton.ac.uk*

Thank you for your participation in this research.

Signature _____ Date _____

Name

If you have questions about your rights as a participant in this research, or if you feel that you have been placed at risk, you may contact the Chair of the Ethics Committee, Psychology, University of Southampton, Southampton, SO17 1BJ. Phone: +44 (0)23 8059 4663, email slb1n10@soton.ac.uk

If you have felt affected by any of the material used during the research project and wish to speak to someone about this please refer to some of the support services listed below:

- Your local GP surgery
- The Samaritans (08457 90 90 90)
- ARMY HIVES: http://www.army.mod.uk/welfare-support/23438.aspx
- Big White Wall: http://www.bigwhitewall.com/landing-pages/default.aspx?ReturnUrl=%2f

Exploring the relationship between parent and child interpretations.

Debriefing Statement – Child Version

(Version 1, 01.09.2014)

The researcher wanted to find out if you and your parents think about words and new information in the same way.

Did you notice that some of the words had two or more meanings *e.g. bark – of a tree or of an aggressive dog*, so a neutral and a threatening meaning.

I was interested to see which way you thought about the words and if this is the same as the way your mum/dad does.

I didn't tell you at the start that the words had more than one meaning because that might have made you only tell me all the neutral words and that wouldn't really be what you first thought of.

The questionnaires I asked you to complete mentioned worry quite a lot. I know that your mum/dad is in the Armed Forces and I thought therefore that might make you worry a bit more.

I hope you're feeling okay after the questionnaires and the word task. If later on you think you might want to talk to someone about this, I would recommend talking to your mum/dad or your teacher or another adult you trust in school. They should be able to listen and help you.

Hopefully all your information when I put it together with other mums and children will help me and other researchers to learn more about the way that parents and their children interpret and think about new information.

I wanted to remind you that all your information will be kept securely and if you did want to leave the project, let me know now, or your mum/dad soon so they can tell me.

You can have a copy of this letter.

Thank you very much for your help.

Sarah Owen. (Trainee Educational Psychologist, University of Southampton, slo1g12@soton.ac.uk).

If you have questions about your rights as a participant in this research, or if you feel that you have been placed at risk, you may contact the Chair of the Ethics Committee, Psychology, University of Southampton, Southampton, SO17 1BJ. Phone: +44 (0)23 8059 4663, email slb1n10@soton.ac.uk

Appendix F Calculations of Skewness and Kurtosis

Calculations of Skewness and Kurtosis Z scores, in order to identify normal distribution of measures

Measure	Mean	Standard Deviation	Skewness (S)	Std. Error (S)	Z-Score (S)	Kurtosis (K)	Std. Error (K)	Z-Score (K)	Significant at $p<.05$ if Z > 1.96
Child Spence Anxiety (CSCAS)	32.05	15.05	.645	.512	1.26	-.054	.992	-.05	-
Parent Spence Anxiety (PSCAS)	18.05	10.07	-.046	.512	-.090	-1.46	.992	1.47	-
HADS Anxiety	4.7	3.42	1.31	.512	2.56	3.12	.992	3.15	S & K
HADS Depression	3.05	2.91	1.77	.512	3.46	3.70	.992	3.73	S & K
HADS Total score	7.75	5.65	2.20	.512	4.30	6.66	.992	6.71	S & K
SADA	4.5	6.48	2.47	.512	4.82	7.23	.992	7.29	S & K
STAI	27.65	7.41	1.22	.512	2.38	.51	.992	.05	S
STAIC	31.15	6.23	.581	.512	1.13	.052	.992	.05	-
Separation Homophones - C	.49	.19	-.598	.512	-1.17	1.02	.992	1.03	-
Separation Homophones – P	.53	.14	-.347	.512	-.068	-1.12	.992	-1.13	-
General Homophones - C	.50	.14	.874	.512	1.71	.521	.992	.53	-
General Homophones- P	.43	.11	.717	.512	1.40	.550	.992	.55	-
Total Homophones-C	.49	.10	-.736	.512	-1.44	.248	.992	.25	-
Total Homophones-P	.48	.07	-.750	.512	-1.46	1.02	.992	1.03	-
Revised BHS	2.35	2.00	1.50	.512	2.99	2.37	.992	2.39	S & K

Table note: C (refers to child), P (refers to parent)

Appendix G Child Anxiety subscale correlations (child and parent reports)

Parent-report and child self-report child anxiety Pearson correlations (SCAS & SCAS-P)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.ChildAnxiety (SCAS-C)	1													
2.SeparationAnxiety (SCAS-C)	.76**	1												
3.SocialAnxiety (SCAS-C)	.87**	.59**	1											
4.OCD.Anxiety (SCAS-C)	.81**	.54**	.61**	1										
5.Panic Anxiety (SCAS-C)	.89**	.56**	.68**	.74**	1									
6.PhysicalAnxiety (SCAS-C)	.67**	.45*	.56**	.39*	.54**	1								
7.GeneralisedAnxiety (SCAS-C)	.84**	.50*	.75**	.59**	.78**	.49*	1							
8.ChildAnxiety (SCAS-Parent)	.53**	.61**	.45*	.26	.39*	.33	.53**	1						
9.SeparationAnxiety (SCAS-Parent)	.30	.48*	.13	.24	.21	.09	.28	.82**	1					
10.SocialAnxiety (SCAS-Parent)	.33	.34	.43*	.034	.178	.25	.41*	.72**	.44*	1				

Appendix G Child Anxiety subscale correlations (child and parent reports)

Parent-report and child self-report child anxiety Pearson correlations (SCAS & SCAS-P)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
11.OCDAnxiety (SCAS-Parent)	.57**	.62**	.43*	.32	.48*	.34	.57**	.87**	.61**	.48*	1			
12.PanicAnxiety (SCAS-Parent)	.48*	.50*	.38	.31	.39*	.19	.53**	.79**	.53**	.42*	.88**	1		
13.PhysicalAnxiety (SCAS-Parent)	.45*	.49*	.48*	.10	.35	.48*	.35	.71**	.60**	.42*	.54**	.30	1	
14.GeneralisedAnxiety (SCAS-Parent)	.45*	.53**	.35	.26	.32	.35	.42*	.91**	.76**	.64**	.70**	.67**	.65**	1

**. Correlation is significant at the 0.01 level (1-tailed).

*. Correlation is significant at the 0.05 level (1-tailed).

