The Power of Playing and Performing: Social Anxiety and Participation in Extracurricular Activities in Early Childhood

by

Gabriella Anita Nocita

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Carleton University
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Abstract

The goal of this study was to examine the potential linear and moderating effects of social anxiety and extracurricular activity participation in the prediction of young children's early school adjustment. It was hypothesized that social anxiety would be harmful, and extracurricular activity participation would be beneficial for young children's early school adjustment. Extracurricular activity participation was also expected to protect socially anxious children from negative school adjustment. Participants were $N = 268$ young children (aged 4-7 years) attending preschools and elementary schools located in south-eastern Ontario. Multisource assessment included parent, teacher, and child reports. Among the results: (1) social anxiety was associated with negative outcomes in early childhood; (2) engagement, but not frequency, of extracurricular activities was associated with early school adjustment; and (3) moderating effects of extracurricular activities were generally not found. Results are discussed in terms of implications for young socially anxious children's positive early school adjustment.

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Table of Contents

List of Tables

List of Figures

List of Appendices

The Power of Playing and Performing: Social Anxiety and Participation in Extracurricular Activities in Early Childhood

Anxiety represents one of the most prevalent psychological disorders in childhood (Kingery, Erdley, Marshall, Whitaker, & Reuter, 2010; Wichstrom et al., 2012), with as many as one in five children meeting the criteria for an anxiety disorder (Costello, Egger, & Angold, 2004). It is now widely accepted that anxious children are at substantially increased risk for a range of negative social, emotional, and academic difficulties (Kingery et al., 2010). For example, as compared to their non-anxious counterparts, clinically anxious children are more likely to experience peer relationship difficulties (Baker & Hudson, 2014), have more academic problems and difficulty attending school (Kearney, 2005; Kingery et al., 2010), and are at higher risk for other anxiety and mood disorders (Goodwin, Fergusson, & Horwood, 2004).

One type of anxiety disorder that is particularly common in childhood is social anxiety. *Social anxiety disorder* (also previously referred to as *social phobia*) is characterized by an intense and persistent fear/anxiety of one or more social situations in which a person is exposed to unfamiliar people or possible scrutiny by others (American Psychiatric Association [APA], 2013). To date, the focus of social anxiety research has typically been with clinical samples. However, there has been an increasing interest in examining heightened, yet subclinical, symptoms of social anxiety (Weeks, Coplan, & Kingsbury, 2009). Moreover, although considerable attention has been given to examining social anxiety in preadolescent and adolescent samples (e.g., Leeves & Banerjee, 2014; Lewis-Morrarty et al., 2012), much less is known about the correlates of social anxiety in early childhood (Wichstrom, Belsky, & Berg-Nielson, 2013).

There are several reasons why it may be particularly important to examine social anxiety in early childhood. For example, anxiety disorders frequently begin during the preschool years (Egger & Angold, 2006) and social anxiety may have its onset in early childhood (Eley, Rijsdijk, Perrin, O'Connor, & Bolton, 2008; Ost & Treffers, 2001). Moreover, despite its possible early onset, social anxiety disorder is often left untreated into adolescence and adulthood (Eley et al., 2008). As well, social anxiety in childhood is associated with negative social, emotional, and cognitive adjustment (e.g., Blöte, Kint, & Westenberg, 2007; Frost, Glossner, & Maxner, 2010; Goodwin et al., 2004). Finally, anxiety disorders, including social anxiety, are highly comorbid with other anxiety disorders, as well as various emotion and conduct disorders (Eley et al., 2008; Egger & Angold, 2006; Wichstrom et al., 2013; Zimmermann et al. 2003). Therefore, early identification and treatment of social anxiety may reduce its negative consequences, and prevent the onset of secondary comorbid disorders (Eley et al., 2008; Erath, Flanagan, & Bierman, 2007).

The peer context represents one domain in which social anxiety can be examined in early childhood. However, peer interaction is a primary challenge for socially anxious children. In fact, such children tend to find socializing with peers both difficult and upsetting (Kearney, 2005). Although researchers have previously examined the peer relationships of socially anxious children within the school context (e.g., Kingery et al., 2010), considerably less is known about their social interactions *outside* of school. Extracurricular activities provide one opportunity for such exploration. However, to date, there has been virtually no previous research pertaining to the links between social anxiety and participation in extracurricular activities, particularly in early childhood.

This may be a particularly important developmental stage for studying social anxiety, since this construct disrupts the establishment of peer relationships (e.g., Baker & Hudson, 2014; Kingery et al., 2010), the transition to school (e.g., Grills-Taquechela, Norton, & Ollendick, 2010), and academic functioning (Kearney, 2005; Kingery et al., 2010) – all of which represent critical tasks in early childhood.

Therefore, the primary goals of this study were to: (1) examine the relations between aspects of participation in extracurricular activities (e.g., domain, frequency, psychological engagement) and social anxiety in early childhood; and (2) explore the potential *moderating* role of activity participation in the relations between social anxiety and indices of early school adjustment. The focus was on two domains of extracurricular activities: organized sports (e.g., soccer) and performing arts (e.g., dance). It was expected that positive experiences in these two types of extracurricular activities would help to protect socially anxious children from negative socio-emotional and academic outcomes at school.

Overview of Social Anxiety in Childhood

Anxiety disorders are among the most common psychological disorders in childhood and adolescence (Beidel & Alfano, 2011; Essau, Condradt, & Petermann, 2000; Kingery et al., 2012). Typically, the average age of onset of an anxiety disorder depends on the particular type of disorder experienced. However, youth anxiety disorders can occur any time prior to adulthood (Beidel & Alfano, 2011). Moreover, anxiety disorders tend to be chronic and stable conditions, with reported diagnosed retention rates between 20% and 50%, depending on initial age of onset, specific type of anxiety disorder, and length of follow up (Bernstein, Hektner, Borchardt, & McMillan,

2001; Costello & Angold, 1995). There are various subtypes of anxiety disorders. However, the most frequently occurring anxiety disorders during childhood and adolescence are separation anxiety, specific phobia, and social anxiety disorder (Beesdo, Knappe, & Pine, 2009). Youth can experience any of the various types of anxiety disorders, which tend to be comorbid with other anxiety disorders (e.g., Costello & Angold, 1995, Eley et al., 2008). However, the focus of the present thesis research was on symptoms of social anxiety in early childhood.

Social anxiety refers to adverse physiological and psychological arousal, as well as a fear of being negatively evaluated, in real or imagined social or performance situations (Henderson & Zimbardo, 2010; Schlenker & Leary, 1982). Similar to adult manifestations of social anxiety, childhood social anxiety is often manifested as a fear of social situations, accompanied by social distress and avoidance of such situations (La Greca & Stone, 1993). Social anxiety is often a normal human reaction. Children commonly feel some level of anxiety in social and performance situations, including starting conversations and playing with others, taking tests, giving presentations, and performing at recitals (Kearney, 2005). The feelings of social anxiety provoked from such situations are often mild, and are typically not problematic (Kearney, 2005).

Notwithstanding, some children experience extreme levels of social anxiety and rely on inappropriate coping strategies to deal with these feelings. Moreover, these extreme levels of social anxiety may also come to disrupt day-to-day functioning (e.g., going to school). In such cases, *social anxiety disorder* (SAD) may be diagnosed. A diagnosis of SAD may be warranted when social anxiety leads to a severe, irrational fear and avoidance of social or performance situations, and interferes with children's regular

social lives (APA, 2013; Kearney, 2005). Correspondingly, social anxiety can be conceptualized as a continuum with fearlessness at one extreme and debilitating anxiety and avoidance at the other (Herbert, Rheingold, & Brandsma, 2010).

Researchers from various different psychological domains (e.g., social, clinical, developmental) tend to conceptualize and define constructs related to social anxiety in different ways. This lack of integration has resulted in an overlapping and imprecise nomenclature, which tends to cause confusion in the extant literature when discussing social anxiety (Hofmann & DiBartolo, 2010). For example, shyness, social withdrawal, SAD/social phobia, performance anxiety, and behavioural inhibition all represent constructs that are considered part of the larger umbrella of social anxiety (McNeil, 2010).

To date, the focus of social anxiety research has typically been with clinical samples (i.e., who meet diagnostic criteria for social anxiety disorder) (e.g., Baker & Hudson, 2014; Crawford & Manassis, 2011; Eley et al., 2008). However, even children with heightened (yet subclinical) levels of social anxiety experience socio-emotional difficulties (Weeks et al., 2009) and may go on to develop more serious internalizing disorders (Goodwin et al., 2004). Further, although considerable attention has been given to examining social anxiety in preadolescent and adolescent samples (e.g., Lewis-Morrarty et al., 2012; Morgan & Banerjee, 2006; Wright, Banerjee, Hoek, Rieffe, & Novin, 2010), much less is known about the correlates of social anxiety in early childhood (Bernstein et al., 2008; Wichstrom et al., 2013). It is important to identify anxiety prone and anxious children when they are young, in order for prevention and

intervention programs to be implemented as early as possible (Rapee, Kennedy, Ingram, Spence, & Sweeney, 2005).

In recent years, it has become increasingly clear that social anxiety is present and can be reliably and validly assessed even in preschool-aged children. In this regard, specific measures have been developed and validated to screen for anxiety in early childhood, such as the *Preschool Anxiety Scale – Revised* (Edwards, Rapee, Kennedy, & Spence, 2010; Luby, 2013). Moreover, there is growing research to suggest that social anxiety (both at the symptom level and by clinical diagnoses) is distinct from other forms of anxiety in early childhood. For example, Sterba, Egger, & Angold (2007) found that social anxiety, separation anxiety, and depression/generalized anxiety can be distinguished among preschool aged children (aged 2-5 years), just as they can be distinguished among older children and adolescents. Similarly, Spence, Rapee, McDonald, and Ingram (2001) conducted both exploratory and confirmatory factor analyses and determined social anxiety to be distinct from separation anxiety, obsessive compulsive disorder, fears of physical injury, and generalized anxiety among a community sample of 2.5 to 6.5 year old young children. Taken together, these results suggest that social anxiety exists as a distinct emotional syndrome, and can be measured and identified among very young children from both clinical and community samples.

Given the importance of exploring subclinical levels of social anxiety in early childhood, and the lack of such research thus far, this study focused on heightened symptoms of social anxiety in early childhood rather than on clinical SAD. In an attempt to minimize the confusion surrounding similar constructs, the term *social anxiety* will be used to discuss heightened, but subclinical, levels of social anxiety symptoms.

Conversely, the term *social anxiety disorder* (SAD) will refer to clinically diagnosed SAD. Despite the present focus on social anxiety, much of the literature that is reviewed concerns SAD, highlighting the need for more research on *symptoms* of social anxiety.

Prevalence and onset. SAD is a relatively common psychological problem, with as many as 13% of individuals experiencing the disorder at some point in their lives (Furmark, 2002). A considerable amount is known about the prevalence rates of SAD generally. For example, using the National Comorbidity Survey (NCS), Kessler and colleagues (1994) determined that SAD was one of the most common mental health issues, and that in the general population lifetime prevalence rates included approximately 15% of women and 11% of men. Moreover, it appears that the prevalence of SAD has increased nearly 10% (from 2% to over 10%) in the last 30 years (e.g., Cox et al., 2005; Henderson & Zimbardo, 2010; Kessler, Chiu, Demler, & Walters, 2005).

However, although much is known about general and adult populations, much less is known about SAD in childhood. Social fears are common among children, yet exact prevalence rates of SAD in childhood are unclear. This is due, in part, to revisions of the criteria for SAD in different versions of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM) (Kearney, 2005). Additionally, childhood SAD was initially understudied based on the notion that children would outgrow the condition (e.g., Bruch, Giordano, & Pearl, 1986). Therefore, SAD is generally less studied in childhood than in older populations.

Exact prevalence rates vary based on the version of the DSM used to diagnose the disorder. For example, earlier studies using the DSM-III or the DSM-III-R found childhood SAD prevalence rates of between 1-4% (e.g., Anderson, Williams, McGee, &

Silva, 1987; Benjamin, Costello, & Warren, 1991). Studies examining the prevalence rates of SAD using the DSM-IV found similar estimates (e.g., Essau, Conradt, & Petermann, 1999; Essau et al., 2000). However, other studies, including those using the DSM-IV-TR have reported higher prevalence rates of SAD (e.g., APA, 2000; Nelson et al., 2000). Moreover, it has been suggested that the rates of childhood SAD may increase with time (Rodriguez, Caballo, Garcia-Lopez, Alcazar, & Lopez-Gollenet, 2003), as SAD becomes more well known as a childhood disorder, and as diagnostic criteria become more sensitive to children (Kearney, 2005).

With the recent publication of the DSM-5, various changes have been made to the way in which SAD is defined, which may have clinical implications that will become clearer with time (Heimberg et al., 2014). For example, the definition of SAD has been broadened from situations that cause humility or embarrassment, to situations where there is fear of negative evaluation. Additionally, patients are no longer required to recognize that their fears are out of proportion to actual threats. Instead, the clinician determines whether fears are disproportionate, and cultural factors are taken into consideration. Both of these changes from the DSM-IV-TR to the DSM-5 may have implications for future prevalence rates. However, the ways in which prevalence rates will be affected are still unclear (e.g., Heimberg et al., 2014).

As with other anxiety disorders, SAD begins relatively early and tends to follow a chronic trajectory (Bernstein et al., 2001; Wenzel, 2010). Symptoms of social anxiety begin to increase during the preadolescence years. The usual onset of SAD occurs in early to mid- adolescence, with the average age of onset being approximately 16 years (e.g., Beidel et al., 1995; Klein, 2009; Mancini, Van Ameringen, Bennett, Patterson, &

Watson, 2005). Although SAD is most often diagnosed in adolescence, a second frequent onset occurs during elementary school (e.g., Ost & Treffers, 2001). Once developed, SAD is fairly persistent, with reported retention rates of 50% one year after diagnosis (Bernstein et al., 2001).

A distinction is often made between *generalized* SAD and *specific* SAD. The generalized subtype of SAD is characterized by experiences of social anxiety across a variety of interpersonal settings (Turner, Beidel, & Jacob, 1994). However among youth, this distinction is controversial, since the overwhelming majority of children (i.e., 89%) and adolescents (i.e., between 45.5% and 92%) from samples from the United States receive a generalized subtype diagnosis (e.g., Beidel, Turner, Young, Ammerman, & Sallee, 2007; Hofmann et al., 1999). Notwithstanding, studies examining group differences based on subtype have found that the general subtype is typically characterized by more severe symptomatology compared to the specific subtype (Beidel & Alfano, 2011). For example, Wittchen, Stein, & Kessler (1999) found that adolescents with generalized SAD experienced earlier ages of onset, higher rates of comorbid diagnoses, higher symptoms in general, and more severe fears of humiliation.

Etiological factors. Various risk factors have been presented concerning the development of social anxiety and SAD. Such risk factors are commonly grouped in terms of *biological* and *psychological* vulnerabilities (Barlow, 2002; Kearney, 2005). Genetic predisposition (e.g., Beidel & Turner, 1997; Lieb et al., 2000; Tillfors, Furmark, Ekselius, & Fredrikson, 2001) and behavioural inhibition (e.g., Hudson, Dodd, Lyneham, & Bovopoulous, 2011) are two biological vulnerabilities that are frequently examined as risk factors for the development of SAD. Psychological risk factors include parental and

familial characteristics, such as parenting style, attachment, and parental modeling (Kearney, 2005).

Research suggests that SAD may have genetic predispositions. For example, Tillfors and colleagues (2001) found that adolescents and adults with a family member affected by SAD were two to three times more likely to develop SAD themselves. Lieb and colleagues (2000) also found that adolescents of parents with SAD, particularly generalized SAD, were more likely to develop the disorder. However, results from a twin study by Nelson and colleagues (2000) indicated additive hereditary factors for SAD to be only 28%. This result is low when compared to results found for major depression (45%) and alcohol use disorder (63%). Taken together, these studies suggest that although parental SAD may predispose youth towards the disorder, environmental influences often play a role as well (Albano, Chorpita, & Barlow, 2003).

A large body of research suggests that behavioural inhibition (BI; i.e., fearfulness, timidity, and avoidance around novel stimuli) is associated with anxiety disorders, including SAD, in childhood (e.g., Biederman et al., 2001; Kiel, Buss, & Molitor, 2015; Muris, Meesters, de Kanter, & Timmerman, 2005; Wichstrom et al., 2013). For example, Biederman and colleagues (2001) found that young children with BI were more likely to have SAD than children without BI. In childhood, a behaviorally inhibited temperament is typically considered as social inhibition, which appears to be directly related to heightened symptoms of social anxiety (Kiel et al., 2014). Kiel and colleagues (2014) examined a community sample of kindergarten children and found that high risk for social anxiety (as rated by parents) was associated with both child self-reported social inhibition and observed social reticence (i.e., onlooking and unoccupied behaviour).

BI in early childhood also appears to be predictive of SAD in later childhood and adolescence (Chronis-Tuscano et al., 2009; Hirshfeld-Becker et al., 2007), and has been reported as being one of the largest single risk factors for developing social anxiety disorders (Clauss & Blackford, 2012). For example, Chronis-Tuscano and colleagues (2009) found that children displaying BI between 14 months and 7 years of age (as rated by mothers) were almost four times as likely to develop SAD in adolescence than children who did not display BI. Similarly, Clauss & Blackford (2012) found that 43% of BI children met the criteria for SAD, whereas only 12% of non-BI children met the criteria for SAD. Accordingly, it has been speculated that BI forms the core component of SAD, but that SAD also includes other components that may occur later in development (Clauss & Blackford). Therefore, although BI may be associated with SAD, environmental and psychological factors may help to determine how SAD develops (Beidel & Alfano, 2011).

Overprotective/over controlling and negative/critical parenting are often proposed as psychological risk factors for the development of anxiety disorders in childhood (e.g., Bögels & Brechman-Toussaint, 2006; Wood, Mcleod, Sigman, Hwang, & Chu, 2003). However, the results surrounding parenting styles predicting childhood anxiety are mixed. For example, Edwards, Rapee, and Kennedy (2010) found that both maternal and paternal over control predicted child anxiety one year later. However, Hudson and colleagues (2011) examined social anxiety specifically, and found that maternal over involvement and negativity no longer predicted childhood social anxiety two years later, after controlling for baseline anxiety. These results seem to suggest that parenting style

may play a lesser role in the development of social anxiety than previously thought (Wichstrom et al., 2013).

