REJECTION SENSITIVITY IN EARLY ADOLESCENCE

by

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Abstract

Repeated rejection experiences may encourage a hypersensitivity to rejection stimuli and cues, defined as rejection sensitivity (RS): a dispositional pattern of responding in relationships with defensive expectations of rejection (Downey et al., 1998). Rejection sensitive youth perceive signs of rejection in situations others would consider neutral or ambiguous. Hypersensitivity to social rejection increases anxiety in social interactions where rejection is possible and leads to withdrawal, feelings of loneliness, social anxiety (SA), and depression. RS therefore can be considered a mechanism to explain the development of internalizing disorders such as SA. SA youth are also hypersensitive to cues of rejection, and tend to withdraw from their peer groups to avoid possible rejection, which leads to loneliness, depression, interpersonal problems, and increased SA (Sameroff & MacKenzie, 2003). Previous research reviewed the impact of RS on youth’s social and emotional wellbeing and have identified SA as a potential outcome of RS (Bowker et al., 2011, Marston et al., 2010, McDonald et al., 2010). There is limited research investigating the bidirectional relationship between RS-Anxiety and SA. Self-report data from grade 6 and 7 students (n=128) at a large, urban school district were collected. The goal of this research study was to 1) identify the relationship between RS-anxiety and SA, 2) determine if there are gender differences on the RS-Anxiety, and SA measures 3) investigate whether emotional symptoms influenced the relationship between RS-Anxiety and SA and 3) determine whether RS-Anxiety and SA predict peer problems in youth. Analyses performed include a bivariate correlational analysis, two-tailed independent samples t-test, a mediation analysis, and a hierarchical multiple regression. Results from the analyses revealed that there is a positive correlation between RS-Anxiety and SA, and emotional symptoms significantly mediated that
relationship. SA also significantly predicted peer problems in RS-Anxious youth. However, no
gender difference was found on the SA or RS-Anxiety measures.
Preface

This research received ethics approval from the UBC Behavioural Research Ethics Board approval (BREB), H11-01077, and Catholic Independent Schools of the Vancouver Archdiocese. The study idea was originally developed by Dr. Lynn Miller (UBC Counselling Psychology) and I later contributed to development of the topic. I was responsible for participant recruitment, data collection, entering data, data analysis, and final manuscript write-up.
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Chapter 1: Introduction

As peer and romantic relationships take on greater significance in adolescence, sensitivity to social rejection experiences also increases (Berndt, Hawkins, & Hoyle, 1986; Hardy, Bukowski, & Sippola, 2002; Rubin, Bukowski, & Parker, 2006; Rubin et al., 2004; Wargo Aikens, Bierman, & Parker, 2005). Social rejection experiences can lead to a diminished sense of well-being for youth, disrupt their social and emotional functioning, and impede their ability to function interpersonally with peers and teachers (Downey & Feldman, 1996; Downey, Lebolt, Rincon, & Freitas, 1998; Downey, Mougios, Ayduk, London & Shoda, 2004; Feldman & Downey, 1994; Marston, Hare, & Allen, 2010). The association between peer rejection experiences, and its effect and contribution to psychological and emotional maladjustment in early adolescence (10-14 years old) has been widely established (Boden, Fergusson, & Horwood, 2007; Bowker, Thomas, Norman, & Spencer, 2011; Downey & Feldman, 1996; Downey et al., 1998; Downey et al., 2004; Levy, Ayduk, & Downey, 2001; London, Downey, Bonica, & Paltin, 2007; Zimmer-Gembeck, Trevaskis, Nesdale, & Downey, 2014). In the literature, early adolescence typically refers to youth between 10-14 years old (Sawyer et al., 2012). For purposes of this research, early adolescents and youth will be used interchangeably.

Repeated rejection experiences have been shown to cause a hypersensitivity to perceiving and overreacting to rejection stimuli and cues (Downey et al., 1998). This hypersensitivity has been defined in the literature as Rejection Sensitivity (RS): a dispositional pattern of responding in relationships with defensive expectations of rejection, which subsequently leads individuals to readily perceive rejection from their interactions (Downey et al., 1998). When faced with rejection cues, including those that are minimal or ambiguous, RS youth will readily perceive intentional rejection, which triggers affective and behavioural overreactions (Downey &
Feldman, 1996; Feldman & Downey, 1994). Downey and Feldman (1996) have referred to these behavioural overreactions as RS-Anger and RS-Anxiety. RS-Anger refers to defensive overreactions such as anger, and hostility. RS-Anxiety refers to defensive overreactions such as dejection, worry, fear and emotional withdrawal. Youth, who fall within the RS-Anxiety category have been the focus of numerous research studies. RS-Anxious youth, in an effort to avoid rejection, withdraw from their peer group; this leads to feelings of loneliness, social anxiety, depression, and interpersonal difficulties with peers and teachers (Downey & Feldman, 1996; Downey et al., 1998; Downey et al., 2004). RS-Anxious youth lack a sense of perceived control in preventing social rejection from occurring and this lack of control and uncertainty triggers negative cognitions and affective responses characteristic of internalizing disorders such as social anxiety (SA) and depression (Ayduk, Downey, & Kim, 2001; Downey et al., 1998; Sandstrom, Cillessen, & Eisenhower, 2003). RS therefore can be considered a mechanism to explain the development of internalizing disorders (Bowker et al., 2011; Bowker, Thomas, Spencer, & Park, 2013; Downey et al., 1998; London et al., 2007; Marston et al., 2010; McDonald, Bowker, Rubin, Laursen, & Duchene, 2010; Park, 2007; Park & Pinkus, 2009; Sandstrom et al., 2003; Zimmer-Gembeck et al., 2014).

A similar hypersensitivity exists in socially anxious youth, such that they focus on negative cues in their social interactions (Baldwin & Main, 2001; Downey et al., 1998; Hirsch & Clark, 2004). Social Anxiety (SA) is defined by the fear of negative evaluation, and avoidance and distress in social situations (La Greca, Dandes, Wick, Shaw & Stone, 1988). Socially anxious youth, similar to RS-Anxious youth, also scan their environment for cues of social rejection, such as social threat words, emotional faces, and memories and expectations of rejection and failure (Baldwin & Main, 2001; Hirsch & Clark, 2004). These cues activate an
affective response including negative self-appraisals such as, “I am a failure”, which leads to
defensive behaviour in social interactions. Socially anxious youth also tend to withdraw from
their peer groups to avoid possible rejection, which in addition to social and emotional sequelae
further increases SA (La Greca & Lopez, 1998; Marston et al., 2010; Sandstrom et al., 2003;
Weeks et al., 2009). SA also increases sensitivity to social rejection cues due to its impact on
cognitive and affective processing (Bowker et al., 2013; Clark & Wells, 1995; Costello, Egger,
& Angold, 2005a, Salmivalli & Isaacs, 2005; Sameroff & MacKenzie, 2003; Shahar, Blatt,
Zuroff, Kuperminc, & Leadbeater, 2004).

A review of the literature shows that there are numerous studies correlating RS-Anxiety
with the development of emotional symptoms such as hostility, loneliness, dejection, and anxiety
(Ayduk et al., 2000; Clark & McManus, 2002; Downey & Feldman, 1996; Feldman & Downey,
1994; Freitas & Downey, 1998; Heinrichs & Hofmann, 2001; Hirsch & Clark, 2004). There are
also several studies that show emotional symptoms produced by RS-Anxiety may lead to the
development of internalizing disorders, such as SA and depression (Bowker et al., 2011, Bowker
et al., 2013, Marston et al., 2010, McDonald et al., 2010). The literature suggests that through
the development of these emotional symptoms, RS-Anxiety increases sensitivity for the
development of SA. Research has also shown that SA leads to the development of a host of
emotional symptoms such distress and anxiety for social situations, but there is less research
showing whether SA leads to an increased sensitivity for rejection (La Greca & Lopez, 1998;
Marston et al., 2010; Sandstrom et al., 2003; Weeks et al., 2009). The focus of this research
study is to explore the relationship between RS-Anxiety and SA and determine whether SA also
leads to the development of RS-Anxiety.

Statement of the Problem
Previous research has examined the impact of RS on youth’s social and emotional wellbeing, and has identified internalizing disorders such as SA as a potential outcome of RS (Bowker et al., 2011, Bowker et al., 2013, Marston et al., 2010, McDonald et al., 2010; Sandstrom et al., 2003). There is limited research investigating the bidirectional relationship between RS-Anxiety and SA. There is some research examining SA as an outcome of RS and more limited research looking at RS-Anxiety as an outcome of SA. The goal of this study is to explore the reciprocal relationship between RS-Anxiety and SA in a community-recruited early adolescent population.

There is growing literature to support that RS is a risk factor for psychological adjustment difficulties in early adolescence (e.g., Downey et al., 1998; London et al., 2007; McDonald et al., 2010; Sandstrom et al., 2003), as there is a heightened fear for negative evaluation, and rejection during this time (Weems & Costa, 2005; Westenberg, Gullone, Bokhorst, Heyne, & King, 2007). Early adolescents aged 10-14 years old experience increased sensitivity to social rejection in this age group because both peer and romantic relationships begin to take on greater importance in their lives (Berndt et al., 1986; Hardy et al., 2002; Rubin et al., 2006; Rubin et al., 2004; Wargo Aikens et al., 2005). Youth want to be accepted and liked by their peers, and so they become more sensitive to social cues from their peers that suggest disapproval or rejection. Early adolescence is also a sensitive developmental period for the onset of SA (Berndt et al., 1986; Fisher et al., 2011; Hardy et al., 2002; Kessler, Berglund, Demler, Jin, Merikangas, & Walters, 2005; Paus, Giedd, & Keshavan, 2008; Rubin et al., 2006; Rubin et al., 2004; Sawyer et al., 2012; Steinberg et al., 2006; Wargo Aikins et al., 2005). The mean age of onset of SA according to epidemiological studies is between 10 and 16.6 years old (Degonda & Angst, 1993; Faravelli et al., 2000; Kessler et al., 2005; Merikangas, 2005). Onset of mental health disorders in early
adolescence is also connected to the development of more severe and disabling disorders (Andersen & Teicher, 2008). Research focused on mental health challenges in early adolescence is therefore imperative because the consequences of early onset, extends into adulthood in more severe and disabling ways.

Research on RS often looks at individuals going through a transition period. Transition periods are times of social disequilibrium where friendship stability is disrupted, such as during the transition to junior high or high school (Berndt et al., 1986; Hardy et al., 2002; Wargo Aikins et al., 2005). Youth are thus more sensitive to possible rejection from new peer groups (Berndt et al., 1986; Hardy et al., 2002; Rubin et al., 2004; Steinberg et al., 2006; Wargo Aikins et al., 2005), and are exposed to new peers who may behave differently towards them (Dweck, 1999; Eccles et al., 1993; Graham & Juvonen, 2002). This study was conducted with youth in a relatively stable education environment, as the sample was collected from schools which enrolled kindergarten to grade eight students, thus minimizing extraneous factors that could affect the students’ sensitivity to peer rejection during a transition period.

One reason there is a need to learn more about RS is because research has suggested RS is a risk factor for psychological adjustment difficulties in early adolescence (Evans, 2001; Rimm-Kaufman & Kagan, 2005; Marston et al., 2010; Weeks, Coplan, & Kingsbury, 2009). Rejection-sensitive youth are often described as shy and anxious, and become “invisible” to teachers. RS can therefore have negative implications on youth’s academic and social success, particularly in terms of receiving support for both academic and social challenges in school (Evans, 2001; La Greca & Lopez, 1998; Marston et al., 2010; Sandstrom et al., 2003; Rimm-Kaufman & Kagan, 2005; Weeks et al., 2009). Rejection-sensitive youth also lack positive peer interactions and thus lack feelings of competency in their social skills and peer relationships (La
Social competence is an essential skill for healthy adult functioning (Ayduk, Downey, & Kim, 2001; Downey et al., 1998; La Greca & Lopez, 1998; Marston et al., 2010; Sandstrom et al., 2003). There are also long-term consequences of RS which include interpersonal issues, difficulty finding or maintaining work (Downey et al., 1998; Sandstrom et al., 2003; Weeks et al., 2009), interference with the normal development and maturity of emotion regulation skills such as coping, (Ayduk et al., 2000; Lawson, & Quinn, 2013), and greater odds of developing chronic depression and anxiety (Downey et al., 1998; Sandstrom et al., 2003; Weeks et al., 2009).

