PSYCHOSOCIAL MECHANISMS UNDERLYING THE EMERGENCE OF SOCIAL ANXIETY IN YOUTH

by

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I am the author of the thesis entitled Psychosocial Mechanisms Underlying the Emergence of Social Anxiety in Youth

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# Table of Contents

Acknowledgements ............................................................................................................ iv  
Table of Contents .................................................................................................................v  
List of Tables .......................................................................................................................x  
List of Figures ................................................................................................................... xii  
Abstract ............................................................................................................................ xiii  
Chapter 1 ..............................................................................................................................1  
Introduction .........................................................................................................................1  
Chapter 2: The Prevalence of Social Anxiety (disorder) .....................................................5  
  Community Studies and Age-Related Prevalence Data for Young Children ...............5  
  Community Studies and Prevalence Data for Older Children and Adolescents .......8  
  A Caveat: Age and Impairment in the Diagnosis of Social Anxiety (disorder) .......9  
  An Integrative Developmental Interpretation .......................................................... 12  
  Summary ................................................................................................................ 15  
Chapter 3: Differentiating Social Anxiety Constructs .......................................................18  
  Social Anxiety Disorder ......................................................................................... 18  
    Brief History of Diagnostic Criteria ................................................................. 20  
    Dismantling the Definition of Social Anxiety Disorder ................................... 24  
    Behavioural Inhibition and Social Anxiety Disorder ...................................... 28  
    Shyness, Embarrassment and Social Anxiety (disorder) ................................... 32  
    Summary ........................................................................................................... 35  
Chapter 4: Developmental Variation in Self-Conscious Emotions ...................................38  
  Self-Conscious Emotions ...................................................................................... 38
Preliminary Analyses

Perspective-Taking and Age and Gender

Between Group Developmental Hypotheses

Social Anxiety and Age

Does social anxiety increase with age and more specifically, across the defined age groups 8-10, 11 to 12 and 13 to 15 years of age?

Perspective-Taking and Social Anxiety

Is Perspective-Taking Stage 2 a requisite for the experience of social anxiety?

Does social anxiety increase across levels of PT?

Moderated-Mediation Model of Social Anxiety

Social Perspective-Taking Stage 1

Step 1: Predicting Self-Efficacy from Self-Monitoring and Social Integration

Step 2: Predicting Social Anxiety from Self-Efficacy, Self-Monitoring and Social Integration

Social Perspective-Taking Stage 2

Step 1: Predicting Self-Efficacy from Self-Monitoring and Social Integration

Step 2: Predicting Social Anxiety from Self-Efficacy, Self-Monitoring and Social Integration

Step 3: Indirect effects of Self-Monitoring on Social Anxiety through Self-Efficacy at levels of Social Integration
Social Perspective-Taking Stage 3

Step 1: Predicting Self-Efficacy from Self-Monitoring and Social Integration

Step 2: Predicting Social Anxiety from Self-Efficacy, Self-Monitoring and Social Integration

Step 3: Conditional indirect effect of Public Self-Consciousness at levels of Social Integration

Social Perspective-Taking Stage 4

Step 1: Predicting Self-Efficacy from Self-Monitoring and Social Integration

Step 2: Predicting Social Anxiety from Self-Efficacy, Self-Monitoring and Social Integration

Chapter 8

Discussion

The Developmental Underpinnings of Social Anxiety

Age and Social Anxiety

Perspective-Taking and Social Anxiety

Individual Differences Within Perspective-Taking

Perspective-Taking Stage 2

Mediation: Self-Monitoring, Social Self-Efficacy and Social Anxiety

Moderation: Social Integration and Perspective-Taking

Perspective-Taking Stage 3

Mediation: Self-Monitoring, Social Self-Efficacy and Social
List of Tables

Table 3.1 DSM-IV-TR Diagnostic Criteria for Social Phobia (Social Anxiety Disorder) .................................................................................20

Table 7.1 Gender and Age Composition of the Sample .................................................92
Table 7.2 Perspective Taking By Age Group .................................................................111
Table 7.3 Correlations Between the Social Anxiety Constructs and Age ..........112
Table 7.4 Correlations Between the Social Anxiety Constructs and Perspective-Taking ................................................................113
Table 7.5 Means (standard deviations) Correlations, Univariate Comparisons and Effect Sizes of Social Anxiety Scales Across Age Groups..............114
Table 7.6 Total Scores for Social Anxiety: PT1 ................................................................116
Table 7.7 Frequencies for Each Item on the FNE Scale .................................................117
Table 7.8 Frequencies for Each Item on the SAD-New Scale.................................119
Table 7.9 Frequencies for Each Item on the Observational SA Scale ..................120
Table 7.10 Means (standard deviations), Univariate Comparisons and Effect Sizes of Social Anxiety Scales Across Perspective-Taking ..............121
Table 7.11 Regression Results for the Prediction of Self-Efficacy by Self-Presentation, Public Self-Consciousness and Social Integration ..........129
Table 7.12 Regression Results for the Prediction of Social Anxiety from Self-Efficacy, Self-Monitoring and Social Integration .........................130
Table 7.13 Moderated Regression Results for the Prediction of the Self-Efficacy Mediators ........................................................................131
Table 7.14 Conditional Effects of Public Self-Consciousness on Self-Efficacy
Table 7.15 Moderated Regression Results for the Prediction of Social Anxiety ......137
Table 7.16 Indirect Effects of Self-Presentation on Social Anxiety via
Self-Efficacy at Conditional Levels of Social Integration .......................140
Table 7.17 Indirect Effects of Public Self-Consciousness on Social Anxiety via
Self-Efficacy at Conditional Levels of Social Integration .......................141
Table 7.18 Moderated Regression Results for the Prediction of the Self-
Efficacy Mediators ...................................................................................142
Table 7.19 Moderated Regression Results for the Prediction of Social Anxiety ......144
Table 7.20 Indirect Effects of Public-Self-Consciousness on Social Anxiety via
Self-Efficacy at conditional levels of Social Integration .........................147
Table 7.21 Regression Results for the Prediction of Self-Efficacy by Self-
Presentation, Public Self-Consciousness and Social Integration ..........148
Table 7.22 Regression Results for the Prediction of Social Anxiety from Self-
Efficacy, Self-Monitoring and Social Integration ....................................149
List of Figures

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 6.1</td>
<td>Moderated Mediation Model Predicting Social Anxiety Within Stages of Perspective-Taking</td>
</tr>
<tr>
<td>Figure 7.1</td>
<td>The Mean of Social Anxiety at Each Stage of Perspective-Taking</td>
</tr>
<tr>
<td>Figure 7.2</td>
<td>Moderated Mediation Model Predicting Social Anxiety Within Stages of Perspective-Taking</td>
</tr>
<tr>
<td>Figure 7.3</td>
<td>Simple Slopes of Self-Presentation Predicting Non-Conflict Efficacy at the Mean and +/- 1 SD of Social Integration</td>
</tr>
<tr>
<td>Figure 7.4</td>
<td>Simple Slopes of Self-Efficacy Conflict Predicting FNE at the Mean and +/- 1 SD of Social Integration</td>
</tr>
<tr>
<td>Figure 7.5</td>
<td>Simple Slopes of Self-Efficacy Conflict Predicting Observational SA at the Mean and +/- 1 SD of Social Integration</td>
</tr>
<tr>
<td>Figure 7.6</td>
<td>Moderated Mediation Model Predicting Social Anxiety Within Stage 2 Perspective-Taking</td>
</tr>
<tr>
<td>Figure 7.7</td>
<td>Moderated Mediation Model Predicting Social Anxiety Within Stage 3 Perspective-Taking</td>
</tr>
</tbody>
</table>
Abstract

Researchers are now beginning to question whether socially anxious behaviours (behavioural inhibition, social withdrawal, shyness), commonly observed in early childhood, are distinct from social anxiety (disorder), which is widely believed to have an onset in adolescence. The thesis argues that there is a qualitative difference in these constructs, with developments in social perspective-taking being the cognitive-developmental mechanism that underlies the emergence of social anxiety in middle to late childhood. Further, it proposes that self-monitoring predicts social anxiety via self-efficacy, and that these relationships vary across levels of perspective-taking development and social integration (e.g., high, moderate and low). Utilising interview and questionnaire measures these relationships were evaluated in a sample of 171 Australian youth aged between 8 and 15 years. Overall, the findings support the hypotheses that developments in social perspective-taking underlie the emergence of social anxiety, and that self-monitoring is mediated by self-efficacy beliefs in the prediction of social anxiety. Cognitive developments also moderated the prediction of social anxiety. Moreover, the relationships between self-monitoring, self-efficacy beliefs and social anxiety were significant at both low and moderate, but not high, levels of social integration. The findings suggest that social anxiety can be distinguished developmentally in terms of the cognitive-developmental and psychosocial mechanisms involved, and that even children who are relatively well integrated will experience social anxiety when engaging in self-monitoring and doubting their social abilities. These findings, areas for future research, and study limitations are discussed.
Chapter 1
Introduction

Social anxiety (i.e., anxiety in social situations) has been of interest to researchers from various, and often disparate, disciplines (see Leitenberg, 1990; McNeil, 2010). Indeed, researchers are now beginning to question whether socially anxious behaviours (behavioural inhibition, social withdrawal, shyness), described by developmental researchers in early childhood, are distinct from social anxiety (disorder), that is widely believed to have an onset in adolescence. Gazelle and Rubin (2010) have argued, for example, that the research findings to date suggest that social anxiety disorder, typically studied in adolescence, is a continuation of early temperament behavioural inhibition, rather than a qualitatively distinct phenomenon. Similarly, Rapee and Spence (2004) argued that fearful temperament and social anxiety may be the same phenomena but the former may be renamed social anxiety in light of the social evaluative situations in which these fearful reactions occur (e.g., in public, at school). Schmidt and Buss (2010) and others (Angold & Costello, 2009) suggest that social anxiety may be the same as behavioural inhibition and shyness in terms of its basic cognitive, emotional and behavioural phenomenology.

Thus, researchers are beginning to raise questions regarding the developmental continuity/discontinuity of these socially anxious constructs, and are asking ‘whether social anxiety diagnosed in adolescence differs qualitatively from that which appears, emotionally, behaviourally, and cognitively, in earlier years of childhood’ (Gazelle & Rubin, 2010, p. 9). The definition and resolution of these issues sets the scope of aetiological research by determining the specific timing and nature of factors (e.g., biological, social, psychological) that are of aetiological significance. Given that different research areas link these constructs
temporally these constructs must be qualitatively distinct in their biological, social and psychological underpinnings.

In furthering our understanding of these issues, this thesis advances the argument that specific forms of social anxiety can be differentiated at different times during development in terms of their quality and basic biological, psychological and social underpinnings.

Specifically, spontaneously taking another’s perspective on the self is proposed as a core cognitive feature of social anxiety in middle childhood and adolescence. With perspective-taking as a central feature of social anxiety, links can be made to existing sociocognitive-developmental theory. In particular, Selman’s (1980) structural theory of sociocognitive development proposes that development proceeds from relative egocentricity towards an increasing ability to consider others’ perspectives. It is proposed in this thesis that the ability to take another’s perspective on the self, emerging between approximately 7 to 12 years of age, may be a developmental requisite for the experience of mature forms of social anxiety, that is, social anxiety characterised by a spontaneous consideration of other’s (negative) perspectives on the self. If this is the case social anxiety in middle childhood may be distinguished from social anxiety appearing earlier in development in terms of the cognitive mechanisms involved.

In addition to considering differences in perspective-taking as a mechanism underlying the emergence of social anxiety, social and motivational dynamics are also argued to predict social anxiety as an individual difference. Specifically, individuals are expected to differ in the degree to which they think about self and others even with requisite cognitive capacities. Considered here are differences in individuals’ engagement in motivated forms of self-monitoring, and differences in their beliefs about their abilities to maintain social relations.
with others. At the same time these psychological processes are contextualized within stages of social perspective-taking and levels of social integration. Briefly, a number of empirically informed but novel moderating and mediating hypotheses will be put forward regarding the relationships between perspective-taking, motivated forms of self-monitoring, self-efficacy, and social integration as predictors of social anxiety.

The above arguments will be developed in the following order. Given that questions are being raised about the distinctions between social anxiety constructs based on existing prevalence data, these data are reviewed in Chapter 2. The aim of reviewing this literature is to clarify when social anxiety first emerges as a clinical disorder and, secondly, to evaluate the degree to which available studies can actually answer this question. Regarding the latter, there are a number of methodological confounds which make conclusions about the onset of social anxiety (disorder) difficult, and the conclusion reached is that current research does not allow a definitive conclusion.

In Chapter 3 a cognitive-phenomenological approach is used to evaluate similarities and differences between social anxiety constructs studied at different times in development. This analysis begins with a review of the features of social anxiety disorder outlined by the APA (2000), and those related to other childhood constructs. The conclusion drawn here is that despite their temporal distinctions, their description and proposed aetiology are basically the same. However, in Chapter 4, it is argued that developmental variations in the cognitive, behavioural and social qualities of shyness, embarrassment and self-presentation can be observed. This provides an empirical basis for making qualitative distinctions between these constructs and social anxiety based, specifically, on their apparent cognitive bases.
In Chapters 5 and 6 perspective-taking is argued to be a core cognitive feature of social anxiety, and developments in perspective-taking are hypothesized to be a cognitive-developmental requisite for the emergence of social anxiety. A theoretical model including these mechanisms and, more specific, cognitive-affective appraisals explaining the experience of social anxiety in childhood and adolescence is also proposed, and hypotheses outlined. In Chapter 7 the study testing these hypotheses is presented and in Chapter 8 these findings are discussed.
Chapter 2: The Prevalence of Social Anxiety (disorder)

It is widely reported that social anxiety disorder has an onset in adolescence. The APA (2000) and a large number of early studies report social anxiety disorder as having an onset in mid-adolescence (e.g., Davidson, Hughes, George, & Blazer, 1993; Kessler et al., 2005; Ost, 1987; Schneier, Johnson, Hornig, Liebowitz, & Weissman, 1992; Thyer, Parrish, Curtis, Nesse, & Cameron, 1985). However, more recently, social anxiety disorder has been observed well before this time. This has led researchers to argue that social anxiety disorder may not be an adolescent phenomenon (as is believed), and that it may be a continuation of anxiety first observed in earlier childhood and even infancy. However, determining the prevalence of social anxiety disorder across childhood and adolescence is anything but straightforward. Studies differ in terms of which symptoms are used to define the disorder (e.g., impairment), who reports on the symptoms (e.g., parents or children), and from where the sample is drawn (e.g., community or clinical). These factors appear to influence the prevalence estimates and also confound their interpretation. This will be highlighted in the following sections, which focus on studies including those with the youngest participants.

Community Studies and Age-Related Prevalence Data for Young Children

There are few representative community studies of the incidence of anxiety disorders in preschool age children (for review see Egger & Angold, 2006; Costello, Egger, & Angold, 2005). It is only recently that interview schedules have been made available (e.g., the Preschool Age Psychiatric Assessment, [PAPA] Egger & Angold, 2004; Egger, Ascher, & Angold, 1999) and used to diagnose psychiatric disorder in preschoolers based on DSM-IV-TR criteria (Egger, Erkanli, Keeler, Potts, Walter, & Angold, 2006; Bufferd, Dougherty, Carlson,
& Klein, 2011). Older and smaller studies ($N \approx 100$), utilised outdated diagnostic criteria (e.g., *DSM-III* and *DSM-III-R*) and a mixture of questionnaire (e.g., CBCL), observational and clinical consensus data to make diagnoses in this age group (Earls, 1982; Keenan et al., 1997; Lavigne et al., 1996). These studies, nevertheless, report evidence of social anxiety disorder (Social Phobia) in this age group, with prevalence estimates between .07% and 2.3%.

The more recent studies using the PAPA (Bufferd et al., 2011; Egger et al., 2006) are superior to these earlier studies in a number of ways. As noted, these are the only studies to utilise a clinical interview method based on *DSM-IV-TR* criteria and designed for preschoolers specifically (Egger et al., 2006; Bufferd et al., 2011). Diagnoses in the study by Egger et al. (2006) were made using the PAPA and included impairment criteria, which means they were less likely to capture normal variation in temperament (see Angold & Egger, 2004; Carter, Briggs-Gowan, & Davis, 2004). In this study, 1073 parents of children aged 2 to 5 years from a primary care clinic were surveyed over an 18 month period. Of these initial participants 307 parents completed the PAPA based on initial high scores on the CBCL. The weighted prevalence of social anxiety disorder was 2.1%, which closely matches that reported in the studies above. The prevalence reported by Bufferd et al. (2011), sampling from 541 parents of 3 year-olds only was higher (4.4%), perhaps due to not requiring impairment criteria for the diagnosis to be made.

There is also evidence that a range of clinical disorder symptoms, including anxiety disorder, can be differentiated in preschoolers. This runs counter to theoretical expectations that syndromal differentiation occurs with age (see Angold & Costello, 2009; Sterba et al., 2010). Sterba, Egger, and Angold (2007) reported that a three factor, parent-reported, behavioural and anxiety/mood nosology, the latter consisting of social anxiety, separation
anxiety, and depression/generalized anxiety was a good fit for their sample of preschoolers. Strickland et al. (2011), however, in a study of 4 year-olds, who were not selected based on high CBCL scores, found the same anxiety disorder factors, although in this study mood and generalized anxiety disorder could be differentiated. These studies, while reporting that separate anxiety disorder factors better fit the data, found that factors were highly intercorrelated and a single undifferentiated anxiety disorder model also fitted the data (discussed further below).

These findings are replicated in a number of large (N = ~ 700) community, factor analytic, studies focusing more exclusively on anxiety disorder symptoms using symptom checklists (Benga, Tincas, & Visu-Petra, 2010; Edwards, Rapee, Kennedy, & Spence, 2010; Eley et al., 2003). Spence, Rapee, McDonald, and Ingram (2001) studied a range of anxiety disorder symptoms in 755 3 to 5 year-old Australian preschoolers and found that five correlated factors could be identified, including symptoms of social anxiety, separation anxiety, generalized anxiety, obsessive–compulsive disorder and fears of physical injury.

The mere observation of social anxiety (disorder) symptoms in children this age suggests that it may have an onset much earlier than adolescence (Rapee, Schniering, & Hudson, 2009). Indeed, large epidemiological studies illustrate either no change (Ford, Goodman, & Meltzer, 2003; ages 5-17) or small increases (Canino et al., 2004; ages 4-17) in social anxiety disorder between preschoolers and adolescents. These studies, although cross-sectional, suggest that social anxiety disorder may appear first in preschool and then continue into adolescence. This conclusion is supported indirectly by prospective consistency in social anxiety symptomology from childhood through adolescence (e.g., Bittner, Egger, Erkanli et al., 2007) and from child/adolescent epidemiological studies reporting prevalence estimates
on par with those reported in preschool, including the studies by Ford et al. (2003) and Canino et al. (2004) (for review see Costello et al., 2005). On the other hand, as discussed below, other studies including older children and adolescents, report much higher and increasing prevalence with age.

Community Studies and Prevalence Data for Older Children and Adolescents

Studies including a larger proportion of older children, adolescents and/or adults report marked age differences in the prevalence of social anxiety compared to the preschool studies discussed above (see Wittchen & Fehm, 2003). An exception is Essau and colleagues’ (Essau, Conradt, & Pettersen, 1999) study which used a detailed and structured clinical interview method to attribute diagnoses to adolescents reporting on symptoms, their intensity, associated avoidance, and level of psychosocial impairment. This study included 1035 youth aged between 12 and 17 and reported a lifetime prevalence of 1.6% which is, interestingly, similar to those reported above (e.g., Egger et al., 2006). Notable, however, is that the prevalence increased twofold between the 12-13 and 14-15 year-old groups from 0.5 to 2.0%, with no further increase between the latter group and 16-17 year-olds.

In comparison, a number of large scale population studies using less stringent clinical assessment methods have reported much higher estimates (e.g., Ranta, Kaltiala-Heino, Rantanen, & Marttunen, 2009; Stein, Torgrud, & Walker, 2000; Van Roy, Kristensen, Groholt, & Clench-Aas, 2009). Ranta et al. (2009), for example, report a higher and rising prevalence of 2.6% to 4.1% among 756 12-14 and 15-17 year-olds, respectively. Similarly, Wittchen, Stein, and Kessler’s (1999) study of over 3000 14 to 24 year-olds reported an overall 12 month prevalence rate of 7.3%, with prevalence increasing between 14-17 (4.0%)
and 18-24 (8.7%) years of age. Similarly, the National Comorbidity Survey Replication (Adolescent Supplement) face-to-face survey of 10,123 adolescents aged 13 to 18 years in the United States reported a total lifetime prevalence of 9.1%, with increases from 13 to 14 (7.7%), 15 to 16 (9.7%) and 17 to 18 (10.1%) years of age (Merikangas et al., 2010).

Thus, it would appear that in samples of older children/adolescents the prevalence of social anxiety disorder increases with age, even when impairment criteria are applied (Essau et al., 1999). Mid-adolescence also appears to be a significant transition period for this increase in development which is consistent with retrospective studies (Kessler et al., 2005). There are a number of interpretations of these findings which bear on the nature of social anxiety (disorder) from preschool to adolescence.

A Caveat: Age and Impairment in the Diagnosis of Social Anxiety (disorder)

A number of factors may influence these varying prevalence rates (see Wittchen & Fehm, 2003). Yet, here what is of interest is the apparent relationship between impairment and prevalence of social anxiety disorder at different ages. Not yet noted is that the application of impairment criteria appears to decrease the prevalence of social anxiety disorder in younger children while increasing it in older children and adolescents. In the studies by Ford et al. (2003) and Canino et al. (2004) reviewed previously, application of impairment criteria significantly decreased the prevalence to almost half that without this criterion (see also Simonoff et al., 1997). In representative epidemiological studies of older children aged 9 to 12, however, application of impairment criteria results in a greater number of older children meeting diagnostic criteria (cf. Costello, Mustillo, Erkanli, Keeler, & Angold, 2003; Roy et al., 2009).
One interpretation of these findings is that age-related increases in prevalence are an indication of greater psychosocial impairment occurring with age rather than an increase or change in basic symptomology, per se (Rapee, Schniering, & Hudson, 2009; Rapee & Spence, 2004). In the context of the other research reviewed, this means that social anxiety disorder symptoms (minus impairment) may be apparent first in preschool but only become disordered when the child is faced with greater challenges. The same reasoning can be applied to behavioural inhibition and shyness which may, for example, get renamed social anxiety disorder due to the situations in which symptoms present, and the level of distress experienced (Rapee & Spence, 2004). This interpretation appears to be borne out not only in the consistency of the prevalence data and changes as a function of impairment, but in clinic referred diagnoses increasing dramatically from preschool (0.9%) to mid-adolescence (16%) (e.g., Esbjørn, Hoeyer, Dryborg, Leth, & Kendall, 2010). It seems reasonable that treatment seeking may increase as a consequence of greater psychosocial impairment with age. Indeed, even in studies where children and adolescents are both participating and receiving treatment, the latter report greater overall distress and impairment (Beidel et al., 2007; Rao et al., 2007).

There are, however, other interpretations of these data and a number of caveats should be noted. In particular, the aforementioned studies are particularly limited in their ability to shed light on the continuity and/or invariance of social anxiety disorder phenomenology from preschool into childhood and adolescence. They are not longitudinal and, most important, is their reliance on parent-reported symptoms. This is problematic since social anxiety (e.g., worrying about looking stupid / feeling embarrassed in front of people) implies negative expectations, self-consciousness, worry and apprehension, and negative self-evaluations, and studies illustrate that parent and child report are poorly correlated (Choudhury, Pimentel, &
Kendall, 2003; Rapee, Barrett, Dadds, & Evans, 1994), especially for subjective symptoms (Comer & Kendall, 2004). This does not mean that parental inferences or reports are entirely wrong (e.g., they may ask or be told by their child); however, they may not cover the full range of the implied cognitive phenomenology described above.

Another caveat relates to the possibility that observations of social anxiety disorder in preschoolers actually reflect normal variation in temperament (see Angold & Egger, 2004; Carter et al., 2004; Emde, Bingham, & Harmon, 1993). This is supported indirectly by rates of social anxiety disorder decreasing, rather than increasing, when impairment criteria are applied. However, with the above criticism about access to subjective phenomena aside, it may still be that all major symptoms are present with the exception of significant impairment. This would rule out disorder in these cases, however, principal features would remain and, perhaps, these early ways of responding to self and others become problematic in the future. Yet, studies including preschoolers have generally failed to illustrate stability in social anxiety (disorder) over even relatively brief periods (e.g., Gadow, Sprafkin, & Nolan, 2001; Benga et al., 2010). Even in Egger et al.’s (2006) study, parent-report diagnoses based on the PAPA, representing the “gold standard” in diagnosis (Costello, Egger, & Angold, 2005), were not reliable (or stable) on retesting after only an average of 11 days, even with impairment criteria (Cohen’s Kappa Coefficient = .54 and .57, respectively). This, and the very high rates of ‘disorder’ overall (e.g., 27%, Bufferd et al., 2011), raise serious doubts about the stability and validity of symptoms more generally at this young age.
An Integrative Developmental Interpretation

Parent-reported symptom reliability may vary for many different reasons (see De Los Reyes & Kazdin, 2005). In addition, not all studies report poor reliability (see Edwards et al., 2010). Variability in reliability may also represent valid waxing and waning of social anxiety (disorder) during the preschool period. Social anxiety (disorder) may, for example, emerge and, perhaps re-emerge, at different times for different individuals for different reasons (e.g., transitions into day care). In this vein, a number of studies report that social anxiety disorder symptoms are more prevalent in 3 year-old children compared those aged 5 (Spence et al., 2001) and 6 years (Benga et al., 2010). Still other studies illustrate that older children and adolescents are more likely to exhibit social fears compared to younger children (e.g., Weems & Costa, 2005). Westenberg, Gullone, Bokhorst, Heyne, and King’s (2007) reanalysis of Gullone and King’s (1997) study of Australian school children aged 8 to 17 years illustrated that cross-sectionally ($N = 910$), social fears increased with age and were moderately stable prospectively ($r = .33$). Yet of even highly socially anxious individuals at time 1 (scoring 2 $SD$ above the mean, $N = 8$) only 1 maintained social fears at this level (i.e., the others scored within 1 $SD$ of the mean). Thus, as suggested above, social anxiety may wax and wane at different times and be relatively unstable even at extremes (see also Prinstein & La Greca, 2002).

One hypothesis that may account for some of this variation is that general disorder, and fearfulness in the context of anxiety disorder, is common in very early childhood. This general emotional and behavioural dysregulation may, however, differentiate into more specific symptom patterns, including specific fears and social anxieties. Both aspects of this hypothesis—i.e., general dysregulation/fearfulness, on the one hand, and differentiation, on
the other—may be supportable. Indeed, although the preschool factor analytic studies identified differentiated anxiety, mood and behavioural nosology, overlaps between and within disorder groups are high (Sterba et al., 2007; Strickland et al., 2011). In these studies however (also the only to include a range of behavioural emotional and anxiety disorders in preschoolers) an undifferentiated model, where all disorders are combined, also provided a “good” fit of the data according to various fit indices. Not surprisingly, correlations between social anxiety and other disorder groups, especially other anxiety disorder groups, were high: separation anxiety (.65/.83), mixed generalised anxiety/major depressive (.76) (Sterba et al., 2007) ‘pure’ generalised anxiety disorder (.85) (Strickland et al., 2011). These high correlations are replicated in studies of anxiety disorder nosology which have also reported that a higher order ‘anxiety’ factor accounts for the high covariance between ‘differentiated’ anxiety disorder factors (Benga et al., 2010; Edwards et al., 2010; Spence et al., 2001). Importantly, studies of older children and adolescents report smaller correlations both between and within disorder groups (factors) (see Sterba et al., 2010). This may point to general emotional/behavioural dysregulation of preschoolers with greater differentiation between and within these disorder groups with age.

Other research has also indicated that anxiety disorder symptoms, including social fears, increase and differentiate with age. First, however, not all studies have found that social evaluation fears increase with age (Gullone, King, & Ollendick, 2001) and some have even found that they diminish with age (Gullone & Lane, 2002). In explaining these findings, researchers (e.g., Westenberg, Drewes, Goedhart, Siebelink, & Treffers, 2004; Westenberg, Gullone, Bokhorst, Heyne, & King, 2007) have highlighted the need to control for the overall decline in ‘general fearfulness’ that seems to occur with age (e.g., of loud noises, animals,
darkness etc., see Gullone, 2000 for a review). In this vein, Weems and Costa (2005) illustrated that fears of loud noises, strangers, separation, and physical injury were more likely in 6 to 9 year-olds, with 14 to 17 year-olds being likely to be concerned about negative evaluation and criticism. Similarly, Vasey Crnic, and Carter (1994), in a study well before its time, utilised an interview and vignette procedure to elicit worries that were most salient to 5 to 12 year-olds. These authors found that worries about physical injury predominated over worries about behavioural competence and social evaluation at ages 5 to 6 years, while worries about physical injury decreased significantly across ages 8 to 9 and, especially 11 to 12, with concerns about behavioural competence and negative social evaluation predominating and increasing at these ages (see also Ost & Treffers, 2001).

Research is also beginning to highlight the importance of differentiating between specific kinds of social fears at different ages (e.g., Bokhorst, Westenberg, Oosterlaan, & Heyne, 2008; Schaefer, Watkins, & Burnham, 2003; Westenberg et al., 2007). Westenberg et al. (2004) in a sample of 882 youth aged 8 to 18 years, found that fears of negative evaluation characterised by punishment (e.g., from parent or teacher) were characteristic of 8-11 year-olds whereas fears associated with negative social/peer evaluation, as is typically used to define social anxiety, were relevant to 12 to 14 year-olds and increasingly so for 15 to 18 year-olds. Similarly, Bokhorst et al. (2008) found that, while a ‘general’ negative evaluation factor was the best fit for 6-9 year-olds; a three factor solution consisting of negative evaluation based on social (e.g., being publicly teased, criticized, scrutinized), academic (e.g., failing, doing a test) and punishment (e.g., called on by teacher, mother, principal) was the best fit for 10-13 and 14-18 year-olds. There is even evidence for differentiation in parent-reported social fears among preschoolers. Spence et al.’s (2001) study reported earlier found, for instance,
that while some social fears were shared among 3 to 5 year-olds (e.g., meeting unfamiliar people), problems relating to fear of talking in front of the class or group and doing something stupid in front of others were in the top 10 issues for 4 and 5 year-olds only.

Other typologies have also been recently used to investigate the variation of social fears with age. Sumter, Bokhorst, and Westenberg (2009) investigated age-related differences in social fears based on Hofmann et al.’s (1999) typology in 260 9-17 year-olds. This typology distinguishes between situations or interactions that are formal (e.g., answering questions in class), informal (e.g., speaking over the telephone), or observational (e.g., being photographed, using public bathroom, eating in public). Sumter and colleagues found that, while distress and avoidance remained the same across age for informal situations, these indications of anxiety increased for formal and observational (girls only) situations, especially in terms of avoidance.

Summary

A number of issues have been raised above regarding the appearance of social anxiety (disorder) at different times in development. Although not in the order they were presented, it appears that a) social anxiety (disorder) may be significant even in the preschool years (Sterba et al. 2007), b) it may wax and wane during these years (Benga et al., 2010; Spence et al., 2001), c) it may ‘reappear’ and predominate over other fears in later childhood and adolescence (e.g., Weems & Costa, 2005) and d) its symptoms may increasingly differentiate from preschool into the later years of childhood (cf. Spence et al., 2001; Westenberg et al., 2004), where e) it also waxes and wanes. A number of issues have also be raised regarding whether parent-reported social anxiety disorder in preschool years is reliable and/or valid.
given f) poor short-term reliability (e.g., Egger et al., 2006), g) challenges in illustrating core subjective phenomenology in preschoolers, and h) the possibility that social anxiety (disorder) in preschoolers is more an indication of general emotional/behavioural dysregulation.

These issues relate to a key conceptual problem that has developmental implications. Social anxiety and disorder observed in adolescence may not be qualitatively different to that observed in the earlier years of childhood (Schmidt & Buss, 2010). The research just reviewed really cannot answer this question. It is possible that parental reports are valid and that with time subjective phenomena will be verified. It is also possible that preschoolers and teenagers differ only in their level of impairment. The research illustrating variability and differentiation of social anxiety may also be explained by changes in circumstances rather than differences in underlying processes. Social anxiety may first appear in preschool and then wax and wane with different developmental challenges while the basic underlying mechanisms are the same. Similarly, the shift from different kinds of fear toward social fears and their internal differentiation may simply represent various shifts in focus from parents and teachers to peers in light of salient developmental goals. This raises an important question regarding whether the core states associated with social anxiety and their underlying mechanisms are apparent well before adolescence, perhaps as early as infancy, represented in a capacity for shyness and behavioural inhibition (Angold & Costello, 2009). If this is the case, then the study of aetiological factors shaping these core states may be restricted to events occurring before the early years of childhood (e.g., genetics, biology, early parenting and so forth).

Given the complexity of these issues and the relative recency of their discussion, they are far from being resolved. One must, however, begin somewhere. It would appear at least that
anxiety in social situations appears at different times in development beginning in the preschool years and even before that time in behavioural inhibition. This is not to be confused with social anxiety as it is commonly understood to include particular subjective phenomena like embarrassment, humiliation, worry and so forth. Indeed, very little is known about what subjective form and quality social anxiety takes during the very early years of childhood. A thesis that may advance understanding is that the form or quality that social anxiety takes across development varies according to the biological, psychological and social aspects of development at a given time.

Given this thesis, attention will now be turned to detailing the quality and proposed aetiology of social anxiety and other pertinent constructs studied at different times in development. This discussion will begin with a statement regarding key definitional issues and will be followed with a critical analysis of criteria for social anxiety disorder and distinctions between this construct and other childhood-related constructs, particularly those associated with temperament(s).
Chapter 3: Differentiating Social Anxiety Constructs

One way to differentiate between similar constructs is to identify their core features or, rather, their associated biological, physiological, psychological (or cognitive), behavioural and social manifestations and precipitants. Identifying and, in turn, separating the core features of social anxiety is anything but straight forward given its study across many, insulated, research areas. As noted, social anxiety, or rather anxiety with social precipitants, is common to a number of constructs. Behavioural inhibition, shyness, social withdrawal and social anxiety (disorder) are just some which share common features of fear, anxiety, apprehension and/or inhibition that occur in response to social stimuli or situations (e.g., novelty, exposure, and scrutiny). A key area warranting further inquiry is the equivalence of these constructs in their core phenomenology.

As will be discussed, there are a number of potential ways that behavioural inhibition, shyness and social anxiety (disorder) may be differentiated developmentally with regards to their biological, psychological and social underpinnings. On the other hand, confounds in this same research mean that distinctions are ambiguous. These issues, and what this means for the conceptualisation of social anxiety as a developmental phenomena of late childhood in particular, will now be discussed. This discussion begins with a critical evaluation of the way that the DSM describes social anxiety disorder given that it provides the “accepted” definition of social anxiety and disorder used by both clinicians and researchers.

Social Anxiety Disorder

Throughout the time that social anxiety has been studied it has been defined in numerous ways (see Leitenberg, 1990). As it has been researched in adults and children as a clinical...
disorder, Social Anxiety Disorder (also Social Phobia), it is defined in operational terms including specific cognitive-affective, physiological and behavioural tendencies. The clinical features described in the *Diagnostic and Statistical Manual for Mental Diseases* (APA, 2000, *DSM-IV-TR*) are presented in Table 3.1.

These criteria will be critically evaluated in greater detail shortly. Here, however, it suffices to say that social anxiety disorder includes a range of cognitive, emotional and behavioural features including embarrassment, fear, humiliation, avoidance and panic symptoms, such as, heart palpitations, trembling and shakiness, flushes/chills, sweating, nausea, dizziness, shortness of breath, nervousness (e.g., butterflies) in social and/performance situations. This diagnosis can be made in both adults and children with some relatively minor adaptations for the latter (see Criteria A, B, C, F); however, as noted above, it is widely believed that social anxiety disorder has an onset in adolescence (APA, 2000).

Social anxiety disorder is a relatively new clinical entity, first appearing in the *DSM-III* (1980). Since then, the diagnosis has undergone frequent revisions. Some changes have been made in light of changes in the way we understand the disorder, while others in reaction to the overlaps social anxiety disorder has with other adult and childhood disorders. A brief historical sketch illustrates how changes to criteria have both enhanced and obfuscated our understanding of this feature of adult and child behaviour. This is followed by an analysis of the core states associated with social anxiety as defined by current criteria. The similarities between these features and other childhood constructs such as behavioural inhibition, shyness and embarrassment in terms of core qualitative features and aetiology are then discussed.
Table 3.1

**DSM-IV-TR Diagnostic Criteria for Social Phobia (Social Anxiety Disorder)**

A. A marked and persistent fear of one or more social or performance situations in which the person is exposed to unfamiliar people or to possible scrutiny by others. The individual fears that he or she will act in a way (or show anxiety symptoms) that will be humiliating or embarrassing. **Note:** In children, there must be evidence of the capacity for age-appropriate social relationships with familiar people and the anxiety must occur in peer settings, not just in interactions with adults.

B. Exposure to the feared social situation almost invariably provokes anxiety, which may take the form of a situationally bound or situationally predisposed Panic Attack. **Note:** In children, the anxiety may be expressed by crying, tantrums, freezing, or shrinking from social situations with unfamiliar people.

C. The person recognizes that the fear is excessive or unreasonable. **Note:** In children, this feature may be absent.

D. The feared social or performance situations are avoided or else are endured with intense anxiety or distress.

E. The avoidance, anxious anticipation, or distress in the feared social or performance situation(s) interferes significantly with the person's normal routine, occupational (academic) functioning, or social activities or relationships, or there is marked distress about having the phobia.

F. In individuals under age 18 years, the duration is at least 6 months.

G. The fear or avoidance is not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition and is not better accounted for by another mental disorder (e.g., Panic Disorder With or Without Agoraphobia, Separation Anxiety Disorder, Body Dysmorphic Disorder, a Pervasive Developmental Disorder, or Schizoid Personality Disorder).

H. If a general medical condition or another mental disorder is present, the fear in Criterion A is unrelated to it, e.g., the fear is not of Stuttering, trembling in Parkinson's disease, or exhibiting abnormal eating behavior in Anorexia Nervosa or Bulimia Nervosa.

**Specify if:**

**Generalized:** if the fears include most social situations (also consider the additional diagnosis of Avoidant Personality Disorder)

**Brief History of Diagnostic Criteria**

As noted, the criteria for social anxiety disorder have undergone frequent revisions. Indeed, the term, ‘Social Anxiety Disorder’, did not appear in parentheses until the *DSM-IV* (1994). Before this time Social Phobia was used exclusively. The term social anxiety disorder is used here and throughout as it better describes the disorder as more than a phobic reaction.
to limited stimuli. However, Social Phobia will be used selectively when referring to its historical usage.

Historically, Social Phobia was used to describe individuals who feared a single and, predominately performance, situation (e.g., public speaking) (Barlow, 2002). This contrasts with current criteria which describes social anxiety disorder as occurring in both situationally-circumscribed as well as more general subtypes. In the 1980s, however, individuals who feared multiple social situations were diagnosed with other disorders. Avoidant Personality Disorder, for example, described anxiety across a range of interpersonal situations and at this time an additional diagnosis of Social Phobia could not be made. In later revisions of the *DSM* (1987) exclusionary criteria between Social Phobia and Avoidant Personality Disorder were dropped. Ramsawh, Chavira, and Stein (2009) note that this was prompted by the recognition that individuals diagnosed with Avoidant PD were not receiving pharmacotherapy that was demonstrated to be effective in treating Social Phobia.

Unfortunately, decisions to drop exclusion criteria have led to a new set of problems and responses obfuscating our understanding of these disorders. Dropping exclusionary criteria, for example, resulted in a heterogeneous group meeting criteria for social anxiety disorder (Ramsawh et al., 2009). This, in turn, prompted the creation of a ‘generalised subtype’ of social anxiety disorder to separate individuals who feared only performance situations from those who feared both performance as well ‘most’ social interactions. This ‘generalised’ subtype is current in the *DSM-IV-TR*, however, it does little to really clarify criteria. Individuals with social anxiety disorder (generalised) are a heterogeneous group “that includes persons who fear a single performance situation as well as those who fear several,
but not most, social situations” (*DSM-IV-TR* p. 452). Individuals without this specifier may, however, exhibit fears for both performance and social situations.

Given these changes, social anxiety disorder may be used to describe or diagnose any individual who illustrates anxiety in social and/or performance situations due to concerns about ‘embarrassment’, ‘humiliation’ and ‘scrutiny’ that are not better explained by an alternate disorder (e.g., eating disorder). It is not clear, however, when social anxiety disorder is generalised (or not), or when a diagnosis of avoidant personality disorder is warranted (Bögels et al., 2010). It suffices to say that criteria have changed significantly in terms of the breadth and nature of the anxiety-eliciting circumstances, and have not enjoyed a term of stability. This is also true regarding the diagnosis of social anxiety disorder in children.

The diagnosis of Social Phobia could be made in children when it was first described in the 1980s. However, Avoidant Disorder of Childhood and Overanxious Disorder, were perhaps more applicable since they appeared under *Anxiety Disorders of Childhood and Adolescence* and included features of social anxiety. Avoidant Disorder of Childhood is more or less analogous to the construct social withdrawal (e.g., Rubin, Le Mare, & Lollis 1990) and was defined in the *DSM-III* as a: “persistent and excessive shrinking from contact with strangers of sufficient severity so as to interfere with social functioning in peer relationships, coupled with a clear desire for affection and acceptance, and relationships with family members and other familiar figures that are warm and satisfying” (pp. 53–54). Both this disorder and Social Phobia could be diagnosed together in the *DSM-III*. With the advent of the *DSM-III-R*, however, children could not be diagnosed with both disorders on the basis that criteria for Social Phobia were subsumed under Avoidant Disorder, and that Avoidant
Disorder also remained useful in describing children who withdrew from social situations for reasons other than concerns about negative evaluation or scrutiny.