Appendix H Number and Proportion of threat words child and parent statistics

	THREAT - Total	*THREAT - Adults*	*THREAT - Children*
Separation Threat			
BYE	2.00	2.00	0.00
HERE	15.00	8.00	7.00
LEAVES	6.00	4.00	2.00
MEET	17.00	12.00	5.00
MISSED	18.00	12.00	6.00
PLANE	35.00	20.00	15.00
TRAIN	30.00	14.00	16.00
WAIT	22.00	8.00	14.00
WHERE	25.00	10.00	15.00
WRITE	33.00	16.00	17.00
Total	203	106.00	97.00
Proportion		0.53	0.49
General Threat			
BANNED	7.00	0.00	7.00
BARK	31.00	17.00	14.00
BLOW	0.00	0.00	0.00
BOX	0.00	0.00	0.00
BREAK	29.00	14.00	15.00
FLU	25.00	16.00	9.00
LOSE	35.00	16.00	19.00
SINK	8.00	4.00	4.00
WEAK	19.00	6.00	13.00
WITCH	31.00	13.00	18.00
Total	185	86.00	99.00
Proportion		0.43	0.50

Appendix I Full Data Set Correlational Analysis

Correlations

		Gender	Age	Military	TimesDeployed	LengthDeployed	AdulAnx	HADSDEP	HADSTOTAL
Gender	Pearson Correlation	1	.351	-.154	.006	.001	.190	-.196	.019
	Sig. (1-tailed)		.064	.259	.490	.498	.218	.211	.468
	N	20	20	20	20	20	19	19	19
Age	Pearson Correlation	.351	1	-.037	-.109	.234	-.342	-.073	-.288
	Sig. (1-tailed)	.064		.439	.323	.160	.076	.384	.116
	N	20	20	20	20	20	19	19	19
Military	Pearson Correlation	-.154	-.037	1	.008	-.853**	.077	.179	.162
	Sig. (1-tailed)	.259	.439		.487	.000	.377	.232	.254
	N	20	20	20	20	20	19	19	19
TimesDeployed	Pearson Correlation	.006	-.109	.008	1	-.060	.398*	-.190	.172
	Sig. (1-tailed)	.490	.323	.487		.400	.046	.218	.241
	N	20	20	20	20	20	19	19	19
LengthDeployed	Pearson Correlation	.001	.234	-.853**	-.060	1	-.219	-.246	-.303
	Sig. (1-tailed)	.498	.160	.000	.400		.184	.155	.103
	N	20	20	20	20	20	19	19	19
AdulAnx	Pearson Correlation	.190	-.342	.077	.398*	-.219	1	.155	.808**
	Sig. (1-tailed)	.218	.076	.377	.046	.184		.263	.000
	N	19	19	19	19	19	19	19	19
HADSDEP	Pearson Correlation	-.196	-.073	.179	-.190	-.246	.155	1	.707**
	Sig. (1-tailed)	.211	.384	.232	.218	.155	.263		.000
	N	19	19	19	19	19	19	19	19
HADSTOTAL	Pearson Correlation	.019	-.288	.162	.172	-.303	.808**	.707**	1
	Sig. (1-tailed)	.468	.116	.254	.241	.103	.000	.000	
	N	19	19	19	19	19	19	19	19
REcalcTotalScoreNoQ13	Pearson Correlation	.277	-.266	.041	-.231	-.194	.402*	.358	.518*
	Sig. (1-tailed)	.125	.136	.434	.170	.213	.049	.072	.014
	N	19	19	19	19	19	18	18	18

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Correlations

		REcalcTotalScoreNoQ13	SADARAW	ChildAnx	SepAnxC	SocialSubscale	OCDSubscale	Panic	PhysicalSubscale
Gender	Pearson Correlation	.277	.064	-.271	-.639**	-.148	-.258	-.182	-.044
	Sig. (1-tailed)	.125	.398	.124	.001	.267	.136	.221	.427
	N	19	19	20	20	20	20	20	20
Age	Pearson Correlation	-.266	-.113	-.372	-.472*	-.296	-.321	-.335	-.081
	Sig. (1-tailed)	.136	.322	.053	.018	.103	.084	.074	.368
	N	19	19	20	20	20	20	20	20
Military	Pearson Correlation	.041	.498*	.030	.249	-.056	.024	-.150	.029
	Sig. (1-tailed)	.434	.015	.450	.145	.407	.459	.263	.451
	N	19	19	20	20	20	20	20	20
TimesDeployed	Pearson Correlation	-.231	.374	-.100	-.070	-.214	.110	.043	-.443*
	Sig. (1-tailed)	.170	.057	.338	.385	.182	.322	.429	.025
	N	19	19	20	20	20	20	20	20
LengthDeployed	Pearson Correlation	-.194	-.551**	-.005	-.131	.022	.001	.124	.025
	Sig. (1-tailed)	.213	.007	.491	.291	.463	.498	.301	.458
	N	19	19	20	20	20	20	20	20
AdulAnx	Pearson Correlation	.402*	.519*	.260	.095	.219	.235	.290	-.050
	Sig. (1-tailed)	.049	.011	.141	.349	.184	.167	.114	.419
	N	18	19	19	19	19	19	19	19
HADSDEP	Pearson Correlation	.358	.200	.327	.159	.258	.341	.276	.132
	Sig. (1-tailed)	.072	.206	.086	.258	.143	.077	.127	.294
	N	18	19	19	19	19	19	19	19
HADSTOTAL	Pearson Correlation	.518*	.491*	.381	.163	.310	.371	.372	.043
	Sig. (1-tailed)	.014	.016	.054	.253	.098	.059	.059	.431
	N	18	19	19	19	19	19	19	19
REcalcTotalScoreNoQ13	Pearson Correlation	1	.078	.198	-.079	.306	.351	.030	.174
	Sig. (1-tailed)		.379	.208	.373	.101	.070	.451	.239
	N	19	18	19	19	19	19	19	19

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Correlations

		GeneralisedAnx. Subscale	TotalRawScoreParent	SeparationSubscaleParent	SocialPShobiaSubscaleParent	OCDsubscaleParent	PanicsubscaleParent
Gender	Pearson Correlation	.086	-.180	-.174	.057	-.322	-.222
	Sig. (1-tailed)	.359	.223	.231	.406	.083	.173
	N	20	20	20	20	20	20
Age	Pearson Correlation	-.216	-.318	-.347	-.196	-.232	-.229
	Sig. (1-tailed)	.180	.086	.067	.203	.163	.165
	N	20	20	20	20	20	20
Military	Pearson Correlation	.077	.386*	.491*	.078	.385*	.327
	Sig. (1-tailed)	.373	.047	.014	.371	.047	.080
	N	20	20	20	20	20	20
TimesDeployed	Pearson Correlation	-.017	.170	.482*	.153	.059	.033
	Sig. (1-tailed)	.471	.237	.016	.260	.402	.445
	N	20	20	20	20	20	20
LengthDeployed	Pearson Correlation	-.085	-.433*	-.534**	-.188	-.385*	-.308
	Sig. (1-tailed)	.361	.028	.008	.214	.047	.093
	N	20	20	20	20	20	20
AdulAnx	Pearson Correlation	.429*	.495*	.448*	.516*	.404*	.237
	Sig. (1-tailed)	.033	.016	.027	.012	.043	.164
	N	19	19	19	19	19	19
HADSDEP	Pearson Correlation	.387	.172	.077	.050	.374	.496*
	Sig. (1-tailed)	.051	.240	.377	.419	.058	.015
	N	19	19	19	19	19	19
HADSTOTAL	Pearson Correlation	.538**	.457*	.367	.399*	.512*	.465*
	Sig. (1-tailed)	.009	.025	.061	.045	.013	.022
	N	19	19	19	19	19	19
REcalcTotalScoreNoQ13	Pearson Correlation	.221	.052	.030	.104	-.059	.184
	Sig. (1-tailed)	.182	.417	.451	.336	.406	.226
	N	19	19	19	19	19	19