It is clear that RS and anxiety in adolescence can have significant and lasting impacts on social, emotional and occupational functioning. There is a lack of research investigating the relationship between RS-Anxiety and SA. The goal of this research was to learn more about the relationship and determine whether it is mediated by emotional symptoms. This information can be helpful in identifying at risk individuals at both ends of the spectrum, rejection-sensitive, and socially anxious. If the research shows a strong indication of a bidirectional relationship, future research can then explore the causality of this relationship, particularly since there are many similarities between these two constructs.

In addition, the knowledge gained can be useful for counsellors working with an adolescent population, as well as educators in terms of identifying struggling youth. Identifying these early adolescents is a step towards providing sensitive youth with support and treatment, in hopes to reduce and prevent these issues from continuing into adulthood. Increased knowledge about this population may also help to teach parents and educators ways to recognize these youth when they are in distress. Canadian led research may also find important differences among our population that will add to the current knowledge on RS. Canadian research may also add to our
knowledge about early adolescents in Canada and the issues they face with regard to peer rejection and social anxiety. This finding stresses the importance of gathering meaningful data about adolescent thinking and behaviour across cultures in order to understand both the cultural-specific and universal ways in which youth experience being rejected by their peers. In summary, research examining the relationship between RS and SA will provide knowledge about the challenges youth face in their peer relationships, and also how mental health challenges such as SA impact these relationships. This knowledge can be used as a stepping stone to further research in this area within a Canadian context.

**Purpose and Research Questions**

The purpose of this study was to investigate the relationship between RS-Anxiety and SA in a community-recruited adolescent population using a survey method. More specifically, the purpose of this study was to examine a) if a bidirectional relationship exists between RS-Anxiety and SA in a community sample of grade six and seven youth and b) if emotional symptoms mediate the relationship between RS-Anxiety and SA. This study will also investigate c) if RS-Anxiety and SA predict peer problems in school. RS-Anxiety and SA will serve as the independent (or predictor) variables and emotional symptoms will be the mediator variable. This study will address the following research questions in a community sample of grade six and seven youth:

1) Does a relationship exist between RS-Anxiety and SA? It is hypothesized that higher levels of RS-Anxiety will be predictive of higher levels of SA symptoms.

2) Is there a gender difference on scores of RS-Anxiety and SA? It is hypothesized that both RS-Anxiety and SA will show a gender difference, with females scoring higher on both measures.
3) Do emotional symptoms influence the relationship between RS-Anxiety and Social Anxiety in youth? It is hypothesized that emotional symptoms will significantly mediate the relationship between RS-Anxiety and Social Anxiety. More specifically, it is hypothesized that higher levels of emotional symptoms will strengthen the relationship between RS-Anxiety and SA.

4) What is the relationship between Social Anxiety symptoms and peer problems in RS-Anxiety youth? It is hypothesized that peer problems will increase as SA increases, beyond peer problems associated with RS-Anxiety.

The next several chapters will provide a review of the literature on RS and SA (Chapter 2), a description of the research methods (Chapter 3) and study results (Chapter 4). Lastly, this paper will conclude with a discussion of the research findings (Chapter 5) including limitations, delimitations, and recommendations for future research.
Chapter 2: Literature Review

This section will begin with an overview of the construct of Rejection Sensitivity (RS), and a presentation of the literature. The following section will present a definition of Social Anxiety Disorder (SA), and then a discussion on the overlap between SA and RS-Anxiety. This review will then discuss in more detail the relationship between SA and RS-Anxiety in terms of the hypothesized link that mediates this relationship: emotional symptoms.

Rejection Sensitivity

Background.

RS is a disposition in which people anxiously expect, readily perceive, and intensely react to rejection (Downey & Feldman, 1996; Downey et al., 1998; Downey et al., 2004; Feldman & Downey, 1994). People respond to social rejection in different ways (Downey et al., 1998). Some are objective and calm in response to rejection cues, while others are impervious to potential rejection cues, unless the cues directly threaten their social status (Downey et al., 1998; Nezlek, Kowalski, Leary, Blevins, & Holgate, 1997). Others are hypersensitive to even minimal rejection cues and tend to respond with quite strong emotions and more varied and extreme behaviours that undermine their social relationships; this response cycle is characteristic of rejection sensitive people (Downey et al., 1998; Nezlek et al., 1997). Adolescents high in RS are more likely than their peers to perceive signs of rejection in situations others would consider neutral or ambiguous (Downey et al., 1998). Consequently, RS adolescents are at risk of reacting to perceived rejection in ways that their peers would deem to be inappropriate. In research with early adolescents, Downey et al. (1998) found that the two most common affective reactions to potential rejection reported were anxiety and anger. Thus, adolescents with angry expectations of rejection are more likely to respond with anger and hostility to a perceived
Youth characterized by anxious expectations of rejection are more likely to internalize the perceived rejection, feel socially hopeless, become depressed, and eventually withdraw from social interaction. Research suggests that RS becomes automatically activated in response to rejection related cues in the environment in order to prepare youth to defend against the threat of rejection. Thus, these angry and anxious emotions are defensively oriented, and allow the early adolescents to protect him or herself from the possible threat of rejection.

One study showed that exposing high RS individuals to images that convey rejection themes (i.e., paintings depicting people who appear socially disconnected or lonely) or words associated with the concept of rejection (e.g., abandon, betray, exclude) leads to the activation of the defensively motivated RS schema and the negative thoughts, feelings, and physiological responses associated with it (Downey et al., 2004). This study described the personal response style of RS as a Defensive Motivational System (DMS; Downey et al., 2004). DMS was defined as a psychological response that scans and detects threat-relevant cues in social situations and facilitates automatic responses once danger, such as potential peer rejection, is detected. These automatic responses include fight or flight type behaviours (Lang, Davis, & Ohman, 2000). The researchers hypothesized that the DMS is activated automatically in people who are highly rejection-sensitive and are exposed to rejection cues and stimuli (Downey et al., 2004). Downey and colleagues (2004) used a startle probe paradigm with undergraduate males and females ($n = 43$) at Columbia University. The startle probe paradigm is considered a highly reliable indicator of DMS activation (Bradley, Cuthbert, & Lang, 1990; Lang, Bradley, & Cuthbert, 1990). The startle consists of a loud burst of white noise that coincides with the presentation of a pleasant or unpleasant pictorial stimulus (Downey et al., 2004). In this study, the stimulus was artwork illustrating either rejecting or accepting themes. The magnitude of the person’s eyeblink
response was then measured (Downey et al., 2004); the eyeblink is called an electromyographic (EMG) response (Lang et al., 1990). The EMG is considered to be the first, and quickest, element in the startle reflex; EMG is also stable and thus can be measured (Lang et al., 1990).

Results showed that following a loud noise, rejection-sensitive undergraduates who scored high on the RS measure showed a faster eyeblink compared to low rejection-sensitive undergrads, when viewing both pleasant and unpleasant pictures (Downey et al., 2004). The same group of undergrads also showed a faster eyeblink response compared to undergrads low in RS. These results indicate that the highly rejection-sensitive undergrads were more strongly attuned to rejecting cues than undergrads low in RS. Downey and colleagues (2004) concluded that the DMS system has implications on forming and maintaining relationships. The DMS system in highly rejection-sensitive people is likely to become activated in response to minimal threat cues, causing them to act defensively (i.e., becoming angry or behaving anxiously). This defensive behaviour is often at the expense of the person’s goals, such as making friends and positively engaging with peers.

Another study looked at whether individual differences in trait self-esteem moderated reactions to interpersonal rejection (Nezlek et al., 1997). Low trait self-esteem is developed in similar ways to RS: repeated exposure to rejection experiences, and feelings of being ignored by important people in one’s life. It is unclear however, whether self-esteem is associated with a hypersensitivity to detect rejection cues. The researchers investigated whether trait self-esteem moderated reactions to social inclusion or exclusion by group members in a laboratory group. Results indicate that self-esteem did moderate reactions to social inclusion/exclusion. Low self-esteem was associated with perceiving rejection, more than acceptance compared to high self-esteem people ($t(146) = 3.86, p < .01$). In response to feedback from group members on
inclusion or exclusion status, people with high self-esteem were unaffected by inclusion or exclusion feedback, and their post self-esteem ratings showed no change. People characterized by low self-esteem were affected by the exclusion feedback, and showed lower self-esteem in response \( t(146) = 3.73, p < .01 \). This study shows that people characterized by high self-esteem appear to cognitively process exclusion or rejection information differently from people with low self-esteem.

One research group has been investigating the social antecedents of peer rejection in moderating behaviours of RS (Wang, McDonald, Rubin, & Laursen, 2012). People who place a high value on social relationships (friendships, familial, romantic) are said to be at a higher risk for experiencing negative emotions when these relationships are threatened. The authors hypothesized that peer rejection may be most associated with RS in adolescents who place a high value on their social relationships (Wang et al., 2012). Specifically, relational valuation, the degree to which a person places value on relationships with others, was hypothesized to moderate the relationship between peer rejection in both grade eight and nine students. The researchers conducted a path analysis with grade eight students \( n = 294 \) making the transition to grade nine. The path model that was developed accounted for 9.5% of the total variance in RS. The model included peer rejection, relational valuation, and the interaction between peer rejection and relational valuation. Students completed measures on relational valuation and peer rejection during grade eight. In grade nine they completed the Children’s Rejection Sensitivity Questionnaire (CRSQ) (Downey et al., 1998). Results showed that peer rejection was significantly associated with scores of RS \( p < .05 \); Wang et al., 2012). For adolescents who scored high on relational valuation, a significant correlation was found between peer rejection and RS, \( \beta = 19.94, t = 2.51, p < .01 \) compared to those who scored low on relational valuation.
(β = 3.90, t = .74, ns). Thus, cognitive moderators may be important components of understanding the relationship between negative experience (i.e., peer rejection), and adolescent adjustment (i.e., rejection sensitivity).

In a recent study, Romero-Canyas and Downey (2013) examined how university students (n = 129, M_age = 20.70) low in RS were more optimistic when inferring the kind of impression they made on peers. The researchers were interested in investigating how people respond to being evaluated by potential romantic partners. Participants who responded to flyers for an online dating study were asked to write a biographical sketch that they would be giving to someone who was a potential dating partner. The video depicted this dating partner, a confederate, reading and reacting to the participant’s biographical sketch. Participants low in RS more often underestimated any negativity towards them in the videotape, γ = -.19, t(122) = -2.49, p ≤ .01, Cohen’s d = .26, compared with people high in RS, γ = .03, t(122) = .43, p ≤ .67, Cohen’s d = .04. People high in RS were more likely to perceive rejection wrongly when the response was neutral or ambiguous. It is interesting to note that the low RS people did not show this underestimation of negativity when viewing videotapes of people responding to someone else’s biographical sketch. This study provides evidence to support the hypothesis that rejection-sensitive individuals are more likely to pay attention to rejection related cues in their environment compared with their non RS peers.

Social Anxiety Disorder

Background.

Social Anxiety disorder, also known as Social Phobia, is described as a marked and persistent fear of social situations, when a person is with unfamiliar people, or is exposed to potential scrutiny by others (American Psychiatric Association, 2013). There is a concern that
others will think badly of them and a fear of doing something embarrassing or humiliating. Exposure to a feared situation will almost always trigger anxiety and as a result, in response the socially anxious individual will avoid the situation or endure it with intense distress and anxiety. Such feared situations can include talking to small groups of people or an individual, speaking in front of an audience, or eating and drinking in public. The avoidance, and/or anxiety and distress experiences in response to the feared situation, significantly interferes with a person’s normal functioning, such as challenges in his/her routine, social activities, and interpersonal relationships.