Overanxious Disorder of Childhood and Adolescence was another disorder that included aspects of social anxiety disorder which changed frequently in description. In the *DSM-III* overanxious disorder was defined by “excessive worrying and fearful behavior” including worry about future and past events, injury, personal competence, peer group activities, and meeting the expectations of others (APA, 1980, p. 55). In the *DSM-III-R*, the essential feature of this disorder was altered to “excessive or unrealistic anxiety or worry” (APA, 1987, p. 63) without specific reference to the situations in which this occurred. Nevertheless, in both versions, self-consciousness and susceptibility to embarrassment or humiliation (p. 57) were key features. These are the core features of social anxiety disorder as currently described (see Table 1).

Ultimately, both Avoidant Disorder and Over Anxious Disorder of Childhood and Adolescence were criticised for a lack of discrimination from other anxiety disorders, including social anxiety disorder (Beidel, 1991; Kashani & Orvaschel, 1990; Klein & Last, 1989; Silverman & Eisen, 1993). In turn, they were deleted and merged with social anxiety disorder in the *DSM-IV* (APA, 1994) and *DSM-IV-TR* (APA, 2000). Given these revisions it is fair to say that there has been relatively little agreement about, and study of, childhood presentations of social anxiety disorder. More importantly, although social anxiety disorder has enjoyed sustained study, there are a number of questions relating to the distinction between social anxiety (disorder) and other constructs in terms of basic features and aetiology. It is to these areas which we now turn.
Dismantling the Definition of Social Anxiety Disorder

As noted, researchers are beginning to question distinctions between social anxiety and other childhood constructs such as behavioural inhibition and shyness. Schmidt and Buss (2010) suggest that one reason for this lack of discrimination lies with social anxiety being too broad a construct. Indeed, the history briefly reviewed points to social anxiety disorder being an evolving construct with diffuse boundaries. The current discussion, in the same vein, focuses on how social anxiety disorder is defined and measured, and its overlaps with shyness and embarrassment in terms of core features, precipitants and aetiology will be described.

The core feature of social anxiety disorder provided by the APA (2000) overlaps significantly with the above constructs and, adding to confusion, it is defined inconsistently. Criteria A is first defined as ‘a marked or persistent fear of social or performance situations where embarrassment may occur’ (p.450). Then, when criteria are summarised, Criteria A is defined (p.456):

A marked and persistent fear of one more social or performance situations in which the person is exposed to unfamiliar people or to possible scrutiny by others. The individual fears that he or she will act in a way (or show anxiety symptoms) that will be humiliating or embarrassing (p. 456, italics added).

Thus, the latter definition states explicitly where anxiety occurs; specifically, it is in performance and social situations where the person is ‘exposed’ to ‘unfamiliar people’ and is the object of ‘scrutiny’. Second, it states why these situations precipitate anxiety; specifically, it is because the person fears that they may ‘act in a way (or show symptoms) that will be humiliating or embarrassing’. In further description, individuals are said to be concerned that
others might see their hands shake or tremble, or they may ‘appear inarticulate’ and so be judged as ‘anxious, weak, “crazy”, or stupid’ (pp. 450-451). These precipitants (e.g., exposure, scrutiny, unfamiliar people, performance) and cognitive-evaluative phenomena (e.g., concerns about negative evaluation, negative self-evaluation) are both broad and equivalent to constructs of behavioural inhibition, shyness and embarrassment to be discussed below.

Immediately apparent is that criteria focus on unfamiliar people (exposure and scrutiny) which overlap significantly with social anxiety constructs associated with uncertainty and wariness (e.g., behavioural inhibition) and those less cognitively defined (e.g., fearful/anxious shyness). This emphasis on unfamiliarity has been criticised by Gazelle and Rubin (2010) who argue that it underestimates the negative self-evaluative processes implied when social anxiety occurs in familiar settings (i.e., suggested are concerns about reputation). Measures of social anxiety take this additional emphasis for granted as they include anxiety for interaction with both familiar and unfamiliar peers, sample general social interactions (e.g., parties, assertiveness) and include more general concerns about negative social evaluation. For example, the Social Phobia and Anxiety Inventory (Beidel, Turner, & Morris, 1995), designed to screen for social anxiety disorder, includes a range of these social and performance situations (reading aloud, performing in a play, and eating in the school cafeteria) as well as associated cognitions and behaviours (e.g., avoidance). The Social Anxiety Scale for Children (La Greca & Stone, 1993), derived from a more normative framework, includes three subscales indicating distress and avoidance for new/novel and familiar interactions and more general concerns about negative evaluation. This latter subscale includes items such as: “I worry about being teased...what other kids say about me... that other kids don’t like me”. The
scales, although predating current criteria, are the most widely used self-report measures of social anxiety (Letamendi, Denise, Chavira, & Stein, 2009). Importantly, while highlighting the evaluative processes more explicitly, these additions also make the constructs analogous to shyness (Schmidt & Buss, 2010).

The heterogeneity of social anxiety disorder as a construct is further increased by its subtyping by the APA (2000). The generalised subtype is defined by fears of numerous general social interaction situations (e.g., conversation) and is compared to a heterogeneous group “that includes persons who fear a single performance situation as well as those who fear several, but not most, social situations” (DSM-IV-TR p. 452). Children and adolescents with a diagnosis of social anxiety disorder typically illustrate ‘generalised’ social anxieties. In an interview study of 50 youth aged 7 to 13 years Biedel et al. (1999) reported that they feared reading to the class (71%), musical or athletic performances (61%), joining (59%) and starting (58%) -conversations, speaking to adults (59%), writing on the blackboard (51%), ordering food (50%), and attending dance or activity nights (50%). These findings have been replicated in studies of disordered adolescents, however, this age group endorses situations at a much higher rate (e.g., between 70-90% depending on the situation), and they also report more overall distress (Rao et al., 2007; Beidel et al., 2007).

A caveat to the clinical typing of social anxiety symptoms is that they are highly prevalent in ‘normal’ individuals. Indeed, anxiety for public speaking is so prevalent it may not qualify as a symptom of disorder at all (e.g., Essau et al., 1999), except when it leads to impairment in role function. The prevalence rates of other specific fears in non-disordered groups are in line with estimates of shyness (Zimbardo, 1977). In one study, for example, 47% of youth aged 14 to 17 (N=486) endorsed fear of public speaking without meeting diagnostic criteria (Essau et
al., 1999). Essau et al. (1999) further found that large numbers of ‘normal’ adolescents also experienced anxiety over performance/tests (31.1%) and social talk (9.2%). Of the 489 participants who indicated a feared response when exposed to the anxiety eliciting situation many were concerned with experiencing embarrassment (39.1%), getting red (38.9%), being judged as stupid/weak (31.5%) and feeling ashamed (27%). Similarly, in an Australian study, 34% of adolescents (aged 13 and 14 years, $N=875$) endorsed at least moderate “worry [about] what other people think of me”. This was closely followed by other social evaluative situations: “I worry that I will do badly at my school work” (30.5%), “I feel afraid if I have to talk in front of my class” (25.8%) and “I feel afraid that I will make a fool of myself in front of people” (24.3%) (Spence, Barrett, & Turner, 2003). Thus, it is difficult to differentiate social anxiety disorder and ‘normative’, so-called ‘subclinical’ (Hazen & Stein, 1995), social anxiety based on key cognitive-affective and behavioural phenomenology.

In fact, an analysis of the broad range of social and performance situations used to identify social anxiety disorder highlights heterogeneity in the precipitating circumstances and implied subjective phenomenology. Situations include those where ‘exposure’, ‘scrutiny’ and ‘evaluation’ are objective aspects of the situation for both the individual and the audience (e.g., public speaking, musical or athletic performance). In contrast, exposure and scrutiny could be primarily psychological phenomena, for example, when the person ‘feels’ conspicuous when waiting in line or while eating in front of others. In typologies of shyness and embarrassment discussed below, these differences are highlighted in terms of changing cognitive mechanisms. This highlights the possibility that different social anxiety subtypes (e.g., speaking, self-disclosure, fear of showing symptoms) exist with varying prevalence, underlying aetiological and immediate cognitive, behavioural and physiological mechanisms,
developmental timing and significance (e.g., effect on functioning). Current developmental research is however confounded by numerous overlaps and insular research programs that have not been integrated.

**Behavioural Inhibition and Social Anxiety Disorder**

Behavioural inhibition is argued to be observable in infancy, characterised by fearful behaviours (crying, withdrawal, hyper-aroused) in the presence of novel social (e.g., strangers) and non-social (e.g., unfamiliar toys) stimuli (García-Coll, Kagan, & Reznick, 1984; Kagan, Reznick, Clarke, Snidman, & García-Coll, 1984; Kagan, Reznick, & Snidman, 1987; Kagan, Reznick, Snidman, Gibbons, & Johnson, 1988). Kagan, Reznick, and Snidman (1985) defined behavioural inhibition (to the unfamiliar) by “the child’s initial behavioural reactions to unfamiliar people, objects, and contexts, or challenging situations” (p. 53). It is widely believed that behavioural inhibition is an early constitutional risk factor for the development of social anxiety disorder (e.g., Beidel & Turner, 2007; Ollendick & Hirshfeld-Becker, 2002; Rapee & Spence, 2004). Indeed, a number of prospective studies have found that behaviourally-inhibited children go on to develop social anxiety disorder (Biederman et al., 2001; Hayward, Killen, Kraemer, & Taylor, 1998; Hirshfeld-Becker et al., 2007; Schwartz, Snidman, & Kagan, 1999) and there are a number of qualitative differences between social anxiety (disorder) and behavioural inhibition which may justify this temporal distinction.

Behavioural inhibition, for example, as an aspect of temperament, is argued to be biologically-based, observable from birth, largely inherited and resistant to change (Rapee & Coplan, 2010). Social anxiety disorder, on the other hand, is argued to develop in light of
combined biological, social and psychological factors which, depending on their quality, timing, chronicity, and so forth, lead an individual toward and away from social anxiety disorder overtime (e.g., Beidel & Turner, 1998; Crozier & Alden, 2005; Morris & March, 2004; Rapee & Spence, 2004; Vasey & Dadds, 2001). Social anxiety disorder and behavioural inhibition are also argued to differ in that anxious responses in the former are argued to stem from automatic neurobiological reactions (e.g., negative emotions and arousal) (Rothbart, 2007), particularly in response to novelty (Buss, Davidson, Kalin, & Goldsmith, 2004), whereas the latter is associated with active cognitive systems (e.g., worry, apprehension) in the context of social evaluation (e.g., Kowalski & Leary, 1995).

Despite these apparent differences there are a number of confounding overlaps which mean the separation of these constructs is not assured. First, despite expectations, temperament (e.g., behavioural inhibition) illustrates only moderate consistency overtime (Asendorpf, 1990, 1994). Studies have also illustrated that it is this consistency, perhaps as an indication of severity, that is associated with social anxiety disorder prospectively (e.g., Schwartz et al. 1999). Interestingly, factors believed to account for consistency in behavioural inhibition and, in turn, the development of social anxiety disorder, are one and the same. Stability in behavioural inhibition, for example, is moderated by insensitive and critical parenting (Rubin, Burgess, & Hastings, 2002), social competence (Asendorpf, 1994), peer experiences (e.g., Gazelle & Rudolph, 2004; Laursen, Bukowski, Aunola, & Nurmi, 2007), socialisation (e.g., being in day care, Fox, Henderson, Rubin, Calkins, & Schmidt, 2001), and attentional control (Crockenberg & Leerkes, 2006; Muris & Dietvorst, 2006). This is consistent with associations between social anxiety disorder and recall of parents failing to provide sources of socialisation (Bruch, Heimberg, Berger, & Collins, 1989; Rapee &
Melville, 1997), observations of encouragement of avoidant coping (Barrett, Rapee, Dadds, & Ryan, 1996; Cheron, Ehrenreich, & Pincus, 2009; Chorpita, Albano, & Barlow, 1996; Dadds, Barrett, Rapee, & Ryan, 1996), and observations of high parental control/intrusiveness, criticism and low warmth (e.g., Bögels & Brechman-Toussaint, 2006; DiBartolo & Helt, 2007; McLeod, Wood, & Weisz, 2007; Wood, McLeod, Sigman, Hwang, & Chu, 2003). The fact that behavioural inhibition and social anxiety are affected by the same psychological and social factors may not be coincidental, and may indicate that these constructs are basically the same.

Indeed, Rapee and Coplan (2010) suggest that where measures of behavioural inhibition and social anxiety converge most strongly is their emphasis on social fears. Both behavioural inhibition and social anxiety also share an emphasis on anxiety occurring in response to novelty. The eliciting circumstance according to the APA (2000) definition of social anxiety disorder is “exposure” to or “scrutiny” by “unfamiliar people” (p.456). Youth diagnosed with social anxiety disorder also illustrate many of the behavioural features of behavioural inhibition (e.g., verbal and non-verbal latency or hesitancy and gaze aversion) in laboratory studies (e.g., Spence, Donovan, & Brechman-Toussaint, 1999). Further, although measures of social anxiety emphasise social interaction and social evaluation, as causes of anxiety more than measures of behavioural inhibition, most studies group social and non-social behavioural inhibition (for review see, Dyson, Klein, Orlino, Dougherty, & Durbin, 2011). It follows that current temporal links between these constructs may be due to the overlap between them rather than a true developmental process where behavioural inhibition leads to social anxiety (disorder).
This does not mean that a developmental relationship does not exist between these constructs. However, because researchers have used overlapping constructs we cannot say that early aspects of temperament (e.g., behavioural inhibition) are a risk factor for later, and qualitatively distinct, social anxiety (disorder). Only a few studies have examined associations between non-social (e.g., hesitancy in encountering novel objects) and social (e.g., hesitancy interacting with a stranger) behavioural inhibition, and correlations are zero (Kochanska, 1991; Talge, Donzella, & Gunnar, 2008) to negligible (e.g., $r = .12$) (Rubin, Hastings, Stewart, Henderson, & Chen, 1997). This suggests that social and non-social behavioural inhibition are different constructs and that they should be studied separately. Of course studies which provide evidence that non-social behavioural inhibition leads to social anxiety would provide the most convincing evidence that these are separate constructs and that they are associated causally (Rapee et al., 2009).

One potential difference between behavioural inhibition and social anxiety (disorder) is the differing emphasis placed on cognition. In the context of social anxiety and shyness, researchers have suggested that through various learning and associative transactions with the self (e.g., arousal, beliefs) and others (e.g., parents, peers), social anxiety develops due to perceptions and expectations that the world is beyond one’s control and competence, and, as such, fears of negative evaluation and humiliation arise (Chorpita, Brown, & Barlow, 1998; Rapee, 1997). It seems reasonable to suggest that toddlers do not exhibit these cognitions; however, this cannot be ruled out given that the measurement of temperament typically relies on parent and teacher observations of overt behaviour rather than the subjective phenomena used to define social anxiety (e.g., worry, concerns about evaluation). It is also possible that these cognitions are consequences of behavioural inhibition and associated problems in
adjustment rather than features of, or causal in the development of, a qualitatively distinct social anxiety disorder (Alfano, Beidel, & Turner, 2001). In summary, in many ways aetiological factors and proximal eliciting circumstances, behavioural responses and cognitive phenomenology fail to differentiate behavioural inhibition and social anxiety disorder at this point in time.

*Shyness, Embarrassment and Social Anxiety (disorder)*

There are similar issues regarding the construct shyness. Shyness has been conceptualised as an aspect of temperament or as a personality trait (Thomas & Chess, 1977) characterised by reticence and withdrawal stemming from the child’s concerns or worries about evaluations from others (Rubin & Asendorpf, 1993; Zimbardo, 1982). While researchers generally accept the distinctions between social anxiety and behavioural inhibition, the distinctions between shyness and social anxiety and disorder have been the subject of more critical inquiry. Shyness and social anxiety (disorder) have been argued, for example, to differ only along a continuum of severity with shyness at one end and social anxiety and disorder at the other (e.g., McNeil, 2010). Indeed, studies have illustrated that the factor differentiating those who are ‘extremely shy’ from those with social anxiety disorder is the degree of impairment and overt avoidance (Chavira, Stein, & Malcarne, 2002; Heiser, Turner, & Beidel, 2003; Heiser, Turner, Beidel, & Roberson-Nay, 2009). Measures of childhood shyness (*Children’s Shyness Questionnaire*, Crozier, 1995) and social anxiety (*Social Anxiety Scale-Children*, La Greca & Stone, 1993) also overlap significantly (e.g., $r = .61$, Findlay, Coplan, & Bowker, 2009). Interestingly, the aetiological factors argued to lead to shyness (e.g., Rubin, Burgess,
Kennedy, & Stewart, 2003; Rubin, Coplan, & Bowker, 2009) are equivalent to those proposed for social anxiety disorder, as was observed in the case of behavioural inhibition.

As noted in the context of behavioural inhibition there is potential for cognition to separate shyness as a form of social anxiety along developmental lines. In the study of shyness, distinctions have been made between fearful/anxious and self-conscious shyness (Buss, 1986). Specifically, fearful or anxious shyness is conceptually similar to behavioural inhibition, defined by wariness to novelty, while self-conscious shyness may be compatible with social anxiety as it is characterised by evaluative anxiety (Crozier, 2010). Buss (1986) also argued that these forms of shyness emerge at different times in development in light of developments in cognitive ability. Specifically, fearful shyness is argued to require no special or advanced cognitive apparatus, to be observable by 7 to 9 months of age, and to be characterised by emotions of fear and distress in situations involving novelty (e.g., being confronted with strangers, a novel social role), social evaluation and foolish actions. Self-conscious shyness, on the other hand, was argued to depend on the development of ‘public self-consciousness’ or awareness of the self as a social object, which Buss argued developed at 3 to 4 years of age. This form of shyness was argued to involve embarrassment as the primary emotion and to be elicited by novel settings, being the focus of attention, conspicuousness, breaches of privacy, teasing and ridicule, and excessive praise (see Schmidt & Buss, 2010).

A similar, although not entirely overlapping account, has been proposed between ‘exposure’ and ‘evaluative’ embarrassment which are argued to develop in light of cognitive developments at 15 to 18 months and 3 years of age, and to be precipitated by different conditions (respectively). Specifically, Lewis (2001) argues that children experience exposure
embarrassment when they are exposed, as might occur, for example, when being observed performing in front of an audience, receiving compliments, and viewing their reflection in a mirror. He further argued that exposure embarrassment requires only a ‘rudimentary’ form of self-awareness or an idea of “Me”. In contrast, evaluative (or self-conscious) embarrassment is argued to depend on the development of a complex self-concept based on internalised rules and standards; with embarrassment occurring when the person makes attributions that have failed to meet these standards (e.g., when failing a task in front of an audience and committing a faux pass) (see also Modigliani & Blumenfeld, 1979).

The differences proposed between these forms of shyness and embarrassment hold promise for establishing differences between forms of social anxiety developmentally—i.e., between temperament, shyness and social anxiety disorder, at a cognitive level in particular. Specifically, these forms of shyness and embarrassment can be demarcated temporally in that development of more complex forms of shyness and embarrassment are argued to depend on maturational changes, in particular regarding whether or not they involve self-consciousness (Buss, 1986) or negative self-evaluation (Lewis, 2001). Unfortunately, as Asendorpf (1998) remarks, the way these constructs have been conceptualised blur these distinctions. Buss’ (1986) theory, for example, is not internally consistent given fearful shyness includes self-evaluative cognition (e.g., ridicule, fear of social rejection) which, according to Lewis (2001) is also not available until complex self-representational abilities develop. Also, the situational precipitants believed to lead to more cognitively complex self-conscious shyness (e.g., being observed, performance) are argued by Lewis (2001) to precipitate embarrassment in children earlier at 18 months old. This challenges Buss’ theory that embarrassment relies on the development of complex cognition given children of 18 months are believed to only have a
rudimentary form of self-awareness (see Lewis, 2001). Thus, again, in terms of aetiology, precipitants and core features there may be little that differentiates social anxiety (disorder) from other forms of social anxiety appearing earlier in life.

Summary

The above analysis suggests that behavioural inhibition and forms of shyness and embarrassment all appear early in development and share many of the same features of social anxiety disorder. This challenges their differentiation from a developmental perspective. So far discussed have been the incidence of social anxiety and disorder across development. Noted has been a rise in fears of negative evaluation and diagnosis of social anxiety disorder with adolescence. It is, however, unclear whether this represents a different cognitive-affective experience or whether already available cognitive-affective phenomena or behaviour intensify. This is important from a causal and developmental (aetiological) perspective: a distinction between these experiences in terms of underlying biopsychosocial mechanisms justifies their individual study. However, the fecundity in definition and measurement, and the existing overlaps between social anxiety constructs makes such study difficult and, on the balance, challenges temporal and other distinctions between them. In furthering this area of inquiry, research into social anxiety (disorder) will likely benefit from greater specificity in delineating typologies, perhaps based on eliciting circumstances and associated cognitive-affective processes. These may have distinct developmental timing and underlying biopsychosocial mechanisms.

In this vein, the research illustrating that social fears differentiate and change in significance with age provides suggestive evidence of a developmental hypothesis. So too do
the distinctions made between forms of shyness and embarrassment (above). In the latter instance there is also well-developed theory and research suggesting that shyness and embarrassment, but also self-presentation understanding, may differentiate with cognitive development, in particular with regards to the degree of self-reflexivity of these experiences. A number of cognitive-developmental hypotheses have also been proposed to explain such differentiation yet they remain untested. Thus, the first aim of the next chapter is to provide an overview and integration of research on embarrassment, shyness and self-presentation which provides a reasonable basis for proposing cognitive-developmental differentiation of social anxiety constructs.

A second aim, however, is to highlight that, while much of this research proposes cognitive mechanisms (e.g., self-awareness), it is also readily situated within the social domain in which cognitive developments are shaped and cognitive processes (e.g., appraisals) take place. Thus, part of the purpose of the subsequent analysis is to not only review literature relating to cognitive differentiation but to also highlight the social mechanisms of this process (e.g., social interaction and goals). This research and findings from studies where cognitive-developmental hypotheses have been tested (e.g., embarrassment and self-presentation) provide theoretical and empirical direction for identifying those sociocognitive developmental mechanisms that may underlie qualitative differentiation in social anxiety phenomena at different times during development.

This research will be reviewed, beginning with theory and research relating to qualitative differences in embarrassment, which belongs to a group of ‘self-conscious emotions’. Then, research relating to qualitative changes in shyness and self-presentation understanding will be discussed. Finally, studies which have tested cognitive-developmental hypotheses and the
meaning of their findings for the study of social anxiety disorder will be discussed, and a sociocognitive model of social anxiety proposed.
Chapter 4: Developmental Variation in Self-Conscious Emotions

Self-Conscious Emotions

The conceptualisation of self-conscious emotions (embarrassment, shame, guilt and pride) is multifaceted. Complex relations are proposed between cognitive and affective processes. Tracy, Robins, and Tangney (2007) provide a comprehensive overview of these relations and suggest an emerging consensus among emotion researchers regarding the precise processes involved. In brief, as summarised by Crozier (2010), self-conscious emotions:

require the child’s sense of self-awareness and self-representation; recognition of external standards against which the child can be evaluated; adoption by the child of these standards; the capacity to assess congruence or incongruence between behavior or personal characteristics and these standards; and the capacity to make attributions about the reasons for congruence or incongruence (p. 44).

The experience of self-conscious emotions, including embarrassment, shame, guilt, or pride, are also believed to entail an appraisal, representation and attention on the self (Tracy & Robins, 2004) and many argue that the experience of embarrassment in particular involves a representation of others views of the self (see Crozier, 2010). Given these self-other appraisal processes, a central assumption is that self-conscious emotions emerge with maturation and, although specific developmental frameworks are lacking, a number of developmental hypotheses have been proposed. Of greatest interest is an analysis of developmental differences—i.e., age related findings—in the qualities of embarrassment given it is a core feature of social anxiety (disorder) (APA, 2000; see also Miller, 2010 for a detailed comparison of these constructs). These developmental differences may point to a similar schema differentiating forms of social anxiety at different developmental periods (e.g., infancy, preschool, middle childhood, adolescence). Indeed, a literature exists detailing
developmental differences in forms of shyness—i.e., fearful and self-consciousness shyness—the latter of which Crozier (2010) conceptualises as a self-conscious emotion dependent on the same kinds of self-reflexive process as embarrassment. This research, as well as that conducted in developments of self-presentation understanding, which is conceptually related to social anxiety, provide an empirical base for considering that a common cognitive mechanism that may underlie the appearance of qualitatively distinct forms of self-conscious experiences—embarrassment, shyness and self-presentation—but is applied to constructs associated directly with social anxiety (e.g., fear of negative evaluation). These areas are discussed in turn.

**Development and Embarrassment**

*Infancy to Preschool*

As noted earlier, Lewis (2001) distinguishes between two types of embarrassment—exposure and evaluative—based on their precipitants, cognitive-affective quality, developmental timing and mechanisms. Importantly, Lewis (2001), taking all self-conscious emotions together, argues that early forms of these emotions (e.g., exposure embarrassment) only require the conception or meta-representation of “me” and the ability to recognise the attentions of others (Lewis, 1995, 2001). This “idea of me” is argued to develop at two and half years of age (Borke, 1971; Lewis & Brooks-Gunn, 1979; Stipek, 1983; Stipek, Recchia, & McClintic, 1992). These authors therefore propose a connection between developing self-awareness and the emergence of exposure embarrassment in young children. Indirect support for this linkage comes from studies cataloguing the overt affective responses of children under conditions of exposure and scrutiny (e.g., being pointed at, asked to dance, receiving
excessive praise). These studies illustrate that the majority of children as young as 22-months show signs of embarrassment (e.g., smiling while averting their gaze, touching their face or body) when exposed to the attention of others (e.g., Lewis, Stanger, Sullivan, & Barone, 1991). In support of the contention that a subjective idea of me is a requisite for exposure embarrassment, Lewis, Sullivan, Stranger, and Weiss (1989) also illustrated that these behavioural displays were evident only in children who had illustrated visual self-recognition prior to the evaluative situation (i.e., they had a subjective idea or concept of “me” in the world). The development of a subjective idea or concept of “me in the world” is thus taken as an ontogenic requisite for these experiences.

There are, however, challenges to the idea that self-representation is needed for the experience of embarrassment described above. Reddy (1997; 2000) have identified what adult observers describe as behavioural signs of coyness (e.g., smiling coupled with gaze aversion) in infants 2 months old. This research challenges the idea that a subjective idea of “me” is necessary for self-conscious displays; however, their early appearance suggests that they arise with little cognitive processing or self-reflection. Instead, these early self-conscious displays have been argued to be largely elicited in response to social, as opposed to psychological (or self) interaction (Newen & Vogeley, 2003; Reddy, 2003; Reddy, 2005).

More precisely, situated within a developmental framework, the self (or subjective idea of “me”) is argued to be distinguishable from others primarily at the level of action or activity and not yet at the level of thinking (Piaget, 1936; 1963; Hobson, 2002). Thus, all that may be needed for these affective responses to occur is exposure or, more broadly, social interaction. This can be contrasted with more cognitively-based forms of self-consciousness (e.g., negative self-critique) that seem likely to rely on a language-based self-concept (Harter, 1999,
These early behavioural signs of self-consciousness may be “performs” to the “full-blown” self-conscious emotions that may require the development of more complex self-other appraisal facilities (Zinck, 2008).

In this vein, Lewis proposed that “exposure embarrassment” includes only a rudimentary form of self-awareness when compared to “evaluative embarrassment” which he suggests arises in light of an individual’s negative evaluation of their own behaviour relative to a given standard, rule, or goal (e.g., Lewis & Ramsey, 2002). Children are argued to exhibit the capacity for this self-evaluative emotion at 3.5 years as indicated by affective responses indicative of embarrassment when having failed a task in the allotted time (Barrett, 2005). Here, it is assumed that embarrassment occurs not because of self-exposure, but negative self-evaluation at having failed an internalised rule or goal (i.e., a negative self-evaluation). Lewis does not speculate on the maturational factors that might explain these changes although multiple suggestions have been made. Harter (2006) suggests, for example, developments in self-understanding (e.g., self-concept), perspective-taking (Selman, 1980) and social comparison (Moretti & Higgins, 1990). It may be that multiple complementary developments are needed. Compared to exposure embarrassment, for instance, evaluative embarrassment represents a complex set of appraisals including, for example, a concept of the self, a cognitive evaluation of a situation, beliefs about concrete social relations to individuals, as well as general social norms, and expectations or hopes concerning outcomes (Zinck, 2008).

Middle Childhood

The research above points to the early age at which many of the complex cognitive-affective processes, outlined at the beginning of this chapter (Crozier, 2010) and by Zinck
(2008) above, appear to underlie embarrassment in young children. Still other research, using varied experimental methodology, suggests more finite developments overtime. Older children have been asked, for example, to self-report whether they would feel embarrassed in a social scenario (e.g., knocking over a supermarket display) with the degree of personal responsibility and the nature of audience feedback (e.g., positive, negative, neutral) being varied. These studies suggest that there may be further developmental differences in manifestations of embarrassment. Specifically, in a series of studies Bennett and colleagues (Bennett, 1989; Bennett & Cormack, 1996a; Bennett & Gillingham, 1991; Bennett, Yuill, Banerjee, & Thomson, 1998) illustrated that, with age, attributions of embarrassment become less dependent on social environmental cues in the form of direct responsibility and explicit negative feedback, and become more self-reflexive and reliant on the child’s psychological reflections and evaluations.

Regarding variation in level of direct responsibility (or ‘extended identity’), Bennett et al. (1998) illustrate that 5 year-old children are less likely, compared to 8- or 11 year-old children, to become embarrassed, or to experience negative affect, as a consequence of an associate’s rule violation (see also Bennett & Cormack, 1996b). Similarly, in a study by Seidner, Stipek, and Feshbach (1988), children’s self-reported embarrassing experiences were associated with unfavourable comparisons to others only with increasing age—specifically from 5 to 11 years of age. Similarly, regarding variation in audience feedback, Bennett and colleagues illustrated that 5 year-old children indicate embarrassment only when the audience is overtly negative in stories of social scrutiny (e.g., knocking over a store display) (Bennet, 1989; Bennett & Gillingham, 1991), while 8 year-olds indicate that they would feel embarrassed in both critical and supportive conditions (Bennett & Gillingham, 1991). Bennett
(1989) also found that only 11 to 13 year-olds indicate that they would experience similar levels of embarrassment in both passive (neutral) and critical audience conditions.

Together these findings suggest that at approximately 8 years of age attributions of embarrassment become increasingly self-reflexive—i.e., less dependent on direct association and direct social and/or cognitive affective feedback from others and more so dependent on the individuals’ self-reflections and evaluations. Modigliani and Blumenfeld (1979) term the latter “mature” embarrassment, which is akin to formulations of social emotions occurring when an individual perceives/makes the evaluation that the public self-image has failed/is discrepant from an internalised rule. These findings extend the conceptualisation of Lewis (e.g., Lewis, 1993; Lewis & Ramsey, 2002), above, given that here evaluative or self-conscious forms of embarrassment are further differentiated by the degree to which concrete cognitive-affective feedback is required.

A number of cognitive-developmental hypotheses have been put forward to explain these trends. Bennett and Gillingham (1991) suggest that 8 year-old children may have developed second-order reasoning not yet available in 5 year-olds. This is argued to allow 8 year-olds to consider others’ views of them without explicit negative feedback—i.e., in supportive conditions. Five year-olds, on the other hand, who are without these skills, only attribute embarrassment when they are not required to think about others’ negative views of them—i.e., in situations in which they receive direct negative feedback (e.g., being laughed at, ridiculed). This claim has only recently been evaluated in a small study ($N = 30$) by Bennett and Matthews (2000) (see also, Banerjee, 2002a). These authors found that, independent of age, 4 to 11 year-old children ($SD = 11.67$) who had passed a second-order reasoning task (Sullivan, Zaitchik, & Tager-Flusberg, 1994) were significantly more likely to attribute social
emotions (embarrassment, humiliation, shame, guilt) to stories depicting social rule violations (e.g., accidently wearing pyjamas to the supermarket). In this study, audience reactions were not described and, as such, if none were present, one may conclude that second-order reasoning is a developmental precursor to spontaneous and self-reflexive attributions of embarrassment—i.e., occurring without feedback.

A caveat to the above conclusion is that only 7 of the 15 children who had passed the second-order reasoning task made the expected attribution of a social emotion in the study by Bennett and Matthews (2000) (see also Banerjee, 2002a). It is possible then that further developments are required before children routinely attribute embarrassment in these conditions. In this vein, Bennett and Matthews (2000) suggested that the development of public self-consciousness may be an additive precursor making children more likely to spontaneously consider these reactions in others. A similar conclusion was reached by Bennett and Gillingham (1991) who noted instead the failure of 8 year-olds in Bennett’s (1989) study to consider embarrassment in situations where there is no audience feedback (i.e., in passive conditions). Specifically, they surmised that even though 8 year-olds illustrate a capacity for second-order reasoning (i.e., to have a belief about a belief), their emotional reaction—embarrassment—is still dependent on audience reactions, in this case supportive ones. They further proposed that this may be linked to the emergence of public self-consciousness (Fenigstein, Schieir, & Buss, 1975) which they suggest prompts older children (11 to 13; Bennett, 1989) and adults (Semin & Manstead, 1981, 1982) to spontaneously reflect on and appreciate, the effect of self on others, regardless of social feedback.

However, aside from some limited research illustrating that public self-consciousness increases with age (Abrams, 1998), there is no direct support for the idea that public self-
consciousness, along with second-order reasoning, prompts spontaneous attributions of embarrassment. In addition, Colonnesi et al. (2010), using similar methodology to the aforementioned studies, found that although children aged 4 to 5 years failed to attribute embarrassment in all conditions—i.e., negative, positive, neutral—children aged 8 to 9 years made significantly more attributions in both negative and neutral, but not positive, conditions. This study, although not interested in testing the aforementioned hypothesis, only partially replicates Bennett and colleagues (1989; Bennett & Gillingham, 1991) findings while also suggesting a younger age for spontaneous attributions.

The study by Colonnesi et al. (2010) also produced one other noteworthy finding. Specifically, in addition to asking for verbal attributions of embarrassment they also presented children with pictures of characters experiencing fear, sadness and embarrassment, and asked them to indicate which emotion the character would be feeling on a scale 0 (no embarrassment) to 3 (very embarrassed). Using this non-verbal procedure they found no age effects across any of the conditions—i.e., negative, positive, neutral. Although the children in this sample were aged between 4 and 9 years the authors concluded that ‘children aged 6 can already attribute embarrassment in non-negative [i.e., positive, neutral] situations when a non-verbal method is used’ (p. 519) (i.e., regardless of audience feedback). It is not clear why 4 and 5 year-olds are not included, however, the researchers appear to rightfully conclude that their research illustrates that ‘younger children are able to recognise the emotion of embarrassment even if they seem unlikely to produce the term spontaneously’; however, it is less clear that ‘differences in language development, rather than emotional development, are [all that is] being measured with verbal methods’ (p. 519).
In particular, of greatest interest is whether these findings challenge the idea that children’s references to embarrassment become more self-reflexive with age. It may be, as Colonnesi et al. (2010) suggest, that young children simply cannot verbalise these emotions, although they can understand and experience them. Their study does not, however, provide a very good test of the self-reflexivity hypothesis and, indeed, they neglect it in their discussion. Critical here is that their non-verbal pictorial representation of embarrassment provided younger individuals with an affective cue, without which they did not make spontaneous (verbal) attributions. Given this, younger children were actually never challenged to make spontaneous reference to these emotions, even in non-negative conditions, because they were given a cue.

Instead, what these findings perhaps illustrate is that even young children, aged 6 years, have an established understanding of embarrassment across varying conditions. In addition, we might even deem this understanding a ‘sophisticated’ one given that they can discriminate between this emotion and others that also commonly cause negative affect (i.e., sadness, fear). This suggests that young children appreciate the significance of embarrassment as an emotion tied specifically to social evaluation. It is not clear, however, that young children will make spontaneous reference to these emotions. Overall, and in so far as second-order reasoning is a requisite for these spontaneous attributions, it is also true that children vary in making spontaneous attributions even with precursor abilities (e.g., Banerjee, 2002a; Bennett & Matthews, 2000). There is no direct support for the idea that the development of public self-consciousness accounts for this variability. There is, on the other hand, some indication that some other social and psychological factors come into play.

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1 A better non-verbal test of this hypothesis would be to ask younger children to draw what they believe the other person would be feeling while also varying initial cognitive-affective feedback.
Specifically, there some evidence that shyness propensity (Colonesi et al., 2010) and self-presentation understanding (e.g., Banerjee, 2002a), which have also been argued to depend on second-order reasoning (see Crozier, 2010), explain attributions of embarrassment in social evaluative situations. Interestingly, Banerjee (2002ab) conceptualised self-presentation understanding as a social motive explaining why children who have requisite skills still do not routinely and spontaneously refer to embarrassment until years later, specifically at the age of 8 years. In other words, it is suggested that, unlike 8 year-olds who are more engaged in peer group dynamics and concerned about acceptance, for example, 5 year-olds do not use these reasoning skills and spontaneously refer to embarrassment because self-presentation / social evaluation is not yet salient for them.

In support of this idea, Banerjee (2002a) (\(N = 48\)) found that 7 to 11 year-olds’ spontaneous references to stories priming self-presentation motives (e.g., hiding being hurt in front of peers) were related to spontaneous attributions of embarrassment, especially in passive conditions (\(r = .32, p < .05\)). Social motives also accounted for some of the variability in individuals’ attributions of embarrassment that was not explained by second-order reasoning ability (partial correlation, controlling for age, \(= .31, p < .05\)). This study provides a compelling account of the differentiation of embarrassment toward greater self-reflexivity including both cognitive and social motivational prerequisites. This sociocognitive account will be discussed in greater detail when the literature on self-presentation understanding is reviewed in a separate section below.
Developmental Differences in Shyness

Buss (1980) distinguished between fearful and self-conscious shyness and suggested that these depend on cognitive developments. The former “requires no special, advanced sense of self…. [whereas] self-conscious shyness involves public self-awareness, which requires an advanced cognitive self, and is therefore, present only in older human children and adults” (p. 43). Importantly, the former is proposed to involve distinct states of fearfulness and anxiousness whereas the latter is associated with heightened awareness of the self as a social object in the form of public self-consciousness (see Fenigstein et al., 1975). Developmentally, Buss, Iscoe, and Buss (1979) suggested that fearful shyness was apparent in the first year and elicited in response to meeting strangers and novelty; while self-conscious shyness was argued to appear at 4 to 5 years of age, indicated by a sense of embarrassment in response to social evaluation. This argument was made on the basis of parents’ recollection of increasing examples of self-conscious shyness in their children beginning at this time. It was at this age, Buss (1980) suggested, that children have developed a sense of themselves as a social object or the object of social scrutiny and evaluation.

As noted earlier, these findings contrast with those of Lewis (2001) who suggested that embarrassment appears under conditions of social scrutiny much earlier, at 3.5 years of age (e.g., when singing in front of the class). It is not clear, however, that children exhibiting exposure embarrassment are conscious of the self in the sense that Buss (1980) means, which includes self-conscious self-evaluation. By the same token it is not clear how self-conscious 5 year-olds were in the study by Buss et al. (1979), given parents were reporting on subjective phenomena. Age 5 years is, on the other hand, consistent with the research above showing that this is when children will make a conscious attribution of embarrassment in response to
negative social scrutiny (e.g., Colonessi et al., 2010). It may be that self-conscious shyness, like self-conscious embarrassment, is first tied to concrete cognitive-affective feedback to later become more self-reflexive with age.

Indeed, the research on fearful and self-conscious shyness points to a strikingly similar differentiation as observed in embarrassment above. Given the similarity of this research to that already reviewed, it will be reviewed only selectively to highlight particular issues. Methodologically, these studies are similar to those reviewed earlier in that they are based on children’s descriptions of these forms of shyness, and they also vary in the degree to which they require the child to spontaneously reflect and verbalise shyness as a quality in self and others.

In brief, Crozier and Burnham (1990) ($N = 60$) reported that 5-6 year-old children’s verbal descriptions were of fearful shyness, described in contexts of strangers and novel situations and characterised by fearful reactions. These 5-6 year-olds also made very few reference to self-conscious shyness. Self-conscious shyness, described by children as being elicited by being observed or being conspicuous (speaking in front of a class or group) and “feeling” embarrassed (feeling foolish, going red, being embarrassed), was, on the other hand, much more prevalent at older ages, increasingly from 7-8 and 10-11, although it did not replace fearful shyness. In addition, when children were asked to select from two alternatives, 67% of 5-6 year-olds indicated meeting a stranger as eliciting the most shyness, while only 17% selected being ‘asked a question in front of the whole class or in front of a lot of people’. The respective percentages increase for 7-8 year-olds (37% and 58%) and 10-11 year-olds (25% and 65%), suggesting greater relevance of self-conscious forms of shyness with age.
These findings are basically replicated in other studies, although there is some variation in the ages at which these developmental differences are observed. Yuill and Banerjee (2001), for example, also using a forced choice method, revealed that when the situation was more relevant to 6 year-olds—singing in front of the class—self-conscious shyness predominated over fearful shyness (see also Yuill & Banerjee, 1997). Yet, Younger, Schneider, and Guirguis-Younger (2003) appear to replicate Crozier and Burnham’s (1990) finding that children’s verbal, self-generated, descriptions of self-conscious shyness are increasingly relevant beginning age 9-10 (5th grade) years and through to age 11-12 (7th grade) years. These disparities, which appear to reflect differences between using forced choice versus free recall, mirror the finding that spontaneous attributions of embarrassment are not abundant until after 8 years of age. Thus again, as was observed in attributions of embarrassment, it appears that self-reflexive references to shyness become increasingly prevalent with age.