It has also been proposed that insecure parent-child attachment may be implicated in the development of anxiety disorders. Recent reviews of extant research indicate that insecure attachment is at least moderately associated with anxiety disorders in childhood and adolescence (Bögels & Brechman-Touissant, 2006; Colonessi et al., 2011). These reviews are consistent with previous research indicating that the association between attachment and anxiety is stronger for insecure-ambivalent attachment than for insecure attachment in general (e.g., Bar-Haim, Dan, Eshel, & Sagi-Schwartz, 2007; Warren, Huston, Egeland, & Sroufe, 1997). Moreover, it has been found that boys who are ambivalently attached had higher levels of social anxiety than boys who were securely attached (Bar-Haim et al., 2007). Similarly, Warren and colleagues (1997) found that children and adolescents who were ambivalently attached were more likely to have SAD.

Family environment and parental modeling have also been proposed as psychological risk factors for anxiety disorders. For example, there is some evidence that distressing life events and daily stressors uniquely contribute to childhood anxiety (Allen, Rapee, & Sandberg, 2008; Edwards et al., 2010). Specifically, prior to onset of anxiety, anxious children experienced significantly more severe life events than control children (Allen et al., 2008).

It has also been suggested that the overlap between parent and child anxiety is partially due to parental modeling of anxious behaviours (Bögels & Brechman-Touissant, 2006). Although there is limited empirical research to support this claim for anxiety disorders, slightly more is known about the association between parental modeling and

subclinical child anxiety. For example, Gerull and Rapee (2002) demonstrated that parental facial expressions of fear temporarily increased infant avoidant behaviours of novel threatening stimuli. Although preliminary, this finding suggests that parental modeling of anxious behaviours may initiate child symptoms of fear and anxiety (Bögels & Brechman-Touissant, 2006; Gerull & Rapee, 2002). However, it is important to note that these results are not specific to social anxiety.

Age and gender differences. There is a large body of literature indicating a higher prevalence of social anxiety among girls than boys (e.g., Cartwright-Hatton, Hodges, & Porter, 2003; Essau et al., 2000; Kearney, 2005; Leeves & Banerjee, 2012). Indeed, girls generally report more symptoms of social anxiety, as well as SAD than boys (Kearney, 2005). For example, Compton, Nelson, and March (2000) found that girls in both clinical and community samples were more likely to show symptoms of SAD than boys. However, it is important to note that studies examining gender differences typically use self-report assessments and clinical referrals. It may be the case that boys appear less socially anxious than girls because they are less likely to report their true feelings, or be referred for treatment (Kearney, 2005).

Gender differences also emerge in terms of the types of fears experienced by socially anxious youth. For example, girls tend to be more fearful than boys of performance and test situations, being embarrassed, being judged as stupid, crazy, or weak, having a panic attack, and experiencing confusion and shame. However, there appear to be no gender differences in terms of fears of eating, drinking, and writing in front of other people, participating in social situations, public speaking, and conversing

with others. Finally, socially anxious girls and boys display avoidant behaviours equally often (Kearney, 2005).

Research concerning gender differences among anxious preschool-aged children is less consistent. For example, Wang and Zhao (2015) found no gender differences in terms of anxiety symptoms among 3-6 year olds. Similarly, Spence and colleagues (2001) found no significant gender differences in terms of anxiety disorders among preschoolers. It has been suggested that gender differences are not strong among younger children, and may become more pronounced with increasing aged (Spence et al., 2001; Wang & Zhao, 2015). In contrast, recent research indicated that girls are more likely to develop SAD and specific phobia than boys, but boys are more likely to develop separation anxiety (Paulus, Backes, Sander, Weber, & von Gontard, 2015). This finding suggests that specific gender differences in terms of anxiety disorders begin to emerge as early as age 4 years. However, the authors note that this is inconsistent with previous research, and it appears to be unclear as to why this finding emerged. Accordingly, more research examining gender differences among socially anxious young children is necessary.

As previously mentioned, most of the research on social anxiety focuses on older children and adolescents. However, there is some evidence to suggest age-related changes in the frequency and prevalence from childhood to adolescence. Specifically, a relatively large body of research suggests that younger youth typically experience higher levels of social anxiety than older youth. Moreover, this association seems to hold true among preschool aged children (e.g., Spence et al., 2001; Wang & Zhao, 2015), older

children (e.g., Mallet & Rodriguez, 1999; Peleg, 2012), and preadolescents (Compton et al., 2000).

Correlates and outcomes. SAD is a debilitating disorder that significantly disrupts children's lives across multiple domains. The most commonly experienced physical symptoms include cardiac and respiratory distress (e.g., heart palpitations), flushes and chills, sweating, shaking, and feeling faint (Beidel & Alfano, 2011; Beidel, Christ, & Long, 1991). Beidel and colleagues (1991) found that headaches, nausea, choking, and dizziness were also fairly common among children with anxiety disorders. Although these symptoms were reported for various anxiety disorders, the authors found children with SAD to have the most pervasive pattern of somatic symptoms.

SAD is also characterized by patterns of negative cognitions. In general, individuals with SAD worry that their behaviour will be perceived as silly, and that they will embarrass or humiliate themselves (Beidel & Alfano, 2011). Moreover, individuals with SAD feel that they do not meet the expectations of others, and that they will be scrutinized (e.g., Alfano, Beidel, & Turner, 2006; Frost et al., 2010). For example, Alfano and colleagues (2006) indicated that during social and performance situations, children with SAD expected themselves to be less successful than children without an anxiety disorder. Moreover, the children with SAD evaluated their performance as worse than their initial negative expectation. Similarly, children with symptoms of social anxiety may be less likely to believe parents and peers are available for help, and may also be less likely to believe that adults and peers will be effective in providing help (Leeves & Banerjee, 2012).

Children and adolescents with SAD also tend to display avoidant behaviours and a general reluctance to engage in social situations including talking to peers, going to social functions, and participating in class (e.g., Beidel, Morris, & Turner, 1999; Ferrell, Beidel, & Turner, 2004). Children and adolescents with both symptoms of social anxiety and diagnoses of SAD also display certain coping strategies. For example, Wright and colleagues (2010) found that social anxiety was positively associated with internalizing coping, problem solving, and social support seeking. In terms of social support seeking, Leeves and Banerjee (2012) found that self-reported symptoms of social anxiety in 11-12 year-olds was positively associated with an increased likelihood to approach teachers for support with an upsetting social problem.

A property of many childhood anxiety disorders (including SAD) is that they are highly comorbid with other anxiety disorders (e.g., Beesdo et al., 2009; Eley et al., 2008; Essau et al., 1999; Essau et al., 2000). For example, Eley and colleagues (2008) found that SAD was highly correlated with both specific phobia and separation anxiety among six-year-old twin pairs. Similarly, Essau and colleagues (1999, 2000) found that, in adolescence, SAD was comorbid with other anxiety disorders, including panic disorder, agoraphobia, specific phobia, and general anxiety disorder. Finally, anxiety disorders appear to become more comorbid with one another with increased age (Beesdo et al., 2009).

In addition to being comorbid with other anxiety disorders, anxiety is comorbid with other psychiatric problems. For example, adolescent anxiety has been found to be comorbid with depressive disorders, somatoform disorders, and substance abuse disorders (e.g., Bruce et al., 2005; Eley et al., 2008; Essau et al., 1999; Essau, Conradt, &

Petermann, 2002; Woodward & Fergusson, 2001). Woodward and Fergusson (2001) reported that adolescents with anxiety disorders not only had elevated rates of depression, but as the number of anxiety disorders increased, rates of nicotine, alcohol, and illicit drug use also increased. Similarly, Essau and colleagues (2002) indicated that adolescents with comorbid anxiety disorders were more likely to have depressive and somatoform disorders than adolescents without comorbid anxiety.

Similar results have been found for older children. For example, Kendall, Brady, and Verduin (2001) found that almost 80% of older children diagnosed with a primary anxiety disorder had at least one comorbid diagnosis. Moreover, the most common comorbid diagnoses were secondary anxiety disorders. These authors also reported high rates of comorbid internalizing problems among the children. In another study examining older children, teachers rated children between the ages of 7-14 years with SAD as being less happy, and having more internalizing symptoms than same aged children with generalized anxiety disorder or separation anxiety disorder (Mychailyszyn, Mendez, & Kendall, 2010). Finally, specific to social anxiety, Verduin and Kendall (2003) found that children with a diagnosis of SAD experienced comorbid specific phobias, mood disorders, and externalizing disorders.

The comorbidity of anxiety disorders is important to consider because those with multiple anxiety disorders or other comorbid psychiatric problems have the greatest level of impairment (Bruce et al., 2005; Essau et al., 2002). For example, Essau and colleagues (2002) found that adolescents with comorbid anxiety disorders were more likely to have persistent anxiety problems than adolescents without comorbid disorders. However, it is important to note that the previously mentioned research has focused on

clinical populations in late childhood and adolescence. Less is known about the comorbidity of symptoms of social anxiety in early childhood.

Social anxiety also appears to have implications for academic outcomes. For example, Weeks and colleagues (2009) examined the correlates of social anxiety symptoms in an unselected (i.e. non-clinical) sample of 7 and 8 year old children. Their results support previous research on clinical samples, as well as samples of older children. For example, socially anxious children reported more loneliness, more dislike for school, more school avoidance, and more negative internal coping strategies (e.g., worrying, self-blaming) than their less anxious peers. The authors also found that teachers rated socially anxious children as less academically competent than less socially anxious children (Weeks et al., 2009). This is in line with research by Mychailsyzn and colleagues (2010) indicating that fathers of children with SAD rate their children as doing worse in school.

The majority of the extant literature on the symptoms and correlates of social anxiety has focused on clinical populations and samples of older children and adolescents. Therefore, the work by Weeks and colleagues (2009) is important as it demonstrates that symptoms of social anxiety are associated with negative socio-emotional and academic functioning, even without a clinical diagnosis of SAD. These results highlight the importance of further research on heightened, but subclinical, levels of social anxiety, particularly in early childhood.

Finally, social anxiety appears to directly and negatively influence the peer relationships of children and adolescents. Since peer interaction is important for healthy adjustment across the lifespan (Rubin, Bukowski, & Bowker, 2015), this is yet another

reason to be concerned about socially anxious children. Indeed, peer interactions are a primary challenge for socially anxious children, and many socially anxious children and adolescents find interacting with peers both difficult and upsetting (Kearney, 2005). As a result, socially anxious children tend to withdraw from the peer group, and find it difficult to sustain conversations (Erath et al., 2007). Similarly, socially anxious children also tend to have fewer friends than their non-socially anxious peers (e.g., Beidel et al., 1999; Turner & Morris, 1999) and are at increased risk for being actively rejected, teased, and victimized by the peer group (e.g., Gazelle & Ladd, 2003; Greco & Morris, 2005; Ginsburg, La Greca, & Silverman, 1998; La Greca & Harrison, 2005; Siegal, La Greca, & Harrsion, 2009).

Although it has been suggested that socially anxious individuals lack the necessary social skills to interact with their peers (e.g., Spence, Donovan, & Brechman-Toussaint, 1999), recent research demonstrates that such individuals may not actually lack such skills but instead believe that they do (Cartwright-Hatton et al., 2003; Cartwright-Hatton, Tschernitz, & Gomersall, 2005). However, work by Miers, Blöte, and Westenberg (2010) found that unfamiliar same aged peers perceive lower social skills among socially anxious adolescents compared to non-socially anxious adolescents. A possible explanation for this finding is that the belief that they have insufficient social skills undermines the confidence of socially anxious adolescents (Cartwright-Hatton et al., 2005). This may, in turn, influence their social interactions with their peers, making them appear less socially competent.

There is also a similar negative association between social anxiety and perceived social acceptance and support (e.g., Festa & Ginsburg, 2011; Ginsburg et al., 1998; La

Greca & Lopez, 1998). It has been suggested that low perceived social acceptance might lead individuals to believe they have not made desired impressions on their peers – and thus exacerbate feelings of anxiety (Festa & Ginsburg, 2011; Leary & Kowalska, 1995). Similarly, there is a socially-related threat perception bias that accompanies SAD, whereby the attachment of great importance to being positively evaluated is accompanied by the assumption that others are inherently critical (Rapee & Heimberg, 1997).

Overall, socially anxious children are unhappy with their peer relationships, tend to feel lonelier than their non-socially anxious peers, and thus do not enjoy their time at school (Beidel, et al., 1999; Weeks et al., 2009). However, to date, most of the research concerning the relation between social anxiety and peer interaction has focused on middle to late childhood (e.g., Baker & Hudson, 2014; Crawford & Manassis, 2011; Erath et al., 2007) and adolescence (e.g., Siegal et al., 2009). Very little attention has focused on the peer relationships of socially anxious young children (Gazelle & Spangler, 2007). However, early childhood is a particularly important developmental stage for studying peer relationships. It is during this period that children develop and master various skills necessary for further positive peer interactions and healthy adjustment (Coplan & Arbeau, 2009). Moreover, early anxiety predicts later anxiety (e.g., Goodwin et al., 2004; Prior, Smart, Sanson, & Oberklaid, 2000), which may, in turn, lead to subsequent peer problems in later childhood and adolescence. Accordingly, it is important to explore the peer relationships of socially anxious young children.

Taken together, these findings suggest that despite the previous tendencies to focus on older and clinical samples, it is also particularly important to examine subclinical levels of social anxiety in early childhood. To summarize, anxiety disorders

frequently begin during the preschool years (Egger & Angold, 2006), and SAD may have its onset in early childhood (Eley et al., 2008; Ost & Treffers, 2001). Indeed, childhood and adolescence are the primary risk periods for developing symptoms of anxiety and anxiety disorders (Beesdo et al., 2009). For example Beesdo and colleagues (2009) found SAD to have one of the earliest onsets of anxiety disorders, preceded only by separation anxiety and specific phobia. However, despite its possible early onset, SAD is often left untreated into adolescence and adulthood (Eley et al., 2008).

As well, social anxiety is associated with negative social, emotional, and cognitive difficulties including peer difficulties, increased internalizing symptoms, greater avoidance of school and activities, and excess worrying (e.g., Alfano et al., 2006; Kingery et al., 2010; Weeks et al., 2009). Moreover, social anxiety is highly comorbid with other emotion and conduct disorders (e.g., Eley et al., 2008; Egger & Angold, 2006; Wichstrom et al., 2013; Zimmermann et al., 2003). Therefore, early identification and treatment of social anxiety may reduce its negative consequences, and prevent the onset of secondary comorbid disorders (Eley et al., 2008; Erath et al., 2007). Accordingly, research exploring social anxiety in early childhood is warranted.

Children's Participation in Extracurricular Activities

As previously mentioned, it is important to explore socially anxious children's peer relationships. However, the literature on social anxiety and peer relationships has focused primarily on peer relationships within the school context (e.g., Kingery et al., 2010). As a result, much less is known about socially anxious children's relationships with peers *outside of school*. Structured extracurricular activities provide one domain in which such relationships can be explored.

A distinction can be made between structured and unstructured extracurricular activities. Structured activities involve a clear set of rules, standards, and goals, and are usually organized by adults. Examples of structured activities include sports and performing arts. Comparatively, other activities provide participants with little to no structure. These activities occur more spontaneously, and include activities such as talking with friends, playing, reading, or listening to music (Fletcher, Nickerson, & Wright, 2003; Hansen, Larson, & Dworkin, 2003; Larsen & Verma, 1999). Although unstructured activities may provide youth with opportunities for positive development (e.g., identity exploration; Hansen et al., 2003), the focus of the present study was on structured activities (i.e., sports and performing arts) that take place outside of regular school hours. Such activities will herein be referred to simply as *extracurricular activities.* It is important to examine extracurricular activities since between 75% and 81% of children and adolescents participate in such activities (Aumetre & Poulin, 2015; Feldman & Matjasko, 2005; Howie, Lukacs, Pastor, Reuben, & Mendola, 2010).

It has been suggested that extracurricular activities provide children and adolescents with various opportunities, including opportunities for developing social skills, fostering a sense of belonging, and gaining peer support networks (Boone & Leadbeater, 2006; Eccles, Barber, Stone, & Hunt, 2003; Feldman & Matjasko, 2005). This is partly because extracurricular activities include members from various settings, thus increasing both the breadth of social networks and the possibility for social acceptance. Such settings may be particularly beneficial for rejected or isolated youth, since these individuals are connected to new peers who do not hold any preconceived notions about their behaviours (Boone & Leadbeater, 2006).

Similarly, extracurricular activities may also afford children and adolescents opportunities to acquire and practice social, physical, and intellectual skills that may be useful in a variety of settings, such as at school. Children and adolescents who participate in such activities may also develop a sense of agency within their community, which may, in turn, contribute to the overall wellbeing of the community. Moreover, through their experiences in extracurricular activities, children and adolescents may become more effective in dealing with conflicts and potential challenges in their day to day lives (Eccles et al., 2003).

Finally, it has been suggested that extracurricular activities are particularly conducive to positive youth development, including the development of initiative and intrinsic motivation (Bundick, 2011; Larson, 2000). Since extracurricular activities are voluntary in the sense that they are not required for school, children and adolescents who take part in such activities are often highly motivated to participate (Larson, 2000). Moreover, it has been suggested that experience in extracurricular activities allows individuals to direct and regulate their actions in order to pursue a goal (Larson, 2000; Rogoff, Baker-Sennett, Lacasa, & Golsmith, 1995).

It is worth noting that there is some evidence of gender differences in terms of extracurricular activity participation. The most prominent gender difference concerns the frequency of activity participation. Namely, there is substantive evidence suggesting that boys participate in extracurricular activities more often than girls (e.g., Bowker, 2006; Boone & Leadbeater, 2006; Dimech & Seiler, 2011; Findlay & Coplan, 2008; Rose-Krasnor, Busseri, Willoughby, & Chalmers, 2006). However, recent research suggests girls participate in extracurricular activities more often than boys in childhood (Mata &

Van Dulmen, 2012). Regardless of whether boys or girls participate in extracurricular activities more often, the benefits of extracurricular activities appear to be consistent across gender (Bowker, 2006).