Onset of SA occurs most often in early adolescence, a critical period of time for social skill development (Wittchen & Fehm, 2003). It is more rare for SA to develop in later adulthood. The course of SA is described as chronic and lifelong, as symptoms of the disorder will fluctuate with stress, and ongoing pressures. The disorder may remit for a period of time (Kasper, 1998). The National Comorbidity Survey-Adolescent supplement (NCS-A) reports that anxiety disorders are the most common mental health problems experienced by adolescents (ages 13-18 years), with lifetime prevalence rates of 31.9%, and rates of Social Anxiety reported as 9.1% (Merikangas, 2010). Prevalence rates of severe Social Anxiety were reported as 1.3% (Merikangas, 2010). Across studies, prevalence rates of social anxiety range from 3-13% (APA, 2013; Government of Canada, 2006; Kessler, 2003; Kessler et al., 2005). Canadian rates of social anxiety have also been reported, and range from 8-13% (Government of Canada, 2006, Stein & Kein, 2000). Prevalence rates seem to increase from late childhood to late adolescence, and both epidemiological and clinical studies report a relatively high rate in adolescence (e.g., Kashdan & Herbert, 2001; Ollendick, King, & Yule, 1994). A possible reason for this increase is the heightened fear of negative evaluation in early adolescence, a key component of SA.
Adolescents who experience SA often experience social-cognitive deficits and socioemotional adjustment problems (Kasper, 1998; Wittchen and Beloch, 1996; Schneier et al., 1994; Ross, 1993). For example, SA youth often receive fewer supports academically and socially from their peer group. In cases where youth do have a support network they have a tendency to perceive this network as less supportive than their non-socially anxious counterparts (Kingery, Erdley, Marshall, Whitaker, & Reuter, 2010; La Greca & Lopez, 1998). As a result of this perceived or real lack of supports, these youth often underachieve academically and have difficulty finding and maintaining work. Also, compared to their non-SA counterparts, SA adolescents report more depression, loneliness, and less satisfaction with their interpersonal relationships (Kingery, Erdley, Marshall, Whitaker, & Reuter, 2010; La Greca & Lopez, 1998). SA adolescents often have smaller social networks, fewer close friends, and fewer romantic relationships (Rao et al., 2007), and report greater difficulty in peer relationships relative to their non-SA peers such as deficits in social skills and conflict resolution (Epkins & Heckler, 2011; Kingery et al., 2010). Furthermore, in their social interactions they tend to elicit less positive responses from others (La Greca & Lopez, 1998), and are treated more negatively by peers (Blote, Duvekot, Schalk, Tuinenburg, & Westenberg, 2010; Blote, Kint, Miers & Westenberg, 2009). People with SA are described as overly self-conscious, less likable, less sympathetic, and less easy to talk to by their friends and families (La Greca & Lopez, 1998).

Socially anxious youth, and those prone to the development of SA, experience challenges planning and executing complex, socially constructive behaviours, leading to increased negative social experiences (Eisenberg, Shepard, Fabes, Murphy, & Guthrie 1998; Ollendick & Hirshfeld-
Repeated negative social experiences reinforce social fears, and increase social withdrawal that prevents youth from experiences that allow opportunities for learning adaptive social skills such as constructive coping strategies (Eisenberg et al., 1998). Withdrawal also then increases the fear for any social situation, and this avoidance perpetuates the cycle (Aune & Stiles, 2009; Eisenberg et al., 1998; Ollendick & Hirshfeld-Becker, 2002; Rapee & Heimberg, 1997). This avoidance can lead to distorted thinking that causes a person to hypothesize reasons to fear and avoid these social situations.

In developmental models of SA, social withdrawal plays a key role. For example, Ollendick and Hirshfeld-Becker (2002) presented a model in which behavior-inhibited children start showing withdrawal from unfamiliar peers in early elementary school years. With increasing age, these children are neglected or rejected by peers. Social withdrawal increases when youth are excluded or rejected by their peers (Oh et al., 2008). At the same time, with increasing age and higher developed cognitive abilities, youth begin to interpret their peer’s behavior and their own role in it, resulting in low social self-esteem and feelings of anxiety and depression.

**Relationship Between Rejection Sensitivity and Social Anxiety**

There is overlap between symptoms of SA and RS-Anxiety. In SA there is increased withdrawal from social situations, which increases the fear for avoided situations (Aune & Stiles, 2009). This avoidance leads to increased SA as well as feelings of loneliness, dejection, and depression. RS-adolescents, who withdraw from their peers as an effort to avoid rejection experience internalizing problems (Melfsen & Florin, 2002; Rimm-Kaufman & Kagan, 2005; Marston et al., 2010; Weeks et al., 2009). Internalizing problems include emotional symptoms consistent with anxiety and depressive disorders such as loneliness, feeling socially hopeless, and
self-consciousness (Melfsen & Florin, 2002; Rimm-Kaufman & Kagan, 2005; Marston et al., 2010; Weeks et al., 2009). Research also suggests that SA symptoms may lead to increased expectations of rejection in interpersonal situations, and have linked anxious expectations of RS with SA (Harper et al., 2006; Feldman & Downey, 1994; London et al., 2007; McDonald et al., 2010).

Both rejection-sensitive and SA youth often withdraw from their peer group to escape potential rejection, which causes emotional symptoms (loneliness, dejection, anxiety) that often perpetuate the problem, either SA or RS-Anxiety. This relationship between RS-Anxiety and SA becomes clearer when reviewing research examining the impact of social supports on internalizing problems. Research has found that supportive relationships with either parents or friends, moderates the relationship between RS-Anxiety and SA in older adolescents (aged 14 and older) (McDonald et al., 2010). This research suggests that supportive and positive friendships help to prevent internalizing problems such as anxiety and depression. Social relationships are said to provide support and validation. Youth however, who do not have supportive friendships, had higher rates of both anxiety and depression. In previous research it has also been reported that supportive relationships have the capacity to change a person’s expectations for rejection (Downey & Feldman, 1996). This research provides evidence that social supports are missing in youth suffering with SA, or high in RS-Anxiety, as youth with social supports had lower levels on both RS-Anxiety and SA measures. This research also highlights the importance of social supports as a preventative measure against internalizing problems.

Another study found that RS was significantly related to three subtypes of SA, which include the fear of negative evaluation, social avoidance for novel situations, and social
avoidance for general situations (Bowker et al., 2011). This study also looked at the impact of social supports on a youth’s RS-Anxiety and SA scores. The results of the study found that having a best friend mitigated scores on RS-Anxiety, and SA. More specifically, youth who reported having at least one mutual best friend were found to have lower scores on the negative evaluation scale for SA. Negative evaluation in SA is what causes youth to avoid social situations because of a fear they will be judged and others will think badly of them. This research adds to the evidence suggesting that mutual and supportive friendships are preventative against SA and RS-Anxiety.

Lastly, RS-Anxiety and SA share commonalities in terms of their affect on cognitive and affective processing. Research on supportive friendship suggests that having mutual best friends can alleviate the social evaluative concerns and negative evaluation worries associated with RS (Cavanaugh & Buehler, 2015). According to peer relations theory, mutual best friends encourage feelings of acceptance, belonging, and safety (Furman & Buhrmester, 1992). These positive feelings help to promote positive thoughts and feelings about the self in rejection-sensitive adolescents. This study also suggested that rejection concerns are likely to be heightened, and confirmed when youth fail to form mutual friends. The findings relate to research being conducted on SA looking at peer relationships. One study found that social support in early adolescence (means age = 11.86, SD = .69) was related to decreased feelings of loneliness ($\beta = -.16, p = .004$) and social anxiety ($\beta = -.14, p = .017$). This finding was also found to be stronger for boys than for girls, suggesting a possible gender difference (Cavanaugh & Buehler, 2015). The results of the literature provide support that RS-Anxiety and SA cause emotional problems such as withdrawal, loneliness, and dejection, which lead to increased sensitivity to rejection, and social anxiety, suggesting a bidirectional relationship.
Gender

There are gender differences for prevalence of internalizing disorders in adolescence. This literature shows that females are more likely than males to experience SA in early adolescence, with a rate of 2 to 1 for females (Essau, Conradt, & Petermann, 1999; Wittchen, Stein, & Kessler, 1999). Girls more often report SA symptoms than do boys, and SA is more strongly linked to girls’ ability to function socially compared to boys (La Greca & Lopez, 1998; Olivares, García-López, Hidalgo, Turner, & Beidel, 1999; Storch et al., 2004; Walters, & Inderbitzen-Nolan, 2000). Adolescents with higher levels of SA also reported poorer social functioning including less support from classmates and less social acceptance. Girls specifically with higher levels of SA reported fewer friendships and less intimacy, companionship, and support from close friendships.

Some studies have reported that gender differences do not moderate RS, and suggest that there are similar mental health consequences from peer rejection on boys and girls (Downey, et al., 1998; London et al., 2007; McLachlan, Zimmer-Gembeck, & McGregor, 2010). Other studies have reported that gender does play a role in RS behaviours, particularly in terms of the short and long term consequences of RS, namely internalizing problems (La Greca & Lopez, 1998; Lewinsohn, Gotlib, Lewinsohn, Seeley, & Allen, 1998; Nolen-Hoeksema & Girgs, 1994).

In summary, this chapter provided a brief review of the literature on RS-Anxiety, SA, as well as a review of research supporting the relationship between RS-Anxiety and SA. The next chapter will describe the methods of this research study including a description of the research design and participants. Chapter 4 will also explain the procedure used to recruit participants, and carry out data collection, as well as a description of the instruments. The next chapter will then conclude with a review on the data analyses conducted.
Chapter 3: Research Design and Method

Type of Research Design

A review of the literature shows that Rejection Sensitivity (RS) causes internalizing problems such as Social Anxiety (SA) (Ayduk et al., 2000; Clark & McManus, 2002; Downey & Feldman, 1996; Feldman & Downey, 1994; Freitas & Downey, 1998; Heinrichs & Hofmann, 2001; Hirsch & Clark, 2004). This study seeks to determine whether there is a bidirectional relationship between RS-Anxiety and SA and whether it is mediated by emotional symptoms. A cross-sectional, survey research design was used to investigate the proposed research questions. This study was conducted in a community sample of early adolescents enrolled in elementary schools in Western Canada.

Participants and rationale.

Participants included 128 grade six and seven students, ages 10-12 years, from four non-secular schools in a large, urban western city in Canada. Exclusion criteria included a lack of parental consent or child assent, and a reading and comprehension level that would prevent students from understanding and be able to respond to the study questions.

The rationale for recruiting grade six and seven students was to minimize extraneous factors that could affect the students’ sensitivity to peer rejection. During the transition to a new social setting (e.g., transition from elementary school to middle school) friendship stability can be disrupted (Berndt et al., 1986; Hardy et al., 2002; Wargo Aikins et al., 2005) and youth are more sensitive to rejection from new peer groups (Berndt et al., 1986; Hardy et al., 2002; Rubin et al., 2004; Steinberg et al., 2006; Wargo Aikins et al., 2005). In grades six and seven, youth experience less peer rejection concerns compared to what happens during a transition period such as the transition to grade eight. In the city where these data were collected, grade seven is
the final year of elementary school, after which students enter a separate school for high school.

By age 10, youth are sufficiently aware of their emotional states so as to provide valid self-reports for psychiatric assessments (Edelbrock, Costello, Dulcan, Kalas, & Conover, 1985; Lonigan et al., 2003). Research indicates that because internalizing problems are experienced as internal stress, they are subjective perceptions, and are best identified in self-reports versus parent and teacher reports (Michael & Merrell, 1998; Smith, 2007). Additionally, external observers may underestimate the severity of a youth’s emotional experience, and this evaluation may also be impacted by observer bias.

**Procedure**

Upon ethical approval from the University Ethics Board, and the non-secular school board in this study, five elementary school principals were contacted by email, with an invitation to participate in the proposed study. Schools were chosen based on the size of the grade six and seven classrooms, and thus the schools with the largest enrollments were chosen. Of the first five schools contacted in September 2014, one school did not return the invitation email or subsequent phone call. The desired sample size was reached with the first four schools, and no schools were further contacted. Data on socioeconomic status on the participating schools were not collected.

Principals of each school were emailed a letter (see Appendix A) outlining the study, and the proposed timelines. Two weeks later, each principal was contacted by phone, and a meeting was scheduled to discuss the research project in person. At the meeting, principals were given information on the purpose of the study, the details of the students’ and teachers’ participation, as well as the timelines for the study (consent distribution, and data collection), and principals were also provided copies of the following documents to review: (a) parental consent form (see
Appendix B); (b) student assent form (see Appendix C); (c) demographics questionnaire (see Appendix D); (d) Children’s Rejection Sensitivity Questionnaire (CRSQ, see Appendix E); (e) Strengths and Difficulties Questionnaire (SDQ, see Appendix F); (f) Social Phobia and Anxiety Inventory for Children (SPAI-C, see Appendix G). Principals were then invited to ask questions, and they were subsequently answered. School principals who provided consent for their school to participate then contacted teachers from all grade six and seven classrooms in their school to participate. Parental consent forms and student assent forms were distributed to students in classrooms of participating teachers during class time by the researcher. Participation rates were collected for this study, as determined by percentage of parent consents returned for each school, and are as follows: 42.6%, 46.2%, 45.5%, and 25% (mean participation = 38.3%). No effort was made to collect data on non-responders. Students were also given instructions on the purpose of the study, requirements, and asked to return completed consent forms to their teacher the following week.