Correlations

		PhysicalInjuryParent	GADsubscaleParent	CGenBias	CSepBias	CBias	ASepBias	AGenBias	APROPORTION
Gender	Pearson Correlation	-.204	-.032	.024	.168	.173	.095	-.083	.032
	Sig. (1-tailed)	.194	.447	.460	.239	.233	.346	.364	.446
	N	20	20	20	20	20	20	20	20
Age	Pearson Correlation	-.191	-.320	.006	-.209	-.191	.417*	-.241	.237
	Sig. (1-tailed)	.211	.084	.490	.189	.210	.034	.153	.157
	N	20	20	20	20	20	20	20	20
Military	Pearson Correlation	.228	.341	-.262	-.088	-.259	.022	-.162	-.104
	Sig. (1-tailed)	.167	.071	.132	.356	.135	.464	.247	.332
	N	20	20	20	20	20	20	20	20
TimesDeployed	Pearson Correlation	-.067	.050	.071	-.072	-.018	.214	.053	.259
	Sig. (1-tailed)	.390	.418	.382	.382	.469	.183	.412	.135
	N	20	20	20	20	20	20	20	20
LengthDeployed	Pearson Correlation	-.251	-.401*	.336	-.062	.169	.108	-.038	.081
	Sig. (1-tailed)	.143	.040	.074	.397	.239	.325	.437	.367
	N	20	20	20	20	20	20	20	20
AdulAnx	Pearson Correlation	.128	.267	.030	.482*	.479*	.236	-.181	.098
	Sig. (1-tailed)	.301	.134	.452	.018	.019	.166	.229	.344
	N	19	19	19	19	19	19	19	19
HADSDEP	Pearson Correlation	-.025	.026	-.431*	.112	-.151	-.072	-.279	-.290
	Sig. (1-tailed)	.459	.457	.033	.325	.269	.384	.124	.114
	N	19	19	19	19	19	19	19	19
HADSTOTAL	Pearson Correlation	.076	.207	-.236	.411*	.253	.126	-.296	-.102
	Sig. (1-tailed)	.378	.198	.165	.040	.148	.304	.109	.338
	N	19	19	19	19	19	19	19	19
REcalcTotalScoreNoQ13	Pearson Correlation	-.158	.108	-.076	.331	.261	.122	-.238	-.070
	Sig. (1-tailed)	.259	.330	.378	.083	.140	.309	.163	.388
	N	19	19	19	19	19	19	19	19

Correlations

		INITIALSTATEMENT	WARMTH	EOI	REL	Positive	Negative	EETOTAL
Gender	Pearson Correlation	.000	-.023	.218	-.171	.044	-.304	.218
	Sig. (1-tailed)	.500	.462	.178	.235	.427	.096	.178
	N	20	20	20	20	20	20	20
Age	Pearson Correlation	.260	-.114	.156	.061	-.126	-.165	.156
	Sig. (1-tailed)	.135	.316	.256	.399	.298	.243	.256
	N	20	20	20	20	20	20	20
Military	Pearson Correlation	-.101	-.032	-.101	-.039	-.359	.042	-.101
	Sig. (1-tailed)	.337	.447	.337	.434	.060	.430	.337
	N	20	20	20	20	20	20	20
TimesDeployed	Pearson Correlation	-.293	.248	.293	-.125	.211	.034	.293
	Sig. (1-tailed)	.105	.146	.105	.299	.186	.443	.105
	N	20	20	20	20	20	20	20
LengthDeployed	Pearson Correlation	.393*	-.196	.190	-.019	.223	-.167	.224
	Sig. (1-tailed)	.043	.204	.211	.469	.172	.240	.172
	N	20	20	20	20	20	20	20
AdulAnx	Pearson Correlation	-.281	.221	.018	-.471*	.202	-.051	-.156
	Sig. (1-tailed)	.122	.181	.470	.021	.203	.418	.261
	N	19	19	19	19	19	19	19
HADSDEP	Pearson Correlation	.041	.051	-.199	.093	-.311	.215	-.199
	Sig. (1-tailed)	.433	.417	.207	.352	.098	.189	.207
	N	19	19	19	19	19	19	19
HADSTOTAL	Pearson Correlation	-.176	.189	-.105	-.281	-.040	.092	-.231
	Sig. (1-tailed)	.235	.219	.334	.122	.435	.355	.171
	N	19	19	19	19	19	19	19
REcalcTotalScoreNoQ13	Pearson Correlation	.244	.202	-.173	-.053	-.046	-.108	-.314
	Sig. (1-tailed)	.158	.203	.239	.415	.426	.330	.095
	N	19	19	19	19	19	19	19

Correlations

		Gender	Age	Military	TimesDeployed	LengthDeployed	AdulAnx	HADSDEP	HADSTOTAL
SADARAW	Pearson Correlation	.064	-.113	.498*	.374	-.551**	.519*	.200	.491*
	Sig. (1-tailed)	.398	.322	.015	.057	.007	.011	.206	.016
	N	19	19	19	19	19	19	19	19
ChildAnx	Pearson Correlation	-.271	-.372	.030	-.100	-.005	.260	.327	.381
	Sig. (1-tailed)	.124	.053	.450	.338	.491	.141	.086	.054
	N	20	20	20	20	20	19	19	19
SepAnxC	Pearson Correlation	-.639**	-.472*	.249	-.070	-.131	.095	.159	.163
	Sig. (1-tailed)	.001	.018	.145	.385	.291	.349	.258	.253
	N	20	20	20	20	20	19	19	19
SocialSubscale	Pearson Correlation	-.148	-.296	-.056	-.214	.022	.219	.258	.310
	Sig. (1-tailed)	.267	.103	.407	.182	.463	.184	.143	.098
	N	20	20	20	20	20	19	19	19
OCDSubscale	Pearson Correlation	-.258	-.321	.024	.110	.001	.235	.341	.371
	Sig. (1-tailed)	.136	.084	.459	.322	.498	.167	.077	.059
	N	20	20	20	20	20	19	19	19
Panic	Pearson Correlation	-.182	-.335	-.150	.043	.124	.290	.276	.372
	Sig. (1-tailed)	.221	.074	.263	.429	.301	.114	.127	.059
	N	20	20	20	20	20	19	19	19
PhysicalSubscale	Pearson Correlation	-.044	-.081	.029	-.443*	.025	-.050	.132	.043
	Sig. (1-tailed)	.427	.368	.451	.025	.458	.419	.294	.431
	N	20	20	20	20	20	19	19	19
GeneralisedAnxSubscale	Pearson Correlation	.086	-.216	.077	-.017	-.085	.429*	.387	.538**
	Sig. (1-tailed)	.359	.180	.373	.471	.361	.033	.051	.009
	N	20	20	20	20	20	19	19	19
TotalRawScoreParent	Pearson Correlation	-.180	-.318	.386*	.170	-.433*	.495*	.172	.457*
	Sig. (1-tailed)	.223	.086	.047	.237	.028	.016	.240	.025
	N	20	20	20	20	20	19	19	19