Boys and girls have also been shown to differ in the types of activities they participate in. Specifically, boys seem more likely to participate in team activities, whereas girls are more likely to participate in individual activities (Dimech & Seiler, 2011). Similarly, boys have been found to participate more in sports, whereas girls are more likely to participate in music (Miller, 2012).

Correlates and outcomes. There is growing recent empirical literature to suggest that participation in extracurricular activities is associated with positive outcomes, including decreased internalizing problems (e.g., Boone & Leadbeater, 2006; Fletcher et al., 2003; Gore, Farrell, & Gordon, 2001), increased academic competence (e.g., Fletcher et al., 2003; Powell, Peet, & Peet, 2002), greater general and physical self-esteem (e.g., Bowker, 2006; Slutzky & Simpkins, 2009), and fewer problem and risk behaviours (e.g., Anderson-Butcher, Newsome, & Ferrari, 2003; Rose-Krasnor et al., 2006). However, similar to the literature on social anxiety, much of the research on extracurricular activities focuses on adolescent samples (Powell et al., 2002; Slutzky & Simpkins, 2009).

Some studies suggest that physical activity is associated with greater mental health benefits in adolescence (e.g., Allison et al., 2005; Boone & Leadbeater, 2006; Gore et al., 2001; Rose-Krasnor et al., 2006). For example, Allison and colleagues (2005) explored the relation between vigorous physical activity and psychological distress among adolescents. Initial results indicated that both the relation between physical activity and social functioning, and the relation between physical activity and

anxiety/depressive symptoms were significantly and positively associated. However, after controlling for age, gender, and socioeconomic status, only the relation between physical activity and social functioning remained significant. These results could suggest that there are factors above and beyond physical activity that influence mental health.

The addition of a peer group during physical activity may be one such factor. Specifically, there is some evidence to suggest that participation in team sports is associated with mental health benefits. For example, Gore and colleagues (2001) examined the protective role of participation in team sports on depressed mood in a sample of high school students. The authors found that sport participation protected adolescent girls, but not boys, from depressed mood resulting from poor school performance. Finally, Boone & Leadbeater (2006) found that positive participation in sports partially mediated the risks of depression for both adolescent girls and boys.

Both of the aforementioned studies focused on sports, and did not include other types of extracurricular activities. It is possible that different results may have emerged if the authors also considered other extracurricular activities, such as performing arts (e.g., drama and music). Nonetheless, evidence suggests that team sports (i.e., with peer present) may buffer against internalizing problems in adolescence. However, there is no previous research exploring the effect of sports on internalizing problems in early childhood.

Rose-Krasnor and colleagues (2006) examined the role of participation in various youth activities on positive development in a large sample of high school students. Among the results, participation in school clubs, volunteering, sports within and outside of school, and playing a musical instrument was associated with better academic

outcomes, better social relationships, and greater well-being. In this study, well-being was assessed as a composite score including depression, social anxiety, self-esteem, optimism, and daily hassles. Therefore, the results of Rose-Krasnor and colleagues (2006) are consistent with the growing body of research suggesting that extracurricular activity participation is associated with fewer internalizing behaviours in adolescence. However, since this study was not longitudinal, the direction of effect is not clear. It could be the case that internalizing problems decrease over time as a result of extracurricular activity participation. Alternatively, such results could simply reflect that individuals with internalizing problems are less likely to take part in such activities.

Fletcher and colleagues (2003) explored relations between participation in various extracurricular activities and adjustment in a sample of 147 fourth grade children. Inconsistent with the findings just presented, it was reported that involvement in any type of activity was not significantly associated with children's levels of internalizing or externalizing behaviours. It could be the case that extracurricular activity participation does not afford children as much of a protective role against internalizing difficulties as in adolescence. However, McHale, Crouter, and Tucker (2001) found that 10-year-old children who participated in sports were less likely to be depressed two years later. Therefore, more research is needed in order to obtain a clearer understanding of the potential links between extracurricular activity participation and internalizing difficulties, specifically in childhood.

Although Fletcher and colleagues (2003) did not report any links between extracurricular activity participation and internalizing behaviours, they did find that children who participated in organized clubs demonstrated higher academic achievement.

Moreover, children who participated in sports had higher levels of social competence and psychosocial development than their peers who did not participate in sports. Recently, researchers have found support for the relation between extracurricular activity participation and psychological and social development in adolescence (e.g., Feldman & Matjasko, 2005; Hansen et al., 2003; Rose-Krasnor et al., 2006). Hansen and colleagues (2003) found that adolescents who participated in youth activities had more experiences related to both personal and interpersonal development. For example, adolescents reported that youth activities provided opportunities to work on stress and anger management, and team and social skills. However, the aforementioned studies were not longitudinal. Therefore, there is no evidence to support a directional effect for the association between extracurricular activity participation and positive academic and psychosocial outcomes in childhood or adolescence.

Extracurricular activity participation has also consistently been associated with higher self-esteem and self-image in adolescence (e.g., Bowker, 2006; Kirkcaldy, Shephard, & Siefen, 2002; Pedersen & Sneider, 2004). For example, Bowker (2006) examined the relation between sports participation and general and physical self-esteem in early adolescence. Results indicated that sports participation was positively associated with both physical and general self-esteem. However, it appears that the relation between sports participation and general self-esteem is indirect. Specifically, sports participation was directly associated with physical self-esteem, which in turn influenced participants' general self-esteem.

In a similar study, Pedersen and Sneider (2004) explored the relation between team sports participation and self-esteem among girls in middle adolescence. Consistent

with Bowker's (2006) results, the authors found that participation in team sports was associated with higher global self-esteem during middle adolescence. Moreover, this relation was partially mediated by girls' perceptions of their own sport competence. Finally, Daniels and Leaper (2006) also found evidence of an indirect link between extracurricular activity participation and global self-esteem. Using a large sample of adolescent boys and girls, the authors determined that the relation between activity participation and global self-esteem was mediated by peer acceptance.

Similar results have been found in terms of extracurricular activity participation and self-esteem in childhood. For example, Slutzky and Simpkins (2009) explored the links between extracurricular sports participation and self-esteem in a sample of grade three children. They found that participation in organized sports was associated with higher self-esteem. Consistent with previous research (e.g., Bowker, 2006) it was determined that sports participation was associated with self-esteem via a third variable, namely, self-concept. Specifically, children who spent more time participating in sports felt better about their sports abilities, which then positively influenced their global self-esteem (Slutzky & Simpkins, 2009). As before, this research focused on sports activities. Therefore, studies examining early childhood self-esteem in terms of both sport and performing arts activities may provide additional information.

The relation between extracurricular activity participation and problem behaviours has also been explored in both childhood and adolescence (e.g., Anderson-Butcher et al., 2003; Howie et al., 2010; Rose-Krasnor et al., 2006). For example, Rose-Krasnor and colleagues (2006) found that playing a musical instrument, and participating in school clubs and volunteer activities was associated with taking fewer risk behaviours

in adolescence. The risk behaviours that were examined in this study included substance use (e.g., alcohol, cigarettes, drugs), sexual activity, delinquency, and aggression.

Similarly, Anderson-Butcher and colleagues (2003) conducted a study examining the relation between participation in activities offered by the Boys and Girls Clubs of America (BGCA) and problem behaviours. They found that participation in BGCA activities was associated with lower levels of truancy, as well as more favourable attitudes towards cheating and cigarette use. Moreover, although problem behaviours increased with age, older adolescents who participated in BGCA activities demonstrated fewer problem behaviours than adolescents who did not participate in such activities (Anderson-Butcher et al., 2003). These results provide support for the notion that extracurricular activity participation plays a protective role against problem and risk behaviours in adolescence.

Howie and colleagues (2010) explored the relations between extracurricular activity participation, problem behaviour, and social skills among a sample of children between the ages of 6 and 11 years. Their findings indicate that children who participated in either sports or organized clubs outside of schools had higher levels of social skills. Specifically, children who did not participate in any extracurricular activities were less likely to attempt to resolve conflicts with peers, show respect to teachers and peers, and try to get along with other children than children participating in sports, clubs, or both. However, no significant differences were found between activity participation and problem behaviours among this sample.

This finding is inconsistent with previous research indicating that activity participation is associated with decreased problem and risk behaviour in adolescence

(e.g., Anderson-Butcher et al., 2003; Rose-Krasnor et al., 2006). Therefore, it may be the case that activity participation plays a different role in childhood than it does in adolescence. Accordingly, more research on the links between indices of socio-emotional development and extracurricular activity participation in childhood is warranted. There is a particular demand for research exploring the associations between socio-emotional development and extracurricular activity participation in early childhood, since such associations have not been looked at among preschool and early elementary school children. Recent research by Aumetre and Poulin (2015) indicates that the number of extracurricular activities children participate in increases with age, with the greatest increase occurring between kindergarten and grade two. Therefore, the paucity of research relating to extracurricular activity participation in early childhood may be due, in part, to the fact that young children do not participate in as many activities as older children.

Domains of activities. The focus of the present study was on sports and performing arts activities. There is some previous evidence to suggest that these different domains of activities may be associated with somewhat differential outcomes among children and adolescents (e.g., Eime, Young, Harvey, Charity & Payne, 2003; Hansen et al., 2003). For example, Hansen and colleagues (2003) examined the developmental experiences of adolescents participating in five different types of extracurricular activities. Among their results, adolescents participating in sports activities reported higher levels of self-knowledge, physical skills, and emotion regulation. Interestingly, these adolescents also reported lower rates of peer interaction, possibly highlighting the competitive nature of sports. It was thus suggested that competitive sports might

encourage personal growth but limit collaborative skills. Comparatively, adolescents participating in performing or fine arts activities reported higher experiences of self-knowledge and improvement of physical skills. This research suggests that there may be differential outcomes associated with participation in sports versus performing arts activities.

Recently, Bundick (2011) reported that different domains of activity participation differentially predicted well being (e.g., self-esteem, a sense of purpose in life). For example, whereas participation in sports was not significantly associated with later self-esteem, participation in engaging volunteer activities (e.g., volunteering with children or the elderly) was. These results are inconsistent with previous research indicating that participation in team sports is associated with increased self-esteem (Bowker, 2006; Slutzky & Simpkins, 2009), suggesting that more research in this area is necessary. Interestingly, participation in creative arts activities was negatively associated with a sense of life purpose. Accordingly, Bundick (2011) suggested that the creative arts inhibit the development of a sense of purpose in life.

Similarly, Rose-Krasnor and colleagues (2006) found that, although participation in various activities was associated with less risk behaviour in adolescence, participation in theatre arts was associated with more risk behaviour. Moreover, all of the activities examined (e.g., sports, clubs, volunteering) were associated with increased well-being, except for participation in theatre arts. One possible explanation for these results is that participation in arts oriented activities may not be as beneficial for adolescents as compared to other activities. However, it could also be that individuals with different personality traits sign up for arts activities versus sports activities.

Taken together, these results suggest that, although extracurricular activity participation generally appears to be beneficial for adolescence, results differ depending on the domain of activities involved in, as well as the socio-emotional outcomes being assessed. However, since these studies focused on adolescence, more research examining the links between domains of extracurricular activity participation and positive outcomes specifically in childhood is needed to determine if the same pattern of results holds true for younger participants. Moreover, additional research examining both sport and performing arts activities in early childhood is warranted. Such research may provide insight into whether differential outcomes are associated with participation in each domain of activity, particularly for this age group.

Frequency of activity participation. The *frequency* of individuals' participation in extracurricular activities (also sometime referred to as *intensity*) should also be considered when exploring the impact of such participation (Rose-Krasnor et al., 2006). It is typically hypothesized that more time spent in extracurricular activities will result in more positive outcomes (e.g., Fletcher et al., 2003; Gilman, 2001). However, there may be a point at which the amount or frequency of activities is no longer advantageous for children (Finn, 1989; Powell et al., 2002). For example, in a study of grade one children, Powell and colleagues (2002) found that the association between extracurricular activity participation and academic achievement was curvilinear. Specifically, markers of academic achievement appear to increase with low to moderate participation, but begin to decrease at moderate to high frequency of such activities.

However, results from other studies have been somewhat mixed. For example, Rose-Krasnor and colleagues (2006) found that the number of extracurricular activities

participated in by adolescents was positively associated with academic achievement and fewer risk behaviours but only up to five or six activities (after which it was not associated with benefits). However, no decreases in academic achievement were observed when adolescents participated in more than six activities. Moreover, McHale and colleagues (2001) reported that participation in sports was (linearly) positively associated with grades among 10-year-old children. Accordingly, it is important to explore the relations between the frequency of extracurricular activity participation and positive socio-emotional outcomes. This is particularly necessary in samples of young children, since research in this area is sparse.

It has been suggested that children may be pressured into participating in and excelling in multiple extracurricular activities (Luthar, 2003). This pressure may, in turn, increase distress and problem behaviour in adolescence (Luthar & Becker, 2002). Alternatively, it may simply be that there is no additional benefit of extracurricular activities after individuals have reached a certain number of activities in which they participate. However, research examining the frequency of extracurricular activity participation is sparse, and most of said research focuses on adolescence. Therefore, it is important to continue this avenue of research. It may be particularly important to explore activity frequency in early childhood, since limited research attention has been given to this particular age group, and preliminary research suggests high intensity participation is negatively associated with benefits (Powell et al., 2002).

Psychological engagement in activities. An additional important and unique characteristic of activity participation is the meaning an individual confers on their participation in such activities. In other words, children and adolescents may be more or

less engaged in extracurricular activities (Bundick, 2011). Generally speaking, *engagement* refers to an individual's active behavioural and emotional involvement in a task or activity (Reeve, Jang, Carrell, Jeon, & Barch, 2004). Engagement can be divided into various subtypes, including behavioural engagement, cognitive engagement, and psychological or emotional engagement (Fredricks, Blumenfeld, & Paris, 2004).

Behavioural engagement refers to the behaviours an individual engages in that demonstrate his or her involvement in a task. Such engagement usually involves positive conduct (e.g., following the rules) and involvement in learning (e.g., asking questions, contributing to discussion) (Fredricks et al., 2004). Comparatively, research examining *cognitive* engagement has mainly focused on school learning. Therefore, cognitive engagement entails thought processes, such as self-regulation and strategizing (e.g., Appleton et al., 2006; Fredricks et al., 2004). The focus of the present study was on *psychological* (sometimes also called *emotional*) engagement, which refers to an individual's affective responses towards a task or activity. Such responses may include feelings of interest, happiness, or boredom towards an activity or task (Fredricks et al., 2004; Skinner & Belmont, 1993). Thus, the term *positive psychological engagement* will refer to experiences that are fun, important, and interesting to the child (and can be contrasted with more negative experiences that may be more stressful for the child).

There has been surprisingly little research attention given to the construct of psychological engagement in childhood and adolescence (Fredricks et al., 2004). There is some previous evidence to suggest that psychological engagement is positively associated with academic adjustment and achievement, including good attendance, high achievement test scores, and good grades (e.g., Connell, Spencer, & Aber, 1994), and

negatively associated with dropping out of school (e.g., Connell et al., 1994, Connell, Halpern-Felsher, Clifford, Crichlow, & Usinger, 1995). However, both studies by Connell and colleagues assessed engagement as a composite score comprised of both psychological and behavioural engagement together. Therefore, the unique influence of psychological engagement on academic and psychosocial outcomes is unclear.

As evidenced by the sparse research on the links between psychological engagement, particularly in extracurricular settings, and positive outcomes, more research is needed in this area. Exploring the role of psychological engagement in terms of extracurricular activity participation may be particularly important in early childhood. At this young age parents are primarily responsible for whether or not their children participate in extracurricular activities as well as the types of activities in which they participate (Ladd & Pettit, 202). Accordingly, since participation may not be their own choice, socially anxious children may experience increased benefits from extracurricular activities if they find the activities fun, interesting, and important (i.e., they are positively psychologically engaged).

Putting it all Together: Extracurricular Activities and Social Anxiety

Despite the relatively large body of extant literature on extracurricular activity participation, there is limited research exploring the links between extracurricular activity participation and social anxiety, particularly in early childhood. Although considerably less is known about this particular avenue of extracurricular activity research, there is some suggestive literature on older samples, as well as in relation to constructs conceptually similar to social anxiety, such as social withdrawal and shyness.

For example, Aumetre and Poulin (2015) conducted a five-year longitudinal study to examine aspects of young children's participation in extracurricular activities. Children were assessed each year from kindergarten to grade four. The authors found that social withdrawal was predictive of less participation in extracurricular activities, as well as participation in fewer kinds of activities. Social withdrawal is conceptually similar to social anxiety, since socially withdrawn children are also less likely to engage in social situations due to various social concerns (Rubin, & Coplan, 2004; Rubin, Coplan, & Bowker, 2009). Moreover, as previously mentioned, social withdrawal is considered to be a construct under the larger umbrella of social anxiety (McNeil, 2010). Therefore, although Aumetre and Poulin (2015) did not examine social anxiety directly, it is conceivable that their results are relevant for predictions concerning social anxiety among young children.

As well, Miller (2012) examined the extracurricular participation of children in grade five experiencing low, moderate, or high levels of shyness. Results provide some support for the importance of considering activity domain. Specifically, both highly shy and moderately shy children were equally likely to participate in music activities. However, highly shy children were less likely to participate in sports than their moderately shy counterparts. Comparisons were then made between sports that were high in social interaction (i.e., hockey) or low in social interaction (i.e., swimming). Results indicated that almost all of the children participating in hockey were in either the low or moderate shyness groups, whereas the children participating in swimming were evenly distributed across the three shyness groups. This finding suggests that highly shy children may be more attracted to sports where there is less potential for peer evaluation,

such as swimming. Moreover, since shyness levels did not influence music participation, it was suggested that being sensitive to negative evaluations of competence within extracurricular activities might motivate shy children to avoid participation in social activities, such as team sports (Miller, 2012).