Students completed the survey questions in their classroom, and were instructed to leave empty desks in between them and other students in order to ensure privacy and confidentiality. Students were instructed to keep their eyes on their own papers, and treat this study as if it were a school test. Students were also instructed to not write their name on any of the surveys in order to maintain confidentiality, and were instructed to keep their answers private and not to discuss them after they were completed. Students were instructed to raise their hand if they had questions. Data collection took approximately 45 minutes to complete, with some students finishing within 30 minutes. The surveys were completed in the following order, 1) Demographics questionnaire, 2) CRSQ, 3) SPAI-C, 4) SDQ. In all four schools the first question of the CRSQ was read aloud to ensure that students understood the questionnaire format. When
students completed their surveys, they were instructed to check to make sure they completed each question and respond to any questions they left blank. Once the students completed their surveys they were instructed to read quietly at their desks.

The consent and assent forms, and the complete self-report questionnaires are stored at the University of British Columbia (UBC) in a locked filing cabinet. Data were coded with a participant number so as to avoid identifying information on the questionnaires. The rationale for using self-report data was that it is a time efficient and cost-effective way to gather a large amount of data. In addition, working with youth during school hours it was preferable to administer scales that would not be too lengthy or take up too much of their class time.

**Instruments, Measures, and Variables**

**Demographic questionnaire.**

Students were asked to complete a brief demographic questionnaire (see Appendix D). This questionnaire was developed by the researcher and approved by BREB.

**Children’s rejection sensitivity questionnaire.**

RS was assessed using the CRSQ (Downey et al., 1998; see Appendix E), a self-report questionnaire publicly available online. The CRSQ was developed and validated by Downey and colleagues (1998) using open-ended interviews with 387 students (197 female, and 190 male) in grades five through seven. Through these interviews, the researchers identified culturally and developmentally relevant situations in which rejection was a concern for children. These interviews allowed the researchers to then develop a list of the most stressful, and upsetting interpersonal situations for youth. The most commonly identified stressful interactions were those between peers and teachers, and became the basis for the development of the CRSQ’s items. The CRSQ consists of twelve scenarios that describe hypothetical, interpersonal
situations that occur between youth and their peers and teachers, and takes approximately 15 minutes to complete. The CRSQ was limited to peer and teacher interactions because school-aged youth are most likely to be exposed to interaction with their peers and teachers on a daily basis. Students are asked to rate their level of concern and expectation of rejection for each of the twelve vignettes. A sample peer vignette is: “You wish you had someone to walk home with. You look up and see in front of you another kid from class…As you rush to catch up, you wonder if he/she will want to talk to you”. Students answer three questions in response to the vignette using a 6-point Likert-type scale. First students are asked, “How NERVOUS would you feel, RIGHT THEN about whether or not he/she will want to talk to you?” using a six-point Likert-type scale ranging from 1 “not nervous” to 6 “very, very nervous”. This question assesses the student’s level of anticipatory anxiety towards this potential rejection. The second question asks, “How MAD would you feel, RIGHT THEN, about whether or not he/she will want to talk to you?” using a similar six-point Likert-type scale ranging from 1 “not mad” to 6 “very, very mad”. This question assesses the student’s level of anticipatory anger towards this potential rejection. Then the student is asked to rate how much he expects to be rejected, “Do you think he/she will want to talk to you”, on a scale ranging from 1 “no” to 6 “yes”. In pilot testing, Downey and colleagues (1998) showed that the ordering of the affect questions (e.g., asking about anxiety before anger), had no influence on responses to these affect questions or to the expectation questions.

The CRSQ operationalizes RS as the extent to which youth 1) anxiously or angrily expect rejection and 2) feels rejected following an ambiguously intentioned rejection (Downey et al., 1998). There are two subscales: anxious expectations of rejection (Anxious RS), and angry expectations of rejection (Angry RS). The Anxious Expectations subscale is scored by
multiplying the degree of anxiety/nervousness by the expected likelihood of rejection and then averaging across all twelve vignettes (Downey et al., 1998). A similar procedure is used to generate the Angry Expectations subscale score; multiplying the degree of anger by the expected likelihood of rejection and then averaging across all twelve scenarios. Scores on each subscale could range from 1 (low) to 36 (high) and the mean and standard deviations for the Anxious Expectations subscale are $M = 8.16, SD = 3.91$, and $M = 8.34, SD = 4.26$ for the Angry Expectations subscale (Downey et al., 1998). Downey and colleagues (1998) reported an internal consistency of $\alpha = .79$ for the Angry Expectations subscale and a test-retest reliability of $a = .85$. The authors also took a subset of the original sample, and enrolled participants into a longitudinal study ($n = 218$) that reported a one-year stability of $\alpha = .58$ for Angry RS. In this study, the authors were primarily interested in the youth who responded with angry expectations and so reliability and validity were not reported for the anxious responders (Anxious RS). The CRSQ is found to have a high internal consistency, $\alpha = .91$, and good test-retest reliability, $\alpha = .83$ over 2 weeks, and .77 over 4 months (Downey et al., 1998; Downey, Feldman, & Ayduk, 2000). A principle component analysis provided validity evidence for the CRSQ (Downey et al., 1998). Twelve items loaded onto Angry Expectations and factor analysis of the items assessing an angry reaction to a vignette yielded a one-factor solution. Angry Expectations correlated with attributions of hostile intent of rejection ($r = 0.28$). Angry reaction correlated with ambiguously intentioned rejection ($r = 0.30$). Angry Expectation was negatively related to perceived social competence ($r = -0.26$). Angry Expectation was also negatively correlated with perceived behavioural competence. No components of the CRSQ correlated with perceived physical or cognitive competence.
Strengths and difficulties questionnaire.

The Strengths and Difficulties Questionnaire (SDQ; Goodman, 1999; see Appendix F) was used to screen for mental health problems in youth. It is a brief behavioural screening questionnaire that was developed to measure psychological adjustment (Goodman, 2001). SDQ items were developed from a factor analysis in conjunction with diagnostic concepts of childhood psychiatric disorders from the Diagnostic and Statistical Manual of Mental Disorders (4th ed.) (DSM-IV; American Psychiatric Association, 1994). The SDQ may be used with the general population for screening, clinical assessment, or as an assessment of treatment-outcome. It is also used for clinical, developmental and epidemiological research purposes (Goodman, 2001). The SDQ is publicly available online in over thirty languages.

Three forms of the SDQ exist: a parent and teacher version (for children 3-16 years of age) and a youth self report version (11-16 years of age; Goodman, 1999). The youth self-report version was used in this study, which takes approximately 10 minutes to administer. The SDQ contains 25-items which assess positive and negative attributes of participants. The items are divided among five scales of five items each, which generate scores for emotional symptoms, conduct problems, hyperactivity-inattention, peer problems, and prosocial behaviour. Items on the SDQ are rated on a three-point Likert scale (0 “Not True”, 1 “Somewhat True,” and 2 “Certainly True”). The scores for each of the five scales range from 0 to 10 if all items have been completed. In the case of missing items, if at least three items were completed the score for that scale can be scaled up pro-rata. To obtain a pro-rata score the total score for all non-missing items are calculated and this is divided by the number of completed items and then multiplied by the total number of items (5). For example, a score of 6 based on 3 completed items would be scaled up pro-rata to a score of 10 for 5 items. A total difficulties score is calculated by
summing total scores from all scales minus the prosocial scale. If a score from one of the four scales is missing, the total difficulties score cannot be calculated and is considered missing. Total scale scores range from 0 to 40. Externalizing and internalizing scores are also generated from the SDQ. The conduct and hyperactivity scales can be summed to generate an externalizing scale ranging from 0 to 20. The internalizing scale is generated by the sum of the emotional and peer problems scales and ranges from 0 to 20.

Findings by Goodman and Goodman (2009) indicate that children with higher total difficulty scores on parent, teacher and self-report SDQ have greater psychopathology. The authors suggest that the SDQ can be used as a measure of youth mental health to differentiate between risk groups using a three-band categorization, such as normal (0-15), borderline (16-19), and abnormal (20-40). The authors also suggest that since the SDQ scores reflect genuine differences in mental health, the scores can be used to compare before and after an intervention (Goodman & Goodman, 2009).

The SDQ has excellent psychometrics and its results are comparable to the widely used Child Behavior Checklist (CBCL; Achenbach, 1991), although the SDQ is significantly shorter to complete (Goodman, 1999). The self-report SDQ is as good as the CBCL at detecting conduct and emotional problems and better at detecting inattention and hyperactivity (Goodman & Scott, 1999). The SDQ also discriminates well between community and clinic samples (Goodman, Lamping, & Ploubidis, 2008; Goodman, Meltzer, & Bailey, 1998). Previous research shows that the total difficulties score is a strong psychometric measure of overall mental health problems in youth (Achenbach et al., 2008; Goodman & Goodman 2009; Goodman, 1999; Goodman, Ford, Richards, Gatward, & Meltzer, 2000; Goodman & Scott 1999; Klasen et al., 2000; Mullick & Goodman 2001). Goodman (2001) reported the internal consistency for the parent, teacher and
youth versions for Total Difficulties as $\alpha = 0.82$, 0.87, and 0.80 respectively. Internal reliability coefficients ranged from $r = 0.41$ (Youth version - Peer Problems) to $r = 0.88$ (Teacher version – Hyperactivity-Inattention). Interrater correlations between parent, teacher, and youth versions for Total Difficulties ranged from $r = 0.33$ (teacher x youth) to $r = 0.48$ (parent x youth). The test-retest reliability for Total Difficulties after an interval of 4-6 months is $r = 0.62$. The author cautions, however, that this cannot be considered a valid measure of test-retest reliability, as the interval is too great (Goodman, 2001). The psychological states of children and youth would likely shift during this span of time. The author reported that teachers’ ratings were the most stable ($r = 0.73$), parents ($r = 0.63$), and youth ratings were the least stable ($r = 0.51$). Re-test stability was greatest for Total Difficulties and Hyperactivity-Inattention scores. Total Difficulties coefficients ranged from $r = 0.62$ for youth to $r = 0.80$ for teachers, and Hyperactivity-Inattention coefficients ranged from $r = 0.60$ for youth to $r = 0.82$ for teachers. Muris, Meesters and van den Berg (2003), reported an internal consistency total score of $\alpha = .64$, and a range from .54-.78 for the subscales. The test-retest reliability over two months was reported as $\alpha \geq .70$.

Factor analyses provide evidence for a five-factor structure of the SDQ (Goodman, 2001). Exploratory factor analyses (EFA) also confirm the internalizing and externalizing factor structures in the parent, teacher, and self-report versions (Dickey & Blumberg 2004; Koskelainen, Sourander, & Vauras, 2001; Van Leeuwen, Meerschaert, Bosmans, De Medts, & Braet, 2006). The internalizing and externalizing subscales show good convergent and discriminant validity across informants and with respect to clinical disorder (Goodman et al., 2010). Discriminant validity between the emotional and peer subscales and between the hyperactivity, prosocial, and behavioural subscales is low in low-risk and non-clinical samples.
(Goodman et al., 2010). This information suggests that in low-risk and epidemiologically based samples, the internalizing and externalizing subscales are preferable to the five subscales because they target discrete aspects of youth mental health. In studying high-risk children or when screening for clinical disorders, using the five factor structure seems to add more value when predicting to clinical disorder, as the five subscales show good convergent and discriminant validity.

Validity of the SDQ was also determined by how strongly the various scales were associated with the presence or absence of a psychiatric disorder. Higher SDQ scores were associated with a significant increase in psychiatric risk (odds ratios of approximately fifteen for parent and teacher SDQ scales and approximately six for the youth version scales). Goodman (2001) states that the SDQ has high specificity and negative predictive value but lower sensitivity and positive predictive value.

Social phobia and anxiety inventory.

The Social Phobia and Anxiety Inventory (SPAI-C; Beidel, Turner, & Morris, 1995; See Appendix G) is a 26-item self-report screening measure of SA in youth ages 8-14. The SPAI-C items assess a broad range of anxiety provoking situations, cognitive, behavioural, and physical traits of SA, as well as avoidance behaviours (Beidel, Turner, & Fink, 1996; Beidel et al., 1995). The SPAI-C has been used in both clinical, and educational settings. Items are rated on a 3-point Likert type scale that assesses the frequency of each symptom experienced, 0: “Never, or hardly ever”, 1: “Sometimes”, and 2: “Most of the time, or always”. There are also sub-items for nine of the 26 items which ask the participant to rate their distress level in a particular social situation based on specific characteristics of the interpersonal partner, “boys and girls I know”, “boys and girls I don’t know”, and “adults”. The SPAI-C produces a total overall score and an assessment
of intensity across situations (Beidel et al., 1995). It is a level B test that takes 20-30 minutes to administer and 10 minutes to score. The SPAI-C is at a third grade reading level, and the authors suggest that for younger children, or children with reading difficulties, the administrator read the instructions and items aloud.