Surprisingly, compared to embarrassment and other self-conscious emotions, there is only limited research and theorising regarding specific cognitive mechanisms underlying these developmental differences. Crozier and Burnham (1990, p. 183) suggest that “changes in children’s capacities for self-reflection and taking others’ perspectives upon the self” detailed by Selman and colleagues (1980; Selman & Byrne, 1974) may underlie the emergence of self-conscious shyness in 7 to 8 year-olds. This account is at odds with the earlier salience of self-conscious, over fearful, shyness in 6 year-olds identified by Yuill and Banerjee (2001) who echo others in suggesting second-order reasoning as a potential requisite.

However, as is discussed in the context of self-presentation understanding, it is not clear that all that underlies differences between studies are confounds in measurement which, unless remedied, obfuscate the “actual” and earlier appearance of self-reflexive self-conscious
emotions. That is, age-related findings of self-conscious experiences—embarrassment and shyness—may reflect something more meaningful than simply differences in methodology. This will be discussed in greater detail later in suggesting that developments beyond second-order reasoning, embedded within a particular sociocognitive context, may underlie particular forms of social anxiety.

**Cognitive Development and Self-Presentation**

Self-presentation is conceptualised as “strategic behaviour designed to control others’ evaluations of the self…motivated by a concern about the way one is seen by other people (i.e. a social evaluation concern)” (Banerjee, 2002b, p. 238). This motivational behaviour has direct relevance to a consideration of qualitative developments in social anxiety as researchers propose these are functionally related. Schlenker and Leary (1982) argued, for example, that social anxiety arises when an individual perceives that they will be unable to maintain favourable social evaluations (impressions) (see also Carver & Scheier, 1981). Developments in self-presentation, like shyness, have also been conceptualised as depending on the ability to conceptualise others’ views of the self. In this vein, researchers have more recently suggested that self-presentation understanding may require only second-order representation (e.g. understanding a belief about a belief) (Banerjee & Yuill, 1999b) or, more broadly a “theory of mind” in which second-order representation is presupposed, allowing children to consider the impact of their own behaviour on the opinions that others have about them (Crozier 2002). In a series of studies, Banerjee and colleagues (Banerjee & Yuill, 1999 a & b; Banerjee, 2002 a & b) have considered the association between self-presentation understanding and developments in these second-order representational abilities.
Banerjee and Yuill (1999a) asked 60 4 to 6 year-old children to predict and justify story characters’ facial expressions in situations in which a reason for self-presentation display was evident (i.e., children were told that characters did not want to appear stupid or silly). In support of their cognitive-developmental hypothesis they found that the ability to identify and justify self-presentation motives was significantly related to success on Sullivan et al.’s (1994) second-order false belief task. Age, however, did not predict this understanding. This study illustrates more explicitly the role of cognitive development in the appreciation of social evaluative phenomena.

A second study by Banerjee and Yuill (1999b) that included children aged 6 to 11 years illustrates that appreciation of implicit self-presentational motives may depend on further maturation. In this study, whereas only 5 of 16 children aged 6-7 years identified self-presentational motives in the story, 12 and 15 children did by ages 8-9 and 10-11 years, respectively (N = 16 in each group). This is consistent with the findings above that children will spontaneously make reference to embarrassment as a reaction (e.g., in supportive and passive conditions) only once they reach age 8 to 11 years (see also Aloise-Young, 1993; Banerjee, 2002b). Similar findings have been found in children’s explanations of ingratiation in stories. In brief, it becomes more sophisticated at age 11 years to include reference to the desire to manipulate others’ perspectives on the self (e.g., he wanted him to like him) as opposed to simply referring to the person’s prosocial intentions (e.g., he was being nice) (Bennett & Yeeles, 1990). Thus, increasing developments may again be observed from 8 to 11 years in the understanding of self-presentation and, the related, understanding of ingratiation strategies.
In explaining the developments taking place between ages 5 to 6 years, when this understanding first appears, to 8 to 11 years, where these are referred to spontaneously, Banerjee (2002b) suggested a social motivational, rather than a cognitive, developmental mechanism. Specifically, he argued that social motivational factors may explain why older participants of 8 to 11 years do not make spontaneous reference to these motivations in story characters, despite having the requisite cognitive ability (i.e., second-order reasoning). Banerjee (2002b) suggested evidence for this hypothesis in light of between and within group age-differences in spontaneous self-presentation understanding being accounted for by teacher ratings of self-monitoring (Eder & Jones, 1989, Experiment 1) and self-reported public self-consciousness (Banerjee & Smith, 1999, Experiment 2).

The hypothesis put forward by Banerjee (2002b) is important because it is argued that no further cognitive developments are necessary for this understanding of, and spontaneous reference to, self-presentation strategies. Instead, suggested is that individual differences in social experiences and motivation explain both individual and between group age-related (developmental) differences in self-presentation understanding and embarrassment attributions. This view contrasts with those of other researchers (e.g., Asendorpf, 1989; Crozier & Burhnam, 1990) who argue that further developments, such as being able to take another’s perspective on the self, may be needed for more complex self-presentation (e.g., Schlenker & Leary, 1982). Asendorpf (1989) perceptively highlighted how components of self-presentational understanding are likely to be related to separate but complementary cognitive developments:

Young children below the age of 4 years seem incapable of the complex cognitive processes involved in Schlenker and Leary's (1982) approach to self-presentational behavior. The ability to take others' perspective and, more generally, to represent the relation between two people's
views, emerges between the ages of 4-6 years (Flavell, Botkin, Fry, Wright, & Jarvis, 1968; Wimmer & Perner, 1983), and it is rather likely that looking at oneself from the perspective of others is an even more complex cognitive task that perhaps emerges even later (hard data concerning this issue are apparently lacking) (p. 483).

Interestingly, the study by Banerjee (2002b) may actually provide some indirect support this idea. Specifically, public self-consciousness, which Banerjee (2002b) uses as a measure of motives, may tap individual differences in perspective-taking as outlined by Selman (1980) (see Chapter 6). Items (e.g., I never worry about what other people think of me; I wonder what other people think about me) appear to require an appreciation of the perspective of others on the self which is associated with Stage 2 perspective-taking in Selman’s theory, developing between ages 7 to 12 years. Stage 2 perspective-taking may facilitate the spontaneous reference to these motives in others as individuals at this stage appreciate the reciprocity of psychological interaction (i.e., the self as subject to other) and so interpret and orientate to situations with others’ perspectives in mind (e.g., understanding that others hide subjective experience to avoid negative social evaluation). Thus, as was proposed in the context of embarrassment and shyness, specific cognitive developments may be associated with the emergence of qualitatively distinct forms of self-presentational behaviour (e.g., that which is cued versus spontaneous). These are proposed as additional requisites for the experience of social anxiety below.

Summary

Overall, the studies reviewed illustrate that forms of embarrassment and shyness differ in quality and relevance with age. The ages at which changes are observed appear to depend on the situations sampled and the methods used to quantify constructs (e.g., observation,
Embarrassment and shyness, can be observed even in infancy; yet, with development, these also appear to differentiate in both kind (e.g., becoming more self-reflexive / spontaneous) and type (e.g., in terms of eliciting circumstances). In the context of social anxiety (disorder), owing to the dearth of research investigating its quality across the lifespan, only the latter kind of differentiation has been investigated. That is, social anxiety (disorder) has been identified in preschoolers, children and adolescents and it appears to shift in social emphasis (e.g., from parents to peers); yet, it is not clear if the quality of social anxiety differs across these contexts.

The aforementioned research provides some clues as to the kinds of social and psychological changes that may result in qualitative developmental changes in social anxiety. Before considering what these may be, it is first important to consider methodological issues as they are closely linked to the developmental findings. Crucial is that age-related differences vary according to the specific situations sampled and the method used to assess children’s understanding and knowledge of a given self-evaluative emotion or behaviour. This suggests that situationally, typologies of social anxiety, embarrassment and shyness are not unitary.

This has both conceptual and developmental implications given that conceptual and developmental issues are intimately related. Operational definitions of constructs, based on specific situations, are more relevant to some groups than others. For example, self-conscious shyness defined by feeling shy when asked to answer a question in class is less relevant to 4 and 5 year-olds compared to 8 and 9 year-olds. As such, care needs to be taken in selecting measures that capture the situations and precipitants most important to a particular group of individuals based on their developmental issues. This will increase the power of explanatory models as well as their specificity. As will be discussed later this is even more essential in the
context of social anxiety as constructs are defined by a whole range of social situations and so there is greater opportunity for developmental variability.

Methodology is also linked to researchers’ beliefs about the emergence and change in quality of these experiences with age, or sociocognitive development more broadly. Using different methods (e.g., observations, parent report), for example, reveals that self-conscious experiences—social anxiety, embarrassment, shyness, self-presentation—are observable in many, and increasingly earlier, developmental periods. Yet, it does not mean that these are equivalent in quality across the lifespan. As noted in the context of social anxiety, many of the core subjective features are either unlikely or have not been verified in infants and preschoolers. This is less true in the other research contexts since preschoolers and older children are asked directly about their understanding using various verbal and non-verbal measures. This research provides insight into the possible psychological differences that may occur in these constructs with age. There are, however, a number of critical questions relating to how these developmental findings should be interpreted from a qualitative (psychological) and developmental perspective.

Importantly, in all of the studies reviewed relating to self-conscious emotions, including shyness and self-presentation, it is the child’s understanding that is evaluated not their subjective experience. The story vignettes and interviewer questions do not ask the child whether they experience a sense of “exposure”, “scrutiny” or “self-consciousness”, or whether they actually think about managing their own or others’ impressions in the situations surveyed. Instead they evaluate whether the child has developed an understanding of the concept or the behaviour under investigation. Often it is the experience of social anxiety, or

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2 Understanding and/or conceptual development is indicated by a) their verbal descriptions and non-verbal indications, or b) their ability to ascribe the ‘appropriate’ feelings to another person. Also evaluated is whether this understanding varies according to story information (e.g.,
self-conscious emotions, that is of greatest pragmatic and social importance. It is the individual’s experience of these self-conscious “feelings” that are associated with developmental outcomes, both “good” (e.g., observation of social norms, Keltner & Busswell, 1997; Keltner & Kring, 1998) and “bad” (e.g., anxiety, poor social integration). At the same time, it is clear that cognitive abilities, such as theory of mind, are associated with knowledge of these kinds of social processes; however, the link between cognitive developments and the experience of them is largely unknown and where research has been conducted, findings are counterintuitive. An established theory of mind, as an index of social maturity and understanding, has positive implications for social functioning (see Repacholi, Slaughter, Pritchard, & Gibbs, 2003); however, it also bestows greater risk for negative experiences such as sensitivity to criticism (Cutting & Dunn, 2002) and is predictive of problematic behavioural and emotional outcomes coupled with challenging social contexts (e.g., peer neglect and rejection) (Hoglund, Lalonde, & Leadbeater, 2008). Thus, the relationship between cognitive developments, social understanding and experience is a complicated one that needs to take into consideration various other individual and contextual factors.

Given these complexities, it is critical that we do not assume that a child’s conceptual understanding is the same as their cognitive-affective *experience*. In the same vein, it is not clear that the same social and psychological mechanisms involved in understanding emotions, motives and intentions are the same as those involved in experiencing them. Yet, if we are to consider current interpretations and theories relating to developments in the *understanding* of self-conscious experience only a single cognitive mechanism—second-order reasoning—has been explored and, in turn, this has been married with changes in social and motivational audience feedback; implicit/explicit reference) which can be interpreted as a variation in cognitive-affective feedback required to activate the child’s understanding and appropriate attribution.
dynamics to explain variability in spontaneous reference to these emotions in others (e.g., Banerjee, 2002ab). Banerjee (2002a) concluded thus:

second-order reasoning about mental states is necessary but not sufficient for an awareness of the self-conscious concerns about social evaluation that underlie both the spontaneous identification of self-presentational motives and the attribution of embarrassment. One possible explanation is that young children are in general not highly concerned about social evaluation, although they have the cognitive equipment to understand such concerns when specifically prompted (p. 381).

As noted, Banerjee (2002b) provides the only study of this sociocognitive hypothesis, illustrating that teacher-reported self-monitoring and self-reported public self-consciousness account for further variability in children’s understanding of embarrassment and self-presentation motives above that explained by second-order reasoning ability. As Banerjee (2002a) argued, a ‘key task is identifying the origins of the variability in understanding social evaluation concerns that remains after controlling for the relevant mental-state-reasoning skills’ (p. 398, italics added). Here, and in the excerpt above, Banerjee is clearly referring to the subjective experience of social evaluation; yet, there are few studies (exceptions are Vasey et al., 1994; Westenberg et al., 2004) relating sociocognitive developments to the actual subjective experience of social evaluative concerns.

This is an important issue given a consideration of the cognitive-affective and social processes associated with the subjective experience of social anxiety in middle childhood and beyond. It is here that the subjective experience of social anxiety has been studied and an analysis of this research reveals it to be a complex cognitive-affective process that may involve alternative mechanisms to those so far explored (i.e., second-order reasoning).
Specifically, there is reason to believe that when social anxiety is considered from an experiential perspective, additional cognitive-requisites may also be required beyond second-order reasoning ability.

Highlighted in particular are various forms of self-other representation and also perspective-taking as a cognitive experiential process involved in social anxiety. The ability to take others’ perspectives, particularly on the self, may not be necessary in emotion understanding and it may not be assumed in tests of second-order reasoning ability. As noted by Asendorpf (1989) taking another’s perspective on the self is a more complex task than being able to represent others’ beliefs or intentions. It is the former that is assumed to be required for reflexive self-conscious experiences such as embarrassment and self-presentation (Banerjee, 2002ab; Bennett & Matthews, 2000) and, although this form of representation has not been assessed, it is often assumed to be occurring based on second-order reasoning ability and/or emotion understanding apparent at age 4 or 5 years. There is, however, established research illustrating that the ability to take another’s perspective on self emerges later in development due to maturational processes. According to Selman’s (1980) theory of social perspective-taking it is between the ages 7 and 12 years that individuals acquire the ability to take others’ perspectives on the self. The ages at which these perspective-taking developments occur are consistent with the ages at which children begin to make spontaneous references to social emotions and with the increasing salience of social evaluative concerns—i.e., between 8 and 12 years.

It is argued in the following two chapters that an analysis of the cognitive-affective aspects of social anxiety provides an empirical basis for the argument that the subjective experience of social anxiety emerges in development as a consequences these later
perspective-taking abilities (i.e., beyond second-order reasoning). These changes are further conceptualised as occurring within social and motivational dynamics that nevertheless predict the experience of social anxiety as an individual difference. As suggested by Banerjee (2002ab), individuals are expected to differ in the degree to which they think about self and others even with requisite cognitive capacities. Considered here are differences in individuals’ engagement in motivated forms of self-monitoring and differences in their beliefs about their abilities to maintain social relations with others as predictors of social anxiety. These additional cognitive-affective processes, including self-focused attention and self-evaluative judgments, are central to the experience of social anxiety and so are highlighted within this discussion. At the same time these processes are contextualized within forms of self-other representation (social perspective-taking) and levels of social integration. Thus, a number of empirically informed but novel moderating and mediating hypotheses will be regarding the relations between perspective-taking, social motives, self-efficacy and social integration as predictors of particular forms of social anxiety.
Chapter 5: An Experiential Analysis of Social Anxiety

Cognitive Features of Social Anxiety

One cognitive-affective feature of social anxiety not associated with the other constructs reviewed so far is anticipation and apprehension. Specifically, social anxiety, as a form of anxiety, is characterised by anticipation of social evaluation that includes the person’s reflexive consideration of others’ potential reactions to the self before the social interaction. This anticipatory aspect of social anxiety, and anxiety more broadly, can be contrasted with embarrassment, and also shame, which are typically conceptualised as a consequence of a (perceived) breakdown of the social interaction as it occurs (see Miller, 2010). In this vein, Buss (1980) suggested that embarrassment and shame occur when one has failed to behave appropriately, while shyness and social anxiety are precipitated by anticipation and dread of interpersonal evaluation by others. Similarly, Schlenker and Leary (1982) define social anxiety as “anxiety resulting from the prospect or presence of interpersonal evaluation in real or imagined social settings” (p. 642). Social anxiety is, therefore, future-oriented, and it is the subjective experience of anxiety about failure, rejection, humiliation and/or negative evaluation from others, that characterise social anxiety.

Indeed, the core feature of social anxiety (disorder) is fear of negative evaluation (Rapee & Heimberg, 1997). Thus, worry as a feature of social anxiety, may best be conceptualised as the person’s representation of the possibility and/or expectation of negative evaluation from others. Worry then is only one component of a more central process of thinking about others’ perceptions of the self. It is this central process of thinking about the self and others, and, more importantly, imagined other’s perceptions on the self, that highlights the representational aspects of social anxiety that may be conceptualised as emerging from
specific cognitive developments. These self-other processes are evident in various theoretical and empirical conceptualisations of social anxiety at different levels of analysis.

Self-other processes are evident at the level of specific beliefs (e.g., *they* will/do think that *I* am odd/stupid/incompetent) but also more abstractly in processes of self-awareness and/or self-focus (cf. Clark & Wells, 1995; Rapee & Heimberg, 1997). Typically these two processes are linked to form a complete explanatory model of the experience of social anxiety. In the aforementioned models, self-focussed attention is typically tied to appraisals of self (e.g., physiology, personality, social skills), others (e.g., their reactions and beliefs to the self), and predictions about outcomes (e.g., failure, humiliation, rejection, negative evaluation). A number of conceptual models that share these features are briefly reviewed to illustrate how the core subjective quality of social anxiety includes reflexive cognition that may lie beyond developments in second-order reasoning or theory of mind more broadly.

The APA (2000), guided by a desire to provide concrete operational definitions of behaviours, describes numerous features of social anxiety that include the individual’s considerations of others’ view of the self. According to the APA’s description, when the socially anxious person is ‘exposed’ to ‘unfamiliar people’ and/or is the object of ‘scrutiny’ they are concerned that they may ‘act in a way (or show symptoms) that will be humiliating or embarrassing’ (p. 456). In particular, they are concerned that *others* might see their hands shake or tremble, or they may ‘appear inarticulate’ and so be judged as ‘anxious, weak, “crazy”, or stupid’ (pp. 450-451). These cognitions are clearly associated with a recursive consideration of others’ views of the self, and are central to cognitive behavioural models of social anxiety (e.g., Clark & Wells, 1995; Rapee & Heimberg, 1997).
Cognitive behavioural models of social anxiety (Clark & Wells, 1995; Rapee & Heimberg, 1997) and models of self-regulation (Carver & Scheier, 1981; Duval & Wicklund, 1972), although developed separately, offer similar propositions that link cognitions with meta-cognitive processes to explain negative affect and social anxiety specifically. Central to these models is that social anxiety arises in the context of the person’s ability to have themselves as the object of their own attention which, in turn, leads to other appraisals and cognitive affective experiences such as social anxiety. These models use different terms to describe the person being the object of their own attention—objective self-awareness (Duval & Wicklund, 1972), public self-consciousness (Carver & Scheier, 1981), self-focused attention (Clark & Well, 1995)—yet, they all describe the individual giving attention to the self in social situations. In order to simplify the discussion, this quality of attention will be referred to as ‘self-focused attention’.

These models, while describing self-focused attention similarly, differ regarding how it relates to social anxiety. Notably the models by Duval and Wicklund (1972) and Carver and Scheier (1981) were developed to explain how self-awareness works as a mechanism in people’s engagement in goal directed behaviour and also in their appraisals of personal and social success. The former authors argued that self-focused attention is inherently uncomfortable because it leads the person to evaluate their behaviour as discrepant from their own ideal standards of performance. Carver and Scheier (1981) disagreed, however, and suggested that self-focused attention may be an adaptive form of self-motoring (e.g., Snyder, 1972, 1974) that is aversive, and associated with social anxiety, only when the individual also perceives that they will be unable to perform to a particular standard (e.g., Bandura, 1991) (see also Schlenker & Leary, 1982). In addition, Carver and Scheier (1981) argued that when
self-focused attention is triggered socially, it is not personal standards that are important but the perceived standards held by others that are used in self- (discrepancy) evaluations.

Therefore, these theories offer different accounts of the standards (own vs. others’) that are used as sources of negative subjective experience and of goal attainment more broadly. Researchers in self-conscious emotions also differ in their stance regarding the source of these discrepancy evaluations—i.e., self or generalised others (cf. Tracy & Robins, 2004 and associated commentaries by Baldwin & Baccus, 2004; Leary, 2004). These theoretical differences are important in that they suggest differences in the role that a focus on self and/or other have in generating social anxiety. It is likely that social anxiety that is elicited through self- versus other-focused processes differs in cognitive complexity and, in turn, when they are associated with the emergence of social emotions developmentally. In the context of social anxiety, however, a number of theorists (e.g., Buss, 1980; Fenigstein et al., 1975; Schlenker & Leary, 1982) have suggested that it is public self-consciousness, as opposed to an egocentric preoccupation with the self’s private thoughts and feelings (‘private self-consciousness’), that is required for social anxiety to arise experientially (i.e., in state terms) and developmentally. Similarly, Tracy and Robins (2007) argued that embarrassment “require[s] that attentional focus be directed towards the public self, activating corresponding public self-representations” (p. 193).

A consideration of information processing models of social anxiety also suggests that a consideration of how the self is performing “in the eyes of others” is core to the subjective experience of social anxiety. Indeed, Rapee and Hiemberg’s (1997) influential model suggests that social anxiety arises in the context of “the degree of discrepancy between the presumed appearance or behavior as perceived by the audience and the audience’s assumed standards
for evaluating this appearance/behavior” (p. 748). Rapee and Hiemberg (1997) also suggested that the socially-anxious individual “simultaneously focuses his/her attentional resources onto both this internal representation and….any perceived threat in the social environment…Attentional resources are allocated to the salient aspects of the self-image (generally those features which are relevant to the situation and potentially negative) and also to monitoring of potential external threat” (pp. 742-743). Importantly, the socially-anxious person is argued to construct an image of the self as a social object or as they ‘must’ appear to the audience (see also Clark & Wells, 1995).

These cognitive-behavioural models have generated a fecund of research supporting their key propositions (see Bögels & Mansell, 2004; Schultz & Heimberg, 2008). Research consistently links social anxiety with appraisals of the self as a social object as measured by public self-consciousness, memory for performance ‘as if’ through the eyes of the audience, a preoccupation with behaviours that might be observable to others, a concern with negative evaluation and, finally, negative self and other-focussed cognitions (see Shultz & Heimberg, 2008; Spurr & Stopa, 2002, for excellent reviews). Important from a developmental perspective is that contention exists regarding whether these cognitive models are applicable to youth. Specifically, there is disagreement as to whether children and early adolescents have the prerequisite cognitive abilities required for these phenomena (Alfano et al., 2002, 2006; Kearney, 2005). This is important in light of the argument to be detailed below that developments in self-other representation (perspective-taking) are associated with the emergence of social anxiety in childhood and early adolescence. That is, if developments in perspective-taking are of aetiological significance then their associated cognitive phenomena should be observable in youth.
Self-Other Representation in Socially Anxious Youth

An appraisal of this fairly limited literature suggests that, using certain paradigms, certain cognitive phenomena are less than apparent in youth. A number of clinical studies consistently report, for example, that children and adolescents report very few negative cognitions during role-play or read aloud tasks (Alfano et al., 2006; Bögels & Zigterman, 2000; Chansky & Kendall, 1997; Kendall & Chansky, 1991; Spence et al., 1999). These studies have led to arguments that the negative self-cognitions central to cognitive-behavioural models of social anxiety (e.g., Clark & Wells, 1995), may be epiphenomena and not causal in the development of social anxiety (disorder). Negative self-related cognitions, that is, may not emerge until later in the course of the disorder perhaps as a function of later cognitive developments (e.g., Alfano et al., 2006). Nevertheless, there are other ways that cognition has been defined and measured in youth, and findings point to complex cognitive processes such as those reported in the adult literature.

Children and adolescents will, for example, self-report concerns about appearing anxious, stupid, weak and crazy (Essau et al., 1999). The core concern in social anxiety, regardless of age, is fear of negative evaluation (FNE). It is suggested here that FNE provides a direct measure of the child’s concern with how others perceive them or are likely to react to and evaluate them. The Social Anxiety Scale for Children-Revised (SASC-R) (La Greca & Stone, 1993) includes an FNE subscale, and is perhaps the most widely used self-report scale of social anxiety in youth (e.g., Cartwright-Hatton, Tschernitz, & Gomersall, 2005; Ginsburg, La Greca, & Silverman, 1998; Inderbitzen-Nolan & Walters, 2000; Kristensen & Torgersen, 2006; La Greca & Lopez, 1998; La Greca, Dandes, Wick, Shaw, & Stone, 1998; Sanna et al., 2009). It has also been used in children as young as 7 years and has illustrated strong
reliability and convergent validity (La Greca & Stone, 1993). The FNE subscale asks children to report their level of fear / concern / worry about being evaluated negatively by peers (e.g., anticipating or assuming that one is or will be teased, made fun of, not liked). These concerns are also predictive of the child’s psychological and social functioning at a young age (e.g., see studies above).

Socially anxious children/adolescents also display self-other focused attention as described in the models above. Public self-consciousness, for example, defined as the frequency with which one becomes cognizant of the self “as a social object that can be observed and evaluated by others” and is contrasted by a focus on private thoughts and feelings (Fenigstein, 1979, p.75). In adults the former is more strongly correlated with social anxiety (see Bögels & Mansell, 2004; Mor & Winquist, 2002). Surprisingly, it is only recently that self-consciousness has been studied as a correlate of social anxiety in youth (Higa, Phillips, Chorpita, & Daleiden, 2008). Specifically, Higa et al. (2008) reported a study of 175 children aged between 9.8 to 14.3 years (mean = 11.5 years, $SD = 1.0$) finding higher correlations between the social anxiety measured by the SPAI-C (Beidel et al., 1995) and public ($r = .57$) compared to private ($r = .32$) self-consciousness. Surprisingly, age-effects were not reported despite the centrality noted in the study. Nevertheless, these findings converge with adult studies and suggest that social anxiety is likewise associated with a consideration of aspects of the self that are perceived and evaluated by others even in preadolescents.

Another construct similar to public self-consciousness is the ‘observer perspective’ (e.g., Wells, Clark, & Ahmad, 1998). This construct is notable for its specificity in capturing perspective-taking given participants are instructed to indicate whether they recall their
performance from their own, or field, perspective, or from an audience, or observer’s perspective (e.g., Coles, Turk, Heimberg, & Fresco, 2001; Wells et al., 1998). Consistently found is that socially-anxious adults memory for their performances is “as if” through the eyes of the audience—the audience looking back on them (see Shultz & Heimberg, 2008). Hignett and Cartwright-Hatton (2008) recently extend these findings to youth aged between 12-14 years ($N = 124$). In this study participants were asked to indicate whether they remember their performance from a field or an observer perspective (see Wells et al., 1998) following a 3 minute speech. An observer perspective was positively correlated with state ($r = .18$) and two measures of trait social anxiety, the SPAI-C ($r = .20$) and the FNE subscale of the SASC-R ($r = .29$), and, contrary to the authors expectation, age did not moderate these effects. These findings, although not surprising considering that by age 12 these perspective-taking abilities are argued to emerge (Selman, 1980), suggest that social anxiety is associated with perspective-taking in otherwise normal developing youth.

A number of recent community studies have also provided evidence that children and adolescents engage in self-focussed attention, and that other aspects of the cognitive-behavioural models are also relevant to children of a young age. In a sample of 175 youth (mean age 11.5 years), Higa and Daleiden (2008) reported that the SPAI-C (Beidel et al., 1995) total score was a significant and unique predictor of self-focused attention ($\beta = .39$), directed towards, for example, subjective anxiety, what to say or do next and on the impression that others are likely to have, as measured by Woody, Chambless, and Glass (1997) instrument designed for adults. These findings were robust, remaining significant, after controlling for negative affect. Hodson, McManus, Clark, and Doll (2008) reported very similar findings in a sample of 175 12.5 year-olds, while controlling for depression. These
findings were also replicated by Fernandez, Davis, & Higa (2007) who measured these aspects of attention during a live video-taped performance. Self- \( (r = .85) \) and -other (externally) focused attention (i.e., toward the experimenter) \( (r = .69) \) were highly correlated with social anxiety. In this study social anxiety was predictive of lower recall for non-social objects (e.g., experimenter’s clothes), a finding that was unique to social anxiety compared to other disorder symptoms.

The above findings are consistent with the proposition that even in early adolescence social anxiety is associated with self-focussed attention that is directed towards aspects of experience—both internal and external—that are likely to contribute to the perceptions that others are likely to have of them. There is also research suggesting that socially anxious children engage in self-focussed attention and use this information to construct a negative self-image. Cartwright-Hatton et al. (2005), found that children aged 10 and 12 years (mean = 11) were more likely to rate their performances as appearing nervous (e.g., they blushed and stuttered more) compared to observer-ratings after a role-play task. Notably, these perceptions were biased, a finding interpreted in the adult literature (Clark & Wells, 1995) as indicative of a focus on introceptive information in the construction of a negative self-image. Indeed, Cartwright-Hatton, Hodges, and Porter (2003) reported a study in which 8 to 11 year-old children’s self-ratings of their micro social skills (e.g., loudness, clarity of voice), global impression (e.g., how friendly/clever) and nervousness (e.g., whether they stumbled over their words) following their speeches were all inversely correlated with how scared/worried they reported they were immediately prior to engaging in the task. Miers, Blöte, Bokhorst, and Westenberg (2009) similarly reported that highly socially anxious adolescents rated themselves as looking significantly more nervous (Cohen’s \( d = 0.52 \)) following a recorded
speech than adolescents low in social anxiety. These self-rating were not, however, supported by observers who did not report any differences in nervousness between the two groups, leading the authors to conclude there is a “negative bias” due to self-focused attention (see also Inderbitzen-Nolan et al., 2007).

One final area relevant to self-focused attention relates to perceptions of social self-efficacy. One might argue that apprehension and worry prior to performance (reviewed above) might indicate negative perceptions of social self-efficacy. These perceptions have, however, been measured more directly. Importantly, Carver and Scheier (1981) argued that perceptions of self-efficacy predict whether self-focus (public self-consciousness) is associated with social anxiety. No study has tested this mediating hypothesis; however, Schlenker and Leary’s (1982) argument that social anxiety arises in light of the expectation that one may fail to make a desired impression on others has generated considerable supporting evidence (Alden, Bieling, & Wallace, 1994; Alden & Wallace, 1991, 1995; Kocovski & Endler, 2000; Wallace & Alden, 1991, 1995). Similarly, across a large number of studies, socially-anxious children and adolescents exhibit negative expectations regarding their ability to control and hide anxiety symptoms, think of things to say, perform well, and otherwise receive positive evaluations from peers and research confederates in anticipation of role-play or reading tasks (Alfano et al., 2006; Beidel et al. 2006; Cartwright-Hatton et al., 2003; Cartwright-Hatton et al., 2005; Erath, Flanagan, & Bierman, 2007; Inderbitzen-Nolan, Anderson, & Johnson, 2007; Morgan & Banerjee, 2006; Gaudiano & Herbert, 2006). These findings extend to children as young as 7 years (e.g., Epkins, 1996; Muris, Merckelbach, & Damsma, 2000; Spence et al., 1999; Turner, Beidel, Cooley, & Woody, 1994).
Children as young as 7 years of age with social anxiety disorder also predict that they are less likely, compared to non-anxious peers, to experience positive social events (Spence et al., 1999) and more likely to experience negative social events (Magnúsdótir & Smári, 1999), even after controlling for depressive symptoms (Rheingold, Herbert, & Franklin, 2003). Bögels and Zigterman (2000) reported a study illustrating that social anxiety-disordered children are also more likely to indicate that they will be unable to cope with and have less social influence in response to brief social stories read to them (e.g., a description of a child meeting a group of peers for the first time) (see also Waters, Wharton, Zimmer-Gembeck, & Craske, 2008). Socially anxious children and adolescents therefore seem to exhibit a generalised negative schema about themselves that is particular to their social interactions and how they believe they are likely to be evaluated by others even outside of challenging social circumstances (i.e., in social role-play and reading tasks).

Importantly, these efficacy expectations also suggest that self-other representations are activated in children. Specifically, it is argued here that negative expectations require that the child has in mind conditions (or contingencies) that others (the proposed audience) hold regarding what is required for positive evaluations—with the expectation being held that one may fail in some way. The anticipated consequence of failing to meet social demands is often humiliation or social rejection. These expectancies suggest that the child is cognizant of perceived negative reactions of others and the meaning this has for ongoing experience (e.g., rejection). Arguably, this anticipation of how one might behave and how others may, in turn, respond necessarily involves a reflexive consideration of self and others, and others’ perceived or imagined perceptions of the self.
Summary

In summary, experientially social anxiety is associated with complex cognitions involving appraisals of self and others. A number of constructs can be argued to capture a similar process by which the individual (child or adult) makes an evaluation of their current psychosocial situation (self) and compares it to a representation / thought / idea / perception that is anticipated to be held by the evaluating audience. Here then, the socially-anxious individual is comparing a self-representation and evaluating it in terms of, or constructing it based on, what they believe others are likely to perceive about them or how these others will behave toward them. Socially-anxious individuals do this via a number of means, comparing how they may appear or will be evaluated by others on various levels, including images of self and of audience, observable behaviours, and their skills and traits. Thus, social anxiety involves a form of perspective-taking whereby the individual considers how they appear or are likely to be evaluated by others based on these appraisals.

This conceptualisation is largely consistent with those in the area of embarrassment (Tracy & Robins, 2007) and shyness (Crozier, 2010). These research areas also propose that cognitive-affective experience of this complexity is likely to require developments in the ability to think about the views and perspectives of others on the self. Typically, these developments are believed to be complete by age 3.5 to 5 years of age. Lewis (2007) emphasises the child’s sense of “me in the world” and internalisation, and affective response to, standards, rules and goals. Bennett (1998) and others (Banerjee, 2002a; Bennett & Matthews, 2000), on the other hand, emphasise developments in second-order reasoning or theory of mind and public self-consciousness. Yet, this research relates to observations of overt behaviour (the former) or to the developments in the understanding of these self-
conscious phenomena (the latter) not the *subjective* experience on them. Indeed, there is a paucity of research linking cognitive development with the subjective experience of these social evaluative phenomena, including social anxiety.

Only one study has investigated a cognitive developmental hypothesis for subjective concerns about social evaluation. In that study Westenberg et al. (2004) investigated the links between ego maturity, as measured by Loevinger’s (1976) model of ego development, and social evaluative concerns in a sample of 882 children and adolescents in the community. This study found that social evaluative concerns increased with age and that this age-effect was entirely mediated by developmental differences in ego maturity, especially conformist and self-aware levels. Interestingly, these ego levels centre on garnering approval from the social reference group in terms of correct opinions, behaviour and appearance, on the one hand, and, on the other, an internal orientation “toward personal feelings, thoughts, and opinions” that does not replace the need for the psychological approval, or alignment, from, and with, others (p. 484). These sociocognitive developments therefore relate to developments in the child’s consideration of others’ perspectives on the self in the context of concerns with integration with others.

With this exception, researchers have otherwise hypothesised that social anxiety may be associated with various sociocognitive developments. Gullone and King (1997) have hypothesised that social anxiety may be associated with abstract reasoning since “adolescents are more likely to evaluate themselves against ideal standards and to believe that others are also evaluating them the same way” (p. 107). Bruch (1989) and others (Bokhorst et al., 2008) suggest that enhanced self-reflection and the ability to take numerous others’ perspectives on the self (e.g., parents, peers) may explain social anxiety. Inderbitzen-Nolan and Walters
(2002) suggest that this may result in an “awareness of discrepancies between the perceptions of oneself by one’s peers and one’s self-perceptions” (p. 367). These hypotheses are equivalent to those suggested in the context of shyness and embarrassment (see Harter, 2006; Bennett & Gillingham, 1991). In both areas these mechanisms are broad in that they encapsulate social anxiety of many different types with potentially different sociocognitive mechanisms, and at a pragmatic level they simply have not been empirically evaluated.

The current thesis expands on this research and suggests that the ability to engage with the perspectives of others, as they relate to the self, as well as consider (e.g., cognitively represent) and experience (e.g., fear, arousal) the implications of these cognitive processes develops uniquely in late childhood and adolescence as a consequence of cognitive and social developments. Specifically, consistent with proposals in the area of embarrassment, shyness and social anxiety above, developments in perspective-taking established by Selman’s (1980) are hypothesised to be cognitive requisites for the experience of social anxiety phenomena characterised by the kinds of self-other representations above. The timing of these developments coincides with the salience of these concerns in these individuals’ lives, and the increasing self-reflexivity of these experiences between age 8 to 12 years. This may be more than a coincidence.

Specifically, Selman (1980) described various changes in the quality of perspective-taking beginning at age 3 years and continuing into adolescence and adulthood. Martin, Sokol, and Elfers (2008) recently expanded this theory to include pre-reflective, action-orientated, forms of perspective taking during infancy (e.g., rolling a ball). Interestingly, these considerations converge with a conceptualisation of early, non-reflective, forms of embarrassment as based in social, as opposed to psychological, interaction (e.g., Coyness,
Reddy, 2003). Selman (1980) and Martin et al. (2008), the latter with greater emphasis on social interaction, describe the ability to take others’ perspectives as further developing and being less contingent on particular social interaction and cognitive-affective sequences. These developments converge with greater self-reflexivity and subjective salience of these concerns in middle childhood and early adolescence—i.e., at 8 and 12 years. Therefore, it may be here that the capacities underlying the self-reflexive experience of social anxiety and associated constructs reviewed emerge.

These efforts at perspective-taking are, however, highly social in nature. In other words, they are not just egocentric phenomena but are tied to the person’s achievement of social goals. In this vein, and given the challenges of psychosocial development, perspective-taking may be described as facilitating the child’s attempt to integrate and adapt to an expanding set of increasingly diverse social situations and challenges (e.g., imagining how one might fare within a variety of social, interpersonal situations that involve the broader social group) (Martin & Sokol, 2010). Social anxiety, on the other hand, given the experiential analysis above and the associated models of self-regulation and social anxiety, may result from the person engaging in this social cognition and, in turn, perceiving that that are not able to manage these demands.

Important, however, is that individuals during this time of development are expected to differ in the degree to which they do engage in these forms of social cognition. Relevant here are the constructs public self-consciousness (Fenigstein et al., 1975) and self-monitoring (Snyder, 1974). In this context they are conceptualised as psychological orientations that place individuals on two related continuums of self-monitoring behaviour. These continuums describe whether one cares (not at all to very much) about the public self-image projected to
others, on the one hand, and the extent to which one monitors and/or intends to modify their behaviour in light of perceived demands from the social reference group (see Banerjee, 2002a). Consistent with Carver and Scheier’s (1981) expectation, these forms of self-monitoring are expected to result in social anxiety only when the individual also perceives that they will be unable to engage in behaviours that ensure positive appraisals from others. At the same time these relations are further contextualized within stages of perspective-taking and levels of social integration which are believed to moderate the relevance (strength, significance) of the processes. Thus, a number of empirically informed but novel moderating and mediating hypotheses are made regarding the relations between and with perspective-taking stages and across levels of social integration as predictors of social anxiety. The stages of social perspective-taking are now outlined in detail along with a more detailed outline of the proposed relationships between social motives, perceptions of efficacy and social anxiety as a function of perspective-taking and social integration.
Chapter 6: Social Anxiety and Social Perspective-Taking Development

Selman’s Developmental Theory of Social Perspective-Taking

Selman (1971ab, 1973, 1980) and colleagues’ (Selman & Byrne, 1974) theory of social perspective-taking begins with many of the same assumptions as Piaget’s (1936; 1963). For one, development is believed to begin with a lack of self-other differentiation and to then progress through a series of stages marked by qualitative shifts. These shifts represent fundamental changes in children's understanding that occur in an invariant sequence. Although environmental or physiological factors may affect the rate of progression, they do not change the sequence. Each stage also represents a ‘structured whole’, meaning that a particular response is reflective of more than just factors specific to the task. Rather, it is representative of an “underlying cognitive logic that characterizes thought at that stage” (Selman, Jaquette, & Bruss-Saunders, 1979, p. 16). Finally, the stages of perspective taking are hierarchical integrations. In other words, children build on the conceptions developed in previous stages and will occasionally respond to interpersonal problems using lower-level conceptions. Children at lower stages, however, cannot employ higher stage solutions.

Selman’s work is also a direct derivative and expansion on the work on visual-perceptual perspective-taking which he applied to the construct of conceptual-mental perspective-taking. However, Selman (1971a, p. 1722) theorized that conceptual perspective-taking requires “the ability to infer another's capabilities, attributes, expectations, feelings, and potential reactions”, thus moving perspective taking into the social-cognitive domain, as opposed to the visual domain as in the three-mountains task. Importantly, Selman describes the development of social perspective-taking as “a developing understanding of how human points of view are

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3 In the three mountains task children are challenged to conceptualize the view of a model (a mountain) from another’s (a doll’s) perspective, the failure of which was attributed to egocentricism, or a failure at visual perspective-taking.
related and coordinated with one another and not simply what social or psychological information may appear to be like from an alternative individual’s perspectives as in the construct of role taking” (Selman, 1980, p.22). It is the related and coordinated nature of perspective taking, that is, from self to others and back again (i.e., recursive cognition), that makes this account different from current takes on these skills which may be described more as tests of whether the individual can infer correctly the thoughts and desires of others (e.g., theory of mind / false belief understanding).

Social perspective-taking is, however, quantified by the individual’s understanding of concepts that are argued to require certain subjective understanding and psychological complexity representing the thoughts and intentions of self and other (e.g., from a first person to a third-person perspective). Selman (1973) argued, in other words, that as one passes through the levels of social perspective-taking one develops a more complex understanding of human relationships and perspectives (perspective-taking structure), and better understands the processes and motives which inhabit the minds of self and others (perspective-taking concepts). In this vein, social perspective-taking can be described as the co-ordination of psychological perspectives within a socially motivated context as individuals attempt to negotiate their social relationships (Martin & Sokol, 2010). It is this social psychological combination that is argued here to be a central developmental and experiential mechanism in social anxiety.