Although this study examined shy children, similar results may be found among socially anxious children, as they too experience heightened social evaluative concerns (Ferrel et al., 2004). Given the similarities between shy children and socially anxious children in terms of social evaluative concerns, predictions concerning the domains of activities in which socially anxious children participate may be appropriate based on this research. For example, it may be the case that socially anxious children are as likely as their less socially anxious peers to participate in performing arts activities (e.g., music lessons) and individual sports activities (e.g., swimming). However, socially anxious children may participate in fewer team sports (e.g., hockey) than their less socially anxious peers.

Although such speculations are possible, they remain speculations nonetheless. Therefore, research specifically examining extracurricular activity participation and symptoms of social anxiety is necessary in order to determine the potential relation between these two variables. Moreover, it is important to note that Miller (2012) examined the correlates of extracurricular activity participation among older children. Thus, research exploring these constructs in early childhood is necessary in order to assess potential age differences in terms of the benefits associated with extracurricular activity participation.

Similarly, Findlay and Coplan (2008) explored the moderating role of extracurricular sports participation on the links between shyness and psychosocial maladjustment in later childhood. Data was collected at two time points, with 355 children in grades 4-5 at the first time point, and 201 children one year later. Results indicated that shy children were less likely to participate in organized sports than their non-shy peers. However, those shy children who did participate in organized sports experienced higher general self-esteem than shy children who did not participate. Moreover, shy children who participated in organized sports demonstrated a significant decrease in symptoms of social anxiety one year later, compared to shy children who did not participate in such activities (Findlay & Coplan, 2008). These results indicate that extracurricular sports participation is particularly beneficial for the psychological well-being of shy children.

Although the focus of this study was on shy children, similar results may be expected in terms of the role of extracurricular activity participation on socially anxious children. Specifically, socially anxious children may be expected to participate less in extracurricular activities than their non-socially anxious peers. However, socially anxious children who do participate may experience positive outcomes, such as increased self-esteem. This speculation may be particularly true since symptoms of social anxiety decreased among shy children participating in organized sports. However, future research examining the direct relations between extracurricular activity participation and social anxiety, particularly in early childhood, is warranted.

More in line with the present thesis, Dimech and Seiler (2011) recently conducted a repeated measures cohort study to examine the potential buffering role of

extracurricular sports participation among 175 socially anxious young children between the ages of 7- 9 years. The authors hypothesized that children participating in an extracurricular sport would report fewer symptoms of social anxiety one year later than children not participating in such an activity. Inconsistent with their prediction, results indicated no difference in social anxiety symptoms between children participating in sports and children not participating in sports. Similarly, although the authors predicted that children who spend more hours participating in extracurricular activities per week would later show fewer symptoms of social anxiety, this hypothesis was not confirmed. This finding suggests that the frequency of activity participation may not be as important as previously thought (e.g., Fletcher et al., 2003; Gilman, 2000). These mostly non-significant findings may lend support to the notion that frequency of participation alone or participation in only sports activities is not enough to buffer against social anxiety. Accordingly, it may be particularly important to additionally examine psychological engagement in activities, as well as participation in performing arts.

Taken together, the results from this study suggest that extracurricular sports, in and of themselves, may not provide a buffer against symptoms of social anxiety in middle childhood. However, certain aspects of extracurricular activity participation may be important to consider. For example, Dimech and Seiler's (2011) results suggest that the domain of activity a child participates in is more important than how often he or she participates. This is in line with Miller's (2012) study, which suggests that children with social evaluative concerns may be more or less likely to participate in certain domains of activities. It is interesting to note, however, that Miller (2012) indicated that such children are less likely to participate in team sports. Taken together, these results suggest

that although socially anxious children may be less likely to participate in team activities, such activities may be particularly beneficial for them.

Notwithstanding, various limitations may help to explain the lack of significant findings in terms of overall activity participation and frequency of participation in the study by Dimech and Seiler (2011). First, the focus of this study was exclusively on sports. It could be that other activities, such as performing arts activities, may moderate feelings of social anxiety. Next, most children in the study participated in their sport activity for approximately 1-2 hours per week. Therefore, there may not have been a wide enough range of frequency to uncover a significant effect of hours spent participating in sports on symptoms of social anxiety. Moreover, the sample was relatively small, reducing the study's power to detect significant results (Dimech & Seiler, 2011). Finally, this study's focus was on middle childhood. It is possible that a different pattern of results concerning the relation between extracurricular activity participation and symptoms of social anxiety would emerge when considering younger children.

The Present Study

Despite a large body of research on extracurricular and sport activity participation, particularly in adolescence, only a handful of studies have focused on the links between extracurricular activities and social anxiety or related constructs. Moreover, none of the extant literature examined the relation between extracurricular activities and social anxiety specifically in early childhood. This is a worthwhile research avenue to explore since many young children experience symptoms of social anxiety (Furmark, 2002) and there is at least some evidence to suggest that extracurricular activity participation may moderate the negative effects of social anxiety (e.g., Findlay &

Coplan, 2008). Therefore, the primary goal of the present thesis research was to examine associations between social anxiety and young children's participation in extracurricular activities. Several aspects of activity participation were included, including frequency, domain (organized sports vs. performing arts), and psychological engagement. A secondary goal was to explore the potential *moderating* role of the aspects of extracurricular activity participation in the relations between social anxiety and indices of early school functioning (i.e., academic functioning, prosocial behaviours, peer exclusion, anxious-withdrawal, perceived competence). The role of child gender was also considered.

Consistent with the previously reviewed literature, three sets of hypotheses were outlined, relating to: (1) linear associations among the main study variables; (2) moderating effects of extracurricular activity participation in the relation between social anxiety and indices of early school adjustment; and (3) gender differences.

Linear associations. The first set of hypotheses concerned *linear* associations among the main study variables. First, it was predicted that social anxiety would be negatively associated with participation frequency and positive psychological engagement. These predictions were expected independent of the domain of extracurricular activities participated in. Specifically, regardless of whether participation was in organized sports or performing arts, young children with high levels of social anxiety were also expected to have low participation frequency, and be less likely to find participation fun, interesting, and important. Given the limited literature, hypotheses concerning high socially anxious children's preferences for domains of activities were more exploratory in nature. However, it was expected that the negative association

between social anxiety and participation would be more pronounced in terms of sports as compared to performing arts activities.

Next, drawing upon the extant literature, social anxiety was expected to be positively associated with anxious-withdrawn behaviours and peer exclusion, and negatively associated with prosocial behaviours, early academic skills, and perceived competence. Namely, children with high levels of social anxiety were also expected to display lower academic functioning, fewer prosocial behaviours, greater peer exclusion, more anxious-withdrawn behaviours, and lower perceived competence.

Finally, it was predicted that more frequent participation in extracurricular activities that is marked by high levels of psychological engagement would result in better early school adjustment. Specifically, children who were frequently and positively engaged in any domain of extracurricular activity were expected to display fewer anxious-withdrawn behaviours and peer problems, more prosocial behaviours, higher academic functioning, and higher perceived competence than children who are not frequently and positively engaged in extracurricular activities.

Moderation effects. The next set of hypotheses related to the *moderating* role of aspects of extracurricular activity participation in the links between social anxiety and outcome variables. First, it was predicted that positive psychological engagement in extracurricular activities, regardless of domain, would serve to attenuate the above predicted linear associations between social anxiety and early school adjustment difficulties. For example, among children who were less positively engaged in activities, a strong positive association was expected between social anxiety and peer exclusion.

However, among children who were more positively engaged in such activities, this association was expected to be attenuated.

A similar moderating effect was predicted in terms of frequency of participation, regardless of domain. Namely, higher levels of participation frequency in either sports or performing arts were expected to mitigate the linear associations between social anxiety and early school adjustment problems. In line with the aforementioned hypotheses, hypotheses regarding the moderating role of activity domain were also exploratory in nature. It was tentatively speculated that sports activities would play a greater role in attenuating links between social anxiety and peer problems, whereas performing arts activities would be more likely to attenuate the links between social anxiety and perceived competence.

Gender differences. Finally, some *gender* differences were also expected. Overall**,** main effect gender differences were predicted in terms of both the domain and frequency of extracurricular activities. Specifically, boys were expected to participate in more sport activities than girls. As well, girls were expected to be rated as more socially anxious than boys (e.g., Dimech & Seiler, 2011; Leeves & Banerjee, 2012).

Some interaction effects with gender were also postulated. For example, the strength of association between social anxiety and participation in extracurricular activities was expected to be stronger among girls than boys. Additionally, given gender stereotypes surrounding socially expected and accepted activities among boys and girls, the moderating effects of sport activities may be more pronounced among boys than girls. Similarly, the moderating effect of performing arts activities may be stronger among girls than boys. However, given that none of the aforementioned studies on social anxiety (or

related constructs) and extracurricular activity participation examined gender differences, these hypotheses were speculative in nature.

Method

Procedure

Ethics approval was obtained from the *Carleton University Psychology Research Ethics Board*. Relevant permission for participation was then obtained from the Ottawa-Carleton District School Board and the Upper Canada District School Board[1]. Multi-source assessment was employed and included maternal reports, teacher reports, and individual child interviews. After giving informed consent on behalf of themselves and their children, mothers provided demographic information and completed reports of aspects of their children's participation in extracurricular activities. Mothers then completed ratings of children's symptoms of social anxiety. Teachers gave informed consent to participate, and then provided additional reports of children's socio-emotional adjustment, as well as academic functioning at school. Finally, trained research assistants conducted individual child interviews to obtain more information on children's extracurricular activity participation, as well as to assess children's perceived competence. Children were required to give verbal assent in order to participate in the interview.

Participants

The participants for the present thesis were $N = 268$ young children (124 boys, 144 girls; $M_{age} = 68.06$ mos., $SD = 11.30$) attending preschools and elementary schools (kindergarten, grade 1) located in south-eastern Ontario, Canada. Maternal reports were available for $N = 268$ children, whereas teacher reports were available for $N = 155$

[1] Data was collected as part of a large-scale study on young children's social activities, conducted at Carleton University. The data for the study was collected over two years (2012 -2013, 2013-2014). I assisted in the data collection across both years.

children. The school board from which the sample was drawn did not permit the collection of information regarding ethnicity, or parental employment and income. However, approximately 10.8% of mothers completed only high school, 66.9% of mothers had a college or university degree, and 19% of mothers had a graduate degree. Therefore, the sample appeared to be of varied socioeconomic status. The majority of the mothers in the sample were married (87.7%), with the remainder being divorced/separated (6.7%) or single (3.3%). Mothers did not receive compensation, but children were offered stickers for their participation. Demographic information was not available for the teachers in the sample.

Measures

Social anxiety. Mothers assessed symptoms of social anxiety using the *Preschool Anxiety Scale – Revised* (PAS-R; Edwards, Rapee, Kennedy, & Spence, 2010). This measure contains 30 items used to assess four subtypes of childhood anxiety (i.e., social anxiety, separation anxiety, generalized anxiety, and specific fears). For the purpose of the present thesis, mothers only completed the Social Anxiety subscale (7 items, e.g., "Worries that he/she will do something to look stupid in front of other people" - see Appendix A). Mothers indicated "how true" each item was of their child on a 5-point Likert scale (0 = Not at All True, 4 = Very Often True).

The PAS-R is appropriate for use with both preschool aged (i.e., age 3-5 years) and older children (i.e., age 6-11) (Broeren, Muris, Diamantoloupou, & Baker, 2013) and has been previously employed as a screening tool for identifying anxiety symptoms in primary care settings (Luby, 2013). This measure has been found to have good psychometric properties across multiple samples of young children (Broeren & Murris,

2008; Broeren et al., 2013; Colonnesi, Napoleone, & Bögels, 2014; Edwards, et al., 2010). Of note, the social anxiety subscale has previously demonstrated excellent internal consistency (Chronbach's α ranging from .88 to .90), and moderate cross-informant reliability between mothers and fathers (r = .75) (Broeren et al., 2013; Edwards et al., 2010; Vreeke, Muris, Mayer, Huijding, & Rapee, 2013). In a non-clinical sample of 3-6 year old children, a test-retest correlation of r = 0.66 was found for the social anxiety subscale (Vreeke et al., 2013).

In terms of validity, the PAS-R is correlated with other parent rated measures of preschool anxiety, such as the *Anxiety Disorders Interview Schedule for Children for DSM-IV (Parent and Child versions)* (ADIS-IV-P/C; Silverman & Albano, 1996), and the *Behavioral Inhibition Questionnaire - Short Form* (BIQ-SF; Edwards, 2007) (Affrunti, Geronimi, & Woodruff-Borden, 2015; Vreeke et al., 2012). Evidence of construct validity for the social anxiety subscale specifically was found by examining correlations between scores for the PAS-R and subscales of the *Strengths and Difficulties Questionnaire* (SDQ; Goodman, 2001). Correlations between the social anxiety subscale of the PAS-R and the emotion symptoms subscale of the SDQ were found to be .62 and .57 for mothers and fathers, respectively (Edwards et al., 2010). Moreover, the social anxiety subscale is more strongly correlated with the emotion symptoms subscale of the SDQ than with other subscales of the SDQ (Broeren et al., 2013; Edwards et al., 2010).

Extracurricular activities. Mothers reported on aspects of their child's extracurricular activity participation (see Appendix B). Specifically, mothers were asked to list the specific organized sports or lessons (e.g., hockey, soccer) and performing arts (e.g., dance, music) activities that their child participates in. Next, mothers were asked to

indicate how often their child participates in these activities, using a 5-point Likert scale (1 = not at all, 5 = several times a week). Finally, using a 5-point Likert scale (0 = Not at all, 4 = Very much), mothers described their child's *positive psychological engagement* (3 items, i.e., how fun, important, and interesting each activity was for their child) in each category of extracurricular activities (see Appendix C). This measure was developed based on previous conceptualizations of psychological engagement (e.g., Busseri, Costain, Campbell, Rose-Krasnor, & Evans, 2011; Rose-Krasnor, 2009). Farrell, Rose-Krasnor, Pote, Ooi, and Coplan (2015) demonstrated a single factor structure, good psychometric properties, and evidence of validity of this new measure.

Correlation analyses were performed to determine potential associations between aspects of extracurricular activity participation. Results indicated that frequency of sports was significantly associated with psychological engagement in both sports ($r = .234$, $p < .001$) and performing arts ($r = -.175$, $p = .036$), but not with frequency of performing arts ($r = -.068$, $p = .278$). The same pattern of results was found for performing arts. Specifically, frequency of performing arts was significantly associated with psychological engagement in performing arts ($r = .510$, $p < .001$), but not with psychological engagement in sports ($r = -.105$, $p = .252$).

Indices of early school adjustment. Teachers completed the *Child Behavior Scale* (CBS; Ladd & Profilet, 1996 – see Appendix E). The CBS contains 35 items divided across six subscales. Teachers were asked to rate the extent to which each item applied to the child in the context of his or her peers, on a 3-point Likert scale (1 = Doesn't apply, 3 = Certainly applies). Of particular interest to the present study were the subscales of *prosocial* with peers (7 items, e.g., "Kind towards peers", $\alpha = .92$), *excluded*

by peers (7 items, e.g., "Not much liked", $\alpha = .94$), *anxious-fearful* behaviours (4 items, e.g., "Is worried. Worries about many things", $\alpha = .78$) and *asocial* with peers (6 items, e.g., "Avoids peers", $\alpha = .87$). Following previous protocols developed by Gazelle and colleagues (e.g., Gazelle & Ladd, 2003; Gazelle & Spangler, 2007) the asocial with peers and anxious-fearful subscales ($r = .52$, $p < .001$) were combined to create a broader scale assessing *anxious-withdrawal*. Each of the subscales of the CBS has been found to have acceptable to good internal consistency. Ladd & Profilet (1996) also found evidence of good reliability and validity for this measure.

Teachers also reported on children's academic functioning, using the *Academic Checklist* (Coplan, Gavinski-Molina, Lagace-Seguin, & Wichman, 2001 – see Appendix F). Teachers were asked to compare each child to other children in the class in terms of various academic skills, such as using and understanding language, mathematical abilities, and motor development. The Academic Checklist contains 9 items, and is rated on a 5-point Likert scale (1 = below average, 5 = above average). Coplan and colleagues (2001) indicated a one-factor structure for the Academic Checklist, as well as evidence of excellent internal consistency ($\alpha = .94$). The Academic Checklist is also significantly correlated with other measures of academic competence in early childhood (Coplan et al., 2001).

Finally, children completed the *Pictorial Scale of Perceived Competence and Social Acceptance for Young Children* (Harter & Pike, 1984 – see Appendix G) during an individual interview with a trained research assistant. This scale was designed to assess children's perceived competence and perceived social acceptance across four subscales (i.e., cognitive competence, physical competence, peer acceptance, and maternal

acceptance). There are two versions of the scale, one for children in preschool and kindergarten, and one for children in grades 1 and 2. Both versions have 24 items divided across the four subscales, for a total of six items per subscale. Of particular interest for the present thesis were the subscales for perceived physical competence (6 items, e.g., "Good at swimming") and perceived cognitive competence (6 items, e.g., "Good at puzzles", "Good at numbers"). Harter and Pike (1984) reported a two-factor structure (perceived competence and social acceptance, further divided into four subscales) with acceptable psychometric properties. Internal reliability for the overall preschool-kindergarten and grades 1 and 2 scales was found to be α =.88 and α = .87, respectively. Each subscale was also found to have good internal consistency (Harter & Pike, 1984). Given the two-factor structure reported by Harter and Pike (1984), perceived physical competence and perceived cognitive competence were considered together, simply as perceived competence in the present thesis.

Results

Preliminary Analyses

Missing data. The data were examined and systematically cleaned before being analyzed. First, data were screened for missing values at both the item and scale levels. Inclusion for the study required complete data pertaining to maternal rated social anxiety. Accordingly, there was no missing data at the variable level for social anxiety. Moreover, there was less than one percent of data missing at the item level for social anxiety. Similarly, only a small amount of data (i.e., roughly 7%) was missing at both the item and scale levels for child reported perceived competence.

In terms of frequency of participation in extracurricular activities, less than five percent of the data was missing for both organized sports and performing arts activities. Approximately 22% of the data was missing for psychological engagement in organized sports at both the item and scale level. However, since not all children in the present thesis participated in organized sports, the available data represents the psychological engagement among children who did participate in organized sports.