Items on the SPAI-C were generated empirically and subjected to a two-stage construction strategy through five studies (Beidel et al., 1995). Total scores can be used for determining degree of SA. The total maximum score is 52, and there is a cutoff of 18. Higher scores on the SPAI-C indicate that a child experiences anxiety with a high frequency in a broad range of social settings. Beidel et al. (1998) found that 83% of youth with an SA diagnosis are identified by the SPAI-C with high scores, indicating high levels of SA across settings. Also, a cutoff score of 18 was found to correctly identify 63% of children with SA (Beidel et al., 1995). The authors point out that if three or more items are omitted, the validity of the test is questionable and total score should not be calculated. The discriminative power of the SPAI-C in children with SA versus those without (controls) is $M = 24.6$ vs $M = 11.5$. So although there are high rates of comorbidity between SA and other anxiety disorders (e.g., GAD, OCD), the SPAI-C can successfully differentiate between youth with SA, and youth with other anxiety disorders (Beidel et al., 1998). The SPAI-C also allows for qualitative scoring by examining the participant’s unique pattern of responses to various types of social situations. The researchers suggest using factor scores to examine whether a child has difficulty in situations defined by a particular factor. These qualitative evaluations can alert the clinician to specific types of interactions that are difficult for the child.

Reliability of the SPAI-C has been reported as $\alpha = .95$ (Beidel et al., 1995), and $\alpha = .92$ (Beidel et al., 1996; Storch, Masia-Warner, Dent, Roberti, & Fisher, 2004). Two-week test-
retest reliability coefficients are $r = .86, p < .001$ (Beidel et al., 1995), and the 10-month test-retest reliability coefficient is $r = .63, p < .01$ (Beidel et al., 1995). External validity showed that SPAI-C scores correlated significantly with the CBCL Internalizing scale (measures behaviour consistent with anxiety) (Achenbach, 1991), $r = .45, p < .001$, but not the Externalizing scale (measures behaviour consistent with ADHD and conduct disorder) $r = .18, p > .05$. SPAI-C scores were correlated with parental observations of fear and social activity (Beidel et al., 1995). Results showed a significant correlation with the internalizing subscale. Lack of significant correlation with externalizing subscale provides a foundation for the SPAI-C’s discriminant validity demonstrating that correlations were specific to anxiety and not just overall psychopathology.

For Concurrent Validity, there was a significant relationship between the SPAI-C and the STAIC Trait (trait anxiety), $r = .50, p < .001$, but not the STAIC State (state anxiety), $r = .13, p > .05$ (Beidel et al., 1995). The moderate correlation between SPAI-C and the Trait subscale is consistent with the established relationship between SA (in youth and adults) and more general anxiety complaints (59% of children with SA also have comorbid GAD, suggesting an overlap between these conditions; Beidel et al., 1995). Therefore the correlation between these two instruments reflects the current clinical relationship among these diagnostic conditions but suggests that these instruments are not assessing the same construct. For Convergent Validity (Beidel et al., 1995), SPAI-C scores compared to daily diary ratings of social distress (5-point Likert scale) and there was a statistically significant relationship $r = .50, p < .025$. Compared to another measure of SA for youth, the Social Anxiety Scale for Adolescents (SAS-A), the SPAI-C is more sensitive (61.5% vs. 43.6%) providing evidence for construct validity (Inderbitzen-Nolan, Davies, & McKeon, 2004).
Data Analysis

In the following section, the research purpose is reviewed as well as the techniques used for data analysis. The data analysis section is divided into the preliminary analyses, and the main analyses that were used to analyze data to answer each research question proposed.

Restatement of research purpose.

The purpose of this study was to investigate the relationship between RS-Anxiety and SA symptoms in a community-recruited early adolescent population using a survey method. Specifically, this study sought to determine a) does a bidirectional relationship exists between RS-Anxiety and SA in a community sample of grade six and seven youth? b) is there a gender difference on RS-Anxiety and SA scores? c) do emotional symptoms mediate the relationship between RS-Anxiety and SA? and c) do RS-Anxiety and SA predict peer problems in school?

Preliminary analyses.

Data were analyzed using the statistical software program SPSS, Version 22. First in order to determine whether a multiple regression analysis was appropriate for this study, an a priori power analysis was conducted. Data were carefully entered in SPSS, and was double-checked for errors. To draw conclusions based on a multiple regression analysis conducted on a sample, several assumptions must first be checked (Berry, 1993). Firstly, predictor variables (RS-Anxiety and SA) must be categorical and the outcome variable must be quantitative, continuous and unbounded, which was found to be true. Second, since there are two predictor variables (RS-Anxiety and SA), the model was tested for multicollinearity to determine how much the predictor variables correlate with one another. Lastly, the model is sensitive to outliers, which are identified through a standardized residual plot.
Descriptive analyses.

Descriptive statistics were calculated for the predictor variables, RS-Anxiety subscale and SA total score, as well as the dependent variables, emotional symptoms and peer problems subscales. The descriptive analyses include means, and standard deviations as well as ranges for the above-mentioned variables.

Main analyses.

A bivariate correlation was conducted to answer the first research question for the main effects model: Does a bidirectional relationship exist between RS-Anxiety and SA? Following this correlation, two, two-tailed independent samples t-tests were conducted to determine whether males and females scored differently on measures of RS-Anxiety and SA. Then a mediation analysis was conducted to answer the research question: Do emotional symptoms mediate the relationship between RS-Anxiety and SA? The mediation analysis determines whether emotional symptoms intervene to better predict the bidirectional relationship of RS-Anxiety and SA. One hierarchical multiple regression was conducted to answer the question: Do RS-Anxiety and SA predict peer problems in school? A multiple regression was used because there were two independent variables (RS-Anxiety and SA) and one dependent variable (peer problems).

This chapter has provided a description of the methods used in this research study including an overview of the research design, participants, procedures used to recruit participants, and carry out data collection, and a description of the instruments. This chapter also provided a description of the data analyses. The next chapter describes the study results, including the preliminary analyses, participant demographics, and descriptive analyses. This
next chapter also explains the procedures used to deal with missing data and a description of the main analyses conducted.
Chapter 4: Results

This section will present a brief overview of the study and the results of the study, including the power analysis, and the main analyses.

Overview of the Study

The purpose of this survey methods study was to determine whether a bidirectional relationship exists between Rejection Sensitivity Anxiety Subscale (RS-Anxiety) and Social Anxiety (SA), if there is a gender difference on RS-Anxiety and SA scores and whether emotional symptoms mediate the relationship between RS-Anxiety and SA. This study also explored whether RS-Anxiety and SA predicted peer problems.

Research thus far has demonstrated that RS is a mechanism that explains the development of internalizing disorders such as SA (Downey & Feldman, 1996; Downey et al., 1998; Feldman & Downey, 1994; Marston et al., 2010). However, research exploring the relationship between RS and SA is lacking. A review of the literature suggests many similarities between RS and SA (Ayduk et al., 2000; Clark & McManus, 2002; Downey & Feldman, 1996; Feldman & Downey, 1994; Freitas & Downey, 1998; Heinrichs & Hofmann, 2001; Hirsch & Clark, 2004; Sandstrom et al., 2003). Both constructs disrupt cognitive and affective processing, and cause emotional symptoms such as loneliness, SA, depression, hostility, and dejection, among others. The purpose of this survey methods study is to investigate the possible bidirectional relationship between RS-Anxiety and SA as mediated by emotional symptoms.

Participants were asked to complete several paper-pencil questionnaires, the CRSQ, SPAI-C, and the SDQ.

A bivariate correlation analysis was conducted to answer the following research question: Does a relationship exist between RS-Anxiety and Social Anxiety? Two-tailed independent t-
tests were performed to answer the question: Is there a gender difference on RS-Anxiety and SA scores? A mediation analysis was used to answer the second research question: Do emotional symptoms influence the relationship between RS-anxiety and SA in youth? A hierarchical multiple regression analysis was used to answer the research question: What is the relationship between SA symptoms and peer problems in RS-Anxious youth. The independent variable RS-Anxiety was measured by the Anxiety subscale on the CRSQ. The second independent variable SA was measured by total scores on the SPAI-C. Emotional symptoms measured by the SDQ, emotional symptoms subscale, and served as the mediator variable. Peer problems was measured by the peer problems subscale on the SDQ and is the dependent variable.

Preliminary Analyses

An *a priori* power analysis was conducted using G*Power 3.1.3 (Faul, Erdfelder, Buchner, & Lang, 2009). Cohen’s (1988) effect size recommended a small effect size ($r = 0.01$), or conservative. Results indicated that 100 participants were required to attain a power of $\beta = 0.80$, with significance of 0.05.

The predictor variables RS-Anxiety and SA, were tested for multicollinearity. Multicollinearity is determined using Variance Inflation Factors (VIF). The VIF indicates whether there is a strong linear relationship between the two predictors (Myers, 1990). VIF values above 10 suggest that there is a strong linear relationship between the predictors and merit further investigation. The Tolerance statistic is the inverse of VIF and can also be used to determine the amount of variance in a predictor variable that is not accounted for by any other independent variables in the model (Myers, 1990). Values below .10 indicate that there is concern that the independent variable is redundant and further investigation is necessary to determine if multicollinearity is a threat. VIF values for both the RS-Anxiety subscale and the
SA total score were below 10 and the Tolerance values were greater than .10. It was determined that there was no concern about multicollinearity. See table 4 for Additional information.

Outliers were identified using a standardized residual plot. One case had a standardized residual of -2.64, and was predicted to be much higher on the emotional symptoms subscale, whereas the other case had a standardized residual of 2.55 but was predicted to be on the lower end of the emotional symptoms subscale. No other outliers occurred. According to Tabachnick and Fidell (2013), outliers are defined by standardized residual values that are above 3.3 and less than -3.3. Since the residuals on the emotional symptoms subscale are within the range reported by Tabachnick and Fidell (2013), the outliers were not removed as they are not considered to have a significant effect on the data. Residual and scatter plots indicated the assumptions of normality, linearity, and homoscedasticity were all satisfied (Pallant, 2007).

Internal consistency was computed for each measure (CRSQ, SPAI-C, SDQ) in the current study’s sample: CRSQ was found to be $\alpha = .89$, SPAI-C was found to be $\alpha = .94$, and the SDQ subscales, emotional symptoms $\alpha = .63$, and peer problems $\alpha = .39$. This sample’s responses on the CRSQ and SPAI-C are thus considered to be consistent. The SDQ scores must be interpreted with caution, specifically the emotional problems and peer problems subscale as they are lower than .7 denoting poor reliability (Pallant, 2007; alpha .8+ are deemed good, < .5 are poor).

**Participant demographics.**

A total of 128 youth participated in this study. Participants included 78 females and 47 males. Three students did not identify as being male or female and left this question blank. The age of the participants ranged from 10 to 13 (M = 11.35, SD = .583). There were 73 grade six students and 55 grade seven students. The majority of participants (50.4%) self-identified as
Asian (n = 65), with 51.9% who identified English as the primary language spoken at home (n = 67). Other ethnic groups represented included Caucasian (22.5%), South Asian (1.6%), and mixed ethnicity (24.8%). For additional demographic information see Table 1.

Descriptive analyses.

Descriptive statistics were conducted for both the dependent and independent variables. For the dependent variable emotional symptoms, descriptive statistics were conducted for the total sample and for females and males. Of the 128 participants scores for the emotional symptoms subscale were only calculated for 127, one participant was missing more than three items and therefore was omitted. Of these 127 participants, 107 participants were scaled within the ‘Normal’ range (83.6%), 12 in the ‘Borderline’ range (9.4%), and 8 in the ‘Abnormal’ range (6.3%). For additional information see Table 2. Means and standard deviations were conducted for the independent variables, RS-Anxiety and SA and are reported in Table 3.

A two-tailed independent samples t-test was performed to compare SA scores for males ($M = 15.69; SD = 7.85$) and females ($M = 17.60; SD = 8.55$). Levene’s test for equality of variances ($p = .699$) shows that the assumption of equal variance was not violated. Significant differences were not found between groups $t(117) = -1.22, p > .05$ (two-tailed). The results of this t-test show that there is a not a statistically significant difference in SA total scores for males and females. This was unexpected because the literature has shown that there are differences between males and females on measures of SA. In contrast to the literature, there was no difference seen here According to Cohen’s guidelines (1992), the effect size for group differences in SA was small ($d = .01$), and thus only 1% of the variance in SA is explained by gender.
A second two-tailed independent samples t-test was conducted to compare RS-Anxiety scores for males ($M = 10.09; SD = 4.09$) and females ($M = 10.77; SD = 4.01$). Levene’s test for equality of variances ($p = .921$) shows that the assumption of equal variance was not violated. Significant differences were not found between groups $t(125) = -.99, p > .05$ (two-tailed), and there is not a statistically significant difference in RS-Anxiety scores for males and females. This result confirmed what has been reported in the literature that there are no gender differences on scores of RS-Anxiety. According to Cohen’s guidelines (1992), the effect size for group differences in SA was very small ($d = .006$), and thus only .6% of the variance in RS-Anxiety is explained by gender.