Both the structure and content, or the concepts associated with these relations, of Selman’s five levels of social perspective-taking will be described, as will the ‘prerreflective’ forms of perspective-taking that were argued to precede these developments by Martin et al. (2008). While these earlier, prerreflective stages are not relevant to the subjective forms of
social anxiety of interest here, their inclusion helps characterise social perspective-taking as inherently interactive and as involving both the ‘self’ (psychological) and ‘other’ (social) as mechanisms of ontogenesis and the development of social subjectivity or personhood. These earlier interactional patterns set the stage, as such, for the individual’s thinking about themselves and others at increasing levels of psychological abstraction within an increasingly complex social environment beginning with their understanding of the self as part of dyadic social interactional systems to broader social systems and interactional patterns.

**Prereflexive Perspective-Taking (Martin et al., 2008)**

Pre-reflective forms of social perspective-taking, as they name suggests, occur without conceptual thought or thinking. The infant does not, for example, have a concept of self or ‘me’. Martin et al. (2008) conceptualise two levels. The first is termed ‘perceptual/experiential repetition and resistance’. At this stage there is no self-world distinction and the world consists primarily of undifferentiated objects. The infant instead ‘experiences different kinds of resistance [sic]...and has the ability to alter perceptual inputs so as to recreate experiences (usually by reorienting to a previously experienced location and object – e.g., mother’s breast, animated crib mobile)’ (p. 310). Here then, the child repetitively *positions* itself in relation to objects in order to recreate experiences. This positioning, although suggesting some reflection, is argued to be grounded in early instinctive learning of patterns of inputs and their responses (i.e., contingencies, Bigelow, 1999). Thus, at this stage there may be at least some limited stimulus-dependent self-other or self-object differentiation that, as Zinck (2008) suggests, occurs within ‘action possibilities’ of the cognitive system.
The second level Martin et al. (2008) term ‘positional possibilities’, which follows from theorising from Martin (2005, 2006, 2007, 2008) and Gillespie (2005, 2006). At this level, orientation to situations is extended to the actions of self and others that commonly take place within routinised social interaction. Specifically, the child is at first assisted in engagement in conventional social interactions that include both others and objects (e.g., rolling a ball, receiving gifts, playing hide and seek) and through repetition comes to more independently appreciate, prelinguistically, the emotional and behavioural correspondents associated with these interactions. According to Gillespie (2005), the child can now occupy two or more complimentary positions simultaneously—one actually and others imaginatively (i.e., in anticipation). According to Martin et al. (2008), this represents a ‘primitive’ coordination of perspectives that includes self-other differentiation, but it is still largely dependent on specific action and, arguably affective, sequences (see also Moretti & Higgins, 1999).

These prereflective forms of perspective-taking provide the foundations for increasingly differentiated forms of self-other representation and coordination of perspectives described by Selman (1973, 1980). Consistent with increasing reflective capacity these occur less at the level of action and more at the level of the individual’s psychological representations of experience. In particular, the individual begins to be able to represent both self and others from abstract positions that are not dependent on (although not independent from) specific or actual cognitive, affective and behavioural sequences/interactions. In this sense the individual achieves the ability to truly anticipate and imagine the perspectives of self and others – conceptualising their relation to others outside of the actual social interaction itself.
Reflective Perspective-Taking (Selman, 1973, 1980)

The reflective levels of Selman’s theory increase from a focus on the physical, observable actions of self and others to greater appreciation of the psychological life of self and others. In Selman’s theory these developments are represented by changes in the individual’s conceptions and explanations of others’ actions, intentions, motives, subjectivity and personality, as well as its growth.

Level 0, undifferentiated and egocentric perspective-taking, occurs in children between approximately 3 to 6 years of age.

At the structural level, the child realises that others exist separately as distinct entities, but no distinction is made between perspectives at a psychological level: the individual believes that others have the same orientation that they do (e.g., believes that others like sports because they do). In other words, the child is still unable to “make a distinction between a personal interpretation of social action (either by self or other) and what he considers the true or correct perspective. Therefore, although the child can differentiate self and other as entities, he does not differentiate their points of view” (Selman & Byrne, 1974, p. 804).

At the level of content, the individual is able to predict others’ emotions when they know how they would feel, but these interpretations are physicalistic. When asked to explain the reasons for others behaviours, for instance, the child does not refer to unobservable feeling states or motives as causes because the reason for action is seen to be equivalent to the action itself. At this stage there is no distinction made between the physical and psychological world of others—everything occurs and can be explained at the level of action and observation. In terms of social interactions the child differentiates between people, however, “the child’s own action orientations predominate exchanges; e.g., engaging in ‘monologic’ conversations and
actions (unadjusted to partner’s understanding or position in the dialogue), such as pointing or showing objects of interest to someone on the telephone” (Martin et al., 2008, p. 308).

Stage 1, *subjective or differentiated perspectives*, children ranging in age from around 5 to 9 years, are aware that others have subjective and psychological perspectives. At a *structural* level they understand that others may have different ideas or perspectives, particularly when the situation contributing to these perspectives is in some way different as might be the case, for example, when all actors are not privy to the same information (i.e., false belief understanding). However:

The child is still unable to maintain his own perspective and simultaneously put himself in the place of others in attempting to judge their actions. Nor can he judge his own actions from their viewpoint. He has yet to see reciprocity between perspectives, to consider that his view of other is influenced by his understanding of other's view of him (Stage 2). He understands the subjectivity of persons but does not understand that persons consider each other as subjects rather than only as social objects (Selman & Byrne, 1974, p.804).

Similarly, at the *conceptual* level, the individual understands that others may have idiosyncratic reasons for behaving and feeling the way they do; however, their understanding of persons is somewhat one-dimensional since they cannot yet appreciate that someone can have conflicting emotions towards the same event (e.g., be happy and sad). Selman noted that the most defining feature of this stage is the child’s newly developed concern with the covert psychological lives of others. Interactively, children may approach situations with knowledge that interacting partners have different informational, motivational and behavioural orientations to the situation, yet these are not yet co-ordinated with one’s own. Indeed, the age at which these abilities emerge correspond with the age that children can make reference to
embarrassment and self-presentation as emotions in others when the reason for them in
behavioural and motivational terms is made explicit (e.g., hiding feelings because not wanting
to appear silly).

Stage 2, *self-reflective or reciprocal perspectives*, occurs in children aged between
approximately 7 to 12 years, and now have the ability to reflect on their own thoughts and
feelings from another’s perspective, and can understand that one may have multiple subjective
attitudes toward a social event.

A major development at Stage 2 is the ability to reflect on the self’s behavior and
motivation as seen from outside the self, from the other's point of view. The child
recognizes that the other, too, can put himself in the child's shoes, so the child is able
to anticipate other's reactions to his own motives or purposes. However, these
reflections do not occur simultaneously or mutually. They only occur sequentially.
The child cannot "get outside" the two-person situation and view it from a third-
person perspective (Selman & Byrne, 1974, p. 804).

In other words, the child is able to take a second-person perspective which leads to an
awareness of a new form of reciprocity, a reciprocity of thoughts and feelings (I know that he
likes me; he knows that I like him) rather than a reciprocity of action (he does for me; I do for
him). At the same time, even though the individual can form a ‘co-ordinated chain of
perspectives’, it is still the case at Stage 2 that these self-reflections remain isolated. This
means that the individual rarely considers their own and others’ perspectives simultaneously
from a third or generalised perspective.

The conceptual understanding resulting within this stage has direct relevance to
developments in reflexive evaluative phenomena. Specifically, it is here that individuals
appreciate the reciprocity of action and also the evaluative nature of their interactions. As
such, they will anticipate and orientate to situations with others’ perspectives in mind (e.g., understanding that others hide subjective experience to keep face). The potential affective significance of these perspective-taking efforts was briefly considered by Selman (1980) who noted that self-presentation (e.g., covering up one’s feelings to protect social reputation) and embarrassment are markers of this stage. These developments also correspond with the time when children begin to make spontaneous references to social evaluative emotions and motives in others.

At the same time individuals at Stage 2 cannot form a third-person or generalised perspective and their perceptions remain isolated within the social interaction sequences themselves. Thus, one may expect concerns about social evaluation at Stage 2 to be dependent on specific cognitive, affective and behavioural cues to elicit their significance. Social anxiety similarly varies in the degree to which it is grounded within routine social, cognitive and affective sequences. Fear of negative evaluation defined by specific concerns about being teased and disapproved of are, for example, likely to be tied to the individuals’ direct and vicarious social experiences.

It will be hypothesised in the current thesis that FNE will show a greater preponderance at Stage 2 than at the following stages, while social anxiety that relies on the individual’s consideration of other’s perspectives in the relative absence of actual cognitive-affective and behavioural cues will be most evident once the person can ‘escape’ these processes (e.g., social anxiety for situations such as being observed, while eating).

Stage 3, or third-person or mutual perspectives, is the point at which individuals can achieve a more complete view of the relation between self and others. Specifically, between approximately age 10 to 15 years of age, the “preadolescent is able to distance themself from
dyadic and sequential processing of self-other relations which permits a ‘truly third-person perspective which … simultaneously includes and coordinates the perspectives of self and other(s)’ (Selman, 1980, p. 34). Selman (e.g., Selman & Byrne, 1974, pp. 804-805) emphasised how these developments were situated within the child’s negotiation of group processes. These authors write, for example,

The child at level 3 discovers that both self and other can consider each party’s point of view simultaneously and mutually. Each can put himself in the other's place and view himself from that vantage point before deciding how to react. In addition, each can consider a situation from the perspective of a third party who can also assume each individual's point of view and consider the relationships involved.

Here, social interactions are marked by greater mutuality in conceptions of self and others—the self as working with others requires a more distanced and generalised perspective about the nature of social interactions. As such, perspective-taking is not restricted to concurrent behavioural and affective experiences that occur, for example, idiosyncratically within dyadic or isolated group interactions (e.g., non-permeable friendship groups at school). Instead, interactions are viewed as being shaped by more integrative principles that allow the self to align with others and other’s with the self in a more general way (e.g., without needing to refer to discrete and situationally-specific behaviours and emotions). In this stage one’s conduct is conceptualised as needing to fit into broader social milieu beyond that of isolated intimate relations (e.g., parents, close friends).

Affectively, one may expect this would usher in greater self-reflexivity in thinking about self and others, and more importantly, how the self is likely to be evaluated by others, with greater anticipation and in the absence of cognitive-affective cues from the social
environment or peer group (i.e., spontaneous-observation anxiety). Here social anxiety may be generated primarily through the individual’s own sociocognitive efforts. This may correspond to social anxiety in situations which are not commonly associated with, or tied to, negative evaluation from others. Such situations may include, for example, eating in public, entering a room full of people, etc. These situations are without explicit cognitive affective consequences and, as such, in order for them to have personal significance the individual may have to spontaneously consider the possibility of evaluation in the situation. These proposed qualitative differences are represented in the social anxiety typologies described in Chapter 2 which increase with age (e.g., Sumter et al., 2009).

These trends may be further established at Stage 4, societal or in-depth perspectives, which develops from approximately age 14 years into adulthood. At this stage gains continue to be made toward the understanding of more complex social system interactions, including societal, moral, and legal perspectives. The subject can not only conceptualise the subjective perspectives of self and others toward one another (e.g., in terms of mutually shared expectations), they can conceptualise relations in terms of these deeper societal structures. The individual, as such, develops a generalised perspective of social relations.

So far, developments in perspective-taking ability have been linked to social anxiety more or less directly. That is, social anxiety has been hypothesised to be intrinsic to developments in relevant perspective-taking abilities (Stages 2 to 4). Yet, individual differences are also likely to add to an explanation of social anxiety. In this regard, a number of psychosocial variables—self-presentation, public self-consciousness, social self-efficacy and social integration—are hypothesised to predict social anxiety within perspective-taking stages.
First, individuals are expected to vary in the degree to which they engage in perspective-taking and monitor their social relations. Relevant here are the constructs public self-consciousness (Fenigstein et al., 1975) and self-monitoring (Snyder, 1974). In this context they are conceptualised as psychological orientations that place individuals on two related continuums: whether one cares or thinks about (not at all to very much) the public self-image projected to others, on the one hand, and the extent to which one monitors and/or intends to modify their behaviour in light of perceived demands from the social reference group (Banerjee, 2002a). These psychological orientations are expected to further explain social anxiety within Stages of social perspective-taking; however, consistent with Carver and Scheier’s (1981) expectation these forms of self-monitoring are expected to result in social anxiety only when the individual also perceives that they will be unable to engage in behaviours that ensure positive appraisals from others. Thus, within the relevant perspective-taking stages (Stages 2 to 4), self-monitoring is expected to predict social anxiety via negative self-efficacy beliefs. This mediating pathway is depicted in Figure 6.1 (paths a and b).

![Figure 6.1. Moderated Mediation Model Predicting Social Anxiety Within Stages of Perspective-Taking.](image)
Also depicted in Figure 6.1 are some moderating relationships (paths \(d\) and \(e\)). Specifically, of interest is whether the mediating relationship is significant across levels of social integration. There is only a limited discussion of social integration and social anxiety in the literature. Social integration has been linked to social anxiety theoretically (rather than empirically) as an important contextual variable (e.g., evolutionary accounts, see Gilbert, 2001) or it has been considered empirically as a predictor of social anxiety. This empirical consideration is also limited by correlational research indicating that social anxiety and social integration are negatively correlated. As an example of the latter, studies consistently report that poor social integration is a significant and positive predictor of greater social anxiety (e.g., Kingery, Erdley, Marshall, Whitaker, & Reuter, 2010; La Greca & Harrison, 2005). Thus it might be expected that only those low in social integration would doubt their skills, and in turn, experience social anxiety when thinking about their public self-image and considering the demands of the social reference group (i.e., the self-monitoring orientations above).

This thesis aims to extend this limited focus by suggesting that social anxiety may be significant at higher (moderate) levels of social integration when social integration is considered in the context of sociocognitive development and psychological orientations discussed above. Specifically, in the present context, engaging in perspective-taking and thinking about the public self-image are conceptualised as psychological mechanisms through which individual’s attempt and seek social integration (Martin & Sokol, 2010). In this way perspective-taking and the self-monitoring orientations above are psychological “tools” that serve motives to be socially integrated or accepted by the social reference group (one’s peers in this context). Importantly, and what extends current theorising in this area, is the notion
that even individuals who are relatively well integrated may anticipate, through self-monitoring, that their current social abilities are inadequate.

For instance, self-monitoring, which is proposed to serve integrative functions, may be associated with negative appraisals of efficacy at both ‘lower’ and ‘moderate’ levels of social integration, as there is more likely to be an emphasis on enhancing social integration. This can be contrasted with higher levels of social integration where the individual, because of their relative security, may engage less in this type of thinking and/or when doing so be less likely to doubt their social skills as a consequence. By the same token the attenuating effect that efficacy is proposed to have on social anxiety may be more exaggerated for those low in social integration compared to those higher in social integration. Thus, social integration is specified as a possible moderator of the path from social motives to social self-efficacy (path ‘d’) and also the path from efficacy to social anxiety (path ‘e’). This decision was made so that potential moderating effects were not missed given there is no prior research.

In summary, Figure 6.1 describes the proposed relationships between self-monitoring (self-presentation and public self-consciousness), social self-efficacy (conflict and non-conflict) and three forms of social anxiety, as well as moderation of these relations by social integration. It is proposed that the effects that self-presentation and public self-consciousness have on social anxiety will be mediated by social self-efficacy (conflict and non-conflict) and that these effects will hold across levels of the ‘moderator’ social integration. Note that in this context, social integration is argued to not moderate the indirect effect of social motives on social anxiety so it is the absence of a ‘conditional indirect effect’ or moderated-mediation (see Preacher, Rucker, & Hayes, 2007) that is tested.
This moderated-mediation model will be tested within each stage of perspective-taking separately. This is done given the expectation that perspective-taking will also moderate the prediction of social anxiety. This moderation is expected on the basis that each stage has a unique way of structuring the child’s subjectivity. A number of moderating hypotheses have already been described above. For example, FNE, which is characterised by social anxiety tied to actual cognitive-affective and behavioural circumstances (e.g., teasing), is expected to prevail at Stage 2 more than Stages 3 and 4 because individuals at Stage 2 still rely on these kinds of cues in their perspective-taking efforts. On the other hand, observational social anxiety, where cognitive-affective and behavioural cues are less evident (e.g., being observed eating), is expected to predominate once the child can anticipate and adopt a third-person perspective (at Stages 3 and 4).

Further moderation is also expected regarding the prediction of social anxiety from the aforementioned psychosocial variables. A concern with self-presentation, or hiding feelings to save the self from embarrassment, is highlighted by Selman as a characteristic of Stage 2. As such, one hypothesis is that self-presentation will predict social anxiety (and via efficacy) more at Stage 2 than at Stage 3. Another characteristic of Stage 2 development is that the child perceives that personal and social goals (e.g., winning a game) can be achieved through their psychological will and confidence. One may expect then that self-efficacy will be particularly important in predicting social anxiety at Stage 2. This can be contrasted with Stages 3 and 4 where social conceptions are marked by greater mutuality, where the self is conceptualised as working with others to achieve goals. It follows that satisfaction with social relationships with others, rather than social self-efficacy, may be more important in predicting social anxiety at Stages 3 and 4.
These hypotheses will be evaluated using both interview and questionnaire methodology. Specifically, the Social Understanding Interview (Selman et al., 1979) will be used to assess perspective-taking and a questionnaire set will be used to assess social anxiety, self-monitoring (self-presentation, public self-consciousness), social self-efficacy and social integration. As described in the Materials section a number of the questionnaires were adapted in light of the study’s aims. In the remainder of this thesis, the model summarized in Figure 6.1 will be tested, following a description of the method in the following chapter.
Chapter 7: Empirical Study

Participants

Students from 5 Primary and 5 Secondary schools in Eastern Metropolitan Melbourne participated. The total sample consisted of 171 students aged 7 to 15 years ($M = 11.17; SD = 2.11$; 112 girls; 59 boys). In the Australian school-system students commence their primary education at age 5 or 6 years (Year 1) and their secondary education at approximately 12 to 13 years of age (Year 7). Of the 171 participants, 69 were in early primary (8 to 10 years\(^4\)), 60 in later primary (11 to 12 years) and 42 were adolescents attending secondary school (see Table 7.1 for means, standard deviations and gender composition for these age groups).

Table 7.1

<table>
<thead>
<tr>
<th></th>
<th>8-10 year-olds</th>
<th>11-12 year-olds</th>
<th>13-15 year-olds</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>25</td>
<td>45</td>
<td>22</td>
</tr>
<tr>
<td>Mean Age</td>
<td>9.12</td>
<td>11.43</td>
<td>14.17</td>
</tr>
<tr>
<td>SD</td>
<td>0.81</td>
<td>0.50</td>
<td>0.82</td>
</tr>
</tbody>
</table>

The response rate of 20% was consistent with similar Australian studies (Cummins, Hammond & Moore, 1994). Reasons for not responding could be study information packs and parental consent forms not reaching home from school, non-return of parental consent forms, the child being absent from school during the time when the study was being undertaken, or the child's own disinclination to participate. Data from the non-responders were not collected. Due to incompletely filled out questionnaires ($N = 2$) or the participants being absent for the

\(^4\) Even though there is 1 child aged 7 years in this sample this group is referred to as 8 to 10 as it is more representative of the actual demographic of this age group.
interview stage of the study ($N = 1$), three participants were excluded from the study analyses. Other than age and gender, demographic data were not collected; however, all schools were in the middle to upper socioeconomic demographic according to public records (Australian Curriculum, Assessment and Reporting Authority, http://www.acara.edu.au).

Exclusion Criteria

A pilot study ($N = 3$; 2 girls) was conducted to determine whether 7 year-old (Year 2) students would have the ability to understand the study’s questionnaires. This was important given that studies of the variables under investigation have rarely included children younger than 8 years of age. In addition, since self-report questionnaires were used for part of the data collection, it was important to determine whether younger participants had the ability to complete them on their own.

The participants in the pilot study were selected from the first school and were subject to the same research protocol as described in the Procedure section below. That is, they completed all measures and the interview. The only difference was that instead of answering the questionnaires themselves the researcher read each item aloud and probed their understanding before assigning a score for each item. Depending on the child, this procedure took between 70 and 85 minutes.

Of the three participants, two appeared to misunderstand the meaning behind a number of the constructs measured. In particular, items indicative of social evaluation concern (e.g., I worry about what other people think of me) and self-consciousness (e.g., I worry about how I look to others) were endorsed as being highly significant (e.g., Always), while probing revealed a misunderstanding of the question (i.e., talking of unrelated subjects). This
misunderstanding was contrasted by appropriate responses to the Self-Efficacy for Peer Interaction questionnaire. This questionnaire includes items like, ‘Some kids are using your play area. Asking them to move is _____ for you’? When asked why this would be easy or hard, responses like ‘That’s easy because I do that all the time’ or ‘That might be hard because they could say no...yeah that could happen’ were indicative of appropriate understanding. Thus, problems in understanding appeared restricted to the social anxiety and social motive questionnaires which are linked by their assessment of perceptions of the self in relation to others (i.e., social anxiety, self-presentation, public self-consciousness). Given that the majority of the study’s constructs required the participant to think about self in relation to others only participants 8 years or older were subsequently recruited.

Materials

The assessment materials included the Social Understanding Interview (Selman et al., 1979) and a questionnaire set assessing social anxiety, self-monitoring (self-presentation, public self-consciousness), social self-efficacy and social integration. The questionnaires were provided in a booklet form so the order remained constant over the entire sample. Whether participants completed the interview or questionnaires first or second varied according to the schools' needs and preferences. Questionnaires were most often completed as a group.

Social Understanding Interview

Perspective taking was assessed through the Social Understanding Interview schedule designed by Selman et al. (1979). Social perspective-taking, as described in the Introduction, is assessed through the discussion of hypothetical dilemmas. These dilemmas are suited for
particular ages and are also specific in content to four particular interpersonal domains: individuals, close friendships, peer group organisation and parent-child relationship. Each domain is associated with a particular set of issues. It is the individual's conceptions of these issues that are, in turn, scored as indicative of a given stage of perspective-taking. That is, for each domain there is a set of issues which, through discussion, provide content which makes sense in light of the individual's perspective-taking stage.

What is important is not the content of the domain but the level of social understanding exhibited and elicited in response to the content of the story related to that domain. The dilemma and interview questions that follow often serve simply as a “jumping-off place” for further discussion of children's own experiences or general understanding of interpersonal issues (Selman et al., 1979, p. 18). In this way, the process mirrors a cognitive assessor setting aside the rigorous standardization of an IQ test in order to “test the limits” of a particular child. Thus, while each of the domains may be assessed to provide the most robust account of the person's perspective-taking stage, this is unnecessary since each stage is argued to represent a structured whole which guides the person’s understanding of the issues and events more generally. In the current study only the individual domain was used as it is the most face-valid at targeting issues relating to the study. Thus, only the individual domain will be described in detail here. Specifically, the stories, issues, and concepts associated with different stage scores, as well as the process of scoring, are described.

The Individual Domain

The Individual (or person's) domain is assessed and scored for four key issues relating to the individual's understanding of persons. Issues include 1) subjectivity (i.e., covert
properties of persons, such as thoughts, feelings, and motives), 2) self-awareness (i.e.,
awareness of the self's ability to observe own thoughts and actions), 3) personality (i.e., stable
or predictive character traits), and 4) personality change (i.e., how and why people change).
These issues are discussed using standardised questions and follow-up probes. The story
selected depends on the age of the child. The Puppy Story is suitable for children aged up to
10, while the Ping-Pong Story can be used for older individuals. Given these stories are
unique in their content they are associated with their own set of standardized questions for
each issue. Given space limitations, the questions and the issues targeted for a given stage are
provided here for the Ping Pong Story only; however, those for the Puppy Story are available
in Appendix A.

The Ping-Pong Story

Keith, 10, and Jerry, 8, live across the street from each other and are good friends, even though Keith is
older. They have a lot in common, but Keith especially likes playing ping-pong at Jerry's house. However, Keith
always wins, and finally one day when he beats Jerry 21 to 10, Jerry throws down his paddle and says, “That's it!
There's no sense in me playing ping-pong anymore because I always lose”.

He and Keith argue, Keith saying he should keep trying, Jerry saying you don't know what it feels like to lose
all the time. Keith says, "You don't want me to think you're a poor sport, do you?" Jerry says it's not being a poor
sport; it's just no fun for him when he never wins. Keith says, "Think about me. If you won't play with me, where
am I going to play? No one else has a ping-pong table." They argue louder and louder, and Jerry's 11- or 12-
year-old sister, Jean, and her friends, Lisa and Ellen, come in to see what's the matter. When the boys tell Jean,
she says she can see that they both have a point. Why don't they not play ping-pong with each other for a little
while, and she will let Jerry practice with her. Then maybe when he gets better, he could try playing with Keith
again. At first Jerry says that wouldn't do any good. Finally, Jean suggests that maybe it's time to try playing
with Keith again. Jerry says he doesn't think he's good enough and he doesn't want to lose. Jean says he'll never
know if he doesn't try. So they play.

At the beginning of the game, Jerry says that if he loses this time, he'll give up ping-pong for good. Keith
claims he's out of practice, says Jerry really has gotten a lot better. Jerry wins and is all excited, but Lisa says,
"Wow, Keith, you sure didn't do very well." Jerry stops leaping around and says, "You were just out of practice,
right? You didn't let me win, did you?"

After the child reads this story to themselves they are asked a number of standardised
questions designed to assess each issue.

The issue of subjectivity deals with the individual's concepts of the covert properties of
persons, for example, whether the self or other can entertain one thought, feeling or intention
toward a social object at a time (Stage 1), or whether conflicting orientations may be held simultaneously within the self (Stage 2). At stages 3 and 4 conflicting covert aspects of person’s are reflected upon and integrated with differing degrees of complexity. Once a third person perspective is achieved, for example, the person orders and relates these conflicting experiences (Sample questions include, “If Jerry is happy about finally winning, but sad that Keith let him win, how would he feel overall?” “Have you ever had mixed feelings about something?” “Could a person look happy on the outside but be sad on the inside?”

Similarly, the issue of self-awareness is defined by conceptions of persons being able (or not) to hide their feelings/intentions from self and others with differing levels of self-reflexivity. The question, “Suppose Jerry finds out that Keith let him win and he says to Keith, "I never cared about ping-pong anyway." Why might he say something like that?” is designed to assess whether the child understands the idea that people can hide their feelings based on personal/social motives (e.g., Jerry saying he doesn’t care when he really does so that he feels better about himself and/or is not embarrassed about losing). The question “Could Jerry fool himself into thinking he didn't care about the game? How could he do that?” provides a measure of the child’s ability to reflect on their subjective experiences from different perspectives. At Stage 2, through a second person perspective, answers will reflect an understanding that people can fool the self by forgetting or repeating something over and over but only until the self remembers or stops doing it. At Stage 3, however, through a third-person perspective, this dimension is given greater depth with the person referring to the mind's activity from an observer perspective (e.g., actively distancing the self from unwanted thoughts and feelings as if the self can push things away).
Issues of personality and personality change similarly depend on the achievement of a first, second or third person perspective (Stage 1, 2 and 3, respectively). At Stage 1 personality is described with reference to overt behaviours only, while at Stage 2 the person refers to internal motivational states, which are isolated to the specifics of the situation until Stage 3 where various motivational states are summarised as traits which go beyond the specific interaction sequence. (Questions include, *Do you think Jerry is a poor sport, or a sore loser, stubborn, thin-skinned, overly competitive? What would that tell you about him? What does it mean when you say a person is a poor sport?*). The individual’s description of change can similarly be described from a physical perspective (e.g., getting bigger, Stage 0), changing what one does (Stage 1) versus a self-reflective perspective (e.g., trying hard) versus a more generalised perspective (e.g., change as a natural progression that happens to everyone, Stage 3).

**Scoring** Once interviews are transcribed, scorable issue-concepts are given single stage scores that reflect the highest reliable stage identified. For example, the issue *self-awareness*, Stage 2, is associated with 5 concepts that indicate an understanding that inner psychological realities—thoughts and feelings—are what is *really* important and that these can be deliberately hidden (e.g., self-presentation) and reflected upon to understand others and to help the self (e.g., build confidence). If the child indicates Stage 2 conceptions 75% of the time then the issue is scored as indicative of Stage 2. This is then completed for all the remaining issues in the same way. Once all of the four issues are given a stage score they are then averaged to compute an overall global stage score. This allows for an estimate of the perspective-taking stage at which the child is functioning (see Selman et al., 1979; Selman, 1980).
Questionnaires

Questionnaires were used to assess social anxiety, social motivational orientations, social self-efficacy and social integration. The reliability of the social anxiety scales are discussed in the Results section as they require a number of separate analyses. It suffices to say here that the consistency with which individuals answer and understand the construct of interest is expected to vary according their scores on the social understanding interview just described. This makes sense given that social anxiety is argued to vary according to changes in understanding and experience. This should be reflected in differences in the consistency or reliability with which individuals respond to items, specifically, poorer reliability may be expected when individuals do not have requisite understanding or experience to inform their responses.

Social Anxiety

As discussed in earlier chapters, social anxiety is multidimensional and varies significantly in precipitating conditions and quality. Researchers have, however, rarely taken account of this variation and have simply analysed scales without considering their findings across different dimensions. As described earlier social anxiety is argued to vary developmentally as a function of social and cognitive precipitants. Social anxiety may, for example, present first in the child’s routine social exchanges (e.g., teasing) with little self-reflexive cognition, whereas later it may depend on the individuals’ self-reflexive consideration of self and others. These differences are readily observable in different measures of social anxiety already available. For this study, measures were selected on the basis that they had relevant subscales or, in one instance, contained items which were
consistent with the theoretical construct of interest. These measures will now be described both qualitatively and psychometrically, and their selection is justified.

The Social Anxiety Scale for Children-Revised (SASC-R, La Greca, 1999)

The SASC-R was designed to measure social anxiety in the context of children and adolescent’s peer relationships. Social anxiety is further conceptualised into three categories assessed by the subscales of the SASC-R. These subscales are: Fear of Negative Evaluation (FNE, 8 items); Social Anxiety and Distress for New Situations (SAD-New; 6 items) and Social Anxiety and Distress for General Situations (SAD-General, 4 items). Social anxiety is defined on the FNE scale as ‘fear’/’concern’/’worry’ about being evaluated negatively by peers (e.g., anticipating or assuming that one is or will be teased, made fun of, not liked). Given that the peer context, presumably at school, is the context for these concerns, FNE may be conceptualised as a measure consonant with social anxiety that is grounded explicitly within the person’s routine social and psychological exchanges with others. (e.g., anticipating or assuming that one is or will be teased, made fun of, not liked). SAD-New, on the other hand, measures ‘anxiety’/’shyness’/’nervousness’ occurring in situations that are new or include unfamiliar peers (e.g., doing something new in front of, or talking to, unfamiliar peers). SAD-General measures social anxiety more generally (e.g., asking others to play). All items are answered on a scale from 1 = ‘Not at all’, 2 = ‘Hardly ever’, 3 = ‘Sometimes’, 4 = ‘Most of the time’ and 5 = ‘All the time’.

It is important to note that these subscales are only moderately correlated ($r = .45$ to $.59$, $p < .001$). This suggests that they measure three distinct aspects of social anxiety phenomenology. It is in this vein that the subscales of the SASC-R were used in this study.
Specifically, the conceptual differences between these subscales are important in light of the hypothesis that social anxiety may vary as a consequence of social and psychological developments. Specifically, social and psychological development represented by age and perspective-taking are argued to determine if individuals experience social anxiety that is grounded in their actual and concurrent social and psychological concerns (FNE, SAD- General) versus social anxiety associated with emerging psychosocial challenges (SAD-New). Whether these forms of social anxiety differ as a consequence of age, perspective-taking or their interaction is an empirical question to be answered in this study.

Both the FNE and SAD-New subscales have illustrated acceptable reliability in children aged 7 to 12 years (La Greca & Stone, 1993) and adolescents (La Greca & Lopez, 1998), with internal consistencies (Cronbach’s alpha) reported to be .86 and .91 for FNE and .78 and .83 for SAD-New, respectively. The reliability of SAD-General is somewhat lower depending on the study (Ginsburg et al. 1998 \[\alpha = .60\]; La Greca & Lopez, 1998 \[\alpha = .76\]; La Greca & Stone, 1993 \[\alpha = .69\]). In the same studies, these scales illustrated moderate test-retest reliability after a 4 month interval \(r = .61\). In the studies cited above both internal consistency and test-retest reliability were higher in adolescent samples (see also La Greca, Silverman, & Wasserstein, 1998; Vernberg, Abwender, Ewell, & Beery 1992). The reliability for these scales in the current study are reported for each stage of perspective-taking below.

Observational Social Anxiety

This measure was derived by selecting items from an existing self-report measure of social anxiety (Social Phobia Inventory, Moore & Gee, 2003) based on Hoffman et al.’s (1999) situational typology of social anxiety for formal speaking/interactions, informal
speaking/interactions, observation by others, and assertion. Observational social anxiety (Observational SA) is relevant to this study as it provides a measure of social anxiety that is not grounded within routine social interactions and cognitive-affective sequelae. This measure contrasts with FNE, SAD-New and SAD-General as it relies on participants to self-reflexively consider the evaluative significance of the social situation which, according to the theory above, depends on their development of third-person and generalised perspective-taking abilities (i.e., Stage 3).

Items selected from the Social Phobia Inventory included: ‘I get anxious doing things when people are watching’, ‘I fear I may do something stupid in front of others’, ‘entering a room full of people’, ‘writing in front of others’, ‘wearing different clothes’ and ‘eating in front of others’. The original 5-point Likert scale format was maintained with 1 = ‘never’, 2 = ‘rarely’, 3 = ‘sometimes’, 4 = ‘often’ and 5 = ‘regularly’. Thus, scores can range from 6 to 30 and indicate the absence of, or high levels of observational social anxiety (respectively). The reliability for this scale in the current study is reported for each stage of perspective-taking below.

Motivational Orientations

Monitoring of Self-Presentation

A modified version of the Adolescent Self-Monitoring Scale (Pledger, 1992) was used as a measure of the degree to which children monitor their behaviour for self-presentation or impression management purposes. This is the only self-report measure of these constructs designed for use with youth. The original scale consists of two subscales devised by Lennox and Wolfe (1984) to measure attention to modifying behaviour (e.g., In almost all situations I think about how I should act so that I will make a good impression) and observing the
expressive behaviours of others (e.g., I can usually tell how someone feels without him/her telling me) for self-presentational goals. Pledger (1992) reported adequate internal consistency for the subscales in the modified version of the scale in a sample of 490 12 to 18 year-olds ($\alpha = .78$ and .64, respectively) and substantial correlations between this and the original scale by Lennox and Wolfe (1984) ($\alpha = .75$ and .70, respectively).

In the present study, only the self-presentation scale was used and items were modified in light of the study's aims. Specifically, Pledger’s (1992) measure focuses on the individual’s belief that they are able to modify behaviour in light of self-presentational goals. The present study is interested not in whether participants believe they can modify their behaviour successfully, but whether they orientate to situations regardless of perceived efficacy. If items were retained in original form individuals who were motivated and making self-presentational efforts but had failed in the past may not have been represented.

In this vein, items were changed from ‘I can...act any way I want to/change my behaviour to fit the situation I find myself in/adjust my behaviour to almost anybody’ etc to ‘In almost all situations I think about or try to change the way I act to make a good impression/fit it’ (see Appendix B). The final scale consists of 8 items answered on a 4-point response format from Never to Always. In this study this modified scale illustrated acceptable internal consistency ($\alpha = .70$).

**Self-Consciousness**

The **Self-Consciousness Scale** (Banerjee & Smith, 1999) was used as a measure of public and private self-consciousness. This scale was derived from Fenigstein et al.’s (1975) original measure, and describes the tendency to be aware of, or monitor, inner thoughts and feelings (private) versus being aware of aspects of one’s behaviour that are observable and evaluated.
by others (public). There is limited research pertaining to the psychometric properties of the scale, however, it appears to have face validity in that items are similar to those in the original measure by Fenigstein et al. (1975). Banerjee (2002b) also used this scale in his research with 8 to 11 year-olds; however, no psychometric properties were reported.

In the present study some modifications were made to items so that they did not refer to negative affective experience as part of public self-consciousness. Some of the original items refer to affective experience like ‘worry’ and ‘going red’. However, as conceptualised by Carver and Scheier (1981), whether public self-consciousness is associated with negative affect, such as anxiety, depends on the individual’s efficacy evaluation. Thus, public self-consciousness may be associated with social anxiety only when the person makes the evaluation that their current behaviour, as it is perceived to be observed and evaluated by others, falls short of perceived demands. Through deleting reference to negative affective experience in public self-consciousness, variability in whether this form of self-focus is associated with positive/negative self-evaluations can be captured.

The public self-consciousness scale by Banerjee and Smith (1999) included a total of 7 items. In this study 4 items were retained in original form, 2 items were modified so that they did not refer to affective experience, one was deleted entirely and four new items were added.

*Items retained unmodified* included ‘If I have had my hair cut, it feels like people look at me more’, ‘I don’t worry about how I look’, ‘When I am dancing/playing team games, I wonder what other people think about me’ and ‘I want people to think well of me’. These items were deemed to describe public self-consciousness without being overly biased toward negative affective experience.
Modified items included ‘I never worry about what other people think of me’ and ‘I like being the centre of attention and having lots of people look at me’ were modified to ‘I never think about what other people think of me’ and ‘I often feel like I am the centre of attention and that people are looking at me and thinking about me’ so that they did not refer to affective experience. The item ‘I sometimes feel myself going red if I notice someone looking at me’ was deleted due to its reference to negative affective experience.

Items added included ‘When playing a game I am aware that others are watching me’ and ‘I often wonder what other people think of me’. The items ‘Before leaving for school I take one last look in the mirror to make sure everything is alright’ and ‘when getting dressed on the weekend I often think about what others might think before I finally decide’ were added based on items in Fenigstein et al.’s (1975) original scale.

Thus, the final public self-consciousness scale in this study consisted of 10 items. This scale exhibited acceptable internal consistency ($\alpha = .69$). The private self-consciousness scale was not modified and includes 7 items like: ‘I don’t think about my feelings very often’; ‘I don’t know how I work things out, the answer just pops into my head’. All items were answered on a 4-point Likert scale from ‘never’ to ‘always true’. The reliability of the private self-conscious scale was poor ($\alpha = .40$) and could not be improved by item deletion. It was not used in further analyses.

Perceptions of Social Self-Efficacy

The Children’s Self-Efficacy for Peer Interaction Scale (CSPI, Wheeler & Ladd, 1982) provides a measure of perceived prosocial persuasive behaviors in conflict (12 items) and non-conflict (10 items) social situations. In conflict situations, the persuasive goal of the
child/adolescent is in direct opposition to the goal of a peer (e.g., “Some kids are using your play area. Asking them to move is _____ for you”), whereas non-conflict situations do not present a contradiction of the goals between the child/adolescent and peer (e.g., “Some kids want to play a game. Asking them if you can play is _____ for you”). Respondents evaluate how easy or hard it is for them to engage in the presented behaviour by rating on a 4-point scale, 1 (‘HARD!’), 2 (‘hard’), 3 (‘easy’), or 4 (‘EASY!’). A higher score indicates greater self-efficacy. The CSPI has been used in many studies and illustrated reliability (Wheeler & Ladd, 1982) and construct validity, with significant negative correlations between it and anxiety ($r = -.36$ through $r = -.49$, Wheeler & Ladd, 1982) and loneliness ($r = -.31$, Galanaki & Kalantzi-Azizi, 1999). In this study, the Cronbach’s alpha reliability co-efficients were .83 for the non-conflict items and .88 for the conflict items.

**Social Integration**

The social/popular subscale of the *Social Interaction Questionnaire* (SIQ, Manor-Bullock, Look, & Dixon 1995) derived by Moore and Mellor (2003) was used as a measure of child/adolescents' perceived popularity and happiness with their social relations. This 13 item scale asks respondents to rate the degree to which items are true or false for them on a 4-point scale, 1 (‘Definitely False’), 2 (‘False’), 3 (‘True’), 4 (‘Definitely True’). Items include those relating to popularity (e.g., I am not a geek; Others like me because I’m popular) and more general social integration (e.g., I often feel lonely at school; It is easy for me to be liked by my class; I often feel distant from my class mates; I wish to participate in more activities with students than I do). Higher scores indicate greater satisfaction with current social relations. Despite representing a mixed social/popular factor, Moore and Mellor (2003) report excellent
internal consistency ($\alpha = .82$) for school aged children. In this study, the reliability of the scale was somewhat lower ($\alpha = .68$) but was improved with the deletion of the item ‘I am not a geek’ ($\alpha = .72$) which illustrated the lowest loading on the social/popular factor in the study by Moore and Mellor (-.34).

**Procedure**

After approval was granted from Deakin University Human Research Ethics Committee (Faculty of Medicine, Nursing and Behavioural Sciences sub-committee), the Department of Education, and the Catholic Education Office, the principals of 12 Primary and 13 Secondary schools in Metropolitan Melbourne were contacted by telephone, and provided with an outline of the study's purpose and procedure. They were then sent an invitation for their school to participate in the project by electronic correspondence. Principals were also given the opportunity to view the questionnaires and the interview to be used in the study.

Schools whose principals agreed to participate ($N = 10$) were then visited by the researcher and students were given plain language statements and consent forms to return home to parents. Students whose parents returned completed consent forms to classroom teachers then met with the researcher who explained the study and the requirements of them if they chose to participate. On a separate occasion, before completing any of the study’s questionnaires or participating in the Social Understanding Interview, students signed consent forms. At some schools the questionnaires were completed first and were followed by the Social Understanding Interviews, while, at other schools, this situation was reversed. This order depended entirely on the particular needs and preferences of each school. With the exception of 3, which were completed individually, students met with the researcher as a
group to complete the questionnaires. The questionnaires were presented in booklet form so remained constant across schools. The Social Understanding Interview was conducted in a private room located at the school. No-one but the student and researcher was present during the interview. All interviews were digitally recorded for later transcription and coding. All data were collected between the months of May 2010 and March 2011.