Similarly, roughly 45% of the data was missing for psychological engagement in performing arts activities at both the item and scale level. As before, not all children participated in performing arts activities. Therefore, the available data represents the psychological engagement among children who did participate in performing arts activities.

Due to an ongoing teacher labour dispute in the Ottawa Carleton District School Board during data collection, teacher reports were only available for subset (n = 151) of the sample. Accordingly, approximately 44% of all teacher reported variables (i.e.,

academic functioning, prosocial behaviours, peer exclusion, and anxious-withdrawn behaviours at school) were missing at both the item and scale levels. A series of *t*-tests was conducted to compare participants with missing and non-missing data from teachers. A significant difference was found between children with missing and non-missing teacher data in relation to parent education. Specifically, children with missing teacher data had parents with higher levels of education (M = 3.69, SD = .934) in comparison to those who had teacher data (M = 3.19, SD = .789), $t = -4.620$, $p < .001$, $d = .058$[2].

Descriptive statistics. Descriptive statistics for all study variables are displayed in Table 1. In terms of frequency of participation in organized sports, 26% of the sample rarely participated in organized sports (i.e., not at all, once or a few times a year), 50% of the sample participated in organized sports regularly (i.e., once a week, several times a month), and 22% of the sample participated in organized sports often (i.e., several times a week). In other words, approximately 75% of children participated in sports at least regularly. The types of organized sports children participated in consisted primarily of team sports or lessons. The most common team sports were hockey (16%), soccer (10%), and gymnastics (10%). The most common lessons were swimming (28%) and skating (6%).

Fewer children participated in performing arts activities than in organized sports. Specifically, more than half of the sample (53%) rarely participated in performing arts (i.e., not at all, once or a few times a year), 29% participated in performing arts regularly (i.e., once a week, several times a month), and 15% participated in performing arts often

[2] This finding is not surprising, given that the majority of the data collection during the labour dispute took place at a public school located in a fairly affluent neighborhood.

(i.e., several times a week). The most common performing arts activities that children participated in were dance (25%) and music (14%).

Table 1.

Descriptive Statistics for all Study Variables.

	M	*SD*	Range	
			Min	Max
Parent Reports				
Social Anxiety (*n* = 268)	2.27	.73	1.00	4.14
Sports Frequency (*n* = 261)	3.96	.95	1.00	5.00
Performing Arts Frequency (*n* = 259)	3.12	.81	1.00	5.00
Sports Engagement (*n* = 208)	3.96	1.03	1.29	4.00
Performing Arts Engagement (*n* = 147)	2.94	1.07	.00	4.00
Teacher Reports				
Academic Checklist (*n* = 150)	3.28	.74	1.56	4.89
Prosocial Behaviours (*n* = 151)	2.30	.50	1.00	3.00
Anxious-Withdrawn (*n* = 151)	1.28	.33	1.00	2.14
Excluded by Peers (*n* = 151)	1.15	.33	1.00	2.71
Child Reports				
Perceived Competence (*n* = 249)	3.33	.37	2.37	4.00

Note: *n*'s vary as a function of missing data for different informants and scales

Z-scores and boxplots were conducted in order to test for outliers. Values with corresponding Z-scores greater than ± 3.29 standard deviations were determined as outliers. Between zero and four outliers were found for each of the main study variables. Identified outliers were managed by bringing these values down to the next most extreme score that was within range of the data set (i.e., ± 3.29 standard deviations).

Standard protocols were then followed to test assumptions of order, independence, homoscedasticity, linearity, and normality. Assumptions of order and independence were considered when designing and collecting data for the present thesis. Therefore, these assumptions were met. Moreover, each of the main study variables were reasonably linear and homoscedastic.

The assumption of normality was not met for many of the main study variables. Accordingly, appropriate transformations were conducted in an attempt to satisfy this assumption. However, transformations provided only marginal improvements, and in some cases, resulted in less normal distributions. Correlation and regression analyses were conducted with the transformed and non-transformed data on an exploratory basis. No differences were found in the pattern of results between the transformed and non-transformed variables. Therefore, for ease of interpretation and presentation, original (i.e., non-transformed) data was employed for all statistical analyses. It is not surprising that the main study variables did not approximate normal distributions, as many of the variables (e.g., social anxiety, anxious-withdrawn behaviours) do not represent normal samples in the population.

Demographic variables. Preliminary analyses (correlations, *t*-tests) were also conducted to determine whether demographic variables (i.e., parent education, child age)

were significantly correlated with the main study variables (i.e., social anxiety, aspects of extracurricular activity participation, and indices of early school adjustment), and would thus need to be controlled for in subsequent analyses. As demonstrated in Table 2, parent education was significantly and positively correlated with frequency of participation in organized sports. Child age was significantly and positively associated with frequency of organized sports, and significantly and negatively associated with psychological engagement in performing arts activities. Accordingly, both demographic variables were controlled for in subsequent analyses.

Gender differences. Results from a series of MANOVAs indicated significant gender differences in several variables (see Table 3). For example, boys participated less frequently in performing arts activities than girls. Boys were also reported as having lower academic functioning at school than girls. However, no significant gender differences were found for anxious-withdrawn behaviours at school. Finally, boys were reported as displaying fewer prosocial behaviours, and being more excluded by peers at school than girls. Contrary to what was predicted, boys did not participate in organized sports more frequently than girls. However, it is worth noting that although this relation did not reach significance, it was in the expected direction. Similarly, although it was predicted that girls would be more socially anxious than boys, this association was not supported. Moreover, the association was not in the expected direction.

A series of *t*-tests indicated significant gender differences in psychological engagement in performing arts activities. Specifically, girls ($M = 3.14$, $SD = .923$) were more engaged in performing arts activities than boys ($M = 2.661$, $SD = 1.203$) ($t(104.74) = -2.589$, $p = .011$). No significant differences were found for children's psychological

engagement in organized sports ($t(206) = .645$, $p = .519$) or perceived competence ($t(247) = -.078$, $p = .938$).

Table 2.

Correlations between Demographic Variables and Social Anxiety, Activity Participation, and Early School Adjustment.

	Parent Education	Child Age
Parent Reports		
Social Anxiety	-.043	.078
Sports Frequency	.252**	.233**
Performing Arts Frequency	.080	-.085
Sports Engagement	.065	.062
Performing Arts Engagement	-.095	-.167*
Teacher Reports		
Academic Functioning	.135	.028
Prosocial Behaviours	.146	.066
Anxious-Withdrawn	-.090	-.093
Peer Exclusion	-.077	-.069
Child Reports		
Perceived Competence	-.002	.021

Note: * $p < .05$ (2-tailed), ** $p < .001$ (2-tailed)

Table 3.

MANOVA Results of Gender Differences for Social Anxiety, Teacher Reported Outcomes, and Frequency of Participation in Organized Sports and Performing Arts Activities.

	F	Partial η^2	*M* (*SD*) Males	*M* (*SD*) Females
Social Anxiety	1.471	.005	2.321 (.727)	2.213 (.734)
Sports Frequency	2.371	.009	2.034 (.700)	1.900 (.692)
Performing Arts Frequency	6.295*	.024	1.479 (.746)	1.707 (.715)
Academic Functioning	8.707*	.056	3.106 (.694)	3.453 (.742)
Prosocial Behaviours	27.641**	.157	2.098 (.465)	2.497 (.464)
Anxious-Withdrawn Behaviours	.955	.006	1.307 (.348)	1.254 (.311)
Excluded by Peers	9.023*	.057	1.233 (.415)	1.074 (.201)

Note: * $p < .05$, ** $p < .001$

Linear Associations among Study Variables

First, correlation analyses were conducted to assess linear associations among study variables. Results from correlation analyses between social anxiety and activity participation are presented in Table 4. Of note, social anxiety was significantly and negatively correlated with children's engagement in both organized sports and performing arts activities. Contrary to what was expected, social anxiety was not significantly associated with participation frequency in either organized sports or performing arts. Moreover, these correlation coefficients were virtually identical (i.e., they did not differ significantly from each other).

Fisher r-to-z transformations were used to test for significant gender differences in the relation between social anxiety and aspects of extracurricular activity participation. Results indicated no significant gender differences in the strength of the associations between social anxiety and: (1) frequency of participation in sport activities (z = - .436, p = .873, two-tailed); (2) frequency of participation in performing arts activities (z = 1.20, p = .230, two-tailed); (3) psychological engagement in sports activities (z = - .840, p = .401, two-tailed); or (4) psychological engagement in performing arts activities (z = - 1.72, p = .085, two-tailed).

Results from correlation analyses between main study variables and teacher and child reported outcomes are demonstrated in Table 5. As expected, social anxiety was significantly and negatively associated with academic functioning, and significantly and positively associated with anxious-withdrawn behaviours at school. However, unexpectedly, no significant associations were found between social anxiety and either prosocial behaviours, perceived competence, or peer exclusion at school. Similarly,

although significant linear associations between aspects of activity participation and indices of early school adjustment were hypothesized, no such significant associations were found.

Table 4.

Correlations between Social Anxiety and Activity Participation.

	Social Anxiety
Sports Frequency	-.096
Performing Arts Frequency	-.085
Sports Engagement	-.144*
Performing Arts Engagement	-.173*

Note: * $p < .05$ (2-tailed)

Table 5.

Correlations between Main Study Variables and Teacher and Child Reported Outcomes.

	Social Anxiety	Sports Frequency	Performing Arts Frequency	Sports Engagement	Performing Arts Engagement
Teacher Reports					
Academic Functioning	-.170*	.158	.041	-.003	.058
Prosocial Behaviours	-.122	.141	.017	.147	.077
Anxious-Withdrawn	.214*	-.033	-.003	-.145	-.025
Excluded by Peers	.082	-.108	-.106	-.226	.024
Child Reports					
Perceived Competence	-.091	-.001	-.013	.081	.015

Note: * $p < .05$ (2-tailed)

Moderating Role of Activities in Links between Social Anxiety and Adjustment

The goal of these final analyses was to examine the *moderating* effects of extracurricular activity participation in the associations between social anxiety and adjustment outcome variables. Accordingly, a series of hierarchical regression analyses was conducted. For all regression analyses, three-way interaction terms with gender were originally entered in Step 4 on an exploratory basis. However, no significant three-way interactions with gender were found. Accordingly, for ease of presentation and interpretation, results will be reported without these three-way interactions.

Participation frequency. The first series examined the moderating effects of *frequency* of participation in both organized sports and performing arts activities. Separate equations were computed to predict each of the five adjustment outcome variables (i.e., academic functioning, prosocial behaviours, anxious-withdrawn behaviours, peer exclusion, perceived competence). In Step 1, identified control variables were entered (i.e., child age, parent education). In Step 2, relevant "main effect" variables (standardized) were included (i.e., social anxiety, child gender, frequency of participation in sports, frequency of participation in performing arts activities). Finally, in Step 3, conceptually relevant two-way interaction terms were entered (i.e., social anxiety x gender, social anxiety x frequency of sports, social anxiety x frequency of performing arts). Given that linear associations among these variables have already been reported previously, the focus here is on interaction effects.

Academic functioning. Results from the regression analysis predicting *academic functioning* from social anxiety and participation frequencies are summarized in Table 6 below. After controlling for demographic variables at Step 1 and main effect variables at

Step 2, the interaction terms (i.e., social anxiety x gender, social anxiety x sports frequency, social anxiety x performing arts frequency, sports frequency x gender, performing arts frequency x gender) entered at Step 3 accounted for an additional 7% of the variance in academic functioning ($F(5, 131) = 2.238$, $p = .054$). A significant interaction effect was found between social anxiety and gender ($t = -2.103$, $p = .037$, ß = -.243). Follow up simple effects analyses were conducted by re-computing the regressions separately for boys and girls. Results indicated that the relation between social anxiety and academic functioning was significant for girls ($t = -2.577$, $p = .012$, ß = -.304), but not for boys ($t = .058$, $p = .954$, ß = .008). These results indicate that social anxiety was more strongly negatively associated with early academic skills among girls than among boys.

Prosocial behaviours. Results from the regression analysis predicting prosocial behaviours at school from social anxiety and participation frequency are summarized in Table 7 below. The overall R^2 change for Step 3 was not statistically significant, indicating that the addition of interaction terms did not account for a significant amount of the variance in prosocial behaviours ($F(5, 132) = 1.400$, $p = .228$). No significant betas for individual interaction effects with prosocial behaviours were found.

Anxious-withdrawn behaviours. Results from the regression analysis predicting anxious-withdrawn behaviours at school from social anxiety and participation frequency are summarized in Table 8 below. As with prosocial behaviours, the overall R^2 change for Step 3 was not statistically significant ($F(5, 132) = 1.466$, $p = .205$). No significant betas for individual interaction effects with anxious-withdrawn behaviours were found in terms of frequency of participation in either sports or performing arts activities.

Peer exclusion. A summary of the results from the regression analysis predicting peer exclusion at school from social anxiety and participation frequency is presented in Table 9 below. The overall R^2 change for Step 3 was not statistically significant, indicating that the addition of interaction terms did not account for a significant amount of the variance in peer exclusion ($F(5, 132) = .406$, $p = .844$). No significant betas for individual interaction effects with peer exclusion were found.

Perceived competence. Results from the regression analysis predicting child perceived competence from social anxiety and participation frequency are presented in Table 10 below. The overall R^2 change for Step 3 was not statistically significant, indicating that the addition of interaction terms did not account for a significant amount of the variance in perceived competence ($F(5, 227) = 1.007$, $p = .414$). No significant betas for individual interaction effects with perceived competence were found.

Table 6.

Hierarchical Regression Predicting Academic Functioning from Social Anxiety and Participation Frequency.

Academic Functioning	R^2	F	ΔR^2	ΔF	B
Step 1 (Control Variables)	.019	1.354	.019	1.354	
Child Age					.002
Parent Education					.120
Step 2 (Standardized Main Effects)	.133	3.484*	.114	4.481*	
Social Anxiety					-.100
Child Gender					.409**
Sports					.128*
Performing Arts					.000
Step 3 (2-way interactions)	.201	3.004**	.068	2.238*	
Social Anxiety x Gender					-.253*
Social Anxiety x Sports					.091
Social Anxiety x Performing Arts					.048
Sports x Gender					-.122
Performing Arts x Gender					-.203

Note: * $p < .05$, ** $p < .001$

Table 7.

Hierarchical Regression Predicting Prosocial Behaviours from Social Anxiety and Participation Frequency.

Prosocial Behaviours	R^2	F	ΔR^2	ΔF	B
Step 1 (Control Variables)	.023	1.683	.023	1.683	
Child Age					.003
Parent Education					.086
Step 2 (Standardized Main Effects)	.219	6.388**	.195	8.560**	
Social Anxiety					-.065
Gender					.429**
Sports					.073
Performing Arts					-.026
Step 3 (2-way interactions)	.508	4.172**	.039	1.400	
Social Anxiety x Gender					.099
Social Anxiety x Sports					.048
Social Anxiety x Performing Arts					-.029
Sports x Gender					-.052
Performing Arts x Gender					-.135

Note: * $p < .05$, ** $p < .001$

Table 8.

Hierarchical Regression Predicting Anxious-Withdrawn Behaviours from Social Anxiety and Participation Frequency.

Anxious-Withdrawn Behaviours	R^2	F	ΔR^2	ΔF	B
Step 1 (Control Variables)	.016	1.155	.016	1.155	
Child Age					-.002
Parent Education					-.044
Step 2 (Standardized Main Effects)	.076	1.888	.060	2.234	
Social Anxiety					.081*
Gender					-.044
Sports Frequency					.005
Performing Arts Frequency					.003
Step 3 (2-way interactions)	.125	1.714	.049	1.466	
Social Anxiety x Gender					-.101
Social Anxiety x Sports					-.045
Social Anxiety x Performing Arts					.012
Sports x Gender					-.077
Performing Arts x Gender					.020

Note: * $p < .05$, ** $p < .001$

Table 9.

Hierarchical Regression Predicting Peer Exclusion from Social Anxiety and Participation Frequency.

Peer Exclusion	R^2	F	ΔR^2	ΔF	B
Step 1 (Control Variables)	.009	.672	.009	.627	
Child Age					-.001
Parent Education					-.036
Step 2 (Standardized Main Effects)	.096	2.438*	.087	3.300*	
Social Anxiety					.036
Gender					-.152*
Sports Frequency					-.036
Performing Arts Frequency					-.024
Step 3 (2-way interactions)	.110	1.486	.014	.406	
Social Anxiety x Gender					-.015
Social Anxiety x Sports					-.009
Social Anxiety x Performing Arts					-.010
Sports x Gender					.022
Performing Arts x Gender					.062

Note: * $p < .05$, ** $p < .001$

Table 10.

Hierarchical Regression Predicting Perceived Competence from Social Anxiety and Participation Frequency.

Perceived Competence	R^2	F	ΔR^2	ΔF	B
Step 1 (Control Variables)	.001	.176	.001	.176	
Child Age					.001
Parent Education					.005
Step 2 (Standardized Main Effects)	.010	.404	.009	.518	
Social Anxiety					-.035
Gender					-.005
Sports Frequency					-.007
Performing Arts Frequency					-.009
Step 3 (2-way interactions)	.032	.678	.021	1.007	
Social Anxiety x Gender					-.102
Social Anxiety x Sports					.020
Social Anxiety x Performing Arts					-.029
Sports x Gender					-.022
Performing Arts x Gender					.075

Note: * $p < .05$, ** $p < .001$

Engagement in organized sports. The second series of regression analyses examined the moderating effects of psychological *engagement in organized sports*. For these analyses, only the sub-sample of children whose parents rated their level of engagement in sports was included (i.e., they needed to be participating in at least one sport) (n = 208). As previously, separate equations were conducted to predict each outcome variable. As well, control variables were entered in Step 1 (i.e., child age, parent education). Standardized "main effect" variables were included in Step 2 (i.e., social anxiety, child gender, psychological engagement in organized sports). In Step 3, conceptually relevant two-way interaction terms (i.e., social anxiety x psychological engagement in organized sports, psychological engagement in organized sports x gender) were entered.