**Missing data.**

Scores on the CRSQ were calculated for participants with missing data when possible. Currently there are no current guidelines for how to deal with missing data on the CRSQ. Pairwise deletion was used to treat missing data on the CRSQ. Pairwise deletion states that data were excluded from calculations involving the variable for which a score is missing (Field, 2009). Pairwise deletion was used because it only excluded participants missing data required for a specific analysis versus completely excluding participants for having missing data, which would severely limit the sample size. The SPAI-C manual states that when there are missing items, if three or more items are omitted, the validity of the test is questionable and the total score should not be calculated (Beidel et al., 1996). In this study, eight participants were excluded for missing SPAI-C scores. On the SDQ emotional symptoms subscale, one participant was missing more than 3 items on the SDQ emotional symptoms subscale and so was removed from the analysis. On the peer problems subscale, two participants were missing items and the total subscale score was calculated pro-rata.
**Main Analyses**

A bivariate correlation analysis was conducted to answer the following research question: Does a relationship exist between RS-Anxiety and SA in adolescents? Results from the correlation show that the relationship between RS-Anxiety and SA was significant, $r(120) = .458$, $p < .001$. This significant relationship shows that RS-Anxiety are positively related such that youth who score high on the RS-Anxiety subscale also score high on the SPAI-C survey. This result also suggests that there is a bidirectional relationship between RS-Anxiety and SA and be evaluated for causality in future research. According to Cohen (1988), an ‘r’ value .458 falls within the medium range (within the range of .30 to .49), and thus the correlation between RS-Anxiety and SA is of medium strength. As well, the $r^2$ variance was calculated ($r^2 \times 100$), and showed that RS-Anxiety helps to explain nearly 21% of the variance in participants’ scores on the SPAI-C.

A mediation analysis was used to answer the question: Do emotional symptoms mediate the relationship between SA and RS-Anxiety? Results show that the relationship between SA and RS-anxiety was mediated by emotional symptoms. See Figure 1. The standardized regression coefficient between SA and emotional symptoms was statistically significant, as was the standardized regression coefficient between emotional symptoms and RS-Anxiety. The standardized indirect effect was $(.390)(.554) = 0.216$. These results suggest that emotional symptoms are the mechanism by which high scores on RS-Anxiety leads to high SA total scores.

The significance of the indirect effect was then tested using bootstrapping procedures. Unstandardized indirect effects were computed for each of 20,000 bootstrapped samples and the 95% confidence interval was computed by determining the indirect effects at the 2.5th and 97.5th
percentiles. The bootstrapped unstandardized indirect effect was .157, and the 95% confidence interval ranged from 0.0035 to 0.1215. Thus, the indirect effect was statistically significant.

A three-stage multiple hierarchical regression analysis was performed to determine if RS-Anxiety and SA significantly predicted participants’ ratings of peer problems after controlling for gender. Preliminary analyses were conducted to ensure no violation of the assumption of normality, linearity, and homoscedasticity. Additionally, the correlations amongst the predictor variables (RS-Anxiety, SA-total and gender) and dependent variable (emotional symptoms) were examined and these are presented in Table 5. Correlations between gender and all variables were weak, however strong correlations were found between RS-Anxiety, SA and emotional symptoms ranging from $r = .19, p < .05$ and $r = .46, p < .01$.

In the first step of the regression, one predictor was entered, gender. The regression revealed that $F(1,115) = .46, p > .05$, and only .6% of the variance in peer problems was explained by gender, and therefore the result was not significant (Table 6). At step two, RS-Anxiety was entered, and this model was not statistically significant $F(2, 115) = 2.15; p > .05$). RS-Anxiety only explained 9% of the variance in peer problems. The $r$ square change in step two was .032. In the final model, SA was added and the model as a whole explained 19.5% variance in peer problems, after controlling for RS-Anxiety ($R^2$ Change = .159; $F (3, 115) = 9.14; p < .001$). In comparing the unique contributions of SA and RS-Anxiety to the model, RS-Anxiety did not make a unique significant contribution ($\beta = -.18, p > .05$) and SA was found to be the best predictor of peer problems ($\beta = .45, p < .01$). See Table 6 for additional information.

**Chapter Summary**

This study sought to determine the relationship between RS-Anxiety and SA, and whether this relationship was mediated by emotional symptoms measured by SDQ’s emotional
symptoms subscale. This research also addressed whether SA and RS-Anxiety predicted the peer problems subscale on the SDQ. This chapter presented the study results and found that there was a significant correlation between RS-Anxiety and SA. A mediation analysis was conducted to determine if emotional symptoms mediated the relationship between RS-Anxiety and SA, and this mediation was found to exist. Emotional symptoms thus mediate the relationship between RS-Anxiety and SA. A hierarchical multiple regression was conducted to determine the relationship between the predictor variables (RS-Anxiety and SA) and peer problems. Both models were found to be statistically significant. Thus, youth with higher levels of RS-Anxiety and SA also had higher levels of peer problems.
Chapter 5: Discussion

Overview of Study

The goal of this research study was to determine if a bidirectional relationship exists between Rejection Sensitivity-Anxiety (RS-Anxiety) and Social Anxiety (SA) and whether this relationship is mediated by emotional symptoms. One hundred and twenty-eight youth (10-13 years old) were recruited from four non-secular schools in a large, urban western city in Canada. Participants completed a demographics questionnaire, CRSQ, SDQ, and SPAI-C. A bivariate correlation was used to examine the relationship between RS-Anxiety and SA, and a mediation analysis was used to determine whether emotional symptoms mediated this relationship. A hierarchical multiple regression was also performed to determine if RS-Anxiety and SA predicted scores on the SDQ peer problems scale. The following chapter will review the study results in terms of the proposed research questions, followed by a discussion of these results in terms of the literature. Lastly, implications of the study results and a review of the limitations and recommendations for future research will be presented.

Discussion of Findings

This study proposed the following research questions in a community sample of 128 youth aged 10-13 years old:

1. Does a relationship exist between RS-Anxiety and SA?
2. Is there a gender difference on scores of RS-Anxiety and SA?
3. Do emotional symptoms influence the relationship between RS and SA in youth?
4. What is the relationship between SA and peer problems in rejection-sensitive youth?

One finding from this study that affects results from each analysis, is that the sample population of the current study is not representative of the province’s population demographics.
Although a range of ethnic groups were represented in the study sample, half of the sample (50.4%) self-identified as Asian. Other ethnic groups represented include Caucasian (22.5%), South Asian (1.6%), and mixed ethnicity (24.8%). Participants self-identifying as Asian were overrepresented in this sample compared with this province’s 2006 Census (Statistics Canada, 2008) which was 20.2%. The findings from this study suggest that the relationship may exist within an ethnically heterogeneous sample. It is also important to note that participants of this study were students from a non-secular school district. There may be differences among students attending a religious school versus those that do not; therefore caution should be exercised in considering generalizability of these results to the Canadian population, and other ethnic groups.

In addition, the participation rates were low, with rates from each school below 50%. High participation rates would help to ensure that the survey results are representative of the population. In this study, the low participation rate, combined with the unique sample demographics may have implications on the generalizability of the study results. There may also be important differences between responders and non-responders, which may help to explain the sample demographics. Data such as ethnicity, age, and grade were not collected from this study’s non-responders. Reliability for the CRSQ, and SPAI-C were similar to what was reported in the literature. It is important to consider these reliability differences when interpreting data from the mediation, and multiple regression analyses, as these results may exist within a heterogeneous population.

To answer the first research question about the relationship between RS-Anxiety and SA, a bivariate correlation analysis was performed. Based on results from the analysis, the relationship between RS-Anxiety and SA was found to be significant, suggesting that there is a relationship
between these constructs. Youth who score high on the CRSQ RS-Anxiety subscale also score highly on the SPAI-C, suggesting that youth higher in RS-Anxiety may also be at risk for SA. This finding was not surprising as previous research has shown a strong and positive relationship to exist between RS and SA both in young and older adolescents (Blote et al., 2012, London et al., 2007; Marston et al., 2010 The results should be interpreted with caution however because the SPAI-C is a screening questionnaire for SA and not diagnostic. A diagnostic questionnaire would help to provide a more accurate representation of the relationship between RS-Anxiety and SA.

The results of the two-tailed independent samples t-test shows that there is a not a statistically significant difference in SA total scores for males and females. This was unexpected because the literature has shown that there are differences between males and females on measures of SA (Essau, Conradt, & Petermann, 1999; Wittchen, Stein, & Kessler, 1999). Possible reasons for this non-significant result may be due to the study sample’s demographics, which were not representative of a Canadian population, or comparable to US demographics. In addition, there were more female participants in this study than males (78 females vs. 47 males), which may have skewed the results. There was also no significance found for gender on the RS-Anxiety scale, and this was expected based on the literature (Downey, et al., 1998; London et al., 2007; McLachlan, Zimmer-Gembeck, & McGregor, 2010).

The results of this study provide support for the third hypothesis, such that emotional symptoms partially mediated the relationship between SA and RS-Anxiety. The relationship between RS-Anxiety and emotional symptoms was statistically significant, as was the relationship between SA and emotional symptoms. This was consistent with literature that suggests emotional symptoms account for a significant amount of variance in the relationship
between SA and RS-Anxiety. These analyses also show that RS-Anxiety was uniquely associated with SA, and demonstrates that anxious expectations of rejection are strongly related to emotional symptoms.

To answer the fourth research question, a multiple regression was performed. The results of the analysis showed that there was a significant correlation between the predictor variables (RS-Anxiety and SA) and peer problems. However, RS-Anxiety did not make a unique contribution to the models, and in fact SA was a better predictor of peer problems. One reason RS-Anxiety may not have been a unique predictor of the model is because this study was conducted during a relatively stable period of time versus a transition period. Therefore it is possible that results would be different during a transition period when rejection concerns are likely to arise. It is likely that the majority of students had been attending their school for many years, and were familiar with their peers and teachers. The study data were also collected between Oct-Nov, and thus the students had approximately 1-2 months to become acclimated to the classroom environment; it seems likely that there is less sensitivity to rejection concerns.

**Delimitations and Limitations**

It was understood that this study does not include all possible variables that may have an impact on RS-Anxiety. Previous research has guided the inclusion of the independent variables, and hypotheses regarding the relationships between these variables and RS-Anxiety. There are limitations when working in school settings, such as collecting parental consent, which was a challenge. Consent return rates were lower in some schools, and classrooms. There was potentially a bias in the sample such that those who do participate may be more interested in the subject matter, or psychological research in general. The participants were also not randomly selected for this study, and so the results of the study are limited in terms of generalizability.
Another limitation was that self-report data were taken at face value, and thus not validated against external assessments. The use of self-reports in this study, without the use of any objective measures by other informants such as parents and teachers limits our knowledge on this sample. The literature shows conflicting support for the use of self-report data with different aged youth. Some argue that in studies of younger children (younger than 10), parents tend to be the best informants for the rating of internalizing problems, followed by the child, and then the teacher (Smith, 2007). However, when rating internalizing problems in older children, the child is considered the best informant, followed by the parent and teacher reports (Smith, 2007). The participant age ranged in this study from 10-13 years old, and it is possible that some youth were better informants of their internalizing problems than others. Research has also shown that in self-reports assessing SA, sometimes youth provide unreliable self-reports due to the fear of negative evaluation, and worrying about social desirability (Schniering, Hudson, & Rapee, 2000). So although there was great care taken to ensure that students were comfortable in the testing setting to answer honestly, it is not possible to fully know this information. This issue of unreliable self-reports also speaks to the importance of employing multiple informants such as parents and teachers.

This particular research study was conducted during a time in the academic year when there were less changes, or transitions. Students were in grade six and seven, and 2 months had passed since the start of the school year. Typically RS research is conducted during a transition period as this is considered a time of social disequilibrium. This disequilibrium provides an opportunity to analyze the consequences of peer rejection and acceptance on defensive rejection expectations (Dweck, 1999; Eccles et al., 1993; Graham & Juvonen, 2002). Although
significance was found for the current study’s model, perhaps in looking at grade six and seven students, the salience of rejection experiences was less than what would be in a transition period.

This study is also limited due to being a cross-sectional design. A longitudinal design would have provided an opportunity to examine the long-term relationships among RS-Anxiety, SA, and emotional problems, and subsequently how interpersonal relationships are affected. In addition, internalizing disorders are episodic in nature, and so longitudinal research can be helpful in separating possible confounds between RS and internalizing disorders.