Results

Data Screening

The data were screened for missing values and outliers using SPSS Version 17. The reliability of the social anxiety scales was evaluated within the age groups 8 to 10 years, 11 to 12 years and 13 to 15 years and within the perspective-taking stages since social anxiety is expected to vary accordingly. Similarly, the assumptions underlying statistical analyses were established within these grouping variables.

*Missing Values Analysis* revealed data were missing at random (Little's MCAR test: \( \chi^2 = 3862.263, df = 3779, p = .17 \)) and at less than 5%. Therefore, data were replaced using expectation maximisation which, according to Tabachnick and Fidell (2007), is most desirable when these conditions are satisfied.

Univariate outliers were identified using box plots and standard scores greater than ±3.29 and Mahalanobis Distance with \( p < .001, df = 3 \), critical value = 16.27. No univariate or multivariate outliers were identified on the dependent variables *FNE*, *SAD-New* and *Observational SA*.

Normality was evaluated within the age groups and perspective-taking stages for the social anxiety scales since they are expected to vary accordingly. *FNE* and *Observational SA*
were significantly positively skewed within age groups 13 to 15 years ($z = 2.28, p = .01$) and 11 to 12 years ($z = 2.09, p = .01$). Following square root transformation skew was no longer significant ($z = 0.22$ and -0.22, $p = .001$, respectively). *Observational SA* was significantly positively skewed within Perspective-Taking Stage 3, $z = 2.34, p = .01$, which was no longer significant following the square root transformation ($z = 0.84, p = .001$).

**Reliability Analyses**

The reliabilities of the social anxiety scales were analysed within the grouping variables age (8 to 10, 11 to 12 and 13 to 15) and perspective-taking (Stages 1 to 4; PT), given that social anxiety is expected to vary according to developments in social understanding. It follows that based on these developments the consistency, or rather coherency, with which participants answer items will vary within these levels of analysis. Measures of reliability (Cronbach’s alpha) for each of the social anxiety scales, *FNE, SAD-New, SAD-General* and *Observational SA*, are provided below for the sample as a whole, and then within PT stages and the age groups 8-10, 11-12 and 13 to 15.

**Fear of Negative Evaluation**

Variability in the reliability of *FNE* was observed across age and perspective-taking. Specifically, while the reliability co-efficient was excellent across the entire sample ($\alpha = .90$); at PT1 it was only .66. Consistent with the studies hypotheses that PT 2 is at least needed for *FNE* the reliability at both PT2 and PT3 was .89 and at PT4 it was .79. The reliability of *FNE* was strong across the 8 to 10 years group ($\alpha = .89$), 11 to 12 years group ($\alpha = .92$) and the 13 to 15 years group ($\alpha = .89$).
Social Anxiety-New

The SAD-NEW scale illustrated a similar pattern to FNE across PT1 (α = .63), PT2 (α = .81) and PT 3 (α = .82) (α = .81, whole sample). However, the internal consistency for PT4 was negative (α = -.021). This can occur when average item covariance is poor (Nichols, 1999). Again much less variability was observed across age suggesting consistency across age groups: 8 to 10 (α = .81), 11 to 12 (α = .84) and 13 to 15 (α = .76).

SAD-General

Variability was also observed for the reliability of the SAD-General scale. Cronbach’s alpha was .71 across the entire sample but only .42 for PT1. The reliability increased for both PT2 (α = .66) and PT3 (α = .77). The co-efficients for PT1 to PT2 and PT 3 are lower than those observed for the other two scales of the SASC-R which were all > .80. The reliability of PT4 was also very poor (α = .29). The internal consistency was better across age groups: 8 to 10 (α = .68), 11 to 12 (α = .69) and (α = .75); however, this scale was not used in further analyses.

Observational Anxiety

The Observational SA scale illustrated a similar pattern to the FNE and SAD-New subscales of the SASC-R. Across the whole sample Cronbach alpha was .78 with increasing reliability being observed across PT stages (PT1 α = .47; PT2 α = .78; and PT3 α = .75). Similar to the findings above, Cronbach alpha’s were relatively stable across age groups, 8 to 10 years (α = .75), 11 to 12 years (α = .80) and 13 to 15 years (α = .80).
Preliminary Analyses

Perspective-Taking and Age and Gender

Table 7.2 provides summary data for perspective-taking and age. Of note is that cell sizes for PT are small in some cases (<20 for Stage 1 and Stage 4). This was taken into consideration when these categories were analysed in relation to the dependent variables.

Table 7.2

Perspective Taking By Age Group

<table>
<thead>
<tr>
<th>PT Stage</th>
<th>8-10 N (Percentages)</th>
<th>11-12 N (Percentages)</th>
<th>13-15 N (Percentages)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>6 (60%)</td>
<td>4 (40%)</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Stage 2</td>
<td>51 (62%)</td>
<td>23 (29%)</td>
<td>7 (9%)</td>
<td>81</td>
</tr>
<tr>
<td>Stage 3</td>
<td>12 (18%)</td>
<td>30 (45%)</td>
<td>25 (37%)</td>
<td>67</td>
</tr>
<tr>
<td>Stage 4</td>
<td>0</td>
<td>3 (23%)</td>
<td>10 (77%)</td>
<td>13</td>
</tr>
</tbody>
</table>

The age composition within each stage provides a test of the structural qualities of PT. Specifically, immature/mature forms of perspective-taking should predominate at the younger/older ages in an increasing trend. In this sample, 60% of individuals at PT1 are from the youngest age group (8 to 10 years); whereas 77% of individuals at the highest level of PT (Stage 4) are from the oldest age group (13 to 15 years). This pattern is consistent with and satisfies a structural model of cognitive development (Piaget, 1958; Selman, 1980).
Between Group Developmental Hypotheses

In testing whether social anxiety differed across the developmental constructs age and perspective-taking stage independent ANOVAs were conducted. Although some statisticians recommend MANOVA when there are multiple DVs to protect against Type 1 error (e.g., Tabachnick & Fidell, 2007), this approach has been criticised (see Huberty & Morris, 1989). Individual one-way ANOVA also makes sense given the interest is in the DVs as distinct and individual constructs rather than their linear combination (i.e., MANOVA). In support of the latter, the correlations between the social anxiety constructs for each of the age and perspective-taking groups are much less than .90 (see Tables 7.3 and 7.4 respectively).

Table 7.3

Correlations Between the Social Anxiety Constructs and Age

<table>
<thead>
<tr>
<th>Variable</th>
<th>8 to 10 yrs</th>
<th>11 to 12 yrs</th>
<th>13 to 15 yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N = 69</td>
<td>N = 60</td>
<td>N = 42</td>
</tr>
<tr>
<td>1. FNE</td>
<td>1.</td>
<td>2.</td>
<td>3.</td>
</tr>
<tr>
<td>2. SAD-New</td>
<td>.61*</td>
<td>1</td>
<td>.73*</td>
</tr>
<tr>
<td>3. Obs Anxiety</td>
<td>.47*</td>
<td>.47*</td>
<td>.66*</td>
</tr>
</tbody>
</table>

Note. * p < .001.
Table 7.4

Correlations Between the Social Anxiety Constructs and Perspective-Taking

<table>
<thead>
<tr>
<th>Variable</th>
<th>PT1</th>
<th>PT2</th>
<th>PT3</th>
<th>PT4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.</td>
<td>2.</td>
<td>3.</td>
<td>1.</td>
</tr>
<tr>
<td>N = 10</td>
<td>1.</td>
<td>2.</td>
<td>3.</td>
<td>1.</td>
</tr>
<tr>
<td>N = 81</td>
<td>1.</td>
<td>2.</td>
<td>3.</td>
<td>1.</td>
</tr>
<tr>
<td>N = 67</td>
<td>1.</td>
<td>2.</td>
<td>3.</td>
<td>1.</td>
</tr>
<tr>
<td>N = 13</td>
<td>1.</td>
<td>2.</td>
<td>3.</td>
<td>1.</td>
</tr>
<tr>
<td>1. FNE</td>
<td>1.</td>
<td>1.</td>
<td>1.</td>
<td>1.</td>
</tr>
<tr>
<td>2. SAD-New</td>
<td>.74*</td>
<td>.58**</td>
<td>.63**</td>
<td>.48†</td>
</tr>
<tr>
<td>3. Obs Anxiety</td>
<td>.21</td>
<td>.36</td>
<td>.46**</td>
<td>.52**</td>
</tr>
</tbody>
</table>

Note. *p < .01. **p < .001. †p < .08.

Social Anxiety and Age

Does social anxiety increase with age and more specifically, across the defined age groups 8-10, 11 to 12 and 13 to 15 years of age?

In light of the study’s a priori hypotheses about changes in social anxiety across age a number of planned comparisons were specified (see Table 7.5). Social anxiety was expected to conform to a linear trend and planned contrasts (reverse Helmert) compared the two preadolescent groups versus the adolescent group and the two preadolescent groups against one another. As these comparisons are directional, specified a priori and are orthogonal, p was evaluated at .05, one-tailed. The assumption of homogeneity of variance was met for each of the social anxiety constructs across age.
Table 7.5

Means (standard deviations) Correlations, Univariate Comparisons and Effect Sizes of Social Anxiety Scales Across Age Groups

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Means (Standard Deviations)</th>
<th>Pearson Correlation, (r^a)</th>
<th>Univariate F-Tests, (F(2, 168))</th>
<th>Planned Comparisons(^b)</th>
<th>Effect Size ((d)) of Differences(^c)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. 8 to 10</td>
<td>((n = 69))</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. 11 to 12</td>
<td>((n = 60))</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. 13 to 15</td>
<td>((n = 42))</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FNE</td>
<td>21.99 (6.62)</td>
<td>-.12</td>
<td>1.07 (ns)</td>
<td>n.s</td>
<td>-</td>
</tr>
<tr>
<td>SAD-New</td>
<td>16.51 (4.85)</td>
<td>.02</td>
<td>.54 (ns)</td>
<td>n.s</td>
<td>-</td>
</tr>
<tr>
<td>Obs Anxiety</td>
<td>11.94 (4.22)</td>
<td>.11</td>
<td>1.22 (ns)</td>
<td>n.s</td>
<td>-</td>
</tr>
</tbody>
</table>

Note. \(^a\) The Pearson correlation coefficient between each of the social anxiety scales and age measured continuously (\(N = 171\)).

\(^b\) Reverse Helmert (i.e., 1. and 2. vs. 3. and 1. vs. 2.).

\(^c\) \(d = M1 - M2 / (SD1 + SD2)/2\).

One-way analyses of variance revealed no significant main effect for FNE, \(F(2, 168) = 1.07, p = .18\), SAD-New, \(F(2, 168) = .61, p = .54\), or Observational Social Anxiety, \(F(2, 168) = 1.22, p = .30\). Comparisons revealed that adolescents did not experience significantly more FNE, \(t(168) = -.47, p\) (one-tailed) = .32, SAD-New, \(t(168) = 1.04, p\) (one-tailed) = .15, or Observational Social Anxiety, \(t(168) = 1.03, p\) (one-tailed) = .10 than preadolescents, although mean values were in the expected direction for the latter comparisons. Of the two preadolescent groups, older pre-adolescents (11 to 12 year-olds) did not experience more FNE, \(t(168) = -1.12, p\) (one-tailed) = .18, SAD-New, \(t(168) = -.32, p\) (one-tailed) = .34, or Observational anxiety, \(t(168) = .63, p\) (one-tailed) = .21, than their younger counterparts (8 to 10 year-olds). Thus, the hypothesis that social anxiety would increase with age, from preadolescence to adolescence in particular, was not supported for any type of social anxiety.

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\(^5\) A linear trend was also not supported for FNE, \(F(2, 168) = .83, p = .36\), SAD-New, \(F(2, 168) = .59, p = .44\), or Observational Anxiety, \(F(2, 168) = 1.70, p = .19\).
Perspective-Taking and Social Anxiety

Is Perspective-Taking Stage 2 a requisite for the experience of social anxiety?

This question can be answered in reference to perspective-taking Stage 1 (PT1) scores on the social anxiety measures presented in Table 7.6. The total scores on each of the social anxiety scales are provided for each individual from the PT1 stage (N = 10). It is important to note that, depending on the scale, “no anxiety” is indicated by scores that fall at the lower end of the scales range. The lowest and highest scores for each of the scales are 8 and 40 (FNE), 6 and 30 (SAD-New) and 6 and 30 (Observational SA). Thus, average scores of 8 and 6 indicate absolutely no anxiety present (i.e., subjects responded 1 for each item = Not at All or Never). Scores above 8 and 6 indicate that the participant reported having at least some social anxiety (i.e., indicating a 2, 3, 4 etc on at least 1 item). Given the small number of participants in PT1 their total scores for each of the social anxiety constructs is provided in Table 7.6.

As can be seen from the table most individuals within PT1 scored near the lower end of the scales. Some even reported experiencing no social anxiety (None or Never) for each item (N = 3 for Observational). These scores of effectively zero anxiety provide convincing evidence that some individuals with PT1 experienced no social anxiety as hypothesized. However, most participants at PT1 did indicate experiencing some anxiety given scores were greater than the scale’s minimum. Understanding what these deviations mean in terms of how much social anxiety these individuals experienced, and whether it qualifies them as experiencing social anxiety in a consistent and ongoing manner, as the constructs are commonly understood, requires some inductive inference.
Table 7.6

**Total scores for Social Anxiety: PT1**

<table>
<thead>
<tr>
<th>Participant</th>
<th>Total Scores for Social Anxiety at PT1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FNE(^a) (Possible range = 8 to 40)</td>
</tr>
<tr>
<td>1</td>
<td>13</td>
</tr>
<tr>
<td>2</td>
<td>16</td>
</tr>
<tr>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>6</td>
<td>17</td>
</tr>
<tr>
<td>7</td>
<td>17</td>
</tr>
<tr>
<td>8</td>
<td>18</td>
</tr>
<tr>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td><strong>MEAN</strong></td>
<td><strong>13.60</strong></td>
</tr>
<tr>
<td><strong>SD</strong></td>
<td><strong>3.17</strong></td>
</tr>
</tbody>
</table>

Note. \(^a\)SASC-R Scales: 1 = Not at all, 2 = hardly ever, 3 = sometimes, 4 = ‘most of the time’ and 5 = ‘All the time’.

\(^b\)Observational Anxiety: 1 = ‘never’, 2 = ‘rarely’, 3 = ‘sometimes’, 4 = ‘often’ and 5 = ‘regularly’.

Specifically, a consideration of the total scores in Table 7.6 indicates that PT1 individuals did not regularly indicate a “2” on all items of the scale. This fact can be inferred with reference to the total score that are (or not) twice the value of the scales minimum. According to the scores in the table above this occurs 4 times for FNE, 6 for SAD-New and 2 for Observational SA. This is equivalent to participants saying that they ‘Hardly Ever or Rarely’ experienced social anxiety in most of the scenarios presented by the item. If this is true then it would provide additional data illustrating that those within PT1 are without the mechanism required to truly or consistently experience social anxiety.
One problem with this interpretation is that, in elevating their scores above the scales' minimum participants may have indicated anywhere between a 2 and 5. For some items the participant may have indicated that they (3) ‘sometimes’, (4) ‘often/most of the time’, or, (5) ‘regularly/all the time’, experienced social anxiety in the scenario presented in the item. The conclusion from this scenario would have to be that some individuals with PT1 abilities experience social anxiety with at least some regularity (e.g., ‘sometimes’). As such, in order to get a sense of variation that occurred for each scale, the frequencies of endorsing each item (e.g., I worry…) at a particular value (e.g., 1 = rarely) are presented in Table 7.7 below for the FNE scale.

Table 7.7

*Frequencies for Each Item on the FNE Scale*

<table>
<thead>
<tr>
<th>FNE Scale Item</th>
<th>Response on Scalea</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I worry about being teased</td>
<td>1. 5 2 0 0</td>
</tr>
<tr>
<td>2. I feel other kids talk…behind my back</td>
<td>5 4 1 0 0</td>
</tr>
<tr>
<td>3. I worry about what other kids think of me</td>
<td>2 7 1 0 0</td>
</tr>
<tr>
<td>4. I’m afraid that others will not like me</td>
<td>6 3 1 0 0</td>
</tr>
<tr>
<td>5. I worry about what others say about me</td>
<td>3 6 1 0 0</td>
</tr>
<tr>
<td>6. I worry that other kids don’t like me</td>
<td>4 5 1 0 0</td>
</tr>
<tr>
<td>7. I feel that other kids make fun of me</td>
<td>6 4 0 0 0</td>
</tr>
<tr>
<td>8. After arguing… I worry they will not like me</td>
<td>4 3 2 1 0</td>
</tr>
</tbody>
</table>

*Note.* a Response Scale: 1 = Not at all, 2 = hardly ever, 3 = sometimes, 4 = ‘most of the time’ and 5 = ‘All the time’.

This table illustrates that individuals with PT1 typically endorsed *FNE* items with either a 1 (Not at all) or a 2 (Hardly ever). Items 1 and 8 were exceptions with 2 people out of 10 endorsing ‘Sometimes’ experiencing social anxiety for these scenarios. One person also endorsed Item 8 (“If I get into an argument with another kid, I worry that he or she will not like me”) as occurring, (4) ‘Most of time’. Interestingly, this item is the most concrete social
evaluation item as it refers to a specific interpersonal scenario. In comparison to the other items it appears to depend less on the individual’s ability to form a mental representation of another person’s evaluation of the self which is determined by PT ability. Either way the pattern of responses for FNE appear to generally support the interpretation above that, at the level of particular items, FNE is experienced generally “Not at all” or “Hardly Ever” by those with PT1 abilities.

As can be seen in Table 7.8 there is much more variation for SAD-New. Specifically, a greater number of participants (out of the 10) are likely to indicate at least experiencing anxiety (3) ‘Sometimes’ in a number of the scenarios represented in the items. The most notable item is item 2 (I feel shy around kids I don’t know) given that four out ten people answered with a (3) and one individual indicated a (4) (Most of the Time). Only item 2 provoked a score greater than 3. Item 1 (I worry about doing something new in front of other kids) is also notable given that 6 out 10 PT1 individuals endorsed experiencing anxiety at least ‘Sometimes’ for this situation. For the other remaining items (3, 4, 5, 6) responses of (1) Not at all, and (2) hardly ever are endorsed more frequently with between 60% and 90% of individuals endorsing this level of anxiety for these situations. This means that, with the exception of items 1 and 2, the majority of PT1 individuals also experience SAD-New “Not at all” or “Hardly Ever”, although the differences are not as clear compared to FNE.
Table 7.8

*Frequencies for Each Item on the SAD-New Scale*

<table>
<thead>
<tr>
<th>SAD-New Scale Item</th>
<th>Response on Scale³</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Worry...doing something new in front of others</td>
<td>1. 2. 3. 4. 5.</td>
</tr>
<tr>
<td>2. I feel shy around kids I don’t know</td>
<td>4. 1. 4. 1. 0.</td>
</tr>
<tr>
<td>3. I only talk to kids that I know really well</td>
<td>3. 4. 3. 0. 0.</td>
</tr>
<tr>
<td>4. I get nervous when I talk to kids I don’t know well</td>
<td>4. 2. 4. 0. 0.</td>
</tr>
<tr>
<td>5. I get nervous when I meet new kids</td>
<td>4. 4. 2. 0. 0.</td>
</tr>
<tr>
<td>6. I feel nervous when I’m around certain kids</td>
<td>6. 3. 1. 0. 0.</td>
</tr>
</tbody>
</table>

*Note.* ´Response Scale: 1 = Not at all, 2 = hardly ever, 3 = sometimes, 4 = ‘most of the time’ and 5 = ‘All the time’.

The final type of social anxiety, *Observational SA*, is summarised in Table 7.9. The figures in this Table are much more similar to *FNE* and they are perhaps more convincing. The item with the greatest variability is item 1 (I get anxious doing things with others watching) where 2 individuals with PT1 abilities endorsed experiencing anxiety in this situation (3) ‘Sometimes’. Otherwise, this item was endorsed as provoking anxiety Never (60%) or Rarely (20%). The only other items that provoked responses greater than a 1 or 2 were items 4 and 5 and on these items only one person was responsible. Specifically, for the item “I fear I might do something stupid in front of others” one person endorsed this as occurring (4) ‘Often’, while for the item “Entering a room full of people” one participant endorsed this as causing anxiety (5) ‘All the time’. Otherwise, for these and remaining items scores of (1) Never occurred between 70% and 90% of the time. Thus, for those with PT1 abilities, experiencing Observational SA even (2) ‘Rarely’, was rare.

Taken together, these findings suggest that PT2 may be required for the experience of social anxiety. We now turn to the question about whether particular forms of social anxiety are associated with specific levels of perspective-taking.
Table 7.9

*Frequencies for Each Item on the Observational SA Scale*

<table>
<thead>
<tr>
<th>Observational SA Scale Item</th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I get anxious doing things with others watching</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2. I might do something stupid in front of others</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3. Entering a room full of people</td>
<td>7</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>4. Eating in front of others</td>
<td>8</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5. Wearing different clothes</td>
<td>8</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6. Writing in front of others</td>
<td>8</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>


Does social anxiety increase across levels of PT?

In light of the study’s *a priori* hypotheses about changes in social anxiety across levels of PT a number of planned comparisons were specified (see Table 7.10). In evaluating these predictions, sample size and tests of homogeneity of variance needed to be considered. Specifically, sample sizes are small and variable between the levels of PT (see Table 7.2). The assumption of homogeneity of variance was also violated for SAD-New, Levene’s $F(3, 167) = 3.40, p < .05$. Given that the larger groups (PT2 and PT3) contained greater variance than the smaller groups (PT1 and PT4) Brown-Forsyth ($F_{BF}$) method was used to calculate the $F$-ratio for SAD-New. In evaluating the significance of all comparisons Dunn-Sidak’s sequential method was applied which controls for Type 1 error when contrasts are non-orthogonal. In this case the $p$ values required for contrast 1, 2 and 3 were $p < .02$, .03 and .05, respectively. Table 7.10 summarises the mean and standard deviations for each of the social anxiety constructs across levels of PT and the planned comparisons.

---

6 Note the assumptions of normality and independence of observations were sought within groups and established previously.
Table 7.10

Means (standard deviations), Univariate Comparisons and Effect Sizes of Social Anxiety Scales Across Perspective-Taking

<table>
<thead>
<tr>
<th>PT Stage</th>
<th>1. PT1</th>
<th>2. PT2</th>
<th>3. PT3</th>
<th>4. PT4</th>
<th>F(3, 167)</th>
<th>Planned Comparisons</th>
<th>Effect Size (d) of Differences</th>
</tr>
</thead>
<tbody>
<tr>
<td>N:</td>
<td>10</td>
<td>81</td>
<td>67</td>
<td>13</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FNE</td>
<td>13.60 (3.17)</td>
<td>23.30 (6.67)</td>
<td>20.37 (6.39)</td>
<td>17.62 (5.03)</td>
<td>9.50**</td>
<td>1-2; 2-3</td>
<td>.71; .43</td>
</tr>
<tr>
<td>SAD-New</td>
<td>11.90 (3.14)</td>
<td>17.64 (4.75)</td>
<td>16.33 (4.24)</td>
<td>14.62 (2.26)</td>
<td>9.91**</td>
<td>1-2</td>
<td>.61</td>
</tr>
<tr>
<td>Obs. Anx</td>
<td>8.10 (2.47)</td>
<td>13.27 (4.66)</td>
<td>12.49 (4.09)</td>
<td>11.00 (3.61)</td>
<td>3.47*</td>
<td>1-2</td>
<td>.47</td>
</tr>
</tbody>
</table>

Note: * Significant differences between PT groups are reported (e.g., 1-2 means that PT1 differed from PT2 at least at p < .05.

b $d = M_1 - M_2 / (SD_1 + SD_2)/2.$

*p < .001; **p < .0001.

There was a significant main effect of PT for all three social anxiety constructs: FNE $F(3, 167) = 9.50, p < .0001, \omega = .13,$ SAD-New $F_{(3, 90)} = 9.91, p < .0001, \omega = .08$ and Observational Anxiety, $F(3, 167) = 3.47, p < .01, (\omega = .06).$ The difference between PT1 and PT2 were significant and in the expected direction for FNE, $t(167) = -4.57, p < .0001,$ SAD-New, $t(167) = -3.95, p < .0001,$ and Observational SA, $t(167) = -3.03, p = .003.$ The effect sizes associated with these comparisons (i.e., PT1 vs. PT2) were all medium in magnitude ($d = .40-.79$) according to Cohen’s interpretive guidelines (Cohen, 1992) (see Table 7.10). Thus, the hypothesis that social anxiety would increase from PT1 to PT2 was supported.

The expected linear increase in social anxiety across PT2 to PT3 was not supported for SAD-New, $F(1, 167) = 1.53, p = .22,$ or Observational SA, $F(1, 167) = 1.53, p = .22.$

However, the hypothesis that FNE would illustrate a preponderance at PT2 compared to the following stages was supported with the comparison of PT2 vs. PT3 revealing a significant decrease, $t(167) = -2.77, p = .006, d = .43.$ This decreasing trend was also observed for the remaining social anxiety constructs between PT2 and PT3, however, these differences were not significant at $p > .05.$ Thus, the hypothesis that SAD-New and Observational SA would
increase as a consequence of the development of PT3 was not supported (see Figure 7.1). Bonferroni adjusted post-hoc analyses revealed that PT3 and PT4 and PT1 and PT4 also did not differ in their levels of social anxiety.

Figure 7.1. The Mean of Social Anxiety at Each Stage of Perspective-Taking.

As can be seen in Figure 7.1 social anxiety increases and then decreases across PT and this is true of all three social anxiety constructs. Although mean differences after PT2 were only significant for FNE and only then between PT2 and PT3 these incremental decreases are of significance. Consider that a) the social anxiety experienced by those with PT4 is equivalent to that experienced by PT1, but that b) the social anxiety experienced by those with PT4 is no less than that experienced by those with PT3, which is, again no more/less than that experienced by those with PT2 (with the exception of FNE), which is, on the other hand, much greater than PT1! This means that, while no mean differences are detectable between any single stage between PT2 and PT4 social anxiety does, nevertheless decrease quite significantly across these stages. Given this trend follow up analysis fitting a quadratic trend
to the data were significant for each form of social anxiety: FNE, $F(1,167) = 18.99, p = .00$, 
$SAD$-New $F(1, 167) = 14.46, p = .00$ and Observational $SA, F(1, 167) = 8.12, p = .01$. This 
suggests that the relationship between developments in perspective-taking and social anxiety 
is curvilinear, with social anxiety first emerging with the advance from Stage 1 to Stage 2 but 
then declining with further advances at Stages 3 and 4.

**Moderated-Mediation Model of Social Anxiety**

The hypotheses tested earlier illustrated that developments in perspective-taking, rather 
than age, explained variation, specifically an increase, in social anxiety. In fact, a quadratic 
trend was observed for all forms of social anxiety with a large increase from PT1 to PT2 with 
a decline from PT2 to PT3 (statistically significant for $FNE$ only) and then from PT3 to PT4. 
This decrease was, however, incremental and there were no detectable differences between 
any PT Stage except for PT1 and PT2. In light of this gradual decline in social anxiety across 
PT, PT may moderate social anxiety, at least $FNE$. Specifically, advances in the ability take 
others’ perspectives may at first provide the cognitive mechanism for social anxiety to occur 
developmentally and, with further developments, it may buffer social anxiety. $FNE$ may 
decrease at PT3, for example, because these individuals are better at observing and getting a 
distanced view of interpersonal relations. These developments may provide the individual 
with psychological skills which negate anxiety about being teased or talked about by others. 
These skills may, for instance, mean they get less “caught-up” in anticipating what may 
happen or in analyzing what is potentially going on behind their backs. The moderating 
effects of perspective-taking may also be apparent in differences in the psychological
processes hypothesised to account for the experience of social anxiety depicted in Figure 6.1 (above) and again in Figure 7.2 below.

Figure 7.2. Moderated Mediation Model Predicting Social Anxiety Within Stages of Perspective-Taking.

Figure 7.2 depicts the proposed relations between self-monitoring (self-presentation and public self-consciousness), social self-efficacy (conflict and non-conflict) and social anxiety, as well as moderation of these relations by social integration. It is expected that the effects that self-presentation and public self-consciousness have on social anxiety will be mediated by social self-efficacy (conflict and non-conflict) and that these effects will hold across both negative (‘low’) and positive (‘high’) levels of satisfaction with social integration (the moderator). Thus, tested is a ‘conditional indirect effect’ (see Preacher et al., 2007).

In order to ensure that moderating effects are not missed, in the absence of prior research, social integration is specified as a possible moderator of the path from self-monitoring to social self-efficacy (path ‘d’) and also the path from efficacy to social anxiety (path ‘e’). In these analyses it is possible that social integration will act as a moderator of paths a and b. For instance, self-monitoring, which is proposed to serve an integrative
function, may be associated with negative appraisals of efficacy only at lower (but not the highest) levels of social integration because engaging in this thinking highlights the disconnection from peers. This can be contrasted with higher levels of social integration where the individual, because of their relative security, may engage less in this type of thinking and/or when doing so be less likely to doubt their social skills as a consequence. By the same token, the attenuating effect that efficacy is proposed to have on social anxiety may be more exaggerated for those lower in social integration compared to those higher in social integration because a sense of confidence may be more important in conditions of relative social deprivation.

In testing the moderated mediation model, the moderation and mediation effects were tested separately in sequences of three steps following the guidelines and analytic procedures outlined by Preacher et al. (2007). Tested first was the ‘mediator model’, that is, whether self-monitoring predicted efficacy and, importantly, whether social integration moderated this relationship (step one). The second step was to evaluate the ‘dependent variable model’, that is, whether social self-efficacy significantly predicted social anxiety, and whether this relationship was moderated by social integration. Provided that Step 1 and Step 2 were significant, conditionally or not, the third step was to evaluate explicitly whether self-monitoring had a significant effect on social anxiety through social self-efficacy, and, importantly, whether this was true at a range of positive and negative values of social integration.

For the first two steps, that is, estimation of both the mediator (i.e., path a) and dependent variable (i.e., path b) models, including their moderation (i.e., path d and path e), ordinary least squares moderated regressions were conducted (e.g., Aiken & West, 1991). Separate
moderated regression analyses were conducted for each self-efficacy mediator and each dependent variable, social anxiety. Specifically, in step 1, self-efficacy was regressed onto one of the self-monitoring predictors as well as their product with social integration (i.e., self-presentation* social integration). In step 2, social anxiety was regressed on self-monitoring and self-efficacy, and the latter’s product with social integration. In both Step 1 and 2, with the exception of control variables entered in the first step (discussed below), all predictors and product terms were entered at once. All variables contributing to interaction terms were mean centered prior to analyses to aid interpretation of regression coefficients. In step 3, determined was the strength of the conditional indirect effects as products of the paths linking self-monitoring with social self-efficacy (path a) and social self-efficacy with social anxiety (path b) at specific positive and negative values of social integration. For these analyses the bootstrapping procedure described by Preacher et al. (2007) was used, along with the SPSS macro provided by the authors. This analytic procedure implements bootstrapping to test the strength and significance of “conditional indirect effects” (i.e., a*b at specified levels of a moderator).

The bootstrapping procedure draws $k$ samples (usually 1,000 or greater) from the original sample of $N$ units, with replacement, and the coefficients (paths a–e in Fig. 7.2) are calculated for each of the $k$ samples. The average coefficients are then calculated as the mean across the $k$ samples. Conditional indirect effects are calculated as the product of the unstandardized regression weight for the path from the predictor to the mediator and the unstandardized regression weight for the path from the mediator to the outcome variable (i.e., coefficient for $a*b$) separately across levels of the moderator (social integration in this study). In testing the meditational hypothesis this procedure is preferred over alternatives (e.g., Sobel Test),
especially in smaller samples, as it does not make assumptions (e.g., normal distribution of a*b) which decrease statistical power (see Hayes, 2009; McKinnon, Lockwood, Hoffman, West, & Sheets, 2002; MacKinnon, Lockwood, & Williams, 2004; Shrout & Bolger, 2002). In this study 5,000 draws were specified to generate a bias-corrected 95% confidence interval for the conditional indirect effects.

There is only limited research into the power of moderated mediation analyses and, as such, it has been identified as an area requiring future research (Preacher et al., 2007). In their simulation study, however, Preacher et al. (2007) report that, for moderated mediation models where both a1 and b1 are tested for moderated mediation simultaneously (by the same predictor), with a desired power of .80 or greater, sample sizes between 200 and 500 are indicated for a small effect ($B = .14$) with only 50 or greater needed to detect a moderate ($B = .39$) and large ($B = .59$) effect. For models where either the a1 or b1 paths are moderated, with a desired power of .80 or greater, required sample sizes are larger, albeit similar, in that 500 or greater are required to detect a small effect ($B = .14$) with 50 to 100 being required to detect a moderate ($B = .39$) and large effect ($B = .59$). Thus, assuming a moderate effect, sample sizes of between 50 to 100 and greater are at least required in order to have adequate power. Thus, one can tentatively conclude that there is enough power to detect an effect that is moderate or greater for perspective-taking groups 2 ($N = 81$) and 3 ($N = 67$) only. Given the small number of participants in perspective-taking groups 1 ($N = 10$) and 4 ($N = 13$) only a limited set of analyses were undertaken for these groups (see below).

Note, that by conducting moderation analyses before testing conditional indirect effects these analyses may also be classed as ‘mediated moderation’, as opposed to ‘moderated mediation’ (Baron & Kenny, 1986). Muller, Judd, and Yzerbyt (2005) point out, however,
that the distinctions between mediated moderation and moderated mediation are blurred given they rely on the same analytic models. Given the nature of the moderating models just described (i.e., that social integration may moderate both $a$ and $b$ paths) the appropriate strategy is to probe more closely where the mediating effect is significant. This is moderated mediation or the analysis of “conditional indirect effects” just described. Importantly, by determining where the mediation is conditionally significant (or not), on the moderator, the use of arbitrary cutoffs (e.g., the mean and $\pm 1 SD$) is unnecessary. In this way, even if social integration moderates the paths as hypothesized (i.e., with a negative process occurring at lower levels of social integration), the mediated effect may still occur across both positive and negative levels of social integration as hypothesised.

The results are presented in 3 sections for each stage of perspective-taking separately. The mediator model, detailing the prediction of self-efficacy by self-monitoring and its possible moderation by social integration, is presented first. Presented second is the prediction of social anxiety by self-monitoring, self-efficacy, social integration and their product. Third, conditional indirect effects are presented. Note that interaction effects could not be tested for Stage 1 and 4 given small sample size. The mediator and dependent variables models are, however, presented without product terms included.

**Social Perspective-Taking Stage 1**

**Step 1: Predicting Self-Efficacy from Self-Monitoring and Social Integration**

The parameter estimates for the regression models with self-efficacy (non-conflict and conflict) regressed on the self-monitoring, social integration and their interaction are summarized in Table 7.11. Note that in these analyses age and one of the self-monitoring
variables (e.g., public self-consciousness) were controlled and entered in the first block while the remaining self-monitoring variable and the other predictors were entered in the second block. As can be seen in Table 7.11 neither form of self-efficacy was predicted by the self-monitoring variables or social integration. This is likely on account of the small sample size and an increase in the error terms (see associated standard errors). This error may also explain the standardized beta weights being greater than one in the prediction of conflict efficacy from self-presentation and social integration.

Table 7.11

Regression Results for the Prediction of Self-Efficacy by Self-Presentation, Public Self-Consciousness and Social Integration

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Mediator Variable Model (DV = Conflict Negotiation Skills)</th>
<th>Mediator Variable Model (DV = Non-Conflict Negotiation Skills)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>b</td>
</tr>
<tr>
<td>Self-Presentation</td>
<td>-3.96</td>
<td>-1.99</td>
</tr>
<tr>
<td>Public Integration</td>
<td>.66</td>
<td>.28</td>
</tr>
<tr>
<td>Integration</td>
<td>-3.08</td>
<td>-1.77</td>
</tr>
</tbody>
</table>

Note. n = 10.

Step 2: Predicting Social Anxiety from Self-Efficacy, Self-Monitoring and Social Integration

Although there were no significant relationships at Step 1, still of interest was whether social anxiety was predicted by any of the psychosocial variables at Stage 1. For the analyses age was the only covariate and was entered in the first block. All other variables were entered together. As can be seen from Table 7.12, social anxiety was not significantly predicted by

---

Note that only one simple effect for social integration is represented in the table despite separate moderation analyses for each of the IVs. The simple, or ‘main effect’, estimates for social integration in predicting the mediators are of course different depending on whether public self-consciousness or self-presentation are the predictors being estimated. These differences are not great and have not been presented because the presentation of this data would only increase the amount of information to consider while making no difference to interpretation of the results. The simple effect represented in Table 7.11 for social integration was chosen arbitrarily and is that for the analysis for self-presentation.
any of the psychosocial variables. Again, this is likely due to the small sample size and large standard errors.

Table 7.12

Regression Results for the Prediction of Social Anxiety from Self-Efficacy, Self-Monitoring and Social Integration

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Dependent Variable Model (DV = FNE)</th>
<th>Dependent Variable Model (DV = SAD-New)</th>
<th>Dependent Variable Model (DV = Observational SA)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$B$</td>
<td>$b$</td>
<td>$SE$</td>
</tr>
<tr>
<td>Conflict</td>
<td>.04</td>
<td>.10</td>
<td>.23</td>
</tr>
<tr>
<td>Non-conflict</td>
<td>-.01</td>
<td>-.02</td>
<td>.26</td>
</tr>
<tr>
<td>Self-Pres</td>
<td>-.01</td>
<td>-.02</td>
<td>.55</td>
</tr>
<tr>
<td>Public</td>
<td>.31</td>
<td>.34</td>
<td>.63</td>
</tr>
<tr>
<td>Integration</td>
<td>-.48</td>
<td>-.66</td>
<td>1.11</td>
</tr>
</tbody>
</table>

Social Perspective-Taking Stage 2

Step 1: Predicting Self-Efficacy from Self-Monitoring and Social Integration

The parameter estimates for the regression models with self-efficacy (non-conflict and conflict) regressed on the self-monitoring, social integration and their interaction are summarized in Table 7.13. Note that in these analyses age and one of the self-monitoring
variables (e.g., public self-consciousness) were controlled and entered in the first block while
the remaining self-monitoring variable and the other predictors and their interaction terms
were entered in the second block. Note, while interaction terms are traditionally entered in
their own block this is unnecessary in the present context (see Hayes and Mathes, 2009).
Again, the estimate for social integration represents its relation to self-efficacy when self-
presentation was the predictor (see Footnote above). The estimates for controlled variables
(e.g., age) are not included given the amount of data and it does not contribute to the
discussion.

Table 7.13
Moderated Regression Results for the Prediction of the Self-Efficacy Mediators

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Mediator Variable Model (DV = Conflict Negotiation Skills)</th>
<th>B</th>
<th>b</th>
<th>SE</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Presentation</td>
<td>- .08</td>
<td>-.04</td>
<td>.23</td>
<td>-.35</td>
<td>.73</td>
<td></td>
</tr>
<tr>
<td>Public</td>
<td>- .03</td>
<td>-.02</td>
<td>.17</td>
<td>-.16</td>
<td>.87</td>
<td></td>
</tr>
<tr>
<td>Integration</td>
<td>.85</td>
<td>.50</td>
<td>.18</td>
<td>4.78</td>
<td>.00**</td>
<td></td>
</tr>
<tr>
<td>Pres*Integration</td>
<td>.04</td>
<td>.07</td>
<td>.06</td>
<td>.62</td>
<td>.54</td>
<td></td>
</tr>
<tr>
<td>Public*Integration</td>
<td>.02</td>
<td>.05</td>
<td>.04</td>
<td>.45</td>
<td>.66</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Mediator Variable Model (DV = Non-Conflict Negotiation Skills)</th>
<th>B</th>
<th>b</th>
<th>SE</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Presentation</td>
<td>-.33</td>
<td>-.22</td>
<td>.15</td>
<td>-2.19</td>
<td>.03*</td>
<td></td>
</tr>
<tr>
<td>Public</td>
<td>.19</td>
<td>.17</td>
<td>.11</td>
<td>1.72</td>
<td>.09†</td>
<td></td>
</tr>
<tr>
<td>Integration</td>
<td>.73</td>
<td>.56</td>
<td>.11</td>
<td>6.45</td>
<td>.00**</td>
<td></td>
</tr>
<tr>
<td>Pres*Integration</td>
<td>.07</td>
<td>.19</td>
<td>.04</td>
<td>1.94</td>
<td>.06†</td>
<td></td>
</tr>
<tr>
<td>Public*Integration</td>
<td>.03</td>
<td>.11</td>
<td>.03</td>
<td>1.14</td>
<td>.26</td>
<td></td>
</tr>
</tbody>
</table>

Note. n = 81.
*p < .05. **p < .01. †p < .10.

As can be seen from Table 7.13, for those with PT2 abilities neither self-presentation ($B =
-.08, b = -.04, SE = .22, p = .72$) or public self-consciousness ($B = -.03, b = -.02, SE = .16, p =
.87$) predicted perceptions of conflict negotiation (‘a path’). Social integration also did not
moderate the prediction of these efficacy beliefs, for either of the self-monitoring variables. These non-significant findings indicate that, for those with PT2 ability, self-monitoring is unrelated to perceptions of conflict negotiation skills both directly and conditionally across social integration. Regressions of social anxiety on these efficacy perceptions were also non-significant; FNE (\(B = .07, b = .08, SE = .11, p = .53\)), SAD-New (\(B = -.02, b = -.03, SE = .09, p = .83\)) and Observational Social Anxiety (\(B = -.003, b = .004, SE = .09, p = .97\)). This means that these efficacy beliefs are unimportant as an aspect of self-monitoring and social anxiety for those with PT2 abilities.