To avoid repetition and ease presentation, only new information that was not reported in the above regression results with the whole sample will be reported. Specifically, only main effects and interaction effects involving psychological engagement in organized sports (i.e., main effect of psychological engagement, interaction between social anxiety and psychological engagement, interaction between gender and psychological engagement) will be described. Results from regressions predicting all outcomes (i.e., academic functioning, prosocial behaviours, anxious-withdrawn behaviours, peer exclusion, perceived competence) from social anxiety and psychological engagement in organized sports are summarized in Table 11 below.

Academic functioning. After controlling for demographic variables at Step 1, and main effect variables at Step 2, the interaction terms (i.e., social anxiety x psychological engagement, psychological engagement x gender) entered at Step did not account for a

significant amount of variance in academic functioning ($F(3, 98) = .908$, $p = .440$). No significant betas for individual interaction effects with academic functioning were found in terms of psychological engagement in organized sports.

Prosocial behaviours. As with academic functioning, the overall R^2 change for Step 3 was not statistically significant. This finding indicates that the addition of conceptually relevant interaction terms did not account for a significant amount of the variance in prosocial behaviours ($F(3, 99) = 1.582$, $p = .198$). A significant main effect of psychological engagement in organized sports was found ($t = 2.052$, $p = .053$, ß = .129). Children who were more psychologically engaged in organized sports also tended to be rated by teachers as being more prosocial. No statistically significant betas for individual interaction effects with prosocial behaviours were found in terms of psychological engagement in organized sports.

Anxious-withdrawn behaviours. Adding in conceptually relevant interaction terms, after controlling for demographic and main effect variables, did not account for a significant amount of the variance in anxious-withdrawn behaviours ($F(3,99) = 1.426$, $p = .240$). However, the interaction effect between social anxiety and gender approached significance ($t = -1.956$, $p = .053$, ß = -.093). Follow up simple effects analyses were conducted by re-computing the regressions separately for boys and girls. Results indicated that the relation between social anxiety and anxious-withdrawn behaviours was statistically significant for boys ($t = 2.786$, $p = .008$, ß = .404), but not for girls ($t = .317$, $p = .753$, ß = .041). These results indicate that social anxiety is more strongly negatively associated with anxious-withdrawn behaviours among boys than among girls.

Peer exclusion. The overall R^2 change for Step 3 was not statistically significant, indicating that the addition of interaction terms did not account for a significant amount of the variance in peer exclusion ($F(3, 99) = 1.531$, $p = .211$). A significant main effect of psychological engagement in organized sports was found ($t = -2.751$, $p = .007$, ß = -.202). Overall, children who were more engaged in sports were also rated by teachers as being less excluded by peers. However, this main effect was superseded by a marginally significant interaction effect between psychological engagement in organized sports and gender ($t = 1.950$, $p = .054$, ß = .272). Follow up simple effects analyses were conducted by re-computing the regressions separately for boys and girls. Results indicated that the relation between psychological engagement in organized sports and peer exclusion was statistically significant for boys ($t = -2.237$, $p = .030$, ß = - .344), but not for girls ($t = -.361$, $p = .720$, ß = - .055). These results indicate that psychological engagement in organized sports is more strongly negatively associated with peer exclusion among boys than girls.

Perceived competence. The overall R^2 change for Step 3 was not statistically significant, indicating that the addition of interaction terms did not account for a significant amount of the variance in peer exclusion ($F(3, 184) = 1.515$, $p = .187$). A significant main effect of psychological engagement in organized sports was found ($t = 2.361$, $p = .019$, ß = .087). Overall, children who were more psychologically engaged in sports were also self-rated as having more perceived competence. This main effect was superseded by a significant interaction effect between psychological engagement in organized sports and gender ($t = -2.140$, $p = .034$, ß = -.238). Follow up simple effects analyses were conducted by re-computing the regressions separately for boys and girls.

Results indicated that the relation between psychological engagement in organized sports and perceived competence was statistically significant for boys (t = 2.197, p = .031, ß = .253), but not for girls (t = -.500, p = .618, ß = - .051). These findings indicate that psychological engagement in organized sports is more strongly positively associated with perceived competence among boys than among girls.

Table 11.

Standardized Coefficients from Hierarchical Regression Predicting Outcomes from Social Anxiety and Engagement in Organized Sports.

	Sport Engagement	Social Anxiety x Sport Engagement	Gender x Sport Engagement
Academic Functioning	-.049	.057	-.009
Prosocial Behaviours	.129^{+}	.003	-.242
Anxious-Withdrawn Behaviours	-.093	.085	.080
Peer Exclusion	-.202*	.035	.272^{+}
Perceived Competence	.087	.008	-.238*

Note: * $p < .05$, $^{+}$ $p < .055$

Engagement in performing arts. Finally, the third series of regression analyses examined the moderating effect of *psychological engagement in performing arts activities*. For these analyses, only the sub-sample of children who participated in at least one performing art were included (n = 147). As previously, separate equations were conducted to predict each outcome variable. The same procedure of entering variables was employed as per the previous series of regression analyses. However, psychological engagement in *performing arts* was entered in Step 2, rather than psychological engagement in *organized sports*. As previously, conceptually relevant two-way interaction terms (i.e., social anxiety x psychological engagement in performing arts, psychological engagement in performing arts x gender) were entered in Step 3.

As previously, to avoid repetition and ease presentation, only main effects and interaction effects involving psychological engagement in performing arts activities (i.e., main effect of psychological engagement, interaction between social anxiety and psychological engagement, interaction between gender and psychological engagement) will be reported. Results from regressions predicting all outcomes (i.e., academic functioning, prosocial behaviours, anxious-withdrawn behaviours, peer exclusion, perceived competence) from social anxiety and psychological engagement in performing arts activities are summarized in Table 12 below.

Academic functioning. The overall R^2 change for Step 3 approached, but did not reach, statistical significance. This finding indicates that the addition of interaction terms did not account for a significant amount of the variance in academic functioning ($F(3, 61) = 2.531$, $p = .065$). A significant main effect of psychological engagement in performing arts activities was found ($t = 2.055$, $p = .044$, ß = -.004). Overall, children who were

more psychologically engaged in performing arts activities were rated as having higher academic functioning. However, this main effect was superseded by a statistically significant interaction effect between psychological engagement in performing arts activities and gender (t = -2.397, p = .020, ß = -.449). Follow up simple effects analyses were conducted by re-computing the regressions separately for boys and girls. Results indicated that the relation between psychological engagement in performing arts and academic functioning was statistically significant for boys (t = 3.082, p = .006, ß = .767), but not for girls (t = -1.359, p = .182, ß = -.212). These findings indicate that psychological engagement in performing arts is more strongly positively associated with academic functioning among boys than among girls.

Prosocial behaviours. As with academic functioning, the overall R^2 change in Step 3 was not statistically significant, indicating that the addition of interaction terms did not account for a significant amount of the variance in prosocial behaviours ($F(3,61)$ = .274, p = .844). No statistically significant betas for individual main or interaction effects with academic functioning were found in terms of psychological engagement in performing arts activities.

Anxious-withdrawn behaviours. Adding in conceptually relevant interaction terms, after controlling for demographic and main effect variables, did not account for a significant amount of the variance in anxious-withdrawn behaviours ($F(3,61)$ = 1.893, p = .140). Although no statistically significant betas were found for individual main effects, a marginally significant interaction effect was found between social anxiety and gender (t = -1.992, p = .051, ß = -.411). Follow up simple effects analyses were conducted by re-computing the regressions separately for boys and girls. Results

indicated that the relation between social anxiety and anxious-withdrawn behaviours was significant for boys (t = 3.388, p = .003, ß = .784), but not for girls (t = 1,181, p = .245, ß = .202). These results indicate that social anxiety is more strongly positively associated with early anxious-withdrawn behaviours at school among boys than among girls. However, this finding should be interpreted with some caution as this interaction only emerged among the subsample of participants who had engagement scores for performing arts activities.

Peer exclusion. The overall R^2 change in Step 3 was not statistically significant, indicating that the addition of conceptually relevant interaction terms did not account for a significant amount of the variance in peer exclusion (F(3, 61) = .030, p = .993). No statistically significant individual main or interaction effects with peer exclusion were found in terms of psychological engagement in performing arts activities.

Perceived competence. After controlling for demographic variables at Step 1, and main effect variables at Step 2, the interaction terms (i.e., social anxiety x gender, social anxiety x psychological engagement in performing arts, psychological engagement in performing arts x gender) entered at Step 3 accounted for an additional 6% of the variance in perceived competence (F(3, 126) = 2.833, p = .041). A significant interaction effect was found between social anxiety and psychological engagement in performing arts (t = -2.442, p = .016, ß = -.250). Simple slopes analyses were conducted for low psychological engagement in performing arts (i.e., 1 SD below the mean), and for high psychological engagement in performing arts (i.e., 1 SD above the mean). Results indicated that among children who were less positively engaged in performing arts activities, social anxiety was positively associated with perceived competence (b = .22).

However, among children who were more positively engaged in performing arts activities, social anxiety was negatively related to perceived competence (b = -.16). In other words, contrary to predictions, results indicated that heightened engagement in performing arts appeared to *exacerbate* the negative association between social anxiety and perceived competence (see Figure 1 below).

Table 12.

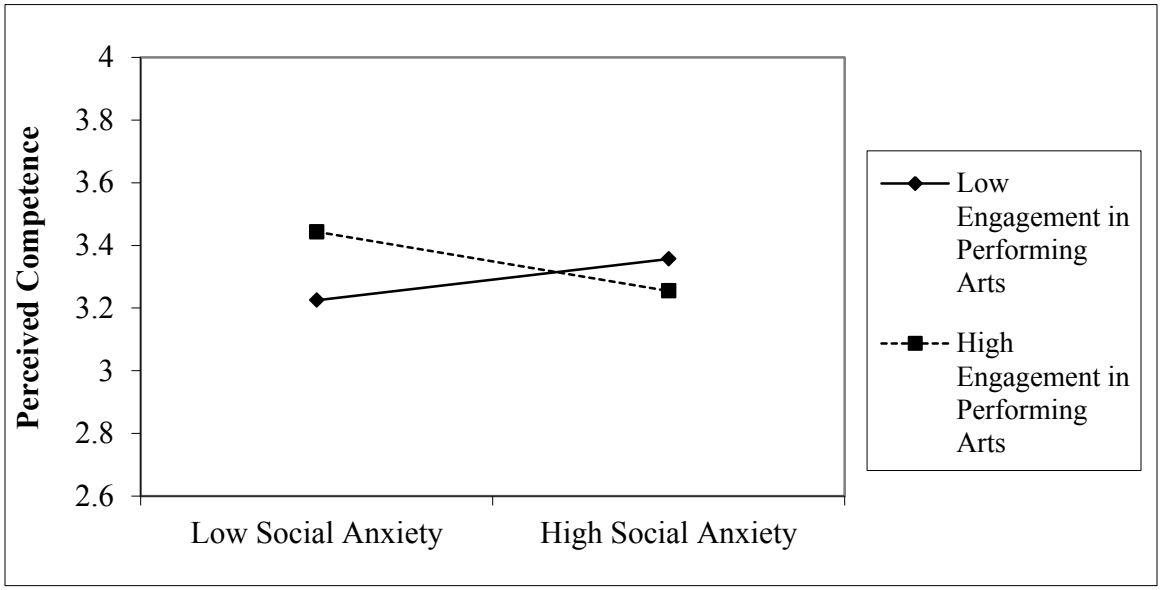
Standardized Coefficients from Hierarchical Regression Predicting Outcomes from Social Anxiety and Engagement in Performing Arts.

	Performing Arts Engagement	Social Anxiety x Performing Arts Engagement	Gender x Performing Arts Engagement
Academic Functioning	-.004	-.183	-.449*
Prosocial Behaviours	.008	.014	-.151
Anxious-Withdrawn Behaviours	.057	-.117	-.007
Peer Exclusion	.070	.007	-.025
Perceived Competence	.007	-.250*	-.046

Note: * $p < .05$

Figure 1.

Moderating Role of Engagement in Performing Arts in the Links Between Social Anxiety and Perceived Competence.



Discussion

Considerable attention has been focused on social anxiety in clinical preadolescents and adolescents (e.g., Leeves & Banerjee, 2014; Lewis-Morrarty et al., 2012). As a result, much less is known about the correlates of social anxiety in non-clinical samples, particularly in early childhood (Weeks et al., 2009; Wichstrom et al., 2013). Similarly, although there is at least some evidence to suggest that extracurricular activity participation may moderate the negative effects of social anxiety (e.g., Findlay & Coplan, 2008), only a handful of studies have focused on the links between extracurricular activities and social anxiety or related constructs. Moreover, none of the extant literature has examined the relation between extracurricular activities and social anxiety specifically in early childhood.

Therefore, the primary goal of the present study was to explore the associations between social anxiety and aspects of extracurricular activities in young children. Children's frequency of participation and psychological engagement in both organized sports and performing arts activities were examined. A secondary goal was to explore the potential *moderating* role of participation frequency and psychological engagement in extracurricular activities in the relations between social anxiety and indices of early school adjustment. As well, gender differences in these associations were considered.

In terms of predictions, it was expected that socially anxious young children would display more negative indices of early school adjustment. Socially anxious children were also expected to participate in extracurricular activities less frequently, and be less psychologically engaged in these activities. It was further predicted that being positively engaged in frequent participation in extracurricular activities would result in

better early school adjustment. Frequency of participation and positive engagement in extracurricular activities were both expected to attenuate the undesirable links between social anxiety and early school adjustment.

Among the results, social anxiety was positively associated with teacher ratings of anxious-withdrawal at school and negatively related to teacher-rated academic competence. The association between social anxiety and anxious-withdrawn behaviours was also found to be stronger for boys than for girls. Unexpectedly, social anxiety was not significantly associated with teacher ratings of prosocial behaviours or peer exclusion, nor child-reported perceived competence. Next, no associations were found between social anxiety and frequency of participation in extracurricular activities. However, social anxiety was negatively associated with psychological engagement in these activities.

Contrary to expectations, there appeared to be no overall associations between participation frequency and indices of early school adjustment. However, positive psychological engagement in sports was positively related to prosocial behaviours and perceived competence, and negatively associated with peer exclusion. Similarly, children who were more psychologically engaged in performing arts also tended to have higher levels of academic functioning.

Overall, boys participated in performing arts activities less frequently than girls, but no gender differences were found in terms of frequency of participation in organized sports. However, gender was found to moderate several of the associations between engagement and school adjustment. For example, both the negative relation between engagement in sports and peer exclusion, as well as the positive association between

engagement in sports and perceived competence were stronger among boys than girls. As well, the positive association between engagement in performing arts and academic functioning was stronger among boys than girls.

No moderating effects of participation frequency (for both sports and performing arts) were found in the associations between social anxiety and indices of early school adjustment. Similarly, no moderating effects of psychological engagement in organized sports were found in these associations. Although a moderating effect of psychological engagement in performing arts was found in the association between social anxiety and perceived competence, the direction of this effect was not as predicted. Heightened engagement in performing arts appeared to *exacerbate* the negative association between social anxiety and perceived competence. In the following sections, each of these findings is discussed in more detail.

Implications of Social Anxiety in Early Childhood

Social anxiety was expected to be associated with various indices of young children's socio-emotional and school adjustment. Support was found for the prediction that socially anxious children would display more anxious-withdrawn behaviours at school than their less socially anxious peers. Overall, parent-rated social anxiety was associated with teacher ratings of anxious-withdrawn behaviours at school. This is an important finding for several reasons. First, this finding demonstrates cross-informant prediction. Specifically, both parents and teachers rated the same children as displaying anxious behaviours. Next, and similarly, this finding demonstrates cross-situational prediction, since the same children are found to display anxious behaviours at home and at school.

The finding that socially anxious children are also likely to display anxious-withdrawn behaviours at school is consistent with research by Weeks and colleagues (2009), which demonstrated that heightened symptoms of social anxiety are associated with internalizing difficulties at school. This finding is also in line with research indicating comorbidity between anxiety disorders (e.g., Beesdo et al., 2009; Eley et al., 2008; Essau et al., 1999; Essau et al., 2000). However, most studies examining the comorbidity of anxiety have focused on clinical populations of older children and adolescents. Accordingly, this finding is one of the first to provide support for correlations between subclinical anxiety problems among preschool aged children.

Anxious-withdrawn behaviours may have particularly negative implications for young children, since these behaviours themselves are associated with many negative concomitants in childhood. For example, anxious-withdrawn behaviours in childhood have been associated with depressive symptoms, loneliness, and poor self-concept (e.g., Gazelle & Ladd, 2003). Similarly, anxious-withdrawn children are more likely to experience peer exclusion, and the combination of anxious-withdrawn behaviours and peer exclusion is predictive of the highest levels of depressive symptoms (Gazelle & Ladd, 2003). Accordingly, anxious-withdrawn children may be at a heightened risk of experiencing undesirable developmental trajectories. It is possible that the concomitants of social anxiety, paired with the concomitants of anxious-withdrawn behaviours may be particularly negative for young children's social, emotional, and academic development. This may represent another reason to identify symptoms of social anxiety among preschool aged children.

Finally, the fact that social anxiety is associated with anxious-withdrawn behaviours at school is consistent with Erath and colleagues' (2007) research suggesting that socially anxious children tend to withdraw from the peer group. Together, these findings lend further support to the notion that peer interaction is a primary challenge for socially anxious children (Kearney, 2005). In other words, social anxiety appears to directly and negatively influence children's peer relationships. Since peer interaction is important for healthy adjustment across the lifespan (Rubin et al., 2015), this is yet another reason to be concerned about socially anxious children. Accordingly, future research is necessary in order to both replicate this finding among young children, and determine protective factors to help socially anxious children within their peer groups, and at school.