**Future Research**

There are a number of possible directions this research can take in the future. Results from this study provide support for the bidirectional relationship of RS-Anxiety and SA. There is also support for this relationship being mediated by emotional symptoms. Additional analyses exploring SA from a diagnostic perspective, will give more validity to the bidirectional relationship of RS-Anxiety, and SA. Using diagnostic interviews for SA will also provide more rich data on the particular struggles of youth, and can be used to learn more about the similarities to RS-Anxiety.

Future research would also be improved by using multiple informants, such as parents and teachers, as multiple raters can help to increase the quality of data by providing information from different perspectives and points of view (Smith, 2007). Future research would also benefit from examining the causality of the relationship between RS-Anxiety and SA, and also to determine what other factors may be influencing this relationship.

**Conclusion**

In summary, this research study has extended the findings of previous investigations establishing that RS–Anxiety is related to SA. This study has also extended these findings by
suggesting that the relationship between RS-Anxiety and SA is bidirectional, meaning that SA may also lead to the development of sensitivity to peer rejection. This study also showed that the relationship between RS-Anxiety and SA is mediated by emotional symptoms, suggesting that this bidirectional relationship occurs through the development of emotional symptoms. This study also has shown evidence that SA and RS-Anxiety positively predict peer problems in youth.
Table 1
*Participant Demographics (N = 128)*

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<th>Range</th>
<th>Mean (SD)</th>
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<td>Total Sample</td>
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<tr>
<td>Female (n = 78)</td>
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<td>Frequency</td>
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Table 3
*Means and Standard Deviations of Independent Variables*

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<th>Abnormal</th>
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<td>Range</td>
<td>Mean (SD)</td>
<td>Range</td>
<td>Mean (SD)</td>
<td>Range</td>
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<td>RS-Anxiety</td>
<td>10.01 (3.99)</td>
<td>19.17</td>
<td>12.70 (3.22)</td>
<td>10.50 (4.28)</td>
<td>13.65 (4.28)</td>
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<td>SA total</td>
<td>15.58 (7.66)</td>
<td>34</td>
<td>23.64 (7.17)</td>
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<td>23.77 (11.75)</td>
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Table 4
*Multicollinearity Statistics for Main Effects Model*

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<th>VIF</th>
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<tr>
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<td>1.265</td>
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<tr>
<td>Social Anxiety (SPAI-C total score)</td>
<td>.790</td>
<td>1.265</td>
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</table>
Table 5
Descriptive Statistics, and Correlations for all Continuous Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Gender</th>
<th>RS-Anxiety</th>
<th>SA-total</th>
<th>Peer Problems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RS-Anxiety</td>
<td>.08</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SA-total</td>
<td>.11</td>
<td>46**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Peer Problems</td>
<td>.06</td>
<td>.19*</td>
<td>.44*</td>
<td>1</td>
</tr>
<tr>
<td>Means</td>
<td>1.62</td>
<td>10.47</td>
<td>16.73</td>
<td>1.99</td>
</tr>
<tr>
<td>Standard Deviations</td>
<td>.49</td>
<td>4.08</td>
<td>8.24</td>
<td>1.57</td>
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</tbody>
</table>

Note. Statistical significant: *p<.05, **p<.01
Table 6
Hierarchical Regression Model of Peer Problems

<table>
<thead>
<tr>
<th></th>
<th>R</th>
<th>R²</th>
<th>B</th>
<th>SE</th>
<th>β</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Age</td>
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<td>.01</td>
<td>.12</td>
<td>.25</td>
<td>.05</td>
<td>.49</td>
</tr>
<tr>
<td>Gender</td>
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<td></td>
<td>.19</td>
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<td>.06</td>
<td>.66</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
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<td>.01</td>
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</tr>
<tr>
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<td>.02</td>
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</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
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<td>.23</td>
<td>-.01</td>
<td>-.10</td>
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<tr>
<td>Gender</td>
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<td></td>
<td>.05</td>
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<td>.02</td>
<td>.17</td>
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<tr>
<td>SA-Total</td>
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<td></td>
<td>.09</td>
<td>.02</td>
<td>.45</td>
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</tr>
<tr>
<td>RS-Anxiety</td>
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<td></td>
<td>-.01</td>
<td>.04</td>
<td>-.02</td>
<td>-.25</td>
</tr>
</tbody>
</table>

Note. Statistical significant: *p<.001
Figure 1

RS-Anxiety \rightarrow \text{Emotional Symptoms} \rightarrow \text{Social Anxiety}

\text{RS-Anxiety} \rightarrow \text{Emotional Symptoms} \rightarrow \text{Social Anxiety}

Note. ** p < .001
References


Aune, T., & Stiles, T. C. (2009). The effects of depression and stressful life events on the development and maintenance of syndromal social anxiety: Sex and age differences.


doi:10.1037/0033-2909.112.1.155


doi:10.1016/S0005-7967(98)00180-6


doi:10.1007/BF02191571


10.1097/01.chi0000132808.36708.a9


doi:10.1037/0022-3514.70.6.1327


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effects of self-focus, rumination and anticipatory processing. *Behaviour Research and Therapy, 38*(3), 243-257. doi:10.1016/S0005-7967(99)00040-6


doi:10.1177/0272431604268530


Appendices

Appendix A: Research Letter for Principal

Re: Rejection Sensitivity in Early Adolescence Study

Dear Principal:

Rejection sensitivity is a relatively stable pattern of defensively expecting, readily perceiving, and overreacting to rejection (Downey, Lebolt, Rincon, & Freitas, 1998). Youth high in rejection sensitivity are more likely than their peers to perceive signs of rejection in what most others would consider to be neutral or ambiguous situations; they are hyper vigilant in looking for cues or signs of potential rejection. Youth who are high in rejection sensitivity have been found to be at an increased risk of poor psychosocial functioning, strained peer and family relationships, and difficulties in school.

The Rejection Sensitivity in Early Adolescence Study is a research study being conducted by Dina Tsirgielis, BSc, a Masters student in Counselling Psychology at The University of British Columbia (UBC), under faculty supervision. We have ethical approval from the Ethics Board at the UBC, and from the Name of School Board. We are looking for students in Grade 6 and 7 at elementary schools to participate in our research program. If interested, we would appreciate your help in providing us with the names of the appropriate Grade 6 and 7 teachers in your school who may be interested in participating. Teachers will be asked to distribute research participation packages to all children in their classroom. To administer the study questionnaires, our team will come into participating classrooms, for one hour convenient for the classroom teacher, or we will work out of an empty classroom where students can drop in during recess and/or their lunch break.

Included is an overview of our study and a commitment letter should you decide your school would be willing to participate. We would like to begin contacting teachers in late September, or early October and be in your school for data collection later in October, or November. If you
have any questions please feel free to contact my research office at 604-822-8321 or Dina Tsirgielis at ctsirgie@mail.ubc.ca

Thank you for your time and attention to this project. Please do not hesitate to contact the research team with any questions.

Research Team:
Lynn Miller, PhD., R.Psych, Professor, Counselling Psychology
Dina Tsirgielis, BSc, MA student, Counselling Psychology
Rejection Sensitivity in Early Adolescence Study

Study Overview

Study Procedure:
Our proposed research project will take place during class time, possibly in place of related social emotional educational activities.

This spring, participating classrooms will be visited by the researchers who will administer a series of questionnaires pertaining to rejection sensitivity, social anxiety, and psychosocial strengths and difficulties. Students will be asked to complete these questionnaires.

All data collection with the students in your school will be completed during the school day in large group format and supervised by trained graduate students with the classroom teacher present. The questionnaires will take no longer than one class period to complete.

Risks and Benefits to students: Some of the questions may be sensitive for some students and they may wish to talk about this with someone. At the end of the questionnaire package, students will be provided a form explaining that having a reaction to some of these questions is perfectly normal, and encouraging them to speak to a parent, teacher, or school counsellor if they have any thoughts or concerns. There will also be a space where all students will be asked to fill out their name and check off a box indicating “yes” or “no” as to whether they would like to speak to a school counsellor. The research assistant will pass this information on immediately to the appropriate school personnel, so that they will have an opportunity to speak to a school counsellor as soon as possible.

Compensation:
Participating students will be entered in a draw to win 1 of 5 $10 VISA gift cards.

Confidentiality:
Any information resulting from the research study will be kept strictly confidential. All documents will be identified only by code number and kept in a locked cabinet. Participants will not be identified by name in any study reports. Electronic data stored on the computer will be password protected.
Principal Commitment Letter

Title: Rejection Sensitivity in Early Adolescence Study

I understand that my school’s participation in this study is entirely voluntary and that the school and/or its teachers may refuse to participate or withdraw from the study at any time.

1. I am interested in having my school participate in your study.
   - [ ] Yes
   - [ ] No

2. I agree to distribute consent form packages to my Grade 6 and 7 teachers, or provide their names so that you can send information about the study to them directly.
   - [ ] Yes
   - [ ] No

- I agree to forward parent inquiries to the research team.
  - [ ] Yes
  - [ ] No

Principal’s Name: ___________________________________________(please print)
Summary: ___________________________ Date: _______________________

School: ________________________________
School Telephone Number: _________________________
School Address: ________________________________

Number of Grade 6 and 7 teachers in your school: ________________

If you would like us to individually address our information packages to your teachers please attach a list with their names; otherwise we will need someone at the school to distribute the information packages to them.

Please complete this form and return by fax to Dr. Lynn Miller at the UBC Anxiety Projects Research Lab at 604-822-3302.

*All responses will be held confidential*
CONSENT FORM - Parent

Title: Rejection Sensitivity in Early Adolescence

Principal Investigator: Lynn Miller, Ph.D., R. Psych.

Co-investigator: Dina Tsirgielis, BSc

Date

Dear Parent,

Your child is being invited to participate in a study examining rejection sensitivity in young adolescents. The concept of “rejection sensitivity” has been described as a relatively stable pattern of defensively expecting, readily perceiving, and overreacting to rejection (Downey, Lebolt, Rincon, & Freitas, 1998). No one likes feeling rejected, but some people, may tend to perceive rejection, and therefore feel rejected, more often than others, and these feelings of rejection may tend to cause greater distress. In other words, a person high in rejection sensitivity could be said to be more highly aware of, and overly sensitive to, possible signs of social rejection, as compared to his or her peers.

Youth who are high in rejection sensitivity may be at an increased risk of strained peer and family relationships, and difficulties in school. Therefore, the purpose of this project is to assess the prevalence and possible correlates of rejection sensitivity in Lower Mainland youth. We feel that having an increased understanding and awareness of the operation of rejection sensitivity in youth is a crucial first step in providing assessment, and identifying or developing early intervention strategies that may be the most appropriate and effective in helping youth to better cope with feelings of rejection.

Study Procedure:
Please complete the parent consent form and return it within two weeks. All students in your child’s classroom are being invited to participate; therefore we are asking all parents to complete the consent form to allow your child to participate, even if your child does not show any signs of “rejection sensitivity”. Your child will submit the consent form to their teacher. While we would greatly appreciate your child’s participation in our study, participation is entirely voluntary. There will be no repercussions if students do not participate, and in this event they will be provided free reading time while the other students in the class complete the study materials.
This fall, your child’s classroom will be visited by the research team who will administer a series of questionnaires pertaining to rejection sensitivity, social experiences, and psychosocial strengths and difficulties. Your child will be asked to complete these questionnaires in class, and they will take less than an hour to complete.

Total study time: 1 hour or less

**Risks and Benefits:**
Some of the questions may be sensitive for some students and they may wish to talk about this with someone. At the end of the questionnaire package, students will be provided a form explaining that having a reaction to some of these questions is perfectly normal, and encouraging them to speak to a parent, teacher, or school counsellor if they have any thoughts or concerns. There will also be a space where all students will be asked to fill out their name and check off a box indicating “yes” or “no” as to whether they would like to speak to a school counsellor. The research assistant will pass this information on immediately to the appropriate school personnel, so that they will have an opportunity to speak to a school counsellor as soon as possible.

**Confidentiality:**
Any information resulting from the research study will be kept strictly confidential. All documents will be identified only by code number and kept in a locked filing cabinet. Participants will not be identified by name in any study reports. Electronic data stored on the computer will be password protected. As per UBC policy, all paper copies of our data will be kept for a minimum of 5 years. After that time, and when the data is no longer required for ongoing or future research, all research materials will be confidentially shredded.

If you would like the results of your child’s assessments, you may request this in writing by mail to Dina Tsirgielis, c/o Dr. Lynn Miller, Department of Educational & Counselling Psychology & Special Education, University of British Columbia, 2125 Main Mall, Vancouver, B.C., V6T 1Z4.