Correlations

		REcaleTotalScoreNoQ13	SADARAW	ChildAnx	SepAnxC	SocialSubscale	OCDSubscale	Panic	PhysicalSubscale
SADARAW	Pearson Correlation	.078	1	-.113	.123	.005	-.253	-.249	-.220
	Sig. (1-tailed)	.379		.323	.309	.491	.148	.152	.183
	N	18	19	19	19	19	19	19	19
ChildAnx	Pearson Correlation	.198	-.113	1	.760**	.865**	.814**	.892**	.673**
	Sig. (1-tailed)	.208	.323		.000	.000	.000	.000	.001
	N	19	19	20	20	20	20	20	20
SepAnxC	Pearson Correlation	-.079	.123	.760**	1	.587**	.538**	.558**	.445*
	Sig. (1-tailed)	.373	.309	.000		.003	.007	.005	.025
	N	19	19	20	20	20	20	20	20
SocialSubscale	Pearson Correlation	.306	.005	.865**	.587**	1	.606**	.677**	.563**
	Sig. (1-tailed)	.101	.491	.000	.003		.002	.001	.005
	N	19	19	20	20	20	20	20	20
OCDSubscale	Pearson Correlation	.351	-.253	.814**	.538**	.606**	1	.744**	.387*
	Sig. (1-tailed)	.070	.148	.000	.007	.002		.000	.046
	N	19	19	20	20	20	20	20	20
Panic	Pearson Correlation	.030	-.249	.892**	.558**	.677**	.744**	1	.542**
	Sig. (1-tailed)	.451	.152	.000	.005	.001	.000		.007
	N	19	19	20	20	20	20	20	20
PhysicalSubscale	Pearson Correlation	.174	-.220	.673**	.445*	.563**	.387*	.542**	1
	Sig. (1-tailed)	.239	.183	.001	.025	.005	.046	.007	
	N	19	19	20	20	20	20	20	20
GeneralisedAnx.Subscale	Pearson Correlation	.221	.091	.837**	.496*	.753**	.593**	.778**	.485*
	Sig. (1-tailed)	.182	.356	.000	.013	.000	.003	.000	.015
	N	19	19	20	20	20	20	20	20
TotalRawScoreParent	Pearson Correlation	.052	.588**	.526**	.610**	.446*	.258	.388*	.334
	Sig. (1-tailed)	.417	.004	.009	.002	.024	.136	.045	.075
	N	19	19	20	20	20	20	20	20

Correlations

		GeneralisedAnx.Subscale	TotalRawScoreParent	SeparationSubscaleParent	SocialPShobiaSubscaleParent	OCDsubscaleParent	PanicsubscaleParent
SADARAW	Pearson Correlation	.091	.588**	.591**	.610**	.293	.239
	Sig. (1-tailed)	.356	.004	.004	.003	.112	.163
	N	19	19	19	19	19	19
ChildAnx	Pearson Correlation	.837**	.526**	.301	.331	.565**	.477*
	Sig. (1-tailed)	.000	.009	.099	.077	.005	.017
	N	20	20	20	20	20	20
SepAnxC	Pearson Correlation	.496*	.610**	.483*	.344	.620**	.504*
	Sig. (1-tailed)	.013	.002	.016	.068	.002	.012
	N	20	20	20	20	20	20
SocialSubscale	Pearson Correlation	.753**	.446*	.133	.432*	.426*	.377
	Sig. (1-tailed)	.000	.024	.289	.028	.030	.051
	N	20	20	20	20	20	20
OCDSubscale	Pearson Correlation	.593**	.258	.241	.034	.318	.305
	Sig. (1-tailed)	.003	.136	.153	.443	.086	.095
	N	20	20	20	20	20	20
Panic	Pearson Correlation	.778**	.388*	.205	.178	.479*	.388*
	Sig. (1-tailed)	.000	.045	.193	.227	.016	.046
	N	20	20	20	20	20	20
PhysicalSubscale	Pearson Correlation	.485*	.334	.089	.246	.335	.192
	Sig. (1-tailed)	.015	.075	.354	.148	.074	.209
	N	20	20	20	20	20	20
GeneralisedAnx.Subscale	Pearson Correlation	1	.528**	.280	.413*	.566**	.537**
	Sig. (1-tailed)		.008	.115	.035	.005	.007
	N	20	20	20	20	20	20
TotalRawScoreParent	Pearson Correlation	.528**	1	.824**	.718**	.867**	.789**
	Sig. (1-tailed)	.008		.000	.000	.000	.000
	N	20	20	20	20	20	20

Correlations

		PhysicalInjuryParent	GADsubscaleParent	CGenBias	CSepBias	CBias	ASepBias	AGenBias	APROPORTION
SADARAW	Pearson Correlation	.188	.344	-.162	.071	-.029	.124	-.090	.056
	Sig. (1-tailed)	.221	.074	.254	.387	.453	.306	.357	.410
	N	19	19	19	19	19	19	19	19
ChildAnx	Pearson Correlation	.454*	.452*	.097	.391*	.430*	.094	-.195	-.056
	Sig. (1-tailed)	.022	.023	.342	.044	.029	.347	.205	.407
	N	20	20	20	20	20	20	20	20
SepAnxC	Pearson Correlation	.487*	.529**	.229	.130	.276	.038	-.093	-.033
	Sig. (1-tailed)	.015	.008	.165	.293	.120	.437	.349	.445
	N	20	20	20	20	20	20	20	20
SocialSubscale	Pearson Correlation	.480*	.347	.120	.466*	.515*	-.049	-.064	-.100
	Sig. (1-tailed)	.016	.067	.306	.019	.010	.419	.394	.337
	N	20	20	20	20	20	20	20	20
OCDSubscale	Pearson Correlation	.096	.256	-.036	.294	.250	.189	-.256	-.007
	Sig. (1-tailed)	.344	.138	.441	.104	.144	.213	.138	.489
	N	20	20	20	20	20	20	20	20
Panic	Pearson Correlation	.350	.322	-.002	.486*	.452*	.054	-.025	.036
	Sig. (1-tailed)	.065	.083	.496	.015	.023	.410	.459	.440
	N	20	20	20	20	20	20	20	20
PhysicalSubscale	Pearson Correlation	.480*	.346	-.047	.185	.141	.311	-.404*	.003
	Sig. (1-tailed)	.016	.068	.422	.217	.277	.091	.039	.494
	N	20	20	20	20	20	20	20	20
GeneralisedAnx.Subscale	Pearson Correlation	.351	.415*	.203	.287	.405*	-.031	-.218	-.202
	Sig. (1-tailed)	.065	.034	.195	.110	.038	.448	.178	.197
	N	20	20	20	20	20	20	20	20
TotalRawScoreParent	Pearson Correlation	.707**	.913**	.254	.176	.335	.192	-.036	.168
	Sig. (1-tailed)	.000	.000	.140	.230	.074	.209	.440	.240
	N	20	20	20	20	20	20	20	20