The literature in this area may also benefit from an exploration of gender differences in terms of both social anxiety and anxious-withdrawn behaviours. For example, despite predictions, gender differences were not found for social anxiety among this age group. The lack of gender differences in terms of prevalence of social anxiety is contrary to a large body of literature suggesting that social anxiety is typically more prevalent among girls than boys in childhood and adolescence (e.g., Cartwright-Hatton, Hodges, & Porter, 2003; Essau et al., 2000; Kearney, 2005; Leeves & Banerjee, 2012). However, this finding may be more in line with research from younger samples. For example, Wang and Zhao (2015) found no gender differences in terms of anxiety symptoms among 3-6 year olds. Similarly, Spence and colleagues (2001) found no significant gender differences in terms of anxiety disorders among preschoolers. Accordingly, it may be that gender differences are not yet strong among younger

children, and may become more pronounced with increasing age (Spence et al., 2001; Wang & Zhao, 2015).

Notwithstanding, these studies did not focused on symptoms of social anxiety specifically. Moreover, the present study may have been insufficiently powered to detect a gender difference among socially anxious girls and boys. Therefore, more research examining gender differences among young children, specifically for symptoms of social anxiety, is warranted. Such research would offer the most support if it were conducted among a large sample.

Although gender differences were not found for social anxiety, a gender difference was found in the link between social anxiety and anxious-withdrawn behaviours. The negative linear association between social anxiety and anxious-withdrawn behaviours was stronger among boys than among girls. This finding seems to suggest that socially anxious boys may experience worse outcomes than socially anxious girls. However, given the mixed findings in the literature concerning potential gender differences of social anxiety in early childhood, much more research is needed to corroborate the present study's finding.

Social anxiety was expected to be positively associated with peer exclusion, and negatively associated with prosocial behaviours and perceived competence. However, no such significant associations were found in the present study. These findings are not consistent with the previous extant literature for older children and adolescents (e.g., Festa & Ginsburg, 2011; Gazelle & Ladd; Siegal et al., 2009). For example, Festa & Ginsburg (2011) found that social anxiety and peer exclusion were positively associated among older children and preadolescents. Similar results have been found among

adolescents (Siegal et al., 2009). It is worth noting that each of these associations, although not significant, was in the expected direction. Given that the results from this study were inconsistent with previous literature, and that they were in the expected direction, it is possible that these non-significant findings are due to this study's small sample size.

However, as noted previously, most of the literature concerning the correlates of social anxiety has focused on older childhood and adolescence. Therefore, it could also be that these concomitants of social anxiety (i.e., increased peer exclusion, fewer prosocial behaviours, lower perceived competence) do not emerge until later childhood or adolescence. For example, it could be that at this young age peers do not yet actively exclude socially anxious children because they are not sensitive to the more subtle social behaviours displayed by such children. Alternatively, it has been found that socially anxious individuals believe they have insufficient social skills, undermining their confidence, and possibly leading them to act in ways that elicit difficulties in the peer group (Cartwright-Hatton et al., 2005). However, since socially anxious children's perceived competence does not appear to be as negatively affected at this young age, it could be that they still have the confidence to evoke peer acceptance.

Similarly, in early childhood, perceived competence tends to be somewhat inflated (e.g., Harter, 1990; Harter & Pike, 1984). Therefore, it could be that this over-estimated sense of self buffers young socially anxious children against feeling less competent. Finally, since young socially anxious children do not appear to have issues with either their peers or their sense of competency, it may be that they have not yet had enough undesirable social situations to warrant a decrease in prosocial behaviours.

However, due to the lack of research in this area, these possibilities are purely speculative. As a result, additional research examining the correlates of social anxiety among different age groups, particularly among large samples including preschool aged children, is necessary.

As expected, social anxiety was negatively associated with teacher ratings of children's early academic skills. This finding is consistent with previous research indicating that teachers and parents rate socially anxious children as less academically competent than less socially anxious children (Mychailsyzn et al., 2010; Weeks et al., 2009). Although it is possible that this finding may represent an actual deficit in academic skills among socially anxious young children, other factors may also be precipitating this finding. For example, Weeks and colleagues (2009) found that socially anxious children do not enjoy their time at school. Accordingly, it could be that socially anxious children struggle academically because they have a greater dislike for school than their non-socially anxious peers. Alternatively, given their social evaluative concerns and fears of public speaking (e.g., Ferrel et al., 2004; Kearny, 2005) socially anxious children may be less likely to answer when called on in class. In turn, this may prompt teachers to perceive socially anxious children as less academically competent.

Regardless of the possible mechanisms driving this negative association, it seems that social anxiety has direct and negative implications for young children's academic functioning. This finding does not bode well for young socially anxious children, since early academic difficulties may compound over time. Therefore, it may be particularly important for future research to explore potential protective factors for young socially anxious children experiencing academic difficulties.

Social Anxiety and Participation in Extracurricular Activities

In the present study, it was predicted that social anxiety would be negatively associated with both participation frequency and psychological engagement in extracurricular activities, regardless of activity domain. These predictions were partially supported. Contrary to expectations, no significant relation was found between social anxiety and frequency of participation in either organized sports or performing arts. Also of note, the magnitude of these associations did not differ across activity domain (i.e., sports vs. performing arts). Accordingly, the hypothesis that the negative association between social anxiety and participation would be more pronounced in terms of sports as compared to performing arts activities was not supported in the present study.

This finding is inconsistent with previous research with older children and adolescents demonstrating that shyness (a construct conceptually similar to social anxiety) is negatively associated with frequency of participation in extracurricular activities (Findlay & Coplan, 2008; Miller, 2012). However, recent research by Dimech and Seiler (2011) found no difference in social anxiety symptoms between children participating in sports and children not participating in sports. Therefore, it could be that there is something about social anxiety specifically that results in decreased participation frequency in extracurricular activities.

It is also worth noting that the novel aspect of this study is that it examined young children. Accordingly, the lack of association between social anxiety and frequency of participation in extracurricular activities may lend support to the notion that parents are primarily responsible for their children's social environments at this young age. The social environments created and managed by parents include how children

spend their time after school (e.g., Ladd & Pettit, 2002), as well as which extracurricular activities their children will participate in (Aumetre & Poulin, 2015). Therefore, it may be that in early childhood, frequency of participation in extracurricular activities has more to do with parents' decisions than with children's own social evaluative concerns.

Support for this assertion can be found from a recent study by Aumetre and Pouline (2015), who reported that family factors were more predictive of participation in extracurricular activities than child factors (Aumetre & Poulin, 2015). These researchers suggested that parents of more sociable children feel that their children do not need to participate in extracurricular activities in order to gain social skills, and may therefore, be less likely to register such children for activities. It can be further inferred from this that parents of more socially anxious children may feel that children would particularly benefit from participating in such activities.

As previously mentioned, as children with social evaluative concerns get older, they seem to be less likely to participate in extracurricular activities (e.g., Findlay & Coplan, 2008; Miller, 2012). Therefore, the notion that parents manage their young children's frequency of participation in extracurricular activities may have positive implications for socially anxious children. Specifically, through their parents' mediation, young socially anxious children are at least being provided the opportunity to be psychologically engaged in such activities. This psychological engagement may, in turn, be associated with positive developmental outcomes, such as better school adjustment (e.g., Connell et al., 2014). However, much more research, both in early childhood and with larger samples, is necessary in order to provide support for these speculations.

Consistent with the present study's predictions, social anxiety was negatively associated with psychological engagement in both sports and performing arts activities. That is, children with high symptom levels of social anxiety were reported by mothers as having less fun, displaying less interest, and attaching less importance to participating in these activities. These findings suggest that although socially anxious children participate in extracurricular activities as often as their less socially anxious peers, they are not enjoying their time in these activities.

Given the lack of any previous research specifically examining young children's psychological engagement in extracurricular activities, the mechanisms that may underlie this negative association can only be speculated. First, it could be that socially anxious children simply do not want to participate in the activities their parents sign them up for. As a result, they may not find these activities fun, interesting, or important. Alternatively, it could be that although young socially anxious children may have interest (and even enthusiasm) for participating in extracurricular activities, the presence of other children serves to exacerbate their feelings of social unease. This unease, in turn, may reduce the quality of their engagement in these activities.

For example, in the present study, activities included both organized sports (which were predominantly team sports) and performing arts. Accordingly, it is possible that having to interact with a co-dependent team or perform in from of others is too anxiety provoking for young socially anxious children. Therefore, an important direction for future research is to examine associations between social anxiety and engagement in individual activities, as well as activities that may not intensity pre-existing social evaluative concerns, such as swimming or after school clubs (e.g., sparks, cubs).

The findings in this study concerning associations between engagement and aspects of extracurricular activity participation have several important implications for young socially anxious children. First, it is possible that if children are not engaged in their extracurricular activities, they will be more likely to quit when they get the chance. Similarly, if such children are not enjoying their time in extracurricular activities at this age, they may be less likely to participate in extracurricular activities when they are older. As previously mentioned, extracurricular activities tend to be associated with a range of social, emotional, and academic benefits in adolescence (e.g., Boone & Leadbeater, 2006; Gore et al., 2001; Rose-Krasnor et al., 2006). Accordingly, regardless of whether or not participation in extracurricular activities is associated with positive outcomes in early childhood, children who do not continue to participate in activities will miss out on the benefits that tend to occur in adolescence. Finally, since the frequency of participation in extracurricular activities may be at the discretion of young children's parents, socially anxious children may be missing out on the benefits associated with such activities if they are not at least somewhat psychologically engaged in them.

These results are also particularly important given the paucity of research examining the unique influence of psychological engagement in childhood and adolescence (Fredricks et al., 2004). Since the present study was one of the first to examine the association between psychological engagement in extracurricular activities and symptoms of social anxiety, continued research along this avenue is warranted. Replication of these results among larger studies may provide additional support to the notion that socially anxious young children are not as psychologically engaged in

extracurricular activities as their less socially anxious peers. **Benefits of Participation in Extracurricular Activities**

Descriptive statistics from the present study indicated that roughly 75% of the sample participated in organized sports at least regularly. Moreover, approximately 45% of the children in the present study participated in performing arts at least regularly. These findings are in line with previous research indicating that between 75% and 81% of children and adolescents participate in extracurricular activities (e.g., Aumetre & Poulin, 2015; Feldman & Matjasko, 2005; Howie et al., 2010). The findings concerning participation in performing arts are also in line with recent research suggesting that approximately 35% of children in Quebec regularly participate in activities, such as dance (Institut de la Statistique du Quebec [ISQ], 2007). The prevalence rates of participation in extracurricular activities found in the present study are important, as they suggest that the majority of young children are spending time in activities that may provide them with social, emotional, and academic benefits in the future.

In the present study, it was predicted that both frequency of participation and positive engagement in extracurricular activities would be associated with more positive early school adjustment. Specifically, children who were more frequently and positively engaged in extracurricular activities were expected to display fewer anxious-withdrawn behaviours, less peer exclusion, more prosocial behaviours, higher academic functioning, and higher perceived competence. It was further predicted that boys would participate in organized sports more than girls. These hypotheses were partially supported.

First, boys and girls were found to be equally likely to participate in organized sports. This finding is in contrast with studies conducted by Miller (2012) and Dimech &

Seiler (2011). Since both of these studies examined frequency of participation among older children, it could be that gender differences have not yet emerged in early childhood. Alternatively, the lack of a significant gender difference in terms of participation frequency in organized sports could be an artifact of the present study's relatively small sample size. Accordingly, future research should continue to explore potential gender differences in extracurricular activities among preschool aged children. Such research would be particularly beneficial if it were conducted with larger sample sizes.

Next, contrary to expectations, no significant associations were found between frequency of participation and indices of early school adjustment. Specifically, participation frequency in either organized sports or performing arts activities was not significantly associated with academic functioning, prosocial behaviours, anxious-withdrawn behaviours, peer exclusion, or perceived competence. As before, this general lack of findings could reflect certain methodological limitations of the present study (e.g., sample size, power). Yet, it could also simply be that at this age, extracurricular activities do not provide benefits that can be translated to a school setting. For example, it has been pointed out that in early childhood, few extracurricular activities are offered within the school system, prompting families to enroll in community activities (Aumetre & Poulin, 2015; Fletcher et al., 2003). Accordingly, it could be that since these activities are not being conducted in a school setting, young children may consider what they do or learn in their activities as distinct from what they do or learn in school.

This finding could also indicate that extracurricular activities may not play as large a role in terms of school adjustment in early childhood as they do in later childhood

or adolescence. It has been consistently found that participation in extracurricular activities in adolescence is associated with positive social, emotional, and academic outcomes (e.g., Boone & Leadbeater, 2006; Gore et al., 2001; Rose-Krasnor et al., 2006). However, as previously mentioned, research among children is more mixed. Specifically, although some researchers have found significant associations between participation in extracurricular activities and socio-emotional outcomes (e.g., McHale et al., 2001), others have not (e.g., Fletcher et al., 2003). Regardless of the reasoning behind this lack of findings, future research aimed specifically at examining participation in extracurricular activities and early school adjustment is necessary to further elucidate any possible associations between the two constructs.

Finally, it could be that frequency of participation in extracurricular activities does not play as large a role as previously thought (e.g., Fletcher et al., 2003; Gilman, 2000). For example, Dimech and Seiler (2011) found that more time spent in extracurricular activities was not associated with a decrease in social anxiety symptoms one year later. As previously speculated, this may suggest that frequency alone is not enough to afford young children with the potential benefits associated with extracurricular activities. Moreover, since parents seem enroll their children in extracurricular activities regardless of whether or not they are socially anxious, it could be that finding these activities fun, interesting, and important (e.g., being psychologically engaged), plays a larger role among young socially anxious children than does frequency.

Support for this notion was found in the present study. Specifically, despite a general lack of significant findings associated with frequency of participation, significant associations between engagement in extracurricular activities and indices of early school

adjustment were indicated. Generally speaking, children who were more psychologically engaged in organized sports were found to be more prosocial, less excluded by peers, and to have higher perceived competence than their less engaged peers. Similarly, children who were more psychologically engaged in performing arts activities were found to have higher academic functioning. These results provide support to the notion that psychological engagement in extracurricular activities is beneficial for young children. Additionally, this finding is in line with the small amount of available research indicating that psychological engagement is associated with better academic outcomes among older children and adolescents (Connell, Spencer, & Aber, 1994). Given the paucity of research in this area, these findings represent an important contribution to the field. However, much more work is needed in the future.

Contrary to expectations, psychological engagement in organized sports was not associated with academic functioning or anxious-withdrawn behaviours. Although explanations for this lack of association are necessarily speculative, it is possible that the skills learned in organized sports do not translate well into the classroom environment, and do not offer mechanisms for circumventing anxious behaviours. Again, more research is necessary to offer insight as to this lack of association.

Similarly, and also unexpectedly, significant associations were not found between psychological engagement in performing arts and prosocial behaviours, anxious-withdrawn behaviours, peer exclusion, or perceived competence. The reasons for this lack of significant findings are also unclear. In the present study, only the subsample of children who participated in at least one performing art activity was included in the analyses involving engagement. Accordingly, it is possible that the present study's small

sample size, particularly for these analyses, resulted in insufficient power to detect significant results. Additionally, as previously mentioned, only a subsample of teacher rated outcomes was obtained. Therefore, the combination of few teachers reporting, and few children participating in performing arts activities may have made significant results very difficult to detect.

However, other mechanisms may be at play. For example, it could be that there really are no associations between engagement in performing arts and the above listed indices of early school adjustment. It could also be that such associations do exist, but not in early childhood. Moreover, research with adolescents suggests that performing arts activities may be associated with negative social and emotional outcomes, including decreased sense of life purpose (Bundick, 2011), increased risk behaviours, and decreased well-being (Rose-Krasnor et al., 2006). Therefore, it could also be that some performing arts may actually be detrimental for socio-emotional outcomes, but these negative associations have not yet emerged for young children. Accordingly, additional research exploring larger samples of different aged children may be able to further elucidate the present study's non-significant findings.

In addition, some gender effects were found. For example, the negative association between psychological engagement in organized sports and peer exclusion was stronger among boys than girls. Similarly, the positive association between psychological engagement in organized sports and perceived competence was stronger among boys than girls. It could be that when boys participate in sports, they are behaving in ways that are consistent with societal gender stereotypes. Accordingly, boys who

participate in sports may be seen as “cool”, and may be more liked by the peer group, resulting in less peer exclusion and higher perceived competence.

However, more important than whether or not boys participate in sports may be how fun, important, and interesting they find these sports to be. For example, boys who not only participate in sports, but also place a high importance on playing sports, may feel good about themselves, thus increasing their perceived competence. This increase in perceived competence may, in turn, result in better peer relationships and less peer exclusion. Such stereotypes may not apply as strongly for girls, thus accounting for the gender difference found for this association. Notwithstanding, given the paucity of research in this area, these suggested explanations remain postulations. Additional research is necessary in order to both replicate, and further understand gender differences in terms of psychological engagement in sports, and peer exclusion and perceived competence.

Finally, the positive association between psychological engagement in performing arts and academic functioning was stronger among boys than girls. One possible explanation for this finding could be that young children who are psychologically engaged in performing arts activities feel more comfortable talking in front of a group of people, as would be found in a classroom. However, since boys tend to be more exuberant in the classroom (e.g., Tarullo, Mliner, & Gunnar, 2011), it is possible that they are more likely to contribute, and in turn, do well in class than psychologically engaged girls.

A further possible explanation of this finding has to do with teacher’s perceptions of classroom behaviours. Specifically, given that teachers rated academic functioning,

and that teachers are more likely to perceive quiet children as less academically competent (e.g., Weeks et al., 2009), it could be that teachers rate children who are more comfortable contributing in class as having higher academic functioning (e.g., Coplan, Hughes, Bosacki, & Rose-Krasnor, 2011). The possibility that boys' positive experiences in performing arts allow them to participate in class, coupled with the notion that boys are typically more exuberant in class, could make teachers more likely to rate boys as having higher academic functioning than similarly psychologically engaged girls.

It is important to note that, as before, these potential explanations are purely speculative. Notwithstanding, when taken together, these results seem to suggest that positive psychological engagement in both sports and performing may have more positive benefits for boys than for girls in early childhood.

Putting it All Together: Social Anxiety, Extracurricular Activities, and Early School Adjustment

It was predicted that more frequent participation in extracurricular activities, regardless of domain would serve to attenuate linear associations between social anxiety and difficulties in early school adjustment. A similar prediction was made in terms of positive psychological engagement in extracurricular activities, regardless of domain. These hypotheses were largely unsupported. Indeed, there was at least some evidence that engagement in performing arts may have some negative consequences for socially anxious children.