A different set of findings were apparent when considering perceptions of non-conflict negotiation skills. Both self-presentation (\(B = -.33, b = -.22, SE = .15, p = .03\)) and public self-consciousness (\(B = .19, b = .17, SE = .11, p = .09\)), the latter marginally, predicted perceptions of non-conflict negotiation skills. The signs of these betas were in opposite directions. This means that these forms of self-monitoring are associated with favourable and unfavourable perceptions of these social skills, respectively. These efficacy beliefs were also strong predictors of social anxiety (discussed below, Table 7.15). First, however, there was evidence that social integration moderated the link between self-presentation and perceptions of non-conflict negotiation (\(B = .07, b = .19, SE = .04, p = .06\)). Analyses of the simple slopes (Aiken & West, 1991) were performed at conditional values of social integration, including the mean (zero in this case) as well as +/- the SD (+/- 4.00), and are plotted in Figure 7.3.
Figure 7.3. Simple Slopes of Self-Presentation Predicting Non-Conflict Efficacy at the Mean and +/- 1 SD of Social Integration.

These analyses revealed that engaging in higher levels of monitoring self-presentation was associated with a decrease in perceptions of non-conflict negotiation skills only for those of low ($B = -.64, SE = .25, p = .01$) and, less so, moderate social integration ($B = -.33, SE = .15, p = .03$). The efficacy perceptions of those high in social integration were, however, unaffected by whether they engaged in higher levels of self-presentation ($B = -.02, SE = .18, p = .90$). This finding may be interpreted as supporting the study’s hypothesis that monitoring of self-presentation is associated with negative self-efficacy beliefs only when the individual is suffering from relative social deprivation and has a desire for greater social connection. Engaging in this form of thinking may, on the other hand, be less threatening for those at high levels of social integration because they are otherwise satisfied and confident in their social relationships.

As can be seen in Table 7.13, the interaction between public self-consciousness and social integration (Publice*Integration) in the prediction of non-conflict efficacy perceptions was not significant ($B = .03, b = .11, SE = .03, p = .26$). This suggests that the marginally
significant *positive* effects incurred by public self-consciousness for perceptions of non-conflict negotiation skills are equivalent across high and low levels of social integration. Yet, this interaction only tests whether moderation occurs *linearly* and/or *systematically* (e.g., as observed in Figure 7.3 for self-presentation). An alternate test, consistent with the study’s aims, relates to whether public self-consciousness is associated with positive appraisals of efficacy at all levels of social integration. This empirical question is not encapsulated in the interaction effect just described (Hayes, 2011, personal communication).

In testing whether public self-consciousness is associated with positive effects *at all levels* of social integration the JN technique can be implemented (Johnson & Neyman, 1936; Potthoff, 1964). This procedure provides the values of the moderator at which the simple slopes of the focal predictor (public self-consciousness) predicting the DV (non-conflict efficacy), transitions from being significant to not being significant (see Hayes & Matthes, 2009). This procedure thus allows one to answer the question of precisely *when*, or at what level(s), of social integration does public self-consciousnesses confer benefits to perceptions of social self-efficacy, or when does it not act in this way. The Macro MODPROBE (Hayes & Matthes, 2009) generates these values implementing the same OLS regression procedures used in the above analyses.

These analyses revealed that at values of social integration between 1.04 and 5.3 public self-consciousness significantly predicted positive appraisals of these social skills at p < .05 (see Table 7.14). Interpreted in light of the mean being equal to zero, and the *SD* being equal to 4.17, these results indicate that only for those with a social integration score greater the mean, and then up to approximately 1 *SD* above the mean, does public self-consciousness predict greater perceptions of efficacy. Conversely, for individuals who have social
integration scores either at or below the mean, or too far above the mean, this relationship does not carry. Thus, the positive effects of public self-consciousness are true only at ‘moderately high’ levels of social integration.

Table 7.14

*Conditional Effects of Public Self-Consciousness on Self-Efficacy Non-Conflict at Values of Social Integration (JN Method)*

<table>
<thead>
<tr>
<th>Integration</th>
<th>B</th>
<th>SE</th>
<th>t</th>
<th>p</th>
<th>LLCI(b)</th>
<th>ULCI(b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>-1.06</td>
<td>.16</td>
<td>.12</td>
<td>1.34</td>
<td>.19</td>
<td>.08</td>
<td>.39</td>
</tr>
<tr>
<td>-.01</td>
<td>.19</td>
<td>.11</td>
<td>1.72</td>
<td>.09</td>
<td>-.03</td>
<td>.41</td>
</tr>
<tr>
<td><strong>1.04</strong></td>
<td><strong>.19</strong></td>
<td><strong>.11</strong></td>
<td><strong>1.99</strong></td>
<td><strong>.05</strong></td>
<td><strong>.00</strong></td>
<td><strong>.44</strong></td>
</tr>
<tr>
<td><strong>5.30</strong></td>
<td><strong>.36</strong></td>
<td><strong>.18</strong></td>
<td><strong>2.00</strong></td>
<td><strong>.05</strong></td>
<td><strong>.00</strong></td>
<td><strong>.73</strong></td>
</tr>
<tr>
<td>6.29</td>
<td>.40</td>
<td>.21</td>
<td>1.92</td>
<td>.06</td>
<td>-.01</td>
<td>.81</td>
</tr>
<tr>
<td>8.39</td>
<td>.47</td>
<td>.26</td>
<td>1.80</td>
<td>.08</td>
<td>-.05</td>
<td>.98</td>
</tr>
</tbody>
</table>

*Note.* n = 81.

For clarity, this is a truncated version of the output: Only a selection of the range of values of social integration (in SD units) is shown.

Emboldened type signifies statistical significance at \( p < .01 \).

**Step 2: Predicting Social Anxiety from Self-Efficacy, Self-Monitoring and Social Integration**

The next step in evaluating the moderated mediation model (Figure 7.2) is to evaluate the dependent variable model, that is, whether self-efficacy for non-conflict predicts social anxiety (i.e., ‘path b’), and whether this relationship is moderated by social integration (i.e., ‘path e’). Given that perceptions of conflict efficacy were not significant predictors of social anxiety, these perceptions, and age, were covariates in the regressions for social anxiety (see Table 7.15 below). In these regression analyses, age and conflict efficacy were entered into the first block, followed by the self-monitoring variables, non-conflict negotiation skills, social integration and the interaction term “non-conflict*integration”, in the second block. This interaction term is the moderation of self-efficacy by social integration in the prediction of social anxiety (i.e., path e).
As can be seen in Table 7.15 perceptions of non-conflict negotiation skills were strong predictors of FNE (\(B = -.48, b = -.39, SE = .17, p = .00\)), SAD-New (\(B = -.40, b = -.46, SE = .13, p = .00\)) and Observational Social Anxiety (\(B = -.42, b = -.49, SE = .14, p = .00\)). There was no evidence that social integration moderated the prediction of social anxiety from these efficacy perceptions (i.e., “noncon*integr”), indicating that the effect of efficacy on reducing social anxiety is equivalent across levels of social integration. Also, social integration, while predicting favourable perceptions of both conflict (\(B = .85, b = .50, SE = .18, p = .00\)) and non-conflict negotiation (\(B = .73, b = .55, SE = .11, p = .00\)), was significant only in the prediction of FNE (\(B = -.44, b = -.28, SE = .15, p = .00\)). Conversely, social anxiety associated with interaction with new and novel peers (SAD-New) and being observed and scrutinised (Observational SA) was not related to (dis)satisfaction with peer group integration. Thus, for those with PT2 abilities, current level of social integration may only have an impact (over and above efficacy beliefs) on social anxiety tied to negative interactions perceived within the school peer group rather than that which extends beyond that setting (e.g., interacting with unknown peers).
Table 7.15

*Moderated Regression Results for the Prediction of Social Anxiety*

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Dependent Variable Model (DV = FNE) $R^2 = .52$</th>
<th>Dependent Variable Model (DV = SAD-New) $R^2 = .43$</th>
<th>Dependent Variable Model (DV = Observational SA) $R^2 = .32$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$B$</td>
<td>$b$</td>
<td>$SE$</td>
</tr>
<tr>
<td>Non-conflict</td>
<td>-.48</td>
<td>-.39</td>
<td>.17</td>
</tr>
<tr>
<td>Self-Pres</td>
<td>-.14</td>
<td>-.08</td>
<td>.17</td>
</tr>
<tr>
<td>Public</td>
<td>.65</td>
<td>.47</td>
<td>.12</td>
</tr>
<tr>
<td>Integration</td>
<td>-.44</td>
<td>-.28</td>
<td>.15</td>
</tr>
<tr>
<td>Self-Pres*Integr.</td>
<td>-.02</td>
<td>-.03</td>
<td>.05</td>
</tr>
<tr>
<td>Pub*Integr.</td>
<td>.01</td>
<td>.03</td>
<td>.03</td>
</tr>
<tr>
<td>Noncon*Integr.</td>
<td>.03</td>
<td>.12</td>
<td>.04</td>
</tr>
</tbody>
</table>

*Note. n = 81.*

$*p < .01.$

**Step 3: Indirect effects of Self-Monitoring on Social Anxiety through Self-Efficacy at levels of Social Integration**

The mediation hypothesis depicted in Figure 7.2 is that self-monitoring is associated with increased social anxiety through negative perceptions of self-efficacy, and it was hypothesized that this would be true across positive (high) and negative (low) levels of social integration. The direction of the parameter estimates above suggests that this may be true in both the negative and positive sense. Self-presentation predicted negative efficacy appraisals
and public self-consciousness predicted positive appraisals of efficacy, while higher efficacy was associated with reduced social anxiety. This is consistent with the interpretation that, self-presentation had an effect of increasing social anxiety by reducing efficacy, while public self-consciousness had an effect of reducing social anxiety by increasing efficacy. Supported then is the study’s hypothesis that self-monitoring would be associated with heightened social anxiety in light of negative efficacy appraisals. This negative process was also significant at positive and negative levels of social integration, supporting the study’s hypothesis that individuals enjoying relative social security can also experience social anxiety via the mediation process described—i.e., there was support for moderated mediation.

Of note is that while the effect of self-presentation on social anxiety was entirely due to the efficacy*integration interaction, this was not the case for public self-consciousness. This is indicated in the “dependent variable models” (see Table 7.15) showing non-significant relationships between self-presentation and its interaction (self-presentation*social integration) with each form of social anxiety. That self-presentation does not predict social anxiety “directly” (in the dependent variable model the associations are all non-significant) is consistent with the interpretation that the negative effect of self-presentation on social anxiety is entirely due to—i.e., ‘fully mediated’ by—the negative effects of self-presentation on efficacy at low and moderate levels of social integration (Baron & Kenny, 1986). While the public self-consciousness*social integration interaction was not significant in the prediction of social anxiety (indicating full mediation of the positive effects of public self-consciousness at higher levels of social integration), public-self-consciousness still predicted heightened levels of social anxiety over and above the positive efficacy. This indicates that despite the positive effects that public self-consciousness has on reducing social anxiety by increasing
efficacy, at higher levels of social integration specifically, the anxiety provoking aspects of public self-consciousness are not completely nullified. This is consistent with partial mediation of the negative effects of public self-consciousness on social anxiety via increased appraisals of efficacy at ‘higher’ (approximately the mean and 1SD above the mean) levels of social integration.

Given these findings there is support for a moderated mediation process. These effects were also probed more explicitly for statistical significance. For both self-presentation and public self-consciousness, the conditional indirect effect is calculated by 

\[(a1 + a3W)b1\],

where \(a1\) is the path from self-monitoring to self-efficacy (from mediator variable model), \(a3\) is the path from the interaction of self-monitoring and social integration to self-efficacy (from mediator variable model), \(W\) is integration, and \(b1\) is the path from self-efficacy to social anxiety (from dependent variable model).

Table 7.16 provides the conditional indirect effect of self-presentation on social anxiety, via negative perceptions of self-efficacy, at three levels of social integration (the mean, as well as 1 SD above and 1 SD below) according to normal theory significance tests (i.e., Sobel’s ‘z’) and bias corrected bootstrapped confidence intervals (\(N = 5000\) resamples) (\(\alpha = .05\)).

The normal theory tests of the above conditional indirect effects are marginally significant at both ‘low’ and ‘moderate’ levels of social integration, while not nearing significance at high levels, for each form of social anxiety. Similarly, the bootstrapped, bias corrected, confidence intervals do not contain zero for low and moderate levels of social integration, while zero is included at high levels of social integration. Thus, one can conclude that these conditional indirect effects are significantly different from zero at \(p < .05\) at low and
moderate levels of social integration. Given that the signs of the indirect effects are positive, individuals at moderate and low levels of social integration experience greater levels of social anxiety when engaging in self-presentation and, in turn, doubting their non-conflict negotiation skills. This means that even those who are relatively well integrated (i.e., moderately so) experience social anxiety when thinking about managing their self-presentation and, in turn, having doubts about their ability to manage them through their own behaviours.

Table 7.16

*Indirect Effects of Self-Presentation on Social Anxiety via Self-Efficacy at Conditional Levels of Social Integration*

<table>
<thead>
<tr>
<th>Integration</th>
<th>Ind. Eff</th>
<th>SE</th>
<th>Z</th>
<th>p</th>
<th>Bias Corrected</th>
</tr>
</thead>
<tbody>
<tr>
<td>High (+4.00)</td>
<td>.04</td>
<td>.07</td>
<td>.52</td>
<td>.60</td>
<td>-.06</td>
</tr>
<tr>
<td>Moderate (0)</td>
<td>.15</td>
<td>.08</td>
<td>1.86</td>
<td>.06</td>
<td>.04</td>
</tr>
<tr>
<td>Low (-4.00)</td>
<td>.25</td>
<td>.13</td>
<td>1.92</td>
<td>.06</td>
<td>.06</td>
</tr>
</tbody>
</table>

Conditional Indirect Effects for Integration: Normal Theory & Bootstrap (BC) (FNE)

<table>
<thead>
<tr>
<th>Integration</th>
<th>Ind. Eff</th>
<th>SE</th>
<th>Z</th>
<th>p</th>
<th>Bias Corrected</th>
</tr>
</thead>
<tbody>
<tr>
<td>High (+4.00)</td>
<td>.03</td>
<td>.06</td>
<td>.60</td>
<td>.55</td>
<td>-.04</td>
</tr>
<tr>
<td>Moderate (0)</td>
<td>.12</td>
<td>.06</td>
<td>1.86</td>
<td>.06</td>
<td>.02</td>
</tr>
<tr>
<td>Low (-4.00)</td>
<td>.20</td>
<td>.12</td>
<td>1.91</td>
<td>.06</td>
<td>.04</td>
</tr>
</tbody>
</table>

Conditional Indirect Effects for Integration: Normal Theory & Bootstrap (BC) (SAD-New)

<table>
<thead>
<tr>
<th>Integration</th>
<th>Ind. Eff</th>
<th>SE</th>
<th>Z</th>
<th>p</th>
<th>Bias Corrected</th>
</tr>
</thead>
<tbody>
<tr>
<td>High (+4.00)</td>
<td>.03</td>
<td>.05</td>
<td>.59</td>
<td>.55</td>
<td>-.05</td>
</tr>
<tr>
<td>Moderate (0)</td>
<td>.11</td>
<td>.06</td>
<td>1.81</td>
<td>.07</td>
<td>.01</td>
</tr>
<tr>
<td>Low (-4.00)</td>
<td>.20</td>
<td>.11</td>
<td>1.86</td>
<td>.06</td>
<td>.02</td>
</tr>
</tbody>
</table>

Note. Emboldened type signifies statistical significance at *p* < .05.

Table 7.17 provides the conditional indirect effect of public self-consciousness on social anxiety, via *positive* perceptions of social skills, at three levels of social integration (the mean, as well as 1 SD above and 1 SD below). As can be seen in Table 7.17 the bias corrected confidence intervals pertaining to individuals of both ‘moderate’ and ‘high’ social integration
(the mean and 1 SD above the mean) were negative and do not contain zero. This means that these conditional indirect effects are significantly different from zero at $p < .05$. Thus, engaging in public self-focus, for those of moderate and high social integration, is associated with enhanced perceptions of efficacy and, in turn, reduced social anxiety. However, given that public self-consciousness was still a strong predictor of FNE ($b = .65, p = .00$), SAD-New ($b = .27, p = .00$) and Observational SA ($b = .39, p = .00$) (see Table 7.15 above) the associated, favourable, perceptions of social skills do not fully attenuate the effects that public self-focus has in increasing social anxiety.

Table 7.17

**Indirect Effects of Public Self-Consciousness on Social Anxiety via Self-Efficacy at Conditional Levels of Social Integration**

<table>
<thead>
<tr>
<th>Integration</th>
<th>Ind. Eff.</th>
<th>SE</th>
<th>Z</th>
<th>$P$</th>
<th>Bias Corrected</th>
</tr>
</thead>
<tbody>
<tr>
<td>High (+4.00)</td>
<td>-.15</td>
<td>.08</td>
<td>-1.85</td>
<td>.06</td>
<td>-.36</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-.03</td>
</tr>
<tr>
<td>Moderate (0)</td>
<td>-.11</td>
<td>.06</td>
<td>-1.84</td>
<td>.07</td>
<td>-.25</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-.02</td>
</tr>
<tr>
<td>Low (-4.00)</td>
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<td>.07</td>
<td>-1.89</td>
<td>.37</td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-.06</td>
</tr>
</tbody>
</table>

**Conditional Indirect Effects for Integration: Normal Theory & Bootstrap (BC) (SAD-New)**

<table>
<thead>
<tr>
<th>Integration</th>
<th>Ind. Eff.</th>
<th>SE</th>
<th>Z</th>
<th>$P$</th>
<th>Bias Corrected</th>
</tr>
</thead>
<tbody>
<tr>
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<td>.06</td>
<td>-1.79</td>
<td>.07</td>
<td>-.28</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-.02</td>
</tr>
<tr>
<td>Moderate (0)</td>
<td>-.08</td>
<td>.04</td>
<td>-1.79</td>
<td>.07</td>
<td>-.20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-.01</td>
</tr>
<tr>
<td>Low (-4.00)</td>
<td>-.05</td>
<td>.05</td>
<td>-1.88</td>
<td>.38</td>
<td>-.19</td>
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<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>.05</td>
</tr>
</tbody>
</table>

**Conditional Indirect Effects for Integration: Normal Theory & Bootstrap (BC) (Observational)**

<table>
<thead>
<tr>
<th>Integration</th>
<th>Ind. Eff.</th>
<th>SE</th>
<th>Z</th>
<th>$P$</th>
<th>Bias Corrected</th>
</tr>
</thead>
<tbody>
<tr>
<td>High (+4.00)</td>
<td>-.11</td>
<td>.06</td>
<td>1.72</td>
<td>.09</td>
<td>-.28</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-.01</td>
</tr>
<tr>
<td>Moderate (0)</td>
<td>-.07</td>
<td>.04</td>
<td>1.72</td>
<td>.09</td>
<td>-.19</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-.01</td>
</tr>
<tr>
<td>Low (-4.00)</td>
<td>-.04</td>
<td>.05</td>
<td>-.86</td>
<td>.39</td>
<td>-.20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.04</td>
</tr>
</tbody>
</table>

*Note: Emboldened type signifies statistical significance at $p < .05$.\*
Social Perspective-Taking Stage 3

Step 1: Predicting Self-Efficacy from Self-Monitoring and Social Integration

Contrary to the results for individuals with PT2 abilities, neither public self-consciousness ($B = -.21, b = -.20, SE = .12, p = .10$) or self-presentation motives ($B = -.12, b = -.09, SE = .16, p = .45$) predicted positive or negative perceptions of non-conflict negotiation skills. Social integration also did not moderate the prediction of these efficacy beliefs from either of the social motives variables (see Table 7.18). These efficacy perceptions also did not predict FNE ($B = .15, b = .11, SE = .16, p = .37$) or SAD-New ($B = -.08, b = -.09, SE = .14, p = .47$) but were marginal predictors of Observational Social Anxiety ($B = -.22, b = -.25, SE = .13, p = .09$) (The effects of these efficacy perceptions on social anxiety were estimated including conflict efficacy and social integration in order to minimise redundant information). Given that both self-presentation and public self-consciousness were unrelated to perceptions of non-conflict negotiation skills, and there was no evidence of moderation by social integration, these efficacy perceptions could not mediate any effects on social anxiety.

Table 7.18

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Mediator Variable Model (DV = Non-Conflict Efficacy)</th>
<th>Mediator Variable Model (DV = Conflict Efficacy)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$B$</td>
<td>$b$</td>
</tr>
<tr>
<td>Self-Presentation</td>
<td>-.12</td>
<td>-.09</td>
</tr>
<tr>
<td>Public Self-Cons</td>
<td>-.21</td>
<td>-.20</td>
</tr>
<tr>
<td>Integration</td>
<td>.49</td>
<td>.41</td>
</tr>
<tr>
<td>Pres*Integ (path a)</td>
<td>.03</td>
<td>.10</td>
</tr>
<tr>
<td>Pub*Integ (path a)</td>
<td>.02</td>
<td>.05</td>
</tr>
</tbody>
</table>

Note. $n = 67$. * $p < .05$. ** $p < .01$. 

142
In contrast, public self-consciousness predicted negative perceptions of conflict negotiation skills ($B = -.35, b = -.24, SE = .18, p = .04$). Self-presentation motives were, however, unrelated to these efficacy perceptions for those with PT3 ($B = -.19, b = -.11, SE = .21, p = .37$). In evaluating whether social integration moderated the link between public self-consciousness and these efficacy perceptions, self-presentation and non-conflict negotiation skills acted as covariates. The interaction (public*integration) was not significant ($B = .03, b = .09, SE = .04, p = .67$). Thus, the negative effect that public self-consciousness has on perceptions of efficacy is equal across levels of social integration for those with PT3 abilities.

**Step 2: Predicting Social Anxiety from Self-Efficacy, Self-Monitoring and Social Integration**

Given that only public self-consciousness and conflict negotiation skills were significant in the mediator model only these variables could mediate, conditionally or otherwise, the effects of self-monitoring on social anxiety. Of interest then is whether the efficacy perceptions are predictive of social anxiety for those with PT3 and whether these links are moderated by social integration.

In these analyses age, self-presentation and non-conflict efficacy acted as covariates and were entered in the first step, while public self-consciousness, conflict efficacy beliefs, social integration and their interaction (“conflict*integration”) were entered in the second. As can be seen in Table 7.19 (below), conflict negotiation skills were only significant in the prediction of FNE ($B = -.29, b = -.29, SE = .12, p = .02$). Social integration on the other hand, and contrary to PT2, was significant in the prediction of all forms of social anxiety, especially FNE ($B = -.90, b = -.55, SE = .16, p = .00$) but less so SAD-New ($B = .33, b = -.30, SE = .13, p = .02$) and Observational SA ($B = -.28, b = -.26, SE = .12, p = .03$). Further, social
integration moderated the effect of efficacy on FNE ($B = .05$, $b = .20$, $SE = .02$, $p = .02$) and Observational SA ($B = .04$, $b = .24$, $SE = .02$, $p = .02$). Thus, the effect that efficacy beliefs have on FNE and Observational SA depend on social integration. In the former case these perceptions are only predictive of social anxiety when the moderating effect of social integration is considered (indicated by the non-significant relationship between conflict efficacy and observational social anxiety).

Table 7.19

*Moderated Regression Results for the Prediction of Social Anxiety*

<table>
<thead>
<tr>
<th>Dependent Variable Model (DV = FNE) $R^2 = .59$</th>
<th>$B$</th>
<th>$b$</th>
<th>$SE$</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflict</td>
<td>-.29</td>
<td>-.29</td>
<td>.12</td>
<td>-2.38</td>
<td>.02*</td>
</tr>
<tr>
<td>Public Self-Cons</td>
<td>.43</td>
<td>.30</td>
<td>.14</td>
<td>3.00</td>
<td>.00**</td>
</tr>
<tr>
<td>Integration</td>
<td>-.90</td>
<td>-.55</td>
<td>.16</td>
<td>-5.70</td>
<td>.00**</td>
</tr>
<tr>
<td>Conflict*Integration</td>
<td>.05</td>
<td>.20</td>
<td>.02</td>
<td>2.38</td>
<td>.02*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dependent Variable Model (DV = SAD-New) $R^2 = .34$</th>
<th>$B$</th>
<th>$b$</th>
<th>$SE$</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflict</td>
<td>-.16</td>
<td>-.24</td>
<td>.11</td>
<td>-1.44</td>
<td>.16</td>
</tr>
<tr>
<td>Public Self-Cons</td>
<td>.08</td>
<td>.09</td>
<td>.12</td>
<td>.69</td>
<td>.49</td>
</tr>
<tr>
<td>Integration</td>
<td>-.33</td>
<td>-.30</td>
<td>.13</td>
<td>-2.48</td>
<td>.02*</td>
</tr>
<tr>
<td>Conflict*Integration</td>
<td>-.01</td>
<td>-.04</td>
<td>.02</td>
<td>-.36</td>
<td>.72</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dependent Variable Model (DV = Observational) $R^2 = .42$</th>
<th>$B$</th>
<th>$b$</th>
<th>$SE$</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflict</td>
<td>-.15</td>
<td>-.23</td>
<td>.10</td>
<td>-1.46</td>
<td>.15</td>
</tr>
<tr>
<td>Public Self-Cons</td>
<td>-.05</td>
<td>-.05</td>
<td>.11</td>
<td>-.45</td>
<td>.65</td>
</tr>
<tr>
<td>Integration</td>
<td>-.28</td>
<td>-.26</td>
<td>.12</td>
<td>-2.30</td>
<td>.03*</td>
</tr>
<tr>
<td>Conflict*Integration</td>
<td>.04</td>
<td>.24</td>
<td>.02</td>
<td>2.36</td>
<td>.02*</td>
</tr>
</tbody>
</table>

*Note. n = 67.*

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

Post-hoc probing of the significant interactions (Aiken & West, 1991) demonstrated that this interaction was consistent with moderating—buffering—explanation: the buffering
effect of higher perceptions of conflict efficacy on FNE was significant at both low \((B = -.54, SE = .16, t = -3.37, p = .00)\) and moderate \((B = -.35, SE = .14, t = 2.53, p = .01)\), but not high \((B = -.16, SE = .16, t = -0.99, p = .32)\), levels of social integration. The buffering effect of these perceptions for Observational SA, however, was significant only at low \((B = -.28, SE = .11, t = -2.49, p = .02)\) but not moderate \((B = -.14, SE = .10, t = -1.42, p = .16)\) or high \((B = .003, SE = .12, t = .03, p = .98)\) levels of social integration (see Figures 7.4 and 7.5). These findings suggest that, for those with PT3 abilities, the buffering effect (i.e., decreasing) that confidence has on social anxiety occurs at lower levels of social integration as hypothesised.

---

Figure 7.4. Simple Slopes of Self-Efficacy Conflict Predicting FNE at the Mean and +/- 1 SD of Social Integration.

---

8 Given that public self-consciousness is still significant in the prediction one might say that these effects are only partially mediated, although of most interest is whether this indirect effect is equivalent across levels of social integration (reported below).
Step 3: Conditional indirect effect of Public Self-Consciousness at levels of Social Integration

The primary interest is in whether the negative effects that public self-consciousness confer to social anxiety through efficacy beliefs exist across levels of social integration. Given that conflict efficacy was significant in the prediction of FNE and Observational Social Anxiety, at low and moderate levels of social integration, conditional indirect effects were examined for these variables only.

Table 7.20 provides the conditional indirect effects at three levels of the moderator (the mean, as well as 1 SD above and 1 SD below) as well as a range of values that illustrate the point of transition from significance to non-significance for these conditional effects. The conditional indirect effect is calculated by, \( a_1(b_1 + b_3W) \), where \( a_1 \) is the path from public self-consciousness to conflict efficacy, \( b_1 \) is the effect of efficacy on social anxiety and \( b_3W \) is the interaction between efficacy and social integration in the prediction of social anxiety, in this case FNE and Observational SA.
Table 7.20

Indirect Effects of Public-Self-Consciousness on Social Anxiety via Self-Efficacy at conditional levels of Social Integration

<table>
<thead>
<tr>
<th>Integration</th>
<th>Ind. Eff.</th>
<th>SE</th>
<th>z</th>
<th>p</th>
<th>Bias Corrected</th>
</tr>
</thead>
<tbody>
<tr>
<td>High (+4.00)</td>
<td>.02</td>
<td>.05</td>
<td>.39</td>
<td>.70</td>
<td>-.06</td>
</tr>
<tr>
<td>Moderate (0)</td>
<td>.09</td>
<td>.06</td>
<td>1.56</td>
<td>.12</td>
<td>.01</td>
</tr>
<tr>
<td>Low (-4.00)</td>
<td>.16</td>
<td>.09</td>
<td>1.74</td>
<td>.08</td>
<td>.01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Integration</th>
<th>Ind. Eff.</th>
<th>SE</th>
<th>z</th>
<th>p</th>
<th>Bias Corrected</th>
</tr>
</thead>
<tbody>
<tr>
<td>High (+4.00)</td>
<td>.04</td>
<td>.04</td>
<td>1.02</td>
<td>.31</td>
<td>-.01</td>
</tr>
<tr>
<td>Moderate (0)</td>
<td>.09</td>
<td>.05</td>
<td>1.70</td>
<td>.09</td>
<td>.01</td>
</tr>
<tr>
<td>Low (-4.00)</td>
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<td>.08</td>
<td>1.77</td>
<td>.08</td>
<td>.001</td>
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</table>

Note. Emboldened type signifies statistical significance at $p < .05$.

For both FNE and Observational SA the conditional indirect effects do not contain zero for both ‘low’ and ‘moderate’ levels of social integration and are thus significant at $p < .05$.

The positive signs of the bootstrap confidence intervals indicate that the negative effect that public self-consciousness has on perceptions of conflict negotiation skills increases social anxiety for those of moderate and low social integration. Thus, the hypothesis that the indirect effect would be significant across levels of social integration was supported.

Social Perspective-Taking Stage 4

Step 1: Predicting Self-Efficacy from Self-Monitoring and Social Integration

The parameter estimates for the regression models with self-efficacy (non-conflict and conflict) regressed on the self-monitoring, social integration and their interaction are summarized in Table 7.21. Note that in these analyses age and one of the self-monitoring variables (e.g., public self-consciousness) were controlled and entered in the first block while
the remaining self-monitoring variable and the other predictors were entered in the second block. As can be seen in Table 7.21 the only significant finding was that integration was a strong predictor of self-efficacy for conflict situations. As with Stage 1 it is likely the other non-significant findings are due to small sample size and an increase in the error terms (see associated standard errors). This error may also explain the standardized beta weights being greater than one in the prediction of conflict efficacy from self-presentation and social integration.

Table 7.21

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Mediator Variable Model (DV = Conflict Negotiation Skills)</th>
<th>Mediator Variable Model (DV = Non-Conflict Negotiation Skills)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>Self-Presentation</td>
<td>-.31</td>
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<tr>
<td>Public</td>
<td>-.43</td>
<td>-.31</td>
</tr>
<tr>
<td>Integration</td>
<td>.44</td>
<td>.42</td>
</tr>
</tbody>
</table>

Note. n = 13. *p < .01.

Step 2: Predicting Social Anxiety from Self-Efficacy, Self-Monitoring and Social Integration

Although there was only one significant relationships at Step 1, still of interest was whether social anxiety was predicted by any of the psychosocial variables at Stage 4. For these analyses age was the only covariate and was entered in the first block. All other variables were entered together.
As can be seen from Table 7.22, only FNE was significantly predicted by any other variables; specifically, there was a strong positive relationship between public self-consciousness and FNE. This strong negative relationship is consistent with the findings from both perspective-taking Stage 2 and Stage 3.

Table 7.22

Regression Results for the Prediction of Social Anxiety from Self-Efficacy, Self-Monitoring and Social Integration

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Dependent Variable Model (DV = FNE)</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflict</td>
<td>(-.21)</td>
<td>(-.27)</td>
<td>(.25)</td>
<td>(-.84)</td>
<td>(.44)</td>
</tr>
<tr>
<td>Non-conflict</td>
<td>(-.17)</td>
<td>(-.15)</td>
<td>(.49)</td>
<td>(-.35)</td>
<td>(.74)</td>
</tr>
<tr>
<td>Self-Pres</td>
<td>(-.26)</td>
<td>(-.27)</td>
<td>(.21)</td>
<td>(-1.24)</td>
<td>(.26)</td>
</tr>
<tr>
<td>Public</td>
<td>(.58)</td>
<td>(.54)</td>
<td>(.24)</td>
<td>(2.39)</td>
<td>(.05^*)</td>
</tr>
<tr>
<td>Integration</td>
<td>(-.36)</td>
<td>(-.44)</td>
<td>(.28)</td>
<td>(-1.28)</td>
<td>(.25)</td>
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</table>

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Dependent Variable Model (DV = SAD-New)</th>
<th></th>
<th></th>
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<th></th>
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</thead>
<tbody>
<tr>
<td>Conflict</td>
<td>(-.15)</td>
<td>(-.40)</td>
<td>(.20)</td>
<td>(-.71)</td>
<td>(.50)</td>
</tr>
<tr>
<td>Non-conflict</td>
<td>(.12)</td>
<td>(.22)</td>
<td>(.40)</td>
<td>(.29)</td>
<td>(.78)</td>
</tr>
<tr>
<td>Self-Pres</td>
<td>(-.24)</td>
<td>(-.55)</td>
<td>(.17)</td>
<td>(-1.44)</td>
<td>(.12)</td>
</tr>
<tr>
<td>Public</td>
<td>(.27)</td>
<td>(.55)</td>
<td>(.20)</td>
<td>(1.39)</td>
<td>(.21)</td>
</tr>
<tr>
<td>Integration</td>
<td>(-.08)</td>
<td>(-.21)</td>
<td>(.23)</td>
<td>(-.34)</td>
<td>(.74)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Dependent Variable Model (DV = Observational SA)</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflict</td>
<td>(-.01)</td>
<td>(-.01)</td>
<td>(.21)</td>
<td>(-.02)</td>
<td>(.98)</td>
</tr>
<tr>
<td>Non-conflict</td>
<td>(-.28)</td>
<td>(-.34)</td>
<td>(.40)</td>
<td>(-.70)</td>
<td>(.51)</td>
</tr>
<tr>
<td>Self-Pres</td>
<td>(.39)</td>
<td>(.57)</td>
<td>(.17)</td>
<td>(2.36)</td>
<td>(.06)</td>
</tr>
<tr>
<td>Public</td>
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<td>(.11)</td>
<td>(.20)</td>
<td>(.45)</td>
<td>(.67)</td>
</tr>
<tr>
<td>Integration</td>
<td>(-.14)</td>
<td>(-.23)</td>
<td>(.23)</td>
<td>(-.61)</td>
<td>(.56)</td>
</tr>
</tbody>
</table>

*Note. \(n = 13\).

\(^*p<.05\).

Moderation by Perspective-Taking Stage: A Comparison of Stages 2 and 3

A number of hypotheses were also made regarding the moderation of the prediction of social anxiety by perspective-taking stage. It was expected that a) self-presentation and
confidence would be of particular significance to Stage 2, while b) social integration, rather than confidence, would be of particular significance at Stage 3. For comparison, Figures 7.6 and 7.7 (below) depict the significant aspects of the moderated mediation models for PT2 and PT3, respectively. Note that not all paths analysed are displayed given non-significant relationships. For example, only the relationships between one form of self-efficacy (non-conflict or conflict) are displayed for each of the models as the alternative form of efficacy was not significantly related to the other constructs. A comparison of these models reveals a number of differences that provide support for hypotheses a) and b) above.

Regarding the former, self-presentation was hypothesised to be a significant predictor at Stage 2 on the basis that it is at this stage that these concerns are most relevant according to Selman’s (1980) descriptions. Consistent with this expectation, a comparison of the Figures reveals that this psychological orientation was only a significant predictor in Stage 2 (Figure 7.6). In addition, the self-presentation predicted social anxiety only in light of negative perceptions of confidence (i.e., there was no direct relationship between self-presentation and social anxiety). This is consistent with the importance of confidence at this stage, while also illustrating that self-presentation and confidence act together in a theoretically consistent way. Also, only perceptions of non-conflict negotiation skills were predictive in the moderated-mediation for Stage 2, while the reverse was found for Stage 3 individuals. This was unexpected but is consistent with the way that thought is structured at Stage 2. Specifically, while non-conflict negotiation skills involve only a consideration of intentions and desires from a first-person perspective (e.g., I want...), conflict negotiation skills are employed in light of an appreciation of multiple perspectives simultaneously (e.g., I want but they want...) (Stage 3). The development of Stage 3 may make the negotiation of multiple perspectives
more important as a factor in psychosocial experience and so explain its unique prediction of social anxiety at this stage.

Regarding the latter hypothesis above, it was hypothesised that social integration would be more important to the prediction of social anxiety at Stage 3 given that individuals at this stage conceptualise social interaction in a more interdependent and less egocentric manner (Selman, 1980, 2003). This hypothesis was largely supported given that only social integration (and no form of efficacy) predicted SAD-New (see Figure 7.7). Also, self-efficacy did not predict observational social anxiety directly \( (B = -.15, b = -.23, SE = .10, p = .15) \) until levels of social integration were considered. That is, social integration moderated the relationship between efficacy for conflict and social anxiety (see CONFLICT*INTEGRATION \( \rightarrow \) OBSERVATIONAL Figure 7.7; \( B = .04, b = .24, SE = .02, p = .02 \)). Specifically, higher perceptions of conflict efficacy were predictive of reduced observational social anxiety only at low levels of social integration (see Simple Slopes analysis in Figure 7, p. 147). Together these findings support the hypothesis that social integration would be a more important predictor of social anxiety at Stage 3, compared to efficacy, given Stage 3 individuals are better at conceptualising the integrated nature of social relationships and, as a consequence, place less emphasis on a sense of confidence. The exception to this is that both efficacy for conflict and social integration predicted FNE interdependently (i.e., both predicted social anxiety when added to the regression equation simultaneously) suggesting that confidence is still an important factor in mitigating FNE; indeed, the moderation analyses revealed that this was true only at lower levels of social integration (see Simple Slopes analysis Figure 7.4, p. 146). At the same time, indicative of moderation by perspective-taking stage is that efficacy for conflict, not non-conflict, was predictive of both observational social anxiety and FNE.
This is consistent with Stage 3 individuals being able to assimilate others’ perspectives from a third-person perspective (as discussed above).

![Diagram of the moderated mediation model predicting social anxiety within Stages 2 Perspective-Taking.](image)

**Figure 7.6.** Moderated Mediation Model Predicting Social Anxiety Within Stages 2 Perspective-Taking.
Figure 7.7. Moderated Mediation Model Predicting Social Anxiety Within Stage 3 Perspective-Taking.
Chapter 8

Discussion

The central issue raised in the current thesis relates to whether social anxiety studied in middle childhood and adolescence is distinguishable from forms of social anxiety studied earlier in development (e.g., behavioural inhibition). This is an important issue given that accepted developmental and qualitative distinctions between social anxiety constructs have been questioned. It was proposed in the current thesis that earlier and later forms of social anxiety could be distinguished in terms of their cognitive mechanisms. Specifically, spontaneously taking another’s perspective on the self was argued to be a core cognitive and discriminatory feature of social anxiety in middle childhood and adolescence. As such, it was hypothesised that developments in perspective-taking (Stage 2) would be a requisite for social anxiety involving a reflexive consideration of other’s (negative) perspectives on the self. A number of hypotheses were also made regarding the qualitative nature of social anxiety within stages of perspective-taking and its association with the psychosocial variables measured in the study—i.e., self-monitoring, public self-consciousness, social self-efficacy and social integration. Specific forms of social anxiety were, on the one hand, expected to illustrate a preponderance at particular stages of perspective-taking, while, on the other hand, perspective-taking was argued to moderate the prediction of social anxiety from the aforementioned psychosocial variables. The psychosocial variables were also argued to operate in mediating and moderating ways, as depicted in Figure 7.2 (above). These interrelated hypotheses relate to the qualitative nature of social anxiety between stages of perspective-taking based on the way that cognitive developments structure subjectivity, while relations between psychosocial variables within each stage highlight the individual and
contextual predictors of social anxiety. The findings relating to these issues and their implications for an understanding of social anxiety are discussed in detail below.

The Developmental Underpinnings of Social Anxiety

Age and Social Anxiety

A number of specific forms of social anxiety—fear of negative evaluation (FNE), social anxiety for new situations (SAD-New) and social anxiety for observational scenarios (Observational SA)—were expected to increase from middle childhood to adolescence. This was expected, in part, because social anxiety was argued to depend on the, age-related, development of perspective-taking abilities (Selman, 1980). However, while age was strongly associated with perspective-taking, $r(169) = .54$, $p = .00$, social anxiety did not increase across the broad age range studied (8 to 15 years). Social anxiety did, however, vary according to developments in perspective-taking (discussed later).

The absence of an age-effect is not inconsistent with the cognitive-developmental hypothesis tested here. Indeed, compared to age, cognitive development provides a more specific account of the maturational factors underlying the development of social anxiety. Yet, it is important to consider age as a factor since it can help to identify what period of development is a significant time for study. This is also important because, in contrast to the present findings, not all studies report that social fears are as frequent in middle childhood as in adolescence. More specifically, most researchers have suggested that the adolescent period is of greatest significance from both a normative, sociocognitive (Westenberg et al., 2004), and abnormal, disorder-based, perspective (APA, 2000). Yet, these positions are contestable in light of this and other research illustrating that social anxiety is not more frequent in adolescence compared to middle childhood. A closer consideration of the research related to
these different views helps to integrate the current findings and clarify areas for further research.

The current finding is consistent with a number of large representative studies illustrating that social fears are not more frequent in adolescence than middle childhood (Burnham & Gullone, 1997; Campbell, 1996; Gullone et al., 2001; Gullone & Lane, 2002; Inderbitzen-Nolan & Walters, 2000; La Greca, Dandes, Wick, Shaw, & Stone, 1988; Ollendick, King, & Frary, 1989; Silverman, La Greca, & Wasserstein, 1995). The majority of these studies have used the Fear Survey Schedule for Children (Ollendick et al., 1989) which includes a broad fear of failure and criticism factor (see Ollendick, 1983). Importantly, Westenberg et al. (2004) argue that previous research using this fear of failure and criticism has failed to find the expected increase in social anxiety because it has not appropriately distinguished between specific types of social anxiety that vary developmentally. Further, according to these authors, this increase is “expected” because social anxiety disorder is more prevalent in adolescence, which the authors suggest is due to the “increase of normally occurring social fears” at this time (p. 482).