Correlations

		INITIALSTATEMENT	WARMTH	EOI	REL	Positive	Negative	EETOTAL
SADARAW	Pearson Correlation	-.334	.110	.165	.143	-.066	.029	.193
	Sig. (1-tailed)	.081	.326	.250	.280	.394	.453	.215
	N	19	19	19	19	19	19	19
ChildAnx	Pearson Correlation	.329	-.260	-.329	-.320	-.087	-.017	-.274
	Sig. (1-tailed)	.079	.134	.079	.084	.358	.471	.121
	N	20	20	20	20	20	20	20
SepAnxC	Pearson Correlation	.225	-.228	-.345	-.177	-.168	.045	-.255
	Sig. (1-tailed)	.170	.167	.068	.228	.239	.425	.139
	N	20	20	20	20	20	20	20
SocialSubscale	Pearson Correlation	.207	-.269	-.325	-.162	.201	.037	-.236
	Sig. (1-tailed)	.191	.126	.081	.248	.197	.439	.158
	N	20	20	20	20	20	20	20
OCDSubscale	Pearson Correlation	.303	-.083	-.364	-.292	-.024	-.036	-.303
	Sig. (1-tailed)	.097	.364	.057	.106	.459	.439	.097
	N	20	20	20	20	20	20	20
Panic	Pearson Correlation	.230	-.199	-.202	-.305	-.077	.098	-.202
	Sig. (1-tailed)	.164	.200	.197	.096	.374	.341	.197
	N	20	20	20	20	20	20	20
PhysicalSubscale	Pearson Correlation	.383*	-.238	-.248	-.194	-.347	-.129	-.248
	Sig. (1-tailed)	.048	.156	.146	.206	.067	.294	.146
	N	20	20	20	20	20	20	20
GeneralisedAnx.Subscale	Pearson Correlation	.311	-.280	-.062	-.471*	-.120	-.191	-.062
	Sig. (1-tailed)	.091	.116	.397	.018	.308	.210	.397
	N	20	20	20	20	20	20	20
TotalRawScoreParent	Pearson Correlation	-.055	-.125	-.369	-.262	-.088	.073	-.212
	Sig. (1-tailed)	.410	.300	.055	.132	.355	.380	.185
	N	20	20	20	20	20	20	20

Correlations

		Gender	Age	Military	TimesDeployed	LengthDeployed	AdulAnx	HADSDEP	HADSTOTAL
SeparationSubscaleParent	Pearson Correlation	-.174	-.347	.491*	.482*	-.534**	.448*	.077	.367
	Sig. (1-tailed)	.231	.067	.014	.016	.008	.027	.377	.061
	N	20	20	20	20	20	19	19	19
SocialPShobiaSubscaleParent	Pearson Correlation	.057	-.196	.078	.153	-.188	.516*	.050	.399*
	Sig. (1-tailed)	.406	.203	.371	.260	.214	.012	.419	.045
	N	20	20	20	20	20	19	19	19
OCDsubscaleParent	Pearson Correlation	-.322	-.232	.385*	.059	-.385*	.404*	.374	.512*
	Sig. (1-tailed)	.083	.163	.047	.402	.047	.043	.058	.013
	N	20	20	20	20	20	19	19	19
PanicsubscaleParent	Pearson Correlation	-.222	-.229	.327	.033	-.308	.237	.496*	.465*
	Sig. (1-tailed)	.173	.165	.080	.445	.093	.164	.015	.022
	N	20	20	20	20	20	19	19	19
PhysicalInjuryParent	Pearson Correlation	-.204	-.191	.228	-.067	-.251	.128	-.025	.076
	Sig. (1-tailed)	.194	.211	.167	.390	.143	.301	.459	.378
	N	20	20	20	20	20	19	19	19
GADsubscaleParent	Pearson Correlation	-.032	-.320	.341	.050	-.401*	.267	.026	.207
	Sig. (1-tailed)	.447	.084	.071	.418	.040	.134	.457	.198
	N	20	20	20	20	20	19	19	19
CGenBias	Pearson Correlation	.024	.006	-.262	.071	.336	.030	-.431*	-.236
	Sig. (1-tailed)	.460	.490	.132	.382	.074	.452	.033	.165
	N	20	20	20	20	20	19	19	19
CSepBias	Pearson Correlation	.168	-.209	-.088	-.072	-.062	.482*	.112	.411*
	Sig. (1-tailed)	.239	.189	.356	.382	.397	.018	.325	.040
	N	20	20	20	20	20	19	19	19
CBias	Pearson Correlation	.173	-.191	-.259	-.018	.169	.479*	-.151	.253
	Sig. (1-tailed)	.233	.210	.135	.469	.239	.019	.269	.148
	N	20	20	20	20	20	19	19	19

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Correlations

		RecalcTotalScoreNoQ13	SADARAW	ChildAnx	SepAnxC	SocialSubscale	OCDSubscale	Panic	PhysicalSubscale
SeparationSubscaleParent	Pearson Correlation	.030	.591**	.301	.483*	.133	.241	.205	.089
	Sig. (1-tailed)	.451	.004	.099	.016	.289	.153	.193	.354
	N	19	19	20	20	20	20	20	20
SocialPShobiaSubscaleParent	Pearson Correlation	.104	.610**	.331	.344	.432*	.034	.178	.246
	Sig. (1-tailed)	.336	.003	.077	.068	.028	.443	.227	.148
	N	19	19	20	20	20	20	20	20
OCDsubscaleParent	Pearson Correlation	-.059	.293	.565**	.620**	.426*	.318	.479*	.335
	Sig. (1-tailed)	.406	.112	.005	.002	.030	.086	.016	.074
	N	19	19	20	20	20	20	20	20
PanicsubscaleParent	Pearson Correlation	.184	.239	.477*	.504*	.377	.305	.388*	.192
	Sig. (1-tailed)	.226	.163	.017	.012	.051	.095	.046	.209
	N	19	19	20	20	20	20	20	20
PhysicalInjuryParent	Pearson Correlation	-.158	.188	.454*	.487*	.480*	.096	.350	.480*
	Sig. (1-tailed)	.259	.221	.022	.015	.016	.344	.065	.016
	N	19	19	20	20	20	20	20	20
GADsubscaleParent	Pearson Correlation	.108	.344	.452*	.529**	.347	.256	.322	.346
	Sig. (1-tailed)	.330	.074	.023	.008	.067	.138	.083	.068
	N	19	19	20	20	20	20	20	20
CGenBias	Pearson Correlation	-.076	-.162	.097	.229	.120	-.036	-.002	-.047
	Sig. (1-tailed)	.378	.254	.342	.165	.306	.441	.496	.422
	N	19	19	20	20	20	20	20	20
CSepBias	Pearson Correlation	.331	.071	.391*	.130	.466*	.294	.486*	.185
	Sig. (1-tailed)	.083	.387	.044	.293	.019	.104	.015	.217
	N	19	19	20	20	20	20	20	20
CBias	Pearson Correlation	.261	-.029	.430*	.276	.515*	.250	.452*	.141
	Sig. (1-tailed)	.140	.453	.029	.120	.010	.144	.023	.277
	N	19	19	20	20	20	20	20	20