Frequency of participation in extracurricular activities. No significant interaction effects were found between social anxiety and frequency of activity participation (in either organized sports or performing arts) in relation to any indices of

early school adjustment. In other words, linear associations between social anxiety and indices of early school adjustment (i.e., academic functioning, prosocial behaviours, anxious-withdrawn behaviours, peer exclusion, perceived competence) were not moderated by the amount of time young children spent participating in extracurricular activities. This was the first study to explore the potential moderating role of frequency of participation in extracurricular activities in the links between social anxiety and indices of early school adjustment. Accordingly, a few interpretations could be offered to account for the lack of significant moderation effects. First, as previously mentioned, the present study's small sample size limited its power to detect significant results. Since high power is particularly important for detecting interactions, the lack of findings in the present study could be an artifact of insufficient power. Alternatively, for reasons discussed previously (e.g., amount of parental influence on the rate of young children's participation), it may that frequency alone is not enough to afford young children with sufficient benefits to buffer against the concomitants of social anxiety in early childhood. However, further research is necessary to better elucidate the impact of frequency of activity participation for young socially anxious children.

Psychological engagement in extracurricular activities. Contrary to hypotheses, no moderating effects of psychological engagement in organized sports were found in the present thesis. That is, children's of levels of fun, interest, and importance for sporting activities did not moderate associations between social anxiety and indices of early school adjustment. Again, due to the novelty of this research (particularly in early childhood), potential explanations for this general lack of findings remain speculative. First and foremost, as mentioned earlier, the present study may not have sufficient power

to detect statistically significant interaction effects. However, it could also be that psychological engagement in organized sports does not provide enough benefits in early childhood to protect young socially anxious children from undesirable social, emotional, and academic outcomes. It is also important to note again that social anxiety was negatively associated with psychological engagement in organized sports. Accordingly, socially anxious children do not seem to be that engaged in organized sports in the first place.

Similarly, no significant interaction effects were found between social anxiety and psychological engagement in performing arts in relation to academic functioning, prosocial behaviours, anxious-withdrawn behaviours, or peer exclusion. Again, the lack of interaction effects found in the present study could be an artifact of insufficient power. However, it is also possible that engagement in performing arts is not enough to combat young socially anxious children's heightened social evaluative concerns. Accordingly, such engagement does not seem to help them with their academic and peer problems, or their decreased prosocial behaviours and increased anxious-withdrawn behaviours. However, as with engagement in organized sports, social anxiety was negatively associated with psychological engagement in performing arts. In other words, young socially anxious children do not seem to be particularly engaged in these activities in the first place.

A significant interaction effect was found between social anxiety and psychological engagement in performing arts activities in the prediction of perceived competence. However, the nature of this interaction effect was not as expected. Psychological engagement in performing arts was found to *exacerbate* the negative

association between social anxiety and perceived competence. It is possible that this finding represents a statistical artifact.

Notwithstanding, there is at least some evidence to suggest that participation in some arts activities may come at a cost for some youth. For example, Bundick (2011) found that increased participation in creative arts was associated with a decreased sense of life purpose among adolescents. Similarly, Rose-Krasnor and colleagues (2006) found that participation in theatre arts was associated with more risk behaviours among adolescents. Finally, all of the extracurricular activities examined (e.g., sports, school clubs) by Rose-Krasnor and colleagues (2006) were associated with increased adolescent well-being, except for theatre arts. Although both of these studies examined the role of arts activities in adolescence, they provide some preliminary evidence that such activities may not always be beneficial to those who engage in them.

One possible explanation for this finding relates to socially anxious children's negative cognitions. Perhaps even though they are engaged in their performing arts activities (i.e., it is important to them), young socially anxious children may be also worried about being negatively evaluated by their peers, coaches, or audience members. Moreover, they may feel they are not meeting the expectations of these perceived important others. As a result, they may think performing arts activities are important, but may also think they are not good at them, causing a sort of cognitive dissonance. However, this possible explanation is purely speculative. Future research should continue to explore possible associations between participation in performing arts activities and indices of school adjustment, particularly among young socially anxious children.

Limitations and Future Directions

This study was the first to examine links between social anxiety symptoms, participation in extracurricular activities, and school adjustment in young children. Results have potential implications for the development and implementation of early intervention programs designed to assist young socially anxious children. Notwithstanding, some limitations should be acknowledged with an eye towards future research.

The first major limitation of the present study was that it had a relatively small sample size. As has been made clear, the associated reduction in power may have contributed to the lack of significant associations. Having a highly powered study is particularly relevant for detecting two-way and three-way interactions. Accordingly, it is possible that insufficient power played a role in the lack of significant interaction effects in the present study. For this reason, it is particularly important for future studies to continue to examine social anxiety and participation in extracurricular activities in early childhood with much larger sample sizes.

A related limitation of the present study was the amount of missing data for teacher rated outcomes. Due to an ongoing labour dispute in one of the school boards from which data was collected, only a subsample of teachers participated in the present study. Multiple imputation was considered as a statistical procedure to manage missing teacher data. However, this procedure was beyond the scope of the present study.

Another limitation of the present study was that the data was not quite normally distributed. Although appropriate transformations were applied, the data continued to deviate from a normal distribution, and in many cases transformations magnified the non-

normalcy. Accordingly, the data were left as it was. This is certainly a limitation. However, it is important to note that the distributions evidenced in the present thesis are representative of what might be found in the population. For example, social anxiety, anxious-withdrawn behaviours, and peer exclusion are not typically normally distributed constructs. Instead, some children may experience social anxiety, whereas the majority of children are not likely to experience social anxiety, creating a floor effect. Notwithstanding, future research may benefit from re-examining the constructs from the present study using non-parametric analyses.

Next, since the present study was correlational, causal interpretations are not appropriate. Although results were interpreted within a theoretical framework, other explanations are certainly possible and plausible. For example, whereas the negative association between social anxiety and academic functioning was interpreted here to suggest that children do worse in school because they are socially anxious, it could be that children become more socially anxious at school because they are struggling academically. As well, a third variable that was not assessed in this study could also have been responsible for this association. For example, children with depressed mothers may become more anxious over time (e.g., Coletti et al., 2009; Weissman et al., 2005; Weissman et al., 2006), and also do worse academically (e.g., Murray et al., 2010).

To help address these issues, researchers should explore social anxiety and aspects of extracurricular activity participation longitudinally. For example, examining these constructs longitudinally would allow researchers to assess the trajectories of social anxiety, and participation and engagement in extracurricular activities across time. The impact of subsequent changes in either social anxiety or activity participation could then

be explored. As well, the rate and implications of dropping out of extracurricular activities could be examined – particularly with regard to socially anxious children. This could also offer some insight into the degree to which parents are responsible for their young children's participation in such activities.

The use of child self-reports was both a strength and a weakness of this study. Self-report measures are not typically used in early childhood due to potential cognitive limitations (e.g., Harris, 2008; Thompson, Goodvin, & Meyers, 2006). Similarly, in the present study, children reported on their perceived competence, which at this age may be inflated (e.g., Harter, 1990, Harter & Pike, 1984). However, there has been a somewhat recent recommendation to ask children directly about certain constructs (e.g., La Greca, 1990; Michael & Merrell, 1998). Additionally, there is at least some evidence to suggest that young children are able to report on their self-system and perceived competence (e.g., Harter & Pike, 1984; Measelle, Ablow, Cowan, & Cowan, 1998). Accordingly, the use of child-self reports offered another informant, in addition to parents and teachers.

Although the use of multiple informants was a strength of this study, future research that incorporates parent rated indices of early school adjustment may provide additional insight into the associations examined in the present study. In this study, mothers rated their children's symptoms of social anxiety, as well as all aspects of their children's participation in extracurricular activities. Accordingly, parent rated indices of early school adjustment were not included in the present study, partly to avoid issues of shared method variance. In the future, studies may benefit from obtaining ratings of social anxiety and extracurricular activities from other sources, so that parents may be able to report on their children's social, emotional, and academic outcomes. For

example, studies that do observations of children's participation in extracurricular activities may allow for another level of measurement, and a deeper level of understanding. Such studies may also eliminate some of the bias that may come from parents rating aspects of their children's participation in extracurricular activities.

Similarly, although social, emotional, and academic outcomes were explored, the outcomes assessed in the present study were obviously not exhaustive. Accordingly, future studies examining different outcome variables are warranted. Such variables could include indices of internalizing problems (e.g., depression, other forms of childhood anxiety), loneliness, peer victimization, and observations of children's social behaviours, to name a few. It could be the case that some of these variables are more salient among socially anxious children, as they tend to co-occur with social anxiety among older populations (e.g., Eley et al., 2008; Kendall et al., 2001; Siegal et al., 2009).

In terms of aspects of extracurricular activities, future research may benefit from more detailed assessments of both frequency of and engagement in such activities. For example, the present study relied on parents' ratings of their children's participation and engagement in extracurricular activities. Future studies that incorporate observations of children at their extracurricular activities may provide more information than what can be obtained based on parent ratings alone. Similarly, much more research examining the role of engagement in extracurricular activities is needed. As previously mentioned, surprisingly little research attention has been given to psychological engagement in childhood (e.g., Fredricks et al., 2004). To my knowledge, this is the first study to examine psychological engagement in relation to extracurricular activities. Accordingly,

this exploration represents a contribution to the field. However, this study is preliminary in nature, and much more research is necessary to corroborate this study's findings.

As well, the present study was limited in that it only examined frequency and engagement in relation to extracurricular activities. In the future, researchers should address some additional aspects of extracurricular activities. For example, researchers could explore the number of activities children participate in, the length of time in which they participate, and the stability of their participation in such activities, to name a few. It is possible that these aspects of extracurricular activities are differentially associated with social anxiety and indices of early school adjustment, as compared to frequency and engagement.

In addition, the present study only examined organized sports and performing arts activities. Further, even the types of activities within each of these domains were limited. Specifically, the majority of children participating in organized sports were enrolled in hockey, soccer, or swimming. Similarly, almost half of the kids participating in performing arts were enrolled in either dance or music. Accordingly, future research should examine not only different domains of extracurricular activities (e.g., clubs, community service, playgroups), but also additional activities within each domain. For example, it would be interesting to explore the association between social anxiety and drama. It may also be beneficial for future researcher to examine differences between recreational and competitive activities among socially anxious young children. Finally, the present study examined primarily team activities, since these seem to be the types of activities that are most predominant among young children. However, future research

could advance the literature by exploring differences between individual and team activities among socially anxious young children.

Despite such limitations, the present study has important implications in terms of interventions for young socially anxious children. For example, the finding that young, socially anxious children also display anxious-withdrawn behaviours at school suggests that heightened, yet subclinical, levels of social anxiety are an issue for children as young as four years old. Therefore, interventions for social anxiety need to be adapted to target very young children. Interventions aimed at encouraging socially anxious children's sociability may also decrease their levels of anxious-withdrawn behaviours at school.

Next, although young socially anxious children do seem to be frequently participating in extracurricular activities, they do not seem to be engaged in these activities. Accordingly, interventions aimed at making extracurricular activities fun, interesting, and important to young children may afford socially anxious children with the benefits potentially associated with participating in extracurricular activities. Finally, identifying children at risk for social anxiety before they enter the school system may allow these children to circumvent some of the issues associated with social anxiety in later childhood and adolescence.

As previously mentioned, the present study was one of the first to examine social anxiety and aspects of extracurricular activities in early childhood. Accordingly, although not many significant findings emerged, this study represents a first step towards a few much understudied areas. Such preliminary research plays an important role in determining where future research and intervention efforts should be directed.

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Appendix A

Preschool Anxiety Scale – Revised (Social Anxiety Subscale)

Please rate each item based on how true it is of your child's behaviour:

	Never or almost never true	almost always not often	some times true	often	almost always or
1. Worries that he/she will do something to look stupid in front of other people	1	2	3	4	5
2. Is scared to ask an adult for help (e. g., a preschool or school teacher)	1	2	3	4	5
3. Is afraid of meeting or talking to unfamiliar people	1	2	3	4	5
4. Is afraid of talking in front of the class (preschool group; e.g., show and tell)	1	2	3	4	5
5. Worries that he/she will do something embarrassing in front of other people	1	2	3	4	5
6. Is afraid to go up to a group of children and join their activities	1	2	3	4	5
7. Acts shy and quiet around new people	1	2	3	4	5

Appendix B

Extracurricular Activity Participation

What Activities Does Your Child Do? Please fill in the table below. Leave blank where not applicable.

Activity Type	Please list the specific activities in each activity category	How often does your child do this type of activity? 1 = not at all; 2 = once or a few times a year; 3 = about once a month; 4 = several times a month; 5 = several times a week	How many years has your child done this type of activity?
Organized sports or lessons (e.g., hockey, gymnastics, swimming lessons)			
Performing arts (e.g., playing music, dance)			

Appendix C

Positive Psychological Engagement

Using the scale of 0-4 below, please rate the characteristics of each type of activity by placing the appropriate number on the line next to each item.

0= Not at all **1**= A little bit **2**= A moderate amount **3**= Quite a bit **4**= Very much

Activity	How much fun is this activity for your child?	How important is this activity for your child?	How interesting is this activity for your child?
Organized sports or lessons			
Performing arts			

Appendix D

Strengths and Difficulties Questionnaire

For each item, please mark the box for Not True, Somewhat True or Certainly True. It would help us if you answered all items as best you can even if you are not absolutely certain. Please give your answers on the basis of the child's behavior over the last six months or this school year.

	Not True	Somewhat True	Certainly True
Considerate of other people's feelings	☐	☐	☐
Restless, overactive, cannot stay still for long	☐	☐	☐
Often complains of headaches, stomach-aches or sickness	☐	☐	☐
Shares readily with other children, for example toys, treats, pencils	☐	☐	☐
Often loses temper	☐	☐	☐
Rather solitary, prefers to play alone	☐	☐	☐
Generally well behaved, usually does what adults request	☐	☐	☐
Many worries or often seems worried	☐	☐	☐
Helpful if someone is hurt, upset or feeling ill	☐	☐	☐
Constantly fidgeting or squirming	☐	☐	☐
Has at least one good friend	☐	☐	☐
Often fights with other children or bullies them	☐	☐	☐
Often unhappy, depressed or tearful	☐	☐	☐
Generally liked by other children	☐	☐	☐
Easily distracted, concentration wanders	☐	☐	☐
Nervous or clingy in new situations, easily loses confidence	☐	☐	☐
Kind to younger children	☐	☐	☐
Often lies or cheats	☐	☐	☐
Picked on or bullied by other children	☐	☐	☐
Often offers to help others (parents, teachers, other children)	☐	☐	☐
Thinks things out before acting	☐	☐	☐
Steals from home, school, elsewhere	☐	☐	☐
Gets along better with adults than with other children	☐	☐	☐
Many fears, easily scared	☐	☐	☐
Good attention span, sees work through to the end	☐	☐	☐

Appendix E

Child Behavior Scale

Please consider the descriptions contained in each of the following items below and rate the extent to which each of these descriptions applies to this child, particularly in the context of his/her behavior with peers. For example, circle 3-"Certainly applies" if the child often displays the behavior described in the statement, circle 2-"Applies sometimes" if the child occasionally displays the behavior, and circle 1-"Doesn't apply" if the child seldom displays the behavior. Please circle only one response per item.

1=Doesn't apply 2=Applies sometimes 3=Certainly applies

1 2 3	1. Squirmy, fidgety child
1 2 3	2. Fights with other children
1 2 3	3. Not much liked by children
1 2 3	4. Is worried. Worries about many things
1 2 3	5. Appears miserable, unhappy, tearful, or distressed
1 2 3	6. Tends to be fearful or afraid of new things or new situations
1 2 3	7. Bullies other children
1 2 3	8. Cries easily
1 2 3	9. Kicks, bites or hits other children
1 2 3	10. Prefers to play alone
1 2 3	11. Helps other children
1 2 3	12. Peers refuse to let this child play with them
1 2 3	13. Shows a recognition of the feelings of others; is empathetic
1 2 3	14. Not chosen as playmate by peers
1 2 3	15. Likes to be alone
1 2 3	16. Keeps peers at a distance
1 2 3	17. Peers avoid this child
1 2 3	18. Seems concerned when other children are distressed
1 2 3	19. Aggressive child
1 2 3	20. Taunts and teases other children
1 2 3	21. Threatens other children
1 2 3	22. Kind toward peers
1 2 3	23. Excluded from peers' activities
1 2 3	24. Is ignored by peers
1 2 3	25. Cooperative with peers
1 2 3	26. Argues with peers
1 2 3	27. Solitary child
1 2 3	28. Shows concern for moral issues (e.g., fairness, welfare or others)
1 2 3	29. Ridiculed by peers
1 2 3	30. Avoids peers
1 2 3	31. Offers help or comfort when other children are upset
1 2 3	32. Withdraws from peer activities

Appendix F

Academic Checklist

How does this child compare to other children in the class in terms of:

	below average		***average***		***above average***
1. Understanding of language	1	2	3	4	5
2. Use of language	1	2	3	4	5
3. Early reading skills	1	2	3	4	5
4. Ability to print	1	2	3	4	5
5. Reasoning ability	1	2	3	4	5
6. Fine-motor development	1	2	3	4	5
7. Gross-motor development	1	2	3	4	5
8. Mathematical ability	1	2	3	4	5
9. Understanding of science/technology	1	2	3	4	5

Appendix G

Pictorial Scale of Perceived Competence and Peer Acceptance for Young Children

Interview items

1. Good at numbers.
2. Friends to play with.
3. Good at swinging.
4. Lots of friends.
5. Knows a lot in school.
6. Others share.
7. Good at climbing.
8. Can read alone.
9. Friends to play games with.
10. Good at bouncing ball.
11. Good at writing words.
12. Has friends on playground.
13. Good at skipping.
14. Good at spelling.
15. Gets asked to play by others.
16. Good at running.
17. Stays overnight at friends.
18. Good at adding.
19. Others sit next to you.
20. Good at jumping rope.