In support of this argument, these authors, and others (Westenberg et al., 2007), have found that positive responses to items on the Fear Survey Schedule for Children (Gullone & King, 1992; Ollendick, 1983) associated with “punishment” (e.g., being called on by a teacher, school principal or parent) decrease from middle childhood to adolescence, while fears associated with “social evaluation” (e.g., being publicly teased, criticized, meeting someone new) and “achievement” (e.g., taking or failing a test, getting a report card) increase across this period. It follows that one reason researchers have not illustrated a rise in social fears in adolescence is that opposing (increasing and decreasing) trends of these social fears

156
cancel each other out when they are analysed globally (Bokhorst et al., 2008). This research would appear to suggest that it is important to differentiate between specific social fear “clusters”, and that adolescence is of particular significance to an understanding of social anxiety.

Yet, not all studies are confounded in the way suggested by Westenberg et al. (2004). The FNE and SAD-New scales, part of the Social Anxiety Scale for Children (La Greca & Stone, 1993), used in this study are not overly general or under-differentiated like the fear of failure and criticism factor of the Fear Survey Schedule for Children (Ollendick, 1983). Rather, FNE and SAD-New measure specific facets of social anxiety associated with concerns about being negatively evaluated by, and meeting unknown peers, respectively. Consistent with the current findings, a number of large studies (~\(N = 1000\) or greater), including children as young as 6 years of age, have either found no differences between younger children and adolescents (La Greca, Dandes, Wick, Shaw, & Stone, 1988; see also Campbell, 1996; Campbell & Rapee, 1994), or that FNE specifically is more frequent in the former (Inderbitzen-Nolan & Walters, 2000 \([N = \sim 3000]\); see La Greca, 1999 for review). Further, the observation that FNE decreases from middle childhood to adolescence has been reported longitudinally (La Greca & Lopez, 1998).

In addition, there are a number of overlaps between the “social evaluation” scale created by Westenberg et al. (2004) and the FNE and SAD-New scales. For example, 5 of the 8 items on the social evaluation subscale (Being criticized by others; Being teased; Looking foolish; Doing something new; Meeting someone for the first time) overlap with items on the FNE (Worry about what others think of me; Worry about being teased; I feel that others are making fun of me) and SAD-New (e.g., I worry about doing something new in front of others; I get
nervous when I talk to peers I don’t know very well; I get nervous when I meet new people) scales. Perhaps the only difference between these scales is that Westenberg et al.’s (2004) includes two items relating to public performance (Giving a speech, Putting on a recital) and one item relating to self-consciousness (Having to wear clothes different from others). How then are findings to be interpreted?

Given these overlaps it is difficult to integrate current findings and draw conclusions about age-related variation in social anxiety. The studies (including this one) illustrating that FNE and SAD-New, validated and specific measures of social anxiety, either decrease or are as frequent in middle childhood as they are in adolescence, challenge ideas that adolescence is of particular significance to an understanding of these social fears. Yet, taking the unique items from Westenberg et al. (2004) scale, adolescence may be associated with greater performance anxiety (e.g., public speaking and taking tests) (see also King et al. 1989; however, see Sumter et al. 2009). It has also been reported that, compared to younger children, adolescents endorse a broader and greater number of situations as eliciting distress (Rao et al., 2007) and that they endorse anxiety provoking situations as causing greater distress (e.g., ‘mild’ distress versus ‘moderate’ or ‘strong’ distress) (see Westenberg et al., 2004). It follows that adolescence may be associated with a number of unique developments including the emergence of: a) specific social performance fears, b) a generalisation of social anxiety across various situations and/or c) an increase in the intensity of anxiety associated with these situations. The latter may also explain the rise in the social anxiety disorder in adolescence (Ranta et al., 2009; Van Roy et al., 2009). Yet, given the aforementioned confounds these possibilities are yet to be supported with any certainty.
What is not clear, and central to this thesis, is what these age-related patterns would mean from a developmental perspective. There is the possibility that categorising social anxiety according to different situational subtypes (e.g., achievement and public performance) captures changes in emphasis and activity rather than changes in fundamental phenomenology (see Rapee & Spence, 2004). The apparent rise in performance-related fears in adolescence may be, for example, a consequence of these activities being more relevant to adolescents’ educational experiences. Further, a generalisation of social anxiety across different situations, an increase in the intensity of distress, and increased prevalence of social anxiety disorder in adolescence, may also represent the amplification of existing tendencies rather than a change in the basic sociocognitive underpinnings of social anxiety. There is little reason to believe, for example, that the many social anxieties shared by children and adolescents—i.e., those associated with concerns about being negatively evaluated (being teased, made fun of, spoken about, not liked) and meeting new people—are different in any fundamental way from that which arises in the public or achievement-related tasks in adolescence. In other words, it is possible that the basic biological and cognitive “architecture” for social anxiety is present well before adolescence with different names being applied to the same phenomena based on the situations and circumstances in which social anxiety occurs (Rapee et al., 2009; Rapee & Spence, 2004).

A question left begging is when and what factors are associated with the emergence of social anxiety developmentally. The research above suggests that a core feature of social anxiety, argued here to be a concern about other’s potential perceptions and behaviour toward the self, emerge well before adolescence, in middle childhood beginning as early as 8 years. However, as reviewed previously, some researchers have argued that social anxiety and
overlapping temperament constructs are basically the same (Angold & Costello, 2009) and that social anxiety (disorder) is observable in preschoolers (Bufferd et al., 2011; Egger et al., 2006). It was argued earlier, however, that these studies may not be capturing subjective phenomena central to social anxiety (e.g., a concern with other’s potential perceptions or behaviour toward the self), and a number of issues were outlined as requiring further investigation (e.g., corroborating parent report, distinguishing overlapping constructs, confirming subjective phenomena, see Chapter 2).

In order to further these issues, instead of differentiating social anxiety according to different situational subtypes, this study set out to evaluate whether social anxiety, characterised by subjective concern about other’s evaluations, judgements and behaviour toward the self, required the development of complementary perspective-taking abilities, specifically, Stage 2 according to Selman’s (1980) theory. The findings related to this hypothesis are discussed below.

**Perspective-Taking and Social Anxiety**

It was argued, through qualitative analysis, that subjectively social anxiety involved a reflexive consideration of others’ perceptions and potential behaviour toward the self, or social perspective-taking. From this basis, it was hypothesised that in order for social anxiety to be experienced and emerge developmentally, complementary social perspective-taking abilities must at least be developed. These abilities appear to correspond to Stage 2 of Selman’s (1980) theory—developing between 8 and 12 years—and contrast with prior stages where the child does not differentiate between physical and subjective perspectives (Stage 0) and cannot yet take others perspectives on the self (Stage 1). Consistent with this argument all
forms of social anxiety (FNE, SAD-New, Observational SA) were associated with developments in perspective-taking abilities. Specifically, social anxiety was relatively infrequent in children who were unable to take another’s perspective on the self (Stage 1); while, there was a large increase in social anxiety with the development of these abilities at Stage 2. The findings are consistent with the absence of age-related differences in social anxiety between middle childhood and adolescence, and confirm, from a sociocognitive perspective, that the middle childhood period (not adolescence) is most significant to an understanding the development of social anxiety.

One broad implication of these findings is that social anxiety phenomena, occurring across the developmental spectrum, may be meaningfully differentiated according to their subjective qualities and underlying mechanisms. It can be argued, for example, that behavioural inhibition (e.g., Kagan et al., 1988) and social anxiety (disorder) (e.g., Bufferd et al., 2011; Egger et al., 2006) observed in toddlers and preschoolers is not the same as that observed in this study. This research indicates that in order for youth to experience social anxiety, associated with core subjective phenomena, including a reflexive consideration of others’ (negative) perspectives and potential behaviour toward the self, Stage 2 perspective-taking abilities must at least be developed. These capacities typically develop in middle childhood beginning at 8 through to 12 years of age (Selman, 1980). This suggests that social anxiety occurring before this time is likely to depend on mechanisms not associated with complex cognition (e.g., a “basic” fear mechanism). This issue is discussed further below.

In comparison to previous research that has focussed on age, this research indicates that a specific and relatively mature sociocognitive mechanism is involved in the emergence of social anxiety. This is consistent with the only other studies to have considered sociocognitive
factors underlying the expression of social evaluative concerns. Vasey et al. (1994) considered the relation between social fears and self-conceptual development (Mohr, 1978) and found that social evaluation concerns were associated with an advance from conceptualising self and others in terms of external objects or physical qualities of self (e.g., age, gender) to conceptualising self and others in terms of their psychological qualities (e.g., thoughts, feelings and personality traits). Westenberg et al. (2004), on the other hand, studied ego development (Loevinger, 1976) and found that “moderate” and “strong” social anxiety—defined by social anxiety above the statistical average (see Westenberg et al., 2004 for details)—was associated with ego levels associated with garnering approval from the social reference group in terms of correct opinions, behaviour and appearance (conformist), on the one hand, and, on the other, an internal orientation “toward personal feelings, thoughts, and opinions” that does not replace the need for the psychological approval, or alignment, from, and with, others (self-aware) (p. 484). Interestingly, these measures of sociocognitive maturity overlap with the structural (perspective-taking) and conceptual aspects associated with Stage 2. Together, it would appear that mature cognitive abilities are linked to the experience of social evaluative concerns.

With the above exceptions, this is the only study to have focussed on the sociocognitive mechanisms underlying the actual experience of social evaluative concerns. The current research bears on a larger, although still sparse, literature that has considered the sociocognitive developments underlying the understanding of embarrassment and self-presentation motivations in others (in story characters). Interesting is that researchers in this area have argued that much earlier developments, in theory of mind and second-order reasoning, are that which underlie an appreciation of others’ perspectives on the self and, in
turn, the understanding (e.g., Bennett & Matthews, 2000) and experience (Banerjee, 2002ab) of these concerns. Yet, cognitive abilities associated with second-order reasoning appear to correspond with those associated with Stage 1 perspective-taking where social evaluation concerns were infrequent. As in Stage 1, passing second-order reasoning tasks (cf. Perner & Wimmer, 1985; Sullivan et al., 1994), involves the child understanding that people hold different beliefs about another object or person based on their unique experiences (Miller, 2009). Unlike Stage 2 perspective-taking, second-order reasoning does not involve the child’s reflexive consideration of another person’s perspective on the self.

As such, the findings from this study explain why second-order reasoning has failed to account for much of the variability in the understanding of embarrassment and self-presentation—i.e., because it is not the key developmental mechanism. The findings from this study also shed light on why it is that before 8 to 11 years of age children do not make spontaneous references to embarrassment and self-presentation motives in others (see Chapter 4). Specifically, children before 8 and 11 years are not expected to make spontaneous references to embarrassment in others because they do not yet self-reflexively consider other’s perspectives on the self (that is, in the absence of environmental and affective cues).

It can be argued that children’s appreciation of social evaluation as an aspect of social interaction before 8 years (Stage 2) is first dependent on explicit negative social feedback and does not involve reflexive perspective-taking. Indeed, with explicit and observable negative social feedback, perspective-taking is not required. In these instances the child does not have to consider or imagine how others regard the self because this information is directly available to them. In contrast, with the development of Stage 2, the appreciation of social evaluation becomes more anticipatory with the child being able to self-reflexively think about other’s
potential perspectives and behaviours toward the self. Here, the child begins to orientate to social situations with other’s perspectives in mind—e.g., they “worry” and think about their self-presentation with the others’ perspective on the self only available as a potential in the child’s mind.

The hypothesis that social anxiety would then vary across Stages 2 and 3 according to differences in the level of self-reflexivity involved was only partially supported. Specifically, it was proposed that FNE was a measure of social anxiety that simultaneously required a reflexive consideration of other’s perspectives and potential behaviour toward the self, while also likely being tied to the individuals’ actual and vicarious social experiences (e.g., teasing, gossip). As such, it was hypothesised that FNE would predominate at Stage 2 because perspectives are taken sequentially and limited to one perspective at a time and, as a consequence, the consideration of others’ (negative) perspectives is still largely grounded within actual social, cognitive and affective experiences. This aspect of the hypothesis was supported given that FNE decreased significantly from Stage 2 to Stage 3. However, it was also expected that social anxiety associated with meeting new peers and observational social anxiety, where negative evaluation is not as explicit or routine, would predominate at Stage 3, that is, with the ability to observe the self and others from a third-person perspective, and consider others’ perspectives on the self outside of interactional sequences. Yet, rather than Stage 3 resulting in an increase in these self-reflexive and self-conscious forms of social anxiety, there was an incremental (linear) decrease in all forms of social anxiety between Stages 2 and 4, and, although the difference was statistically significant for FNE (between Stages 2 and 3), there were no significant differences between Stages 3 and 4 and Stages 4 and 1 for any form of social anxiety.
These findings are inconsistent with the argument that more self-reflexive forms of social anxiety (SAD-New and Observational Social Anxiety) would follow naturally from complementary changes in the ability to consider others’ perspectives on the self (i.e., at Stages 3 and 4). While it appears that social anxiety is associated with initial developments in perspective-taking ability (Stage 2) further developments lead to a decrease in all forms of social anxiety. This was unexpected since the ability to take another’s perspective on the self only improves with the emergence of Stages 3 and 4. At these latter stages, formed is the ability to step outside the dyadic relation and take a third-person perspective, observing both self and other from the perspective of the “observing ego”. More broadly, the individual appreciates the complexity of navigating social relationships and attempts to coordinate behaviour according to the “generalised other” (i.e., peer group and societal norms). To remain theoretically consistent, social anxiety should increase at these stages as there is greater ability to not only take one, but multiple perspectives, and to also monitor these perspectives from an abstract and self-conscious position (see Damon & Hart, [1982] and Lapsley & Murphy, [1985]; Martin & Sokol, [2010] for similar accounts of adolescent self-consciousness and preoccupation with imaginary audiences, respectively).

As such, the curvilinear relationship between social anxiety and perspective-taking requires further theoretical and empirical elaboration. In the meantime, some theoretical speculation can be brought to bear on why social anxiety might decrease once the individual can observe self and other from a more distanced and socially normative (“generalised”) perspective. One possibility is that Stages 3 and 4 provide the individual with some way of thinking about social relations that lessens the importance of thinking about other’s
perceptions of the self. In this vein, there are a number of qualities that define these later stages which might bring about this kind of change. At Stage 3, with the ability to take a more generalised third-person perspective, there is a movement away from considering self and other in terms of “context specific actions or feelings as they are meant to impress or be considered by others (Stage 2)” (Selman et al., 1979, p. 95) toward a conceptualisation of persons in terms of stable and generalised traits and attitudes (Stage 3), and in terms of a complex system of personal and societal values and needs which are not always internally consistent or subject to the person’s awareness (Stage 4). This ability to conceptualise others and social relations more completely, that is, less in terms of immediate actions, intentions or mood-states, and more in terms of personality “types” that are stable and complex may lessen the need, importance, and value of continuously monitoring or imagining the likely perceptions and behaviours of others toward the self. Some tentative support for this idea may come from the fact that FNE decreased significantly at Stage 3 (Cohen’s $d = .43$); importantly, unlike the other measures, FNE directly asks the child about their concerns about others’ context specific perceptions and actions toward the self (e.g., teasing). In this vein, advances in sociocognitive maturity may be conceptualized as introducing both costs and benefits to social and emotional functioning that are intimately tied to the way that they (re)structure the individual’s way of relating to self and others at each stage.

At the same time, the global trends discussed above, whether increasing or decreasing, can be considered from another perspective. Another aim of this thesis was to consider individual differences within these broad stages of sociocognitive maturity. Specifically, it was hypothesised that there would be variability in the tendency, or motive, to consider others’ perspectives, and that these motives would predict social anxiety through a particular
psychological process (perceptions of social competence) in a particular context (satisfaction with social integration). However, it was also proposed that perspective-taking stages would moderate which factors were significant predictors of social anxiety based on the way that the stages structure and limit the child’s way of relating to self and others. A consideration of these individual difference and contextual hypotheses provide an additional, and understudied (Banerjee, 2002b), lens to consider the general trends in social anxiety across sociocognitive maturity. Indeed, while social anxiety decreased at Stage 3, it was still associated with a negative psychological process within this stage.

**Individual Differences Within Perspective-Taking**

It was hypothesised that within stages of perspective-taking individuals would differ in the degree to which they engaged in motivated forms of social perspective-taking (see Banerjee, 2002ab). Self-presentation and public self-consciousness, as representations of this kind of motivated social cognition, were argued to be associated with social anxiety only when the individual also doubted their ability to engage in successful social behaviours (e.g., manage conflict and non-conflict peer relations) (see Carver & Scheier, 1981). This mediation hypothesis was also expected to be significant for those who were both satisfied and dissatisfied with their current level of social integration in light of the salience of integrative goals during the school years. In addition, perspective-taking was argued to moderate the relationship between social anxiety and the aforementioned psychosocial variables based on the way these perspective-taking levels structure subjective experience. As such, these mediation and moderating effects are discussed within each stage of perspective taking in turn. Only Stage 2 and Stage 3 are discussed, however, in light of non-significant relations
found within Stage 1 and 4, likely on account of the small sample sizes ($N = 10$ and 13, respectively).

**Perspective-Taking Stage 2**

*Meditation: Self-Monitoring, Social Self-Efficacy and Social Anxiety*

The findings relating to Stage 2 perspective-taking support the study’s mediational hypothesis that self-presentation and public self-consciousness would predict increased social anxiety via negative perceptions of social self-efficacy (i.e., conflict and non-conflict negotiation skills). Yet, this process occurred differently depending on the particular form of social cognition involved. Specifically, self-presentation was associated with low efficacy beliefs and increased social anxiety, while public self-consciousness was associated with high self-efficacy beliefs and, in turn, reduced social anxiety. Both mediations were significant with “full” and “partial” mediation at lower and higher levels of social integration, respectively. As motivated forms of social cognition, this suggests that they may be associated with a “negative” and “positive” motivational orientation. These moderated mediations are consistent with the study’s hypotheses yet require individual consideration given their opposite effects—i.e., increases and decreases on social anxiety via negative and positive appraisals of social self-efficacy.

Regardless of their opposite effects, these mediations are consistent with Carver and Scheier’s (1981) argument that self-focused attention may be an adaptive form of social cognition that is aversive, and associated with social anxiety, only when the individual also perceives that they will be unable to perform to a particular standard (e.g., Bandura, 1991) (see also Schlenker & Leary, 1982). This is illustrated with self-presentation being associated
with social anxiety through negative efficacy beliefs and via public self-consciousness being associated with positive efficacy appraisals and less social anxiety. Thus, Carver and Scheier’s (1981) position is supported in both the negative (i.e., self-presentation associated with decreases in efficacy and, in turn, more social anxiety) and positive (i.e., public self-consciousness associated with increases in efficacy and, in turn, less social anxiety) sense.

There is little theoretical or empirical work that may be brought to bear on why these forms of social cognition are associated with a negative and positive process. Indeed, the negative association between self-presentation and self-efficacy is inconsistent with the view that motivation to self-presentation (or self-monitoring) is a positive motivational orientation indicative of an approach (i.e., confident) orientation (Snyder, 1974). Indeed, self-presentation is most often associated with greater sensitivity to social contingencies resulting in greater social abilities and adjustment (see Snyder & Gangestad, 2000 for a review). Public self-consciousness, on the other hand, is more often conceptualized as an aversive psychological process associated with negative self-evaluation and social anxiety (e.g., Clark & Wells, 1995; Duval & Wicklund, 1972). A partial explanation for these theoretically-divergent findings may relate to the way that these constructs were measured in the present study.

Self-presentation is usually defined by perceived success or ability at modifying behaviours in light of perceived social contingencies (cf. Pledger, 1992; Snyder & Gangestad, 1986). Logically, self-presentation is associated with greater self-efficacy/social adjustment as these are presupposed. Similarly, public self-consciousness is often defined with reference to negative affect (e.g., worry, blushing) and so links with social anxiety are perhaps unsurprising. The focus on perceived ability and negative affective experience were deliberately removed in this study in order to capture a “pure” motivational orientation of
being cognizant of self and others in social situations—that is, regardless of perceived ability or affective quality. The constructs were, therefore, free to vary in their association with self-efficacy and social anxiety. These modifications were essential in order to study the mediation hypothesis proposed by Carver and Scheier (1981)—i.e., to rule out construct overlaps that may increase correlation in a particular direction. As a result, there is limited research on these constructs as defined in the present study. At the same time, this is true regarding the study of these constructs in youth generally. Indeed, studies can be summarised as illustrating social anxiety being associated with higher levels of public self-consciousness (Higa et al., 2008) and lower levels of social integration (e.g., La Greca & Harrison, 2005) and social self-efficacy (Muris, 2002). There are no studies linking self-presentation and public self-consciousness to social self-efficacy in youth and, as such, there are also no studies that have investigated the mediational hypothesis described. This means that the associations between these motivational orientations and social self-efficacy, in particular, are largely unknown.

One possible reason for these constructs differentially exacerbating and alleviating social anxiety via efficacy appraisals is that, while both involve a focus on the self with reference to others, they are associated with different goal or motivational orientations. Self-presentation in this study was defined in particular by being aware of and being motivated to align conduct with the group (e.g., When I am with a group of people, I will think about changing the way I act to fit in; I think about my behaviour and try to fit in wherever I am). Briggs, Cheek, and Buss (1980) illustrated in a large college sample ($N > 1000$) that this “other directed” self-monitoring is correlated positively with shyness (social awkwardness) and neuroticism, and negatively with self-esteem (defined by having a sense of worthiness and self-efficacy). Briggs et al. thus described individuals high in “other-directed” self-monitoring as a)
“insecure and defensive rather than shrewd and pragmatic controllers of social interaction” (p. 685) b) concerned with “pleasing others, conforming to the social situation, and masking one's true feelings” (p. 681) and c) as “be[ing] shy and lacking in self-esteem” (p. 683).

Similarly, in this study, self-presentation was defined by monitoring behaviour in order to “fit in”, and was associated with lower perceived social self-efficacy and increased social anxiety.

In comparison, public self-consciousness as measured in this study describes an interest in others’ attention toward the self without a focus on modifying behaviour for perceived group standards (Items include: If I have had my hair cut, it feels like people look at me more; I want people to think well of me; I think about what other people think of me when performing). Public self-consciousness is associated with social anxiety (Fenigstein et al., 1975), shyness (Pilkonis, 1977), and neuroticism (e.g., Scandell, 1998), while also being correlated positively with extroversion (in youth, Abrams, 1988), sociability (Carver & Glass, 1976 i.e., the desire to be with others), the need for affiliation and exhibition (Tunnel, 1984), and perceived ability to engage in successful self-presentation management behaviours (Pilkonis, 1977). Thus, public self-consciousness appears to be associated with a mixed positive and negative orientation to situations. This is indeed predicted by Carver and Scheier's (1981) argument that consciousness of the way one looks and presents oneself may be positive or negative in orientation via self-presentational efficacy (see also Scheier & Carver, 1985). The positive and negative aspects of public self-consciousness are mirrored in this study given that positive efficacy appraisals only partially mediated the negative association that public self-consciousness had with social anxiety.

Interesting parallels can be made between this adult (personality) literature and the recent study of social demonstration avoidance and social demonstration approach goals in youth.
Like self-presentation in this study, the former is defined by making sure that one is not perceived as socially awkward or ineffective (e.g., not being seen as a “loser” or “geek”), and is associated with self- and teacher-reported solitary anxious behaviour (e.g., social withdrawal) and a number of constructs measuring social anxiety or social worry (e.g., “I worry about what my friends think of me”) (Horst, Finney, & Barron, 2007; Ryan & Shim, 2006, 2008). The latter goal orientation is, on the other hand, primarily associated with “demonstrating social competence and gaining from peers positive judgments that one is socially desirable...compared to others” (Ryan & Shim, 2008, p. 673), while also being associated with an avoidance orientation, especially regarding negative social evaluation (see Ryan & Shim, 2008). In the aforementioned study a social demonstration approach orientation was associated with sixth grade students’ greater perceptions of popularity and self-efficacy, while also being associated with social worry, but less so compared to those with a social demonstration avoidance orientation. Taken together, the current findings may be accommodated by self-presentation and public self-consciousness being indicative of avoidant and mixed approach-avoidance orientations which are associated with perceptions of social self-efficacy and, in turn, social anxiety (or not). Given the scarcity of research and variability in measures, the relations between these constructs still need to be verified empirically.

Moderation: Social Integration and Perspective-Taking

It was also predicted that self-monitoring—self-presentation and public self-consciousness—would be associated with social anxiety whenever an individual doubted their social abilities, regardless of current satisfaction with social integration (i.e., non-moderated
mediation). This hypothesis was made with particular reference to those who were of higher levels of social integration. In light of the self-conscious nature of this period of development, it was argued that even these individuals may experience social anxiety when engaging in these forms of social cognition and, in turn, doubting their social abilities. This hypothesis received only partial support. Self-presentation was associated with social anxiety via negative efficacy expectations for individuals who were low (i.e., 1 SD below the mean) and moderate (i.e., at the mean) but not high (i.e., 1 SD above the mean) levels of social integration.

These findings expand on the treatment of social integration as predictive of social anxiety. Typically “not enough” or deficits in social integration are linked to social anxiety (see Kingery, Erdley, Marshall, Whitaker, & Reuter, 2010 for a review). The current findings illustrate, however, that even those who are relatively well-integrated experience social anxiety in light of motivational orientations and negative self-efficacy appraisals. This is consistent with Leary’s (2001, 2010) sociometer theory of social anxiety. This theory suggests social anxiety arises when the individual perceives threats to relational value (i.e., that others will or do not value them as much as they would like). This perception is also argued to motivate a defensive change in behaviour (e.g., self-presentation) in order to avoid potential rejection (see Leary, 2007; Leary, Tambor, Terdal, & Downs, 1995), and to lead to social anxiety only when the person perceives that they will be unable to avoid this (i.e., low presentational self-efficacy). Similarly, in this study, social anxiety was characterised by motives to align behaviour with the group (self-presentation) via negative efficacy perceptions which only when there was a desire for greater social connection (i.e., in the presence of the experience of relational devaluation). This theory may, therefore, provide a post-hoc
explanation as to why the mediation was not significant for those high in social integration (or low desire for more interaction with peers): these individuals, because of their relative security, engage less in this type of thinking and/or when doing so are less likely to doubt their social skills as a consequence.

The attenuating effect of public self-consciousness on social anxiety via positive appraisals was also moderated by social integration. This attenuating effect was significant only for those of moderate and high social integration. No hypotheses were made regarding the moderation of this mediation effect. Yet, the fact that the positive effects of public self-consciousness extended to both those high and moderate in social integration is not inconsistent with the above account, especially when public self-consciousness is conceptualized as an approach orientation. When individuals engage in this form of social cognition in the interest of demonstrating social competence and garnering approval, public self-consciousness may be associated with an attenuation of social anxiety even for those of moderate social integration because these individuals have greater social self-efficacy (social integration was a strong predictor of social self-efficacy). That this does not extend to those low in social integration may be explained, in part, by their relative social deprivation and lower social self-efficacy which may, in turn, mean they are less likely to be engaging in public self-conscious with a social demonstration orientation in mind. Again, the relationship between public self-consciousness, as measured here without reference to negative affect, and social demonstration approach goals needs to be to empirically verified.

A number of hypotheses were also made regarding the moderation of the above psychological processes in light of the quality of perspective-taking stage (i.e., Stage 2). It was hypothesised that social integration would be less important than efficacy at this stage
given Stage 2 is characterised by the belief that problems can be solved via an act of will, or by having more confidence in oneself. Social integration was argued to be more important as an elicitor of social anxiety at Stage 3 in light of these individuals being more concerned with social integration in light of their complementary social perspective-taking skills. This hypothesis received some support given that social integration did not predict social anxiety for new situations or observational social anxiety directly at Stage 2. At Stage 2, social integration was only important in the prediction of these forms of social anxiety in that it moderated the aforementioned psychological processes. In other words, social integration was only important as a factor in social anxiety in that it was associated with different patterns of social cognition. Importantly, indicative of a consistent moderation, this can be contrasted with the findings regarding social anxiety as a psychological process at Stage 3. Here social integration predicted all forms of social anxiety directly as well as being a moderator of the mediation pathway.

Self-presentation was also hypothesised to be a predictor of social anxiety at Stage 2 on the basis that it is at this stage that these concerns are most relevant according to Selman’s (1980) descriptions. The finding that this motivational orientation predicts social anxiety only in light of negative perceptions of confidence is also consistent with the importance of confidence at this stage, while also illustrating that they act together in a theoretically consistent way. That this is a process particular to Stage 2, as opposed to Stage 3, is also supported by self-presentation not being associated with Stage 3 individuals’ perceptions of confidence or social anxiety. As discussed this is expected based on Stage 3 individuals being able to conceptualise social relations less egocentrically (e.g., from a distanced third person perspective), which may, in turn, reduce the importance of engaging in this defensive
motivational stance. Also, along similar lines, only perceptions of non-conflict negotiation 
skills were predictive in the psychological process for Stage 2, while the reverse was found 
for Stage 3 individuals. This was unexpected but is also consistent with the way that thought 
is structured at Stage 2. Specifically, while non-conflict negotiation skills involve only a 
consideration of intentions and desires from a first-person perspective (e.g., I want...), conflict 
negotiation skills are employed in light of an appreciation of multiple perspectives 
simultaneously (e.g., I want but they want...) (Stage 3). The development of Stage 3 may 
make the negotiation of multiple perspectives more important as a factor in psychosocial 
experience and so explain its unique prediction of social anxiety at this stage.

**Perspective-Taking Stage 3**

*Mediation: Self-Monitoring, Social Self-Efficacy and Social Anxiety*

In contrast to Stage 2 perspective-taking, self-efficacy for non-conflict situations was 
unrelated to either form of self-monitoring or to any form of social anxiety at Stage 3. As 
discussed above, this is consistent with theoretical expectations given individuals at Stage 3 
appreciate the mutuality of social relationships and the need to coordinate self- and other-
perspectives (or desires) simultaneously. Self-presentation was also unrelated to perceptions 
of self-efficacy and social anxiety, and there was no evidence that social integration 
moderated this effect. These findings were predicted according to the preponderance of self-
presentation concerns at Stage 2.

In contrast to Stage 2, public self-consciousness predicted negative perceptions of social 
self-efficacy for conflict situations. It is not clear why this motivational orientation was 
associated with *negative* perceptions of conflict efficacy at Stage 3. It is interesting to note
that public self-consciousness did not predict efficacy for non-conflict situations. This suggests that, in contrast to Stage 2, public self-consciousness is not relevant to egocentric desires. Instead, at Stage 3, public self-consciousness is relevant to conflict situations where others’ perspectives need to be taken into consideration and there is a potential for interpersonal conflict. Public self-consciousness may, therefore, be aversive at Stage 3 because individuals in this stage are considering threats to their interpersonal relationships.

Indeed, and most relevant, is that conflict efficacy perceptions predicted social anxiety (FNE and observational only) and there was evidence that these perceptions mediated the strong negative effect that public self-consciousness had on social anxiety, although only partially for FNE. Specifically, for both FNE and observational social anxiety, public self-consciousness predicted less social self-efficacy for conflict and, in turn, increased social anxiety. This mediation was “partial” for FNE and “full” for observational social anxiety, and significant only at low and moderate levels of social integration. This indicates that individuals high in social integration did not doubt their social skills nor experience social anxiety while engaging in public self-consciousness. As discussed above this may be because individuals high in social integration are more confident in their social abilities.

This moderated mediation finding is consistent with prior theory while also illustrating that perspective-taking stage significantly moderates these effects. Regarding the former, the mediation is consistent with Carver and Scheier’s (1981) expectation that engaging in public self-focus is associated with social anxiety through negative efficacy expectations. The strongest support came from the findings relating to observational social anxiety given efficacy perceptions fully mediated the effect, while for FNE, confidence only partially mediated the association. While only conjecture, one can suggest that this may have
something to do with the differences between these forms of social anxiety. Observational social anxiety was operationalised here as being a more self-reflexive form of social anxiety that is less dependent on actual (negative) psychosocial experience (e.g., walking into a room full of people, eating in front of others). This can be contrasted with FNE which is defined in reference to teasing and being talked about. With these differences in mind, a sense of efficacy may be enough to mitigate self-consciousness when social anxiety is derived through self-reflexive processes. In contrast, a number of factors above and beyond efficacy may be important when considering social anxiety derived from negative peer group dynamics (e.g., actual social/experiential change).

*Moderation: Social Integration and Perspective-Taking*

The moderation of this mediation by social integration—i.e., non-significance at higher levels for both forms of social anxiety—can be interpreted in the same light as above. In brief, these findings suggest as well that social anxiety can be experienced in light of the psychological process described across levels of social integration. At the same time, social integration does appear to provide a buffer against negative emotional experience given this association was not significant for those of the highest level of social integration. The findings perhaps highlight most importantly that youth are vulnerable to negative emotional experiences even when they are relatively (on average) happy with their social relations. This may be due to the salience of peer relations during this period making any social deprivation keenly felt. On a positive note, social integration moderated (increased) the attenuating effect that self-efficacy had on social anxiety for those of low social integration. This suggests that
confident can be a significant buffer against social anxiety in conditions of social deprivation for those with Stage 3 perspective-taking abilities.

As noted above it was hypothesised that social integration would be more important to the prediction of social anxiety at Stage 3 given that individuals at this stage conceptualise social interaction in a more interdependent and less egocentric manner (Selman, 1980, 2003). This was largely supported given that only social integration (and no form of efficacy) predicted SAD-New. Self-efficacy was also predictive of observational social anxiety *only* because social integration moderated the relationship between public self-consciousness and efficacy for conflict. Specifically, higher perceptions of conflict efficacy were predictive of reduced observational social anxiety only at low levels of social integration. Together these findings support the hypothesis that social integration would be a more important predictor of social anxiety at Stage 3, compared to efficacy, given Stage 3 individuals are better at conceptualising the integrated nature of social relationships and, as a consequence, place less emphasis on a sense of confidence. The exception to this is that both efficacy for conflict and social integration predicted FNE interdependently (i.e., both predicted social anxiety when added to the regression equation simultaneously) suggesting that confidence is still an important factor in mitigating FNE; indeed, the moderation analyses revealed that this was true only at low levels of social integration. At the same time, indicative of moderation by perspective-taking stage, is that efficacy for conflict, not non-conflict, was predictive of both observational social anxiety and FNE. This is consistent with Stage 3 individuals being able to assimilate others’ perspectives from a third-person perspective (as discussed above).
General Discussion and Future Research

This study shows that social anxiety, defined by a reflexive consideration of others’ (negative) potential views and behaviour toward the self, appears in middle childhood contemporaneous with complementary developments in the ability to take others’ perspectives on the self. As such, this research suggests that social anxiety of this quality, dependent on Stage 2 perspective-taking abilities, can be distinguished on a cognitive-developmental basis from social anxiety occurring without these capacities. One can assume, for example, that behavioural inhibition (e.g., Kagan et al., 1988) and social anxiety (disorder) in preschoolers (e.g., Bufferd et al., 2011; Egger et al., 2006) does not include the consideration of others’ (negative) perspectives on the self as these appear to rely on the development of Stage 2 perspective-taking abilities. At the same time, infants and young children do experience fear and anxiety in social situations before these mechanisms have developed. How then are earlier forms of social anxiety to be classified?

A broad framework pointed to in this research, and that which may also be applied to other evaluative phenomena, is differences in whether and what kind of subjectivity is involved in generating social anxiety. This is not a new idea. Lewis (2007), for example, proposed a three stage model beginning with the development of an “idea of me” toward an appreciation of standards rules and goals (see Crozier, 2010). In this model the development of self-representation is argued to be the key cognitive-developmental mechanism. Yet, as Zinck (2008) pointed out, this model is problematic because it cannot account for what appear to be “self-conscious” behaviours predating self-representation (e.g., coyness in infants, Reddy, 2000).
A number of developmental theories dovetail in a description of development of persons as beginning with non-conceptual sensory experience characterised by routine interactions between self, other (a parental figure) and the social environment which “recreate” affective and interactional sequences in self and others (e.g., Case, 1991; Meltzoff, 1990; Piaget, 1963; Russell, 1996, 1999). These repeated interactions are, in turn, argued to provide infants with an early “appreciation” of their own agency and intentionality in relation to the social world (i.e., self-world distinction) and the actions and attention of others more specifically (see Carpendale, Lewis, Müller, & Racine, 2005; Martin et al., 2008; Newen & Vogeley, 2003; Reddy, 2003; 2005; Zinck, 2008). It may be these early nonconceptual experiences, with self and other(s), that underlie early examples of social evaluative phenomena such as coyness and/or exposure embarrassment (e.g., Reddy, 2000), as well as fear of novelty (see Moretti & Higgins, 1999). This early “basic” affective experience, built on nonconceptual sensory interactions with self-other-world, may, in turn, build on the cognitive basis of these experiences.

At the same time, it is also necessary to explain social evaluative anxiety. The term anxiety suggests some cognizance and elaboration on a threat to self from something “other”, that is, something outside the self. Infants appear to be endowed with basic emotions (e.g., “fear”) and arousal patterns (negative affect) that ensure survival-needs are met via the attention the child receives from the attachment figure. These patterns of interaction, mediated by aversive environmental conditions, are also activated in conditions of apparent social threat (e.g., novelty, separation) suggesting “social anxiety” or “behavioural inhibition”. In infancy, however, the child’s own cognitive elaboration of social threat may be limited. This appears to be predicated, in part, on the fact that numerous and contemporaneous developments in
language and cognition are likely necessary before threats to self can be conceptualised at a cognitive level; to include, for example, not only the potential of physical and environmental threats (e.g., separation, novelty) but to an elaboration on the apparent (imagined) threat coming from another’s imagined perception of them. That is, it appears that social evaluative experiences eventually come to be elicited outside of more basic and routinised circumstances of threat to become more self-reflexive in anticipation of social interactions and imagined outcomes. This is likely to require further developments in self-other representation and well as self-other conceptual knowledge. Martin, Sokol, and Elfers (2008; see also Moretti & Higgins, 1999) detailing a theory of social perspective-taking including preconceptual and reflective forms as detailed in Chapter 6 argue:

‘[that the] genesis of our psychological personhood lies in the developmental movement from embodied positioning within extant interpersonal and social perspectives to the linguistically mediated recollection and imagination of intersubjective perspectives. These later levels of perspective taking are still embodied, but now, through the vehicles of language and thought, may be recollectively and imaginatively freed from immediate social contexts (italics added, p. 314).

This characterisation of subjective development, as moving from preconceptual forms of perspective-taking or social positioning toward greater self-reflexivity might help to describe changes in the quality or kind of social anxiety observed at different ages as a function of developmental differences in their underlying subjective mechanisms. A challenge for researchers is to capture this developmental variation. Currently, there has been a focus on making the assessment of social evaluation developmentally sensitive by including situations that are more relevant to each age group. The findings from this research have been used to
suggest that social evaluative concerns are identifiable at increasingly younger ages—e.g., that the apparently cognitively-mediated “self-consciousness shyness” is typical of 5 to 6 year-olds. Yet, the subjective quality of these social evaluative concerns are only implied by the type of situation in which they arise. It is not clear, for example, that children this age are self-consciously considering or anticipating others’ negative perspectives on the self. Indeed, the current study suggests that this is unlikely given that subjective concerns about the perceptions and behaviours of others toward the self, depended on perceptual (i.e., perspective-taking) and conceptual developments (i.e., knowledge of persons) that are of greater complexity than those available to children this age. The development of assessment paradigms where children, with limited verbal ability, can indicate their reactions (thoughts and feelings) and that which they perceive (or not) in others non-verbally (e.g., pictorially) may further this area.

Inhibiting the integration of developmental processes into a complete understanding of social anxiety across development is that little attention has been paid to changes beyond the age of 5 years (Carpendale & Lewis, 2006). There has been a sustained focus on false-belief understanding that has contributed to a “one miracle view” of social development (Carpendale & Lewis, 2010). Best, Miller, and Jones (2009) identify the same issue in the area of executive functions which they suggest are likely to underlie perspective-taking and processes within the peer domain, but highlight the dearth of relevant research. Selman’s (1980) model provides one way to measure these kinds of developments across the entire developmental spectrum without breaking them into numerous components but there are challenges here as well. Even Selman (2008) notes the difficulty of relating broad developments in social understanding to meaningful qualitative shifts in actual psychosocial processes. Indeed, this is
difficult even within a limited span of development characterised by false belief understanding.

On the other hand, this study suggests that social perspective-taking is meaningfully linked to social and emotional outcomes, especially given the findings that perspective-taking stages moderated the prediction of social anxiety in theoretically meaningful ways. A fruitful area for further research is the use of direct measures of varied psychological mechanisms (e.g., communicative engagements, perspective-taking co-ordination, executive functions) as they occur within actual social engagements (Hay, Caplan & Nash, 2009). Such interactive paradigms exist for studying the child engaged with parents and peers in “joint attention” (e.g., Mundy et al., 2003) and “mental-state talk” (e.g., Hughes, Ensor, & Marks, 2011); yet, greater attention should be paid to these processes occurring within middle childhood.