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Correlations

		GeneralisedAnx. Subscale	TotalRawScoreParent	SeparationSubscaleParent	SocialPShobiaSubscaleParent	OCDsubscaleParent	PanicsubscaleParent
SeparationSubscaleParent	Pearson Correlation	.280	.824**	1	.443*	.605**	.533**
	Sig. (1-tailed)	.115	.000		.025	.002	.008
	N	20	20	20	20	20	20
SocialPShobiaSubscaleParent	Pearson Correlation	.413*	.718**	.443*	1	.479*	.422*
	Sig. (1-tailed)	.035	.000	.025		.016	.032
	N	20	20	20	20	20	20
OCDsubscaleParent	Pearson Correlation	.566**	.867**	.605**	.479*	1	.882**
	Sig. (1-tailed)	.005	.000	.002	.016		.000
	N	20	20	20	20	20	20
PanicsubscaleParent	Pearson Correlation	.537**	.789**	.533**	.422*	.882**	1
	Sig. (1-tailed)	.007	.000	.008	.032	.000	
	N	20	20	20	20	20	20
PhysicalInjuryParent	Pearson Correlation	.351	.707**	.595**	.416*	.539**	.298
	Sig. (1-tailed)	.065	.000	.003	.034	.007	.101
	N	20	20	20	20	20	20
GADsubscaleParent	Pearson Correlation	.415*	.913**	.758**	.636**	.703**	.665**
	Sig. (1-tailed)	.034	.000	.000	.001	.000	.001
	N	20	20	20	20	20	20
CGenBias	Pearson Correlation	.203	.254	.154	.156	.335	.304
	Sig. (1-tailed)	.195	.140	.258	.256	.074	.096
	N	20	20	20	20	20	20
CSepBias	Pearson Correlation	.287	.176	.133	.131	.044	.057
	Sig. (1-tailed)	.110	.230	.288	.290	.427	.405
	N	20	20	20	20	20	20
CBias	Pearson Correlation	.405*	.335	.228	.228	.267	.259
	Sig. (1-tailed)	.038	.074	.167	.167	.128	.135
	N	20	20	20	20	20	20

Correlations

		PhysicalInjuryParent	GADsubscaleParent	CGenBias	CSepBias	CBias	ASepBias	AGenBias	APROPORTION
SeparationSubscaleParent	Pearson Correlation	.595**	.758**	.154	.133	.228	.297	-.089	.233
	Sig. (1-tailed)	.003	.000	.258	.288	.167	.102	.354	.161
	N	20	20	20	20	20	20	20	20
SocialPShobiaSubscaleParent	Pearson Correlation	.416*	.636**	.156	.131	.228	.259	-.016	.251
	Sig. (1-tailed)	.034	.001	.256	.290	.167	.135	.473	.143
	N	20	20	20	20	20	20	20	20
OCDsubscaleParent	Pearson Correlation	.539**	.703**	.335	.044	.267	.046	-.007	.041
	Sig. (1-tailed)	.007	.000	.074	.427	.128	.424	.489	.431
	N	20	20	20	20	20	20	20	20
PanicsubscaleParent	Pearson Correlation	.298	.665**	.304	.057	.259	-.015	.026	.005
	Sig. (1-tailed)	.101	.001	.096	.405	.135	.475	.456	.492
	N	20	20	20	20	20	20	20	20
PhysicalInjuryParent	Pearson Correlation	1	.650**	.098	.326	.370	.102	-.052	.063
	Sig. (1-tailed)		.001	.341	.080	.054	.335	.414	.395
	N	20	20	20	20	20	20	20	20
GADsubscaleParent	Pearson Correlation	.650**	1	.179	.184	.292	.187	-.031	.167
	Sig. (1-tailed)	.001		.226	.219	.106	.214	.448	.241
	N	20	20	20	20	20	20	20	20
CGenBias	Pearson Correlation	.098	.179	1	-.258	.435*	.035	.010	.043
	Sig. (1-tailed)	.341	.226		.136	.028	.442	.483	.428
	N	20	20	20	20	20	20	20	20
CSepBias	Pearson Correlation	.326	.184	-.258	1	.758**	.094	.174	.232
	Sig. (1-tailed)	.080	.219	.136		.000	.346	.231	.163
	N	20	20	20	20	20	20	20	20
CBias	Pearson Correlation	.370	.292	.435*	.758**	1	.111	.170	.245
	Sig. (1-tailed)	.054	.106	.028	.000		.320	.237	.149
	N	20	20	20	20	20	20	20	20

Correlations

		INITIALSTATEMENT	WARMTH	EOI	REL	Positive	Negative	EETOTAL
SeparationSubscaleParent	Pearson Correlation	-.210	.040	-.182	-.308	-.113	.018	-.098
	Sig. (1-tailed)	.187	.434	.221	.094	.318	.469	.340
	N	20	20	20	20	20	20	20
SocialPShobiaSubscaleParent	Pearson Correlation	-.058	.033	-.144	-.034	.030	.011	.087
	Sig. (1-tailed)	.405	.445	.272	.443	.450	.482	.358
	N	20	20	20	20	20	20	20
OCDsubscaleParent	Pearson Correlation	.035	-.122	-.352	-.324	-.142	.141	-.352
	Sig. (1-tailed)	.442	.305	.064	.082	.275	.277	.064
	N	20	20	20	20	20	20	20
PanicsubscaleParent	Pearson Correlation	.275	-.063	-.275	-.152	-.258	.225	-.243
	Sig. (1-tailed)	.120	.396	.120	.261	.136	.171	.151
	N	20	20	20	20	20	20	20
PhysicalInjuryParent	Pearson Correlation	-.273	-.311	-.390*	-.299	.174	.008	-.273
	Sig. (1-tailed)	.122	.091	.044	.100	.232	.487	.122
	N	20	20	20	20	20	20	20
GADsubscaleParent	Pearson Correlation	-.036	-.272	-.511*	-.172	-.089	-.055	-.219
	Sig. (1-tailed)	.439	.123	.011	.235	.355	.408	.177
	N	20	20	20	20	20	20	20
CGenBias	Pearson Correlation	.184	-.204	.110	-.519**	.227	-.412*	.037
	Sig. (1-tailed)	.219	.194	.322	.009	.168	.036	.439
	N	20	20	20	20	20	20	20
CSepBias	Pearson Correlation	-.133	.059	-.293	-.084	.213	.397*	-.346
	Sig. (1-tailed)	.288	.403	.105	.363	.184	.041	.067
	N	20	20	20	20	20	20	20
CBias	Pearson Correlation	.000	-.083	-.199	-.428*	.352	.093	-.298
	Sig. (1-tailed)	.500	.364	.201	.030	.064	.349	.101
	N	20	20	20	20	20	20	20