The peer domain provides fertile ground for studying the links between the psychological mechanisms described (e.g., perspective-taking coordination) and actual social engagements as it is here where these mechanisms emerge and are utilised. Some even argue that it is in the peer domain, rather than between parent and child, that true psychological interactivity emerges (e.g., Brownell, Nichols, & Svetlova, 2005; Martin et al., 2008; Reddy, Hay, Murray, & Trevarthen, 1997). Despite this, the development of psychological mechanisms, within and through peer interactions, has rarely been studied. This is not due to a dearth of relevant theorising. For example, most recent accounts of the imaginary audience—i.e., preoccupation with others’ apparent interest in the self/self-consciousness—is a functional and relational mechanism supporting separation-individuation (Lapsley, 1993) and, in light of perspective-taking developments, an effort to align the self with others according to increasingly diverse and varied set of social norms and practices (Martin & Sokol, 2010). Importantly, these
theories describe the subjective (i.e., individuation/perspective-taking) and interactive context (parents, peers, places) as intimately and functionally related. As such, to return to issues of measurement, these intersubjective accounts provide a fertile basis for the study of these processes utilising interactive paradigms to study intersubjective developments within actual social interactions (e.g., gossiping, exclusionary practices, moving away from home) (see Bell & Bromnick, 2003; Vartanian, 2001 for examples of an interactive contextual approach).

More generally, it is important that future research attempts to elucidate those factors that contribute to the continuation of social anxiety across time. This is important from a clinical-developmental perspective as it is this continuation of symptomatic behaviour that characterises disorder and the need for psychosocial intervention. We know that various “negative” psychosocial variables are strong predictors of social anxiety (e.g., lowered efficacy, social rejection), while at the same time, we know very little about how social anxiety moderates these and other aspects of the developmental trajectory, especially over time. For example, why is it that despite these strong associations that many, even very socially anxious individuals, do not remain that way over time (Westenberg et al., 2007)?

One answer to the above question is that social anxiety in childhood is a normal phenomenon that waxes and wanes across development as a function of psychosocial maturation. In these cases it may “work itself out”. Alternatively, it may not need such “working out” at all. It may be that social anxiety, although difficult in the short term, primes individuals to ensure that they maintain favourable and beneficial relations with others. That is, when not extreme, social anxiety may cue “social problem-solving”. This “social problem-solving” aspect of social anxiety may explain why it was not associated with age in the current study—i.e., because eight year-olds are just as concerned as adolescents about
navigating the self within their peer relationships and ensuring that they are accepted. In this vein, social anxiety may be functional in many ways and it may be a gradual improvement to psychosocial outcomes that explain why it waxes and wanes considerably. Indeed, social anxiety decreased across levels of social perspective-taking which are conceptualised as a primary mechanism through which individuals navigate their interpersonal relations with increasing maturity and understanding. In this vein, the field may benefit from further exploration of the reparative social processes which may emerge from social evaluative concerns overtime (see Keltner & Busswell, 1997; Keltner & Kring, 1998; for a consideration of these integrative factors in the study of embarrassment).

**Study Limitations**

It should be acknowledged that the current study suffers from various limitations. The study is cross-sectional only. A longitudinal design, where children were followed for several years, would provide a more detailed picture regarding the developmental underpinnings of social anxiety. For example, it can only be assumed from this study that it is the transition from one stage to the next that increases (Stage 1 to Stage 2) and attenuates (Stage 2 to Stage 3 and 4) social anxiety. It would be informative to know when these broad transitions in sociocognitive maturity are (and not) associated with changes in social anxiety. Indeed, this study highlights that differences in social motives, self-efficacy and social integration explain social anxiety within perspective-taking stages. As such, not all individuals making the transition from one cognitive-developmental stage experience greater (Stage 2) or lesser (Stage 3) social anxiety. It may be that continuity and change in these individual differences determines whether developments in sociocognitive maturity are associated with changes in
social anxiety at a given stage. Only a longitudinal design can confirm whether this is the case.

In addition, as a cross-sectional study, sample sizes were small for Stage 1 and 4. Small sample sizes in these groups are likely to have contributed to the non-significant relationships between the study’s variables within these stages. Given this limitation the relationships between variables within these stages could not be verified. This means that key confirmatory and discriminatory data are not available. With greater sample sizes it would have been possible to determine whether variables not dependent on perspective-taking were related at Stage 1 (e.g., confidence and satisfaction with peer relations). At Stage 4, it would have been useful to know whether the trends from Stage 3 continued given the similarities between these stages. Another limitation is that no verbal or cognitive measures were included. As such, confounds (e.g., language ability, discussed below) and specificity of perspective-taking could not be appropriately illustrated.

It also would have been better to include children younger than 8 years. While it is clear that the younger children included were unable to complete the self-report questionnaires some careful interviewing and parent-reports may have provided some useful information (e.g., parents may have been asked about what their children actually tell them about their social fears so that information on the child’s subjective experience could be gathered). Indeed, this limitation highlights the need to develop innovative ways of measuring complex cognitive phenomena in children.

In addition, the assessment of both social anxiety and perspective-taking make demands on the ability to reflect on experience and report them through verbal means. Of course, it is developments in conceptual understanding that are argued to provide a measure of perceptual
abilities and to, in turn, account for the emergence of social anxiety. Yet, it may be that the shared demands on verbal ability, between measurement, introduce a confound to the developmental interpretation of these findings. Milligan, Astington, and Dack’s (2007) meta-analysis of over 100 studies reports a strong relationship between general language ability, including expressive language, and false belief understanding. In this light, it is possible that some children find it difficult to elaborate on their social conceptions and experiences of social anxiety verbally, but nevertheless experience these concerns “in the moment”. This has pragmatic implications because “in the moment” experiences of social anxiety are associated with social and psychological disruption regardless of whether these experiences are cognitively and/or verbally elaborated expressively.

Similarly, although individuals without relevant perspective-taking skills are not expected to have the conceptual abilities required to think about others’ views of the self, and so are expected to score low on the social anxiety scales as they did in this study, it remains that their responses may be confounded by their inability to understand the questions. Although the consistency with which Stage 1 individuals responded to the social anxiety scales suggests that their answers are meaningful—rather than completely random—the current study would be strengthened by controlling for confounded understanding of the social anxiety questionnaires. In future, researchers may seek to examine response patterns on (non-social) anxiety items where perspective-taking does not play a role and they are expected to understand the question. If, in such a scenario, there is an understanding or experience of (non-social) anxiety but not social anxiety (involving perspective-taking) one could be more confident that responses are linked in the way proposed, and not confounded by misunderstanding.
Relating to the assessment procedure, questionnaires were presented in a fixed order and so it is possible that order effects confound the results. The reliability of the social understanding interviews was also not established. The self-monitoring measures were also changed substantially for the goals of the study and require further study. At the same time, there is a dearth of reliable and validated measures of these constructs for youth generally. Finally, the generalisability of these findings is limited by the fact that response rate was poor at both the school and parent-child level and the sample was limited to children from middle-class Anglo families. Significantly more girls than boys participated in the study. It would be informative to know whether the findings replicate in more representative and less privileged and ethnically diverse samples.

In spite of these limitations, this study provides some useful insights into the cognitive-developmental underpinnings and psychosocial process associated with social anxiety. The current findings appear to indicate at least that core social anxiety phenomena are apparent well before adolescence and associated with developments in perspective-taking and individual differences; differences which themselves are specific to sociocognitive maturity.
References


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Appendices
Appendix A: Social Understanding Interview
The Individuals Interview
(Selman et al., 1979)

Instructions – For interviewing younger children on conceptions of individuals we have found the *Puppy Story* preferable, while for older children, adolescents and adults, the *Ping-Pong Story* is better. These same stories are presented in filmstrip form published by Guidance associates.

**The Puppy Story**
(for children below the age of 9 or 10)

Tom has just saved some money to buy Mike Hunter a birthday present. He and his friend Greg go downtown to try to decide what Mike will like. Tom tells Greg that Mike is sad these days because Mike’s dog Pepper ran away. They see Mike and decide to try to find out what Mike is really sad because of his lost dog. When Greg suggests he get a new dog, Mike says he can’t just get a new dog and have things be the same. Then Mike leaves to run some errands. As Mike’s friends shop some more they see a puppy for sale in the pet store. It is the last one left. The owner says that the puppy will probably be sold by tomorrow. Tom and Greg discuss whether to get Mike the puppy. Tom has to decide right away. What do you think Tom will do?

**Interviewer Questions**

Open-ended Probes – What do you think Tom, the boy who is buying the birthday present should do? Why? Have you ever known a boy like Mike, what was he like?

**Issue I. Subjectivity**
1. How do you think Mike might have felt it Tom gave him the new puppy
2. If Mike’s smiling could still be sad, how is that possible? Could someone look happy on the outside, but be sad on the inside? How is that possible?
3. Could he feel happy and sad at the same time? Have you ever been in a situation where you felt happy and sad at the same time?
4. Could he feel both happy and sad about the new puppy? Could he have mixed feelings? How can feelings be mixed, like happy and sad?
5. Can you ever know another’s feelings? When?

**Issue II. Self-Reflection**
1. Mike said he never wants to see another puppy again. Why did he say that?
2. Did he mean what he said? Can someone say something and not mean it? How?
3. Do you think Mike would change his mind later? Why? Is it possible that he doesn’t know his own mind?
4. Might Mike feel guilty about losing his dog? Why? What is guilt, anyway?
5. Is it possible that Mike doesn’t know how he feels? How is that possible?
6. Is it possible to not know your own feelings, even if you think about them?
7. Did you ever think you’d feel one way and then find out you felt another? How could that happen?
8. Can you ever fool yourself? How? What’s the difference between fooling yourself and fooling somebody else?

**Issue III. Conceptions of Personality**

1. What kind of person do you think Tom is, the boy who had to decide whether or not to get Mike the puppy?
2. Was he a thoughtful (kind) person? What makes a person thoughtful (kind)? How can you tell if a person is thoughtful (kind)? What do you think makes someone become a thoughtful (kind) person?
3. What kind of person is Mike if he doesn’t care if the dog is lost? Can you tell what kind of person someone is from a situation like this?
4. How does one get to know someone else’s personality? What is a personality? Can someone have more than one personality?
5. Do you think Tom will lose self-esteem if he gets Mike a puppy and he doesn’t like it? Why? Does one’s self-esteem have anything to do with what kind of person you are?

**Issue IV. Personality Transformation**

1. What do you think it will take to change the way Mike feels about losing his old dog Pepper? How long will it take him to get over it? Why? What will it take to make him happy again?
2. If Mike had been older, say 18, do you think he would have acted the same way about losing his dog? Why? How does being older change the way a person acts?
3. If Mike is usually an unhappy kid now, what will he be like when he grows up? Do you think he will change or stay the same? How do people usually change as they get older?
4. If you were Mike’s Friend, what would you do to help him get over his lost dog? Anything besides buying him another dog? What might you say to him?
The Ping Pong Story

Keith, 10, and Jerry, 8, live across the street from each other and are good friends, even though Keith is older. They have a lot in common, but Keith especially likes playing ping-pong at Jerry's house. However, Keith always wins, and finally one day when he beats Jerry 21 to 10, Jerry throws down his paddle and says, "That's it! There's no sense in me playing ping-pong anymore because I always lose".

He and Keith argue, Keith saying he should keep trying, Jerry saying you don't know what it feels like to lose all the time. Keith says, "You don't want me to think you're a poor sport, do you?" Jerry says it's not being a poor sport; it's just no fun for him when he never wins. Keith says, "Think about me. If you won't play with me, where am I going to play? No one else has a ping-pong table." They argue louder and louder, and Jerry's 11- or 12-year-old sister, Jean, and her friends, Lisa and Ellen, come in to see what's the matter. When the boys tell Jean, she says she can see that they both have a point. Why don't they not play ping-pong with each other for a little while, and she will let Jerry practice with her. Then maybe when he gets better, he could try playing with Keith again. At first Jerry says that wouldn't do any good. Finally, Jean suggests that maybe it's time to try playing with Keith again. Jerry says he doesn't think he's good enough and he doesn't want to lose. Jean says he'll never know if he doesn't try. So they play.

At the beginning of the game, Jerry says that if he loses this time, he'll give up ping-pong for good. Keith claims he's out of practice, says Jerry really has gotten a lot better. Jerry wins and is all excited, but Lisa says, "Wow, Keith, you sure didn't do very well." Jerry stops leaping around and says, "You were just out of practice, right? You didn't let me win, did you?"

Interviewer Questions

Open-ended Probes—What do you think is the problem in this story? What do you think the older boy, Keith, did? Do you think he let Jerry win? Why would he do that? Why might he not let Jerry win? Have you ever known a kid (person) like Jerry? What was he like? What do you think made him that way?

Issue

1. Subjectivity

   1. If Jerry wins, but finds out that Keith let him win, how will Jerry Feel? Why?
      Could he feel more than just ___ about winning? Could he feel both happy and upset? Happy that he won, but upset that Keith let him win? How could that be? How can you feel two ways about something?

   2. If Jerry is happy about finally winning, but sad that Keith let him win, how would he feel overall? Could he have mixed feelings? What would that mean? Have you ever had mixed feelings about something? Tell me about it? How can feelings be mixed, like happy and sad?

   3. If Jerry is smiling even after he finds out that Keith let him win, does that mean he is happy? Is a person always happy when you see him smiling? Could a person look happy on the outside, but be sad on the inside? How is that possible?
Issue II. Self-Reflection

1. Suppose Jerry finds out that Keith let him win and he says to Keith, “I never cared about ping-pong anyway.” Why might he say something like that? Why might he say something he didn’t mean?
2. Could Jerry fool himself into thinking he didn’t care about the game? How could he do that? (Why couldn’t he do that?) Is it ever possible to really fool yourself?
3. Is there a difference between fooling yourself and fooling another person? What is it?
4. If Jerry tells himself he is going to lose will the affect the way he plays the game? Why would that be?
5. Would it help Jerry if he had confidence? Why might confidence help? What is confidence, anyway? (If subject says they don’t know, say, a feeling he can do a good job.) How does a person gain confidence? Can you have confidence even if you lose? How?
6. If Keith lets Jerry win, but then Jerry finds out, what will happen to Jerry’s confidence? Do you think Jerry might be embarrassed if he finds out that Keith let him win? Why? What does it mean when someone is embarrassed?

Issue III. Conceptions of Personality

1. What kind of person do you think Jerry is? Does watching how he plays ping-pong with Keith tell you what kind of person he might be? From seeing the way he plays ping-pong, what kind of person do you think he would be in school?
2. Do you think Jerry is a poor sport (or a sore loser, stubborn, thin-skinned, overly competitive)? What would that tell you about him? What does it mean when you say a person is a poor sport? What makes a person become a poor sport?
3. Is there a difference between being a poor sport and just being tired of losing? What is the difference?
4. Can Jerry be a poor sport sometimes but other times not make a big deal if he wins or loses? How is that possible?
5. Can there be a different side to Jerry, other than just being a poor sport? Can there be different parts to a person?
6. What kind of personality do you think Jerry has? What does it mean when you say that you know what kind of personality someone has? Can a person have more than one personality? How is that possible?

Issue IV. Personality Transformation

1. If Jerry is a poor sport now, what will he be like when he grows up? Do you think he will change or will he stay the same? What might make him change? How do people change as they get older?
2. If Jerry was older, do you think he would act the same when he lost at ping-pong? How does being older change the way a person acts?

3. If Jerry knows he is a poor sport, do you think there is any way he can change the way he is? How can a person change themselves?

4. If you were Jerry’s friend, how might you help him change from being a poor sport? Anything besides letting him win? What might you say to help him change? Why that?
Appendix B: Questionnaires
**Social Anxiety Scale for Children-Revised (La Greca, 1999)**

<table>
<thead>
<tr>
<th>I worry about doing something new in front of other kids</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
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<tbody>
<tr>
<td>Not at all</td>
<td>Hardly Ever</td>
<td>Sometimes</td>
<td>Most of the time</td>
<td>All of the time</td>
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<tr>
<th>I like to play with other kids</th>
<th>1</th>
<th>2</th>
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<th>4</th>
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<thead>
<tr>
<th>I worry about being teased</th>
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<tr>
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<tr>
<th>I feel shy around kids I don't know</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
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<tbody>
<tr>
<td>Not at all</td>
<td>Hardly Ever</td>
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<tr>
<th>I only talk to kids that I know really well</th>
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<th>2</th>
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<tr>
<td>Not at all</td>
<td>Hardly Ever</td>
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<td>Most of the time</td>
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<tr>
<th>I feel that other kids talk about me behind my back</th>
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<th>4</th>
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<tr>
<td>Not at all</td>
<td>Hardly Ever</td>
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<td>Most of the time</td>
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<tr>
<th>I like to read</th>
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<tr>
<td>Not at all</td>
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<td>All of the time</td>
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<tr>
<th>I worry about what other kids think of me</th>
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<th>2</th>
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<td>Most of the time</td>
<td>All of the time</td>
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<tr>
<th>I'm afraid other kids will not like me</th>
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<td>Not at all</td>
<td>Hardly Ever</td>
<td>Sometimes</td>
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<tr>
<th>I get nervous when I talk to kids I don't know very well</th>
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<td>Not at all</td>
<td>Hardly Ever</td>
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<tr>
<th>I like to play sports</th>
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<td>Not at all</td>
<td>Hardly Ever</td>
<td>Sometimes</td>
<td>Most of the time</td>
<td>All of the time</td>
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I worry about what other children say about me

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<th>Hardly Ever</th>
<th>Sometimes</th>
<th>Most of the time</th>
<th>All of the time</th>
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I get nervous when I meet new kids

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Hardly Ever</th>
<th>Sometimes</th>
<th>Most of the time</th>
<th>All of the time</th>
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</table>

I worry that other kids don't like me

<table>
<thead>
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<th>Hardly Ever</th>
<th>Sometimes</th>
<th>Most of the time</th>
<th>All of the time</th>
</tr>
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</table>

I'm quiet when I'm with a group of kids

<table>
<thead>
<tr>
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<th>Hardly Ever</th>
<th>Sometimes</th>
<th>Most of the time</th>
<th>All of the time</th>
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</table>

I like to do things by myself

<table>
<thead>
<tr>
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<th>Hardly Ever</th>
<th>Sometimes</th>
<th>Most of the time</th>
<th>All of the time</th>
</tr>
</thead>
</table>

I feel that other kids make fun of me

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Hardly Ever</th>
<th>Sometimes</th>
<th>Most of the time</th>
<th>All of the time</th>
</tr>
</thead>
</table>

If I get into an argument with another kid I worry that he or she won't like me

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Hardly Ever</th>
<th>Sometimes</th>
<th>Most of the time</th>
<th>All of the time</th>
</tr>
</thead>
</table>

I'm afraid to invite other kids to my house because they might say no

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Hardly Ever</th>
<th>Sometimes</th>
<th>Most of the time</th>
<th>All of the time</th>
</tr>
</thead>
</table>

I feel nervous when I'm around certain kids

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Hardly Ever</th>
<th>Sometimes</th>
<th>Most of the time</th>
<th>All of the time</th>
</tr>
</thead>
</table>

I feel shy even with kids I know well

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Hardly Ever</th>
<th>Sometimes</th>
<th>Most of the time</th>
<th>All of the time</th>
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</table>

It's hard for me to ask other kids to play with me

| Not at all | Hardly Ever | Sometimes | Most of the time | All of the time |
Observational Social Anxiety

Please circle the answer that best describes you

I get anxious doing things when people are watching
Never  Rarely  Sometimes  Often  Regularly

I fear I may do something stupid myself in front of others
Never  Rarely  Sometimes  Often  Regularly

I feel anxious when...Entering a room full of people
Never  Rarely  Sometimes  Often  Regularly

I feel anxious when...Eating in front of others
Never  Rarely  Sometimes  Often  Regularly

I feel anxious when...Wearing different clothes
Never  Rarely  Sometimes  Often  Regularly

I feel anxious when...Writing in front of others
Never  Rarely  Sometimes  Often  Regularly
Self-Consciousness Scale

Please circle the answer that best describes you

1. I want people to think well of me
   Never True   Sometimes True   Often True   Always True

2. I don’t worry about how I look
   Never True   Sometimes True   Often True   Always True

3. If I have had my hair cut, it feels like people look at me more
   Never True   Sometimes True   Often True   Always True

4. I often wonder why I do things
   Never True   Sometimes True   Often True   Always True

5. I think about how I am feeling a lot
   Never True   Sometimes True   Often True   Always True

6. I never think about what other people think of me
   Never True   Sometimes True   Often True   Always True

7. When I am dancing/playing team games, I wonder what other people think about me
   Never True   Sometimes True   Often True   Always True

8. Before leaving for school I take one last look in the mirror to make sure everything looks alright
   Never True   Sometimes True   Often True   Always True

9. I always know what kind of mood I am in
   Never True   Sometimes True   Often True   Always True

10. Before I go somewhere, I sometimes imagine how I am going to feel
    Never True   Sometimes True   Often True   Always True

11. I often wonder what other people think of me
    Never True   Sometimes True   Often True   Always True

12. When playing a game I am aware that others are watching me
    Never True   Sometimes True   Often True   Always True

13. I don’t know how I work things out… the answer just pops into my head
    Never True   Sometimes True   Often True   Always True
14. I often feel like I am the centre of attention and that people are looking at me and thinking about me

Never True   Sometimes True   Often True   Always True

15. I don’t think about why I do something I just do it

Never True   Sometimes True   Often True   Always True

16. When getting dressed on the weekend I often think about what others might think so that I can decide what to finally wear

Never True   Sometimes True   Often True   Always True

17. I don’t think about my feelings very often

Never True   Sometimes True   Often True   Always True
### Self-Presentation Scale

*Please circle the answer that best describes you*

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</thead>
<tbody>
<tr>
<td>1.</td>
<td>I think about my behaviour and try to fit in wherever I am</td>
<td>Never</td>
<td>Sometimes</td>
<td>Usually</td>
</tr>
<tr>
<td>2.</td>
<td>In almost all situations I think about how I should act so that I will make a good impression</td>
<td>Never</td>
<td>Sometimes</td>
<td>Usually</td>
</tr>
<tr>
<td>3.</td>
<td>Once I know how I am supposed to act, I try to act that way</td>
<td>Never</td>
<td>Sometimes</td>
<td>Usually</td>
</tr>
<tr>
<td>4.</td>
<td>I will act differently to suit different situations</td>
<td>Never</td>
<td>Sometimes</td>
<td>Usually</td>
</tr>
<tr>
<td>5.</td>
<td>When I am with a group of people, I will think about changing the way I act to fit in</td>
<td>Never</td>
<td>Sometimes</td>
<td>Usually</td>
</tr>
<tr>
<td>6.</td>
<td>When I am not sure how to act I watch others to see what to do</td>
<td>Never</td>
<td>Sometimes</td>
<td>Usually</td>
</tr>
<tr>
<td>7.</td>
<td>I try to fit my behaviour to the situation I find myself in</td>
<td>Never</td>
<td>Sometimes</td>
<td>Usually</td>
</tr>
<tr>
<td>8.</td>
<td>When I feel that I am not making a good impression I will try and change it</td>
<td>Never</td>
<td>Sometimes</td>
<td>Usually</td>
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</tbody>
</table>
Self-Efficacy for Peer Interactions Scale (Wheeler & Ladd, 1982)

1. Some kids want to play a game. Asking them if you play to is____ for you?
   HARD!           hard           easy           or          EASY!

2. Some kids are arguing about how to play a game. Telling them the rules is____ for you.
   HARD!           hard           easy           or          EASY!

3. Some kids are teasing your friend. Telling them to stop is____ for you.
   HARD!           hard           easy           or          EASY!

4. You want to start a game. Asking other kids to play the game is____ for you.
   HARD!           hard           easy           or          EASY!

5. A kid tries to take your turn during a game. Telling the kid it's your turn is____ for you.
   HARD!           hard           easy           or          EASY!

6. Some kids are going to lunch. Asking if you can sit with them is____ for you.
   HARD!           hard           easy           or          EASY!

7. A kid cuts in front of you in line. Telling the kid not to cut in is____ for you.
   HARD!           hard           easy           or          EASY!

8. A kid wants to do something that will get you into trouble. Asking the kid to do something else is____ for you.
   HARD!           hard           easy           or          EASY!

9. Some kids are making fun of someone in your classroom. Telling them to stop is____ for you.
   HARD!           hard           easy           or          EASY!

10. Some kids need more people to be on their teams. Asking to be on a team is____ for you.
    HARD!           hard           easy           or          EASY!
11. You have to carry some things home after school. Asking another kid to help you is ____ for you.
   HARD!   hard   easy   or   EASY!

12. A kid always wants to be first when you play a game. Telling the kid you are going first is ____ for you.
   HARD!   hard   easy   or   EASY!

13. Your class is going on a trip and everyone needs a partner. Asking someone to be your partner is ____ for you.
   HARD!   hard   easy   or   EASY!

14. A kid does not like your friend. Telling the kid to be nice to your friend is ____ for you.
   HARD!   hard   easy   or   EASY!

15. Some kids are deciding what game to play. Telling them about a game you like is ____ for you.
   HARD!   hard   easy   or   EASY!

16. You are having fun playing a game but the other kids want to stop. Asking them to finish playing is ____ for you.
   HARD!   hard   easy   or   EASY!

17. You are working on a project. Asking another kid to help is ____ for you.
   HARD!   hard   easy   or   EASY!

18. Some kids are using your play area. Asking them to move is ____ for you.
   HARD!   hard   easy   or   EASY!

19. Some kids are deciding what to do after school. Telling them what you want to do is ____ for you.
   HARD!   hard   easy   or   EASY!

20. A group of kids wants to play a game that you don't like. Asking them to play a game you like is ____ for you.
21. Some kids are planning a party. Asking them to invite your friend is____for you.
   HARD!       hard    easy      or     EASY!

22. A kid is yelling at you. Telling the kid to stop is____for you.
   HARD!       hard    easy      or     EASY!
# Social Interaction Questionnaire

*Please circle the answer that best describes you*

1. At my school I have several close friends  
   - Definitely False  
   - False  
   - True  
   - Definitely True

2. My friends and I have many things in common  
   - Definitely False  
   - False  
   - True  
   - Definitely True

3. I feel different from most of the people at my school  
   - Definitely False  
   - False  
   - True  
   - Definitely True

4. I act differently so others will like me  
   - Definitely False  
   - False  
   - True  
   - Definitely True

5. It is easy for me to be liked by my class/peers  
   - Definitely False  
   - False  
   - True  
   - Definitely True

6. Others like me because I am popular  
   - Definitely False  
   - False  
   - True  
   - Definitely True

7. Other students are liked more than I am  
   - Definitely False  
   - False  
   - True  
   - Definitely True

8. Other students expect me to be different  
   - Definitely False  
   - False  
   - True  
   - Definitely True

9. I often feel distant from my classmates  
   - Definitely False  
   - False  
   - True  
   - Definitely True
10. I often feel lonely at school
   Definitely False      False      True      Definitely True

11. I am not a ‘geek’
   Definitely False      False      True      Definitely True

12. I wish I could participate in more activities with other students than I do
   Definitely False      False      True      Definitely True

13. I am content with the amount of time I spend with classmates
   Definitely False      False      True      Definitely True
Appendix C: Ethics Approval
Deakin University

Human Ethics Advisory Group – Faculty of Health, Medicine, Nursing and Behavioural Sciences

221 Burwood Highway
Burwood Victoria 3125 Australia
Telephone +61 3 2517 174
Facsimile +61 3 9251 7425
hnumbs-research@deakin.edu.au

Memorandum

To
A/Professor David Mellor
School of Psychology

Date
21 August, 2009

From
Secretary – HEAG-H
Faculty of Health, Medicine, Nursing, and Behavioral Sciences

Subject

HEAG-H 128/09: Reasoning ability, social relationships and fears of negative evaluation in children and adolescents.

Approval has been given for A/Professor David Mellor, School of Psychology, to undertake this project for a period of 1 year, with the following conditions:

Please provide DOE approval and support from School Principals.

The approval given by the Deakin University HEAG - H is given only for the project and for the period as stated in the approval. It is your responsibility to contact the Secretary immediately should any of the following occur:

- Serious or unexpected adverse effects on the participants
- Any proposed changes in the protocol, including extensions of time
- Any events which might affect the continuing ethical acceptability of the project
- The project is discontinued before the expected date of completion
- Modifications that have been requested by other Human Research Ethics Committees

In addition you will be required to report on the progress of your project at least once every year and at the conclusion of the project. Failure to report as required will result in suspension of your approval to proceed with the project.

HEAG-H may need to audit this project as part of the requirements for monitoring set out in the National Statement on Ethical Conduct in Human Research (2007). An Annual Project Report Form can be found at http://www.deakin.edu.au/research/admin/ethics/human/forms/ which you will be required to complete in relation to this research. This should be completed and returned to the Administrative Officer to the HEAG-H, Dean’s office, Health, Medicine, Nursing & Behavioural Sciences, Burwood campus by Monday 23rd November, 2009 and when the project is completed.

Good luck with the project!
Steven Sawyer
Secretary
HEAG-H

cc Thane Camwell
Mr Thane Camwell  
Deakin University  
Faculty of Health, Medicine, Nursing and Behavioural Sciences  
School of Psychology  
221 Burwood Highway  
BURWOOD  3125

Dear Mr Camwell

Thank you for your application of 27 July 2009 in which you request permission to conduct a research study in government schools titled: *Changes in reasoning ability, social relationships and fears of negative evaluation in children and adolescents*.

I am pleased to advise that on the basis of the information you have provided your research proposal is approved in principle subject to the conditions detailed below.

1. Should your institution's ethics committee require changes or you decide to make changes, these changes must be submitted to the Department of Education and Early Childhood Development for its consideration before you proceed.

2. You obtain approval for the research to be conducted in each school directly from the principal. Details of your research, copies of this letter of approval and the letter of approval from the relevant ethics committee are to be provided to the principal. The final decision as to whether or not your research can proceed in a school rests with the principal.

3. No student is to participate in this research study unless they are willing to do so and parental permission is received. Sufficient information must be provided to enable parents to make an informed decision and their consent must be obtained in writing.

4. As a matter of courtesy, you should advise the relevant Regional Director of the schools you intend to approach. An outline of your research and a copy of this letter should be provided to the Regional Director.

5. Any extensions or variations to the research proposal, additional research involving use of the data collected, or publication of the data beyond that normally associated with academic studies will require a further research approval submission.

6. At the conclusion of your study, a copy or summary of the research findings should be forwarded to Education Policy and Research Branch, Department of Education and Early Childhood Development, Level 3, 33 St Andrews Place, GPO Box 4367, Melbourne, 3001.
I wish you well with your research study. Should you have further enquiries on this matter, please contact Jonathan Howcroft, Policy and Research Officer, Education Policy and Research, by telephone on (03) 9947 1892 or by email at <howcroft.jonathan.j@edumail.vic.gov.au>.

Yours sincerely

[Signature Redacted by Library]

Dr Elizabeth Hartnell-Young
Group Manager
Education Policy and Research

[Signature]

12/11/2009

enc
In reply please quote:

GE09/0009
1555

5 November 2009

Mr T Camwell
Unit 12 / 9 High Road
CAMBERWELL VIC 3124

Dear Mr Camwell

I am writing with regard to your research application received on 30 October 2009 concerning your forthcoming project titled Changes in reasoning ability, social relationships and fears of negative evaluation in children and adolescents. You have asked approval to approach Catholic schools in the Archdiocese of Melbourne, as you wish to survey students aged 7–18 years.

I am pleased to advise that your research proposal is approved in principle subject to the nine standard conditions outlined below.

1. The decision as to whether or not research can proceed in a school rests with the school's principal, so you will need to obtain approval directly from the principal of each school that you wish to involve.

2. You should provide each principal with an outline of your research proposal and indicate what will be asked of the school. A copy of this letter of approval, and a copy of notification of approval from the university's Ethics Committee, should also be provided.

3. A Working with Children (WWC) check – or registration with the Victorian Institute of Teaching (VIT) – is necessary for all researchers visiting schools. Appropriate documentation must be shown to the principal before starting the research in each school.

4. No student is to participate in the research study unless s/he is willing to do so and informed consent is given in writing by a parent/guardian.

5. You should provide the names of schools which agree to participate in the research project to the Knowledge Management Unit of this Office.

6. Any substantial modifications to the research proposal, or additional research involving use of the data collected, will require a further research approval submission to this Office.
7. Data relating to individuals or schools are to remain confidential.

8. Since participating schools have an interest in research findings, you should consider ways in which the results of the study could be made available for the benefit of the school communities.

9. At the conclusion of the study, a copy or summary of the research findings should be forwarded to this Office. It would be appreciated if you could submit your report in an electronic format using the email address provided below.

I wish you well with your research study. If you have any queries concerning this matter, please contact Mr Mark McCarthy of this Office.

The email address is <km@ceomelb.catholic.edu.au>.

Yours sincerely

[Signature Redacted by Library]

Nancy Bicchieri
DEPUTY DIRECTOR
Appendix D: Plain Language Statements and Consent Forms
Dear Parents/Guardians

My name is Thane Camwell and I am studying for a Doctor of Psychology degree at Deakin University. For my studies I am doing a research project with Associate Professor David Mellor who is also from Deakin University. Your child’s school has been invited to participate in this research project. We are hoping that we can recruit two to three hundred students aged 7-15 from the participating schools, and hope that you will allow your child to participate in this project.

As background, this project seeks to better understand the changes that occur in youth’s reasoning ability as they grow. We know that they can consider more information and that they become interested in the perspectives and views of others. These developments are important for social and emotional skill development. In trying to understand themselves and others, and negotiate personal relationships, it is not surprising that we also see a rise in self-consciousness and fears of negative evaluation. We are interested in what changes, in understanding of self and others, might underlie children/adolescents being self-conscious at this sensitive time. We would also like to know how personality traits and peer relationships might influence these concerns. This research will also tell us how significant social anxiety actually is for Australian youth.

This is an important area because for approximately 10% to 15% youth these concerns have a significant effect on their academic achievement, their ability to make lasting friendships and establishment of a sense of security and independence in adulthood. Greater understanding of what makes this time a sensitive period will contribute to our understanding of the thinking patterns of youth and will allow us to help those who experience significant self-consciousness and social fears at this time.

Participation in this research will involve your child speaking to the researcher (Thane Camwell) in a one-on-one interview and answering questions related to social stories. These stories encourage the participant to think about situations from multiple perspectives and provide an assessment of their perspective-taking skills. For example, one story involves them considering whether it is fair that a boy (or girl) throw a party at their school in order to impress their peers - even though the boy’s (girl’s) family is struggling financially. We would also like them to answer some questions about whether they are shy in social situations, how confident they are in their social relationships, and whether they generally consider the needs and perspectives of others. Questions include:
I get anxious doing things when people are watching
Never, Rarely, Sometimes, Often, Regularly

When I am dancing/playing team games, I wonder what other people think about me.
Never True Sometimes True Often True Always True

You want to start a game. Asking other kids to play the game is _____ for you.
HARD! hard easy or EASY!

My friends and I have many things in common
Definitely False False True Definitely True

All together this will take your child 45 minutes to an hour to complete depending on how old and how fast they can read and communicate. We strongly encourage participants from all backgrounds to participate.

We cannot guarantee or promise that your child or their school will receive any benefits from this project. However, the results may benefit families, schools and health professions in the future in managing youth’s social anxiety and social skills.

The questions are not sensitive and your child can choose not to answer any of them. If they indicate that they do not want to answer a question it will be indicated that this is fine. If it is apparent that they are experiencing any distress as a consequence of any of the assessment they will be asked if they would like to stop. If they say no but still illustrate a high level of distress (e.g., anxiety) assessment will be discontinued and they will be allowed to go back to class if this is really what they want to do.

Please note that in the unlikely event that any child is found to be experiencing extreme levels of distress parents will be made aware of this the researcher will offer a referral to an appropriate counselling service for assistance.

Participants are not required to write their full name on the questionnaire, but we will be asking your child to write the first two letters of their first and last name on the questionnaires, and the name of the school that they attend. We can then use this information to locate their questionnaires if they decide that they no longer want to be part of the study. Their data will then be destroyed.

No-one at school will see your child’s answers on the questionnaires. They will be stored at Deakin University and only seen by me and my supervisor. They will be disposed of after 6 years. The final project might be published, but no names will be used in this report so no-one will know who the participants were.

Your child does not have to join this project. If participants do not want to continue to participate at any stage they can tell you, their teacher or me. If you would like to view the questionnaires or have any other questions before making your decision please contact me or your schools principal. Sign the Consent Form only after you have had a chance to ask your questions and have received satisfactory answers.
Before your child makes a decision about whether they would like to participate, a member of the research team will be available to answer any questions they have about the research project. They can ask for any information that they want.

If you decide to withdraw your child from this project, please notify a member of the research team or complete and return the Revocation of Consent Form attached.

Approval has also been obtained from the Department of Education for the study to be conducted through schools, and the project has been approved by Deakin University Human Research Ethics Committee.

Should you have any concern about the conduct of this research project, please contact the Secretary HEAG-H, Dean's Office, Faculty of Health, Medicine, Nursing and Behavioural Sciences, 221 Burwood Hwy, Burwood, VIC 3125, Telephone: (03) 9251 7174, Email hmnbs-research@deakin.edu.au.

If you require further information, wish to withdraw your participation or if you have any problems concerning this project (for example, any side effects), you can contact the principal researcher.

The researchers responsible for this project are:

**Thane Camwell and Associate Professor David Mellor**
Faculty of Health, Medicine, Nursing and Behavioural Sciences
221 Burwood Highway, BURWOOD VIC 3125

**Contact David Mellor on:** 9244 3742/ david.mellor@deakin.edu.au
DEAKIN UNIVERSITY
CONSENT FORM

TO: Parents

Third Party Consent Form

(To be used by parents/guardians of minor children, or carers/guardians consenting on behalf of adult participants who do not have the capacity to give informed consent)

Date:

Full Project Title: Changes in reasoning ability and fears of negative evaluation in children and adolescents

I have read and I understand the attached Plain Language Statement.

I give my permission for ..................................................(name of participant) to participate in this project according to the conditions in the Plain Language Statement.

I have been given a copy of Plain Language Statement and Consent Form to keep.

The researcher has agreed not to reveal my identity and personal details, including where information about this project is published, or presented in any public form.

Participant’s Name (printed) ..............................................................

Name of Person giving Consent (printed) .................................................

Relationship to Participant: .................................................................

Signature ................................................................. Date .........................

Deakin University, Faculty of Health, Medicine, Nursing and Behavioural Sciences, Psychology.
221 Burwood Highway, BURWOOD VIC 3125
Contact David Mellor on: 9244 3742/ david.mellor@deakin.edu.au

DEAKIN UNIVERSITY
TO: Parents

Revocation of Consent Form

(To be used for participants only if they wish to withdraw from the project)

Date;
Full Project Title: Changes in reasoning ability and fears of negative evaluation in children and adolescents

I hereby wish to WITHDRAW my consent to participate in the above research project and understand that such withdrawal WILL NOT jeopardise my relationship with Deakin University

Participant’s Name (printed) ..............................................................

Signature ................................................................. Date
........................................

Please mail this form to:

Deakin University, Faculty of Health, Medicine, Nursing and Behavioural Sciences, Psychology. 221 Burwood Highway, BURWOOD VIC 3125
Contact David Mellor on: 9244 3742/ david.mellor@deakin.edu.au
Dear Student,

My name is Thane Camwell and I am studying for a Doctor of Psychology degree at Deakin University. For my studies I am doing a research project with Associate Professor David Mellor who is also from Deakin University. Your school has been invited to participate in this research project. We are hoping that we can recruit two to three hundred students aged 7-15 from the participating schools, and hope that you choose to participate in this project.

As background, this project seeks to better understand the changes that occur in school students reasoning ability as they grow. We know that children your age can consider more information and that they become interested in how others think about things. At your age some children can also be self-consciousness and worried about how others view them. We would like to know more about these issues because they are important for social and emotional skill development.

If you decide to participate you will speak to the researcher (Thane Camwell) in a one-on-one interview and answer questions related to social stories. These stories encourage you to think about situations from multiple perspectives and provide a picture of your perspective-taking skills. For example, one story involves considering whether it is fair that a boy (or girl) throw a party at their school in order to impress their peers - even though the boy’s (girl’s) family is struggling financially. We would also like you to answer some questions about whether you are shy in social situations, how confident you are in their social relationships, and whether you generally consider the needs and perspectives of others. Questions include:

I get anxious doing things when people are watching
Never, Rarely, Sometimes, Often, Regularly

When I am dancing/playing team games, I wonder what other people think about me.
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HARD! hard easy or EASY!

My friends and I have many things in common
Definitely False False True Definitely True
All together this will take you 45 minutes to an hour to complete depending on how old and how fast you can read and communicate.

You are not required to write your name on the questionnaire, but we will be asking you and your parents to write the first two letters of your first name and last name on the questionnaires, and the name of the school that you attend. We can then use this information to destroy your questionnaires if you decide that you no longer want to part of the study.

No-one at school will see your answers on the questionnaires. They will be stored at Deakin University and only seen by me and my teacher. They will be disposed of after 6 years. The final project might be published, but no names will be used in this report so no-one will know who you are.

You do not have to join in this project. If you don’t want to, you can tell your parents or your teacher or me and we will not have a problem with your decision. But if you decide to join in, it is OK to change your mind and choose not to take part any more. You can do this at any time. If you do change your mind, you can tell your parents, your teacher or me. I won’t ask any questions about why you changed your mind, and there will be no consequences. If you decide not to take part, you will continue with your class work as usual.

If you feel worried about the project at any time, or have any questions, you can talk to me, your parents or your teacher. You may contact David Mellor on 924 43742 or david.mellor@deakin.edu.au.

Thank you for thinking about helping me to find out more about what school and home life is like for children. If you are willing to take part, talk it over with your parents who will also have received a letter from me. Please sign the consent form attached to this letter.
Consent Form

Date:

Full Project Title: Changes in reasoning ability and fears of negative evaluation in children and adolescents

I have read and I understand the attached Plain Language Statement.

I freely agree to participate in this project according to the conditions in the Plain Language Statement.

I have been given a copy of Plain Language Statement and Consent Form to keep.

The researcher has agreed not to reveal my identity and personal details, including where information about this project is published, or presented in any public form.

Participant's Name (printed) …………………………………………………………………………………

Signature …………………………………………………………… Date ……………………………

Deakin University, Faculty of Health, Medicine, Nursing and Behavioural Sciences, Psychology.
221 Burwood Highway, BURWOOD VIC 3125
Contact David Mellor on: 9244 3742/ david.mellor@deakin.edu.au