Correlations

		Gender	Age	Military	TimesDeployed	LengthDeployed	AdulAnx	HADSDEP	HADSTOTAL
ASepBias	Pearson Correlation	.095	.417*	.022	.214	.108	.236	-.072	.126
	Sig. (1-tailed)	.346	.034	.464	.183	.325	.166	.384	.304
	N	20	20	20	20	20	19	19	19
AGenBias	Pearson Correlation	-.083	-.241	-.162	.053	-.038	-.181	-.279	-.296
	Sig. (1-tailed)	.364	.153	.247	.412	.437	.229	.124	.109
	N	20	20	20	20	20	19	19	19
APROPORTION	Pearson Correlation	.032	.237	-.104	.259	.081	.098	-.290	-.102
	Sig. (1-tailed)	.446	.157	.332	.135	.367	.344	.114	.338
	N	20	20	20	20	20	19	19	19
INITIALSTATEMENT	Pearson Correlation	.000	.260	-.101	-.293	.393*	-.281	.041	-.176
	Sig. (1-tailed)	.500	.135	.337	.105	.043	.122	.433	.235
	N	20	20	20	20	20	19	19	19
WARMTH	Pearson Correlation	-.023	-.114	-.032	.248	-.196	.221	.051	.189
	Sig. (1-tailed)	.462	.316	.447	.146	.204	.181	.417	.219
	N	20	20	20	20	20	19	19	19
EOI	Pearson Correlation	.218	.156	-.101	.293	.190	.018	-.199	-.105
	Sig. (1-tailed)	.178	.256	.337	.105	.211	.470	.207	.334
	N	20	20	20	20	20	19	19	19
REL	Pearson Correlation	-.171	.061	-.039	-.125	-.019	-.471*	.093	-.281
	Sig. (1-tailed)	.235	.399	.434	.299	.469	.021	.352	.122
	N	20	20	20	20	20	19	19	19
Positive	Pearson Correlation	.044	-.126	-.359	.211	.223	.202	-.311	-.040
	Sig. (1-tailed)	.427	.298	.060	.186	.172	.203	.098	.435
	N	20	20	20	20	20	19	19	19
Negative	Pearson Correlation	-.304	-.165	.042	.034	-.167	-.051	.215	.092
	Sig. (1-tailed)	.096	.243	.430	.443	.240	.418	.189	.355
	N	20	20	20	20	20	19	19	19

Correlations

		REcalcTotalScoreNoQ13	SADARAW	ChildAnx	SepAnxC	SocialSubscale	OCDSubscale	Panic	PhysicalSubscale
ASepBias	Pearson Correlation	.122	.124	.094	.038	-.049	.189	.054	.311
	Sig. (1-tailed)	.309	.306	.347	.437	.419	.213	.410	.091
	N	19	19	20	20	20	20	20	20
AGenBias	Pearson Correlation	-.238	-.090	-.195	-.093	-.064	-.256	-.025	-.404*
	Sig. (1-tailed)	.163	.357	.205	.349	.394	.138	.459	.039
	N	19	19	20	20	20	20	20	20
APROPORTION	Pearson Correlation	-.070	.056	-.056	-.033	-.100	-.007	.036	.003
	Sig. (1-tailed)	.388	.410	.407	.445	.337	.489	.440	.494
	N	19	19	20	20	20	20	20	20
INITIALSTATEMENT	Pearson Correlation	.244	-.334	.329	.225	.207	.303	.230	.383*
	Sig. (1-tailed)	.158	.081	.079	.170	.191	.097	.164	.048
	N	19	19	20	20	20	20	20	20
WARMTH	Pearson Correlation	.202	.110	-.260	-.228	-.269	-.083	-.199	-.238
	Sig. (1-tailed)	.203	.326	.134	.167	.126	.364	.200	.156
	N	19	19	20	20	20	20	20	20
EOI	Pearson Correlation	-.173	.165	-.329	-.345	-.325	-.364	-.202	-.248
	Sig. (1-tailed)	.239	.250	.079	.068	.081	.057	.197	.146
	N	19	19	20	20	20	20	20	20
REL	Pearson Correlation	-.053	.143	-.320	-.177	-.162	-.292	-.305	-.194
	Sig. (1-tailed)	.415	.280	.084	.228	.248	.106	.096	.206
	N	19	19	20	20	20	20	20	20
Positive	Pearson Correlation	-.046	-.066	-.087	-.168	.201	-.024	-.077	-.347
	Sig. (1-tailed)	.426	.394	.358	.239	.197	.459	.374	.067
	N	19	19	20	20	20	20	20	20
Negative	Pearson Correlation	-.108	.029	-.017	.045	.037	-.036	.098	-.129
	Sig. (1-tailed)	.330	.453	.471	.425	.439	.439	.341	.294
	N	19	19	20	20	20	20	20	20

Correlations

		GeneralisedAnx. Subscale	TotalRawScoreParent	SeparationSubscaleParent	SocialPShobiaSubscaleParent	OCDsubscaleParent	PanicsubscaleParent
ASepBias	Pearson Correlation	-.031	.192	.297	.259	.046	-.015
	Sig. (1-tailed)	.448	.209	.102	.135	.424	.475
	N	20	20	20	20	20	20
AGenBias	Pearson Correlation	-.218	-.036	-.089	-.016	-.007	.026
	Sig. (1-tailed)	.178	.440	.354	.473	.489	.456
	N	20	20	20	20	20	20
APROPORTION	Pearson Correlation	-.202	.168	.233	.251	.041	.005
	Sig. (1-tailed)	.197	.240	.161	.143	.431	.492
	N	20	20	20	20	20	20
INITIALSTATEMENT	Pearson Correlation	.311	-.055	-.210	-.058	.035	.275
	Sig. (1-tailed)	.091	.410	.187	.405	.442	.120
	N	20	20	20	20	20	20
WARMTH	Pearson Correlation	-.280	-.125	.040	.033	-.122	-.063
	Sig. (1-tailed)	.116	.300	.434	.445	.305	.396
	N	20	20	20	20	20	20
EOI	Pearson Correlation	-.062	-.369	-.182	-.144	-.352	-.275
	Sig. (1-tailed)	.397	.055	.221	.272	.064	.120
	N	20	20	20	20	20	20
REL	Pearson Correlation	-.471*	-.262	-.308	-.034	-.324	-.152
	Sig. (1-tailed)	.018	.132	.094	.443	.082	.261
	N	20	20	20	20	20	20
Positive	Pearson Correlation	-.120	-.088	-.113	.030	-.142	-.258
	Sig. (1-tailed)	.308	.355	.318	.450	.275	.136
	N	20	20	20	20	20	20
Negative	Pearson Correlation	-.191	.073	.018	.011	.141	.225
	Sig. (1-tailed)	.210	.380	.469	.482	.277	.171
	N	20	20	20	20	20	20

Correlations

		PhysicalInjuryParent	GADsubscaleParent	CGenBias	CSepBias	CBias	ASepBias	AGenBias	APROPORTION
ASepBias	Pearson Correlation	.102	.187	.035	.094	.111	1	-.405*	.704**
	Sig. (1-tailed)	.335	.214	.442	.346	.320		.038	.000
	N	20	20	20	20	20	20	20	20
AGenBias	Pearson Correlation	-.052	-.031	.010	.174	.170	-.405*	1	.364
	Sig. (1-tailed)	.414	.448	.483	.231	.237	.038		.057
	N	20	20	20	20	20	20	20	20
APROPORTION	Pearson Correlation	.063	.167	.043	.232	.245	.704**	.364	1
	Sig. (1-tailed)	.395	.241	.428	.163	.149	.000	.057	
	N	20	20	20	20	20	20	20	20
INITIALSTATEMENT	Pearson Correlation	-.273	-.036	.184	-.133	.000	.289	-.285	.074
	Sig. (1-tailed)	.122	.439	.219	.288	.500	.108	.112	.379
	N	20	20	20	20	20	20	20	20
WARMTH	Pearson Correlation	-.311	-.272	-.204	.059	-.083	.144	.289	.371
	Sig. (1-tailed)	.091	.123	.194	.403	.364	.272	.109	.054
	N	20	20	20	20	20	20	20	20
EOI	Pearson Correlation	-.390*	-.511*	.110	-.293	-.199	.000	.190	.147
	Sig. (1-tailed)	.044	.011	.322	.105	.201	.500	.211	.268
	N	20	20	20	20	20	20	20	20
REL	Pearson Correlation	-.299	-.172	-.519**	-.084	-.428*	-.128	.391*	.173
	Sig. (1-tailed)	.100	.235	.009	.363	.030	.296	.044	.232
	N	20	20	20	20	20	20	20	20
Positive	Pearson Correlation	.174	-.089	.227	.213	.352	-.276	.181	-.141
	Sig. (1-tailed)	.232	.355	.168	.184	.064	.119	.223	.276
	N	20	20	20	20	20	20	20	20
Negative	Pearson Correlation	.008	-.055	-.412*	.397*	.093	-.175	.486*	.200
	Sig. (1-tailed)	.487	.408	.036	.041	.349	.231	.015	.199
	N	20	20	20	20	20	20	20	20

Correlations

		INITIALSTATEMENT	WARMTH	EOI	REL	Positive	Negative	EETOTAL
ASepBias	Pearson Correlation	.289	.144	.000	-.128	-.276	-.175	.000
	Sig. (1-tailed)	.108	.272	.500	.296	.119	.231	.500
	N	20	20	20	20	20	20	20
AGenBias	Pearson Correlation	-.285	.289	.190	.391*	.181	.486*	.285
	Sig. (1-tailed)	.112	.109	.211	.044	.223	.015	.112
	N	20	20	20	20	20	20	20
APROPORTION	Pearson Correlation	.074	.371	.147	.173	-.141	.200	.221
	Sig. (1-tailed)	.379	.054	.268	.232	.276	.199	.174
	N	20	20	20	20	20	20	20
INITIALSTATEMENT	Pearson Correlation	1	-.105	.200	.000	-.572**	-.166	.200
	Sig. (1-tailed)		.330	.199	.500	.004	.242	.199
	N	20	20	20	20	20	20	20
WARMTH	Pearson Correlation	-.105	1	.314	.082	-.216	.534**	.105
	Sig. (1-tailed)	.330		.088	.365	.181	.008	.330
	N	20	20	20	20	20	20	20
EOI	Pearson Correlation	.200	.314	1	.000	-.294	-.115	.800**
	Sig. (1-tailed)	.199	.088		.500	.104	.315	.000
	N	20	20	20	20	20	20	20
REL	Pearson Correlation	.000	.082	.000	1	-.127	.391*	.196
	Sig. (1-tailed)	.500	.365	.500		.296	.044	.204
	N	20	20	20	20	20	20	20
Positive	Pearson Correlation	-.572**	-.216	-.294	-.127	1	-.074	-.232
	Sig. (1-tailed)	.004	.181	.104	.296		.377	.162
	N	20	20	20	20	20	20	20
Negative	Pearson Correlation	-.166	.534**	-.115	.391*	-.074	1	-.115
	Sig. (1-tailed)	.242	.008	.315	.044	.377		.315
	N	20	20	20	20	20	20	20

Correlations

		Gender	Age	Military	TimesDeployed	LengthDeployed	AdulAnx	HADSDEP	HADSTOTAL
EETOTAL	Pearson Correlation	.218	.156	-.101	.293	.224	-.156	-.199	-.231
	Sig. (1-tailed)	.178	.256	.337	.105	.172	.261	.207	.171
	N	20	20	20	20	20	19	19	19

Correlations

		RECalcTotalScoreNoQ13	SADARAW	ChildAnx	SepAnxC	SocialSubscale	OCDSubscale	Panic	PhysicalSubscale
EETOTAL	Pearson Correlation	-.314	.193	-.274	-.255	-.236	-.303	-.202	-.248
	Sig. (1-tailed)	.095	.215	.121	.139	.158	.097	.197	.146
	N	19	19	20	20	20	20	20	20

Correlations

		GeneralisedAnx. Subscale	TotalRawScoreParent	SeparationSubscaleParent	SocialPShobiaSubscaleParent	OCDsubscaleParent	PanicsubscaleParent
EETOTAL	Pearson Correlation	-.062	-.212	-.098	.087	-.352	-.243
	Sig. (1-tailed)	.397	.185	.340	.358	.064	.151
	N	20	20	20	20	20	20

Correlations

		PhysicalInjuryParent	GADsubscaleParent	CGenBias	CSepBias	CBias	ASepBias	AGenBias	APROPORTION
EETOTAL	Pearson Correlation	-.273	-.219	.037	-.346	-.298	.000	.285	.221
	Sig. (1-tailed)	.122	.177	.439	.067	.101	.500	.112	.174
	N	20	20	20	20	20	20	20	20

Correlations

		INITIALSTATEMENT	WARMTH	EOI	REL	Positive	Negative	EETOTAL
EETOTAL	Pearson Correlation	.200	.105	.800**	.196	-.232	-.115	1
	Sig. (1-tailed)	.199	.330	.000	.204	.162	.315	
	N	20	20	20	20	20	20	20

**. Correlation is significant at the 0.01 level (1-tailed).

*. Correlation is significant at the 0.05 level (1-tailed).

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