**Inquiries:**
If you have any further questions or concerns about the questionnaires you and your child will be asked to complete, or about any aspect of the study, please feel free to contact Dr. Lynn Miller at (604) 822-8539. If you have any concerns about you or your child’s treatment or rights as a research participant, please contact the Research Subject Information Line in the UBC Office of Research Services at (604) 822-8598.

Sincerely,

Lynn Miller, Ph. D., R. Psych.
Parent Consent Form

Title: Rejection Sensitivity in Early Adolescence

I have read and understand the study description provided, and I hereby give my permission for my child to participate in the Rejection Sensitivity in Early Adolescence study.

I understand that mine and my child’s participation in this study is entirely voluntary and that I may withdraw my child from the study at any time.

I have received a copy of this consent form for my own records.

Parent/Guardian Name: _________________________________ (please print)

Signature: ____________________________________________

Date: ________________________________________________

Home Telephone Number: _____________________________

E-mail: ______________________________________________

Mailing Address: ______________________________________

____________________________________________________

Child’s Name: ___________________________ Date of Birth: __________

Teacher’s Name: _______________________________________

School: ______________________________________________

*All responses will be held confidential*
Parent Consent Form

Title: Rejection Sensitivity in Early Adolescents

I have read and understand the study description provided, and I hereby give my permission for my child to participate in the Rejection Sensitivity in Early Adolescents study.

I understand that mine and my child’s participation in this study is entirely voluntary and that I may withdraw my child from the study at any time.

I have received a copy of this consent form for my own records.

Parent/Guardian Name: ____________________________(please print)

Signature: ________________________________

Date: ________________________________

Home Telephone Number: ________________________________

E-mail: ________________________________

Mailing Address: __________________________________________

_____________________________________________________

Child’s Name: ____________________________ Date of Birth: _________

Teacher’s Name: ________________________________

School: _______________________________________

*All responses will be held confidential*
Appendix C: Informed Assent Form

Department of Educational and Counselling Psychology, and Special Education
2125 Main Mall
Vancouver, BC Canada V6T 1Z4
Tel: (604) 822-8321 Fax: (604) 822-3302

ASSENT FORM - Participants

Study Title: Rejection Sensitivity in Early Adolescence

Principal Investigator: Lynn Miller, Ph.D., R. Psych.
Co-investigator: Dina Tsirgielis, BSc, MA Student

The Study: We want to tell you about a research study we are doing. A research study is a way to learn more about something. We would like to find out more about something called “rejection sensitivity”. What we mean by this is how sensitive some people are to feeling rejected. No one likes feeling rejected, but as I’m sure you know, some people can have their feelings hurt more easily than others, and some people react differently to feeling rejected than other people do. Everyone is different. You are being asked to join the study because we are interested in knowing more about rejection sensitivity and how it might affect youth like you!

If you agree to join this study, you will be asked to answer three questionnaires for us. We are interested in learning more about your social experiences, for example with your peers and teachers, and how you feel about them. We are also interested in finding out more about your feelings about yourself and your life, and your behaviours, more generally.

Possible Risks: There are no known risks to participating, but some of the questions may be sensitive for you and you may wish to talk about this with someone afterwards. At the end of the questionnaire package, there will be a form with a space for you to fill out your name and check off a box indicating whether you would like to speak to a school counsellor. Everyone will fill this out, regardless of whether you want to speak to a school counsellor or not.

Confidentiality: Any information you give us will be kept strictly confidential. That means that we won’t show your answers on the questionnaires you fill out to your friends or your teacher. However, you should know that if your parents make a request to our research team in writing, they do have the right to see your questionnaire results. All documents relating to you will be identified only by a code number (not your name) and will be kept in a locked cabinet. After five years, all of these documents will be shredded.

We would ask you not to ask each other about your answers to these questions. Some of these questions might be very personal and everyone has a right to privacy.
While we would greatly appreciate your participation in our study, you should know that your participation is entirely voluntary. There will be no negative consequences or repercussions if you do not participate. If you choose not to participate, you will be provided with free reading time while the other students in the class complete the study materials.
Participant Assent Form

Study Title: Rejection Sensitivity in Early Adolescence

Name: ____________________________________________ (please print)

Date of Birth: ______

Yes, I have had the study and study procedures explained to me, and have had any questions I wanted to ask answered.

Yes, I would like to participate in the Rejection Sensitivity in Early Adolescence Study, and agree to complete the study questionnaires.

Yes, I understand that my participation in this study is entirely voluntary and that I may withdraw from the study at any time without any negative consequences.

Signing here means that you have read this form or have had it read to you and that you are willing to be in this study.

Signature: ____________________________________________

Date: ____________________________________________
Appendix D: Demographics Questionnaire

Project Office:
Department of Educational and Counselling Psychology, and Special Education
2125 Main Mall
Vancouver, BC Canada V6T 1Z4
Tel: (604) 822-8321
Email: ctsirgie@mail.ubc.ca

Principal Investigator:
Lynn Miller, Ph.D., R. Psych., Professor

Title: Research Study of Rejection Sensitivity in Early Adolescence

Please kindly fill out the information below. To keep your response confidential please do not write your name anywhere on this form.

Age: _______
Grade: _______
School: __________________________________________

Gender (Please circle one):  Male  Female

First language spoken at home? ____________________________________________

Country you were born? ________________________________________________

What is your ethnic background? __________________________________________
Appendix E: Children’s Rejection Sensitivity Questionnaire

Please imagine yourself in each of the following situations described here and tell us how you would feel in each.

1. Imagine you want to buy a present for someone who is really important to you, but you don’t have enough money. So you ask a kid in your class if you could please borrow some money. The kid says, “Okay, wait for me outside the front door after school. I’ll bring the money.” As you stand outside waiting, you wonder if the kid will really come.

How NERVOUS would you feel, RIGHT THEN, about whether or not the kid will show up?

<table>
<thead>
<tr>
<th>not nervous</th>
<th>very, very nervous</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
</tbody>
</table>

How MAD would you feel, RIGHT THEN, about whether or not the kid will show up?

<table>
<thead>
<tr>
<th>not mad</th>
<th>very, very mad</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
</tbody>
</table>

Do you think the kid will show up to give you the money?

<table>
<thead>
<tr>
<th>YES!!!</th>
<th>NO!!!</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
</tbody>
</table>

2. Imagine you are the last to leave your classroom for lunch one day. As you’re running down the stairs to get to the cafeteria, you hear some kids whispering on the stairs below you. You wonder if they are talking about YOU.

How NERVOUS would you feel, RIGHT THEN, about whether or not those kids were badmouthing you?

<table>
<thead>
<tr>
<th>not nervous</th>
<th>very, very nervous</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
</tbody>
</table>

How MAD would you feel, RIGHT THEN, about whether or not those kids were badmouthing you?

<table>
<thead>
<tr>
<th>not mad</th>
<th>very, very mad</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
</tbody>
</table>

Do you think they were saying bad things about you?

<table>
<thead>
<tr>
<th>YES!!!</th>
<th>NO!!!</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
</tbody>
</table>
3. Imagine that a kid in your class tells the teacher that you were picking on him/her. You say you didn’t do it. The teacher tells you to wait in the hallway and she will speak to you. You wonder if the teacher will believe you.

How NERVOUS would you feel, RIGHT THEN, about whether or not the teacher will believe your side of the story?

<table>
<thead>
<tr>
<th>not nervous</th>
<th>very, very nervous</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
</tbody>
</table>

How MAD would you feel, RIGHT THEN, about whether or not the teacher will believe your side of the story?

<table>
<thead>
<tr>
<th>not mad</th>
<th>very, very mad</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
</tbody>
</table>

Do you think she will believe your side of the story?

<table>
<thead>
<tr>
<th>YES!!!</th>
<th>NO!!!</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
</tbody>
</table>

4. Imagine you had a really bad fight the other day with a friend. How you have a serious problem and you wish you had your friend to talk to. You decide to wait for your friend after class and talk with him/her. You wonder if your friend will want to talk to you.

How NERVOUS would you feel, RIGHT THEN, about whether or not your friend will want to talk to you and listen to your problem?

<table>
<thead>
<tr>
<th>not nervous</th>
<th>very, very nervous</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
</tbody>
</table>

How MAD would you feel, RIGHT THEN, about whether or not your friend will want to talk to you and listen to your problem?

<table>
<thead>
<tr>
<th>not mad</th>
<th>very, very mad</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
</tbody>
</table>

Do you think he/she will want to talk to you and listen to your problem?

<table>
<thead>
<tr>
<th>YES!!!</th>
<th>NO!!!</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
</tbody>
</table>

5. Imagine that a famous person is coming to visit your school. Your teacher is going to pick five kids to meet this person. You wonder if she will choose you.
How NERVOUS would you feel, RIGHT THEN, about whether or not the teacher will choose you?

not nervous

1 2 3 4

very, very nervous

5 6

How MAD would you feel, RIGHT THEN, about whether or not the teacher will choose you??

not mad

1 2 3 4

very, very mad

5 6

Do you think the teacher will choose YOU to meet the special guest?

YES!!!

1 2 3 4 5 6

NO!!!

6. Imagine you have just moved and you are walking home from school. You wish you had someone to walk home with. You look up and see in front of you another kid from class, and you decide to walk up to this kid and start talking. As you rush to catch up, you wonder if he/she will want to talk to you.

How NERVOUS would you feel, RIGHT THEN, about whether or not he/she will want to talk to you?

not nervous

1 2 3 4

very, very nervous

5 6

How MAD would you feel, RIGHT THEN, about whether or not he/she will want to talk to you?

not mad

1 2 3 4

very, very mad

5 6

Do you think he/she will want to talk to you?

YES!!!

1 2 3 4 5 6

NO!!!

7. Now imagine that you’re back in class. Your teacher asks for a volunteer to help plan a party for your class. Lots of kids raise their hands so you wonder if the teacher will choose YOU.

How NERVOUS would you feel, RIGHT THEN, about whether or not the teacher will choose you?

not nervous

1 2 3 4

very, very nervous

5 6

How MAD would you feel, RIGHT THEN, about whether or not the teacher will choose you?

not mad

1

very, very mad
Do you think the teacher will choose YOU?

YES!!!  NO!!!

8. Imagine it’s Saturday and you’re carrying groceries home for your family. It is raining hard and you want to get home FAST. Suddenly, the paper bag you are carrying rips. All your food tumbles to the ground. You look up and see a couple of kids from your class walking quickly. You wonder if they will stop and help you.

How NERVOUS would you feel, RIGHT THEN, about whether or not those kids will want to stop and help you?

not nervous  very, very nervous
1  2  3  4  5  6

How MAD would you feel, RIGHT THEN, about whether or not those kids will want to stop and help you?

not mad  very, very mad
1  2  3  4  5  6

Do you think they will offer to help you?

YES!!!  NO!!!

9. Pretend you have moved and you are going to a different school. In this school, the teacher lets the kids in the class take home a video game to play with on the weekend. Every week so far, you have watched someone else take it home. You decide to ask the teacher if YOU can take home the video game this time. You wonder if she will let you have it.

How NERVOUS would you feel, RIGHT THEN, about whether or not those kids will want to stop and help you?

not nervous  very, very nervous
1  2  3  4  5  6

How MAD would you feel, RIGHT THEN, about whether or not those kids will want to stop and help you?

not mad  very, very mad
1  2  3  4  5  6
Do you think they will offer to help you?

YES!!!

1 2 3 4 5 6

NO!!!

10. Imagine you’re back in your classroom, and everyone is splitting up into groups to work on a special project together. You sit there and watch lots of other kids getting picked. As you wait, you wonder if the kids will want you for their group.

How NERVOUS would you feel, RIGHT THEN, about whether or not they will choose you?

not nervous

1 2 3 4

very, very nervous

5 6

How MAD would you feel, RIGHT THEN, about whether or not they will choose you?

not mad

1 2 3 4

very, very mad

5 6

Do you think the kids in your class will choose you for their group?

YES!!!

1 2 3 4 5 6

NO!!!

11. Imagine that your family has moved to a different neighborhood, and you’re going to a new school. Tomorrow is a big math test, and you are really worried because you don’t understand this math at all! You decide to wait after class and speak to your teacher. You wonder if she will offer to help you.

How NERVOUS would you feel, RIGHT THEN, about whether or not the teacher will offer to help you?

not nervous

1 2 3 4

very, very nervous

5 6

How MAD would you feel, RIGHT THEN, about whether or not the teacher will offer to help you?

not mad

1 2 3 4

very, very mad

5 6

Do you think the teacher will offer to help you?

YES!!!

1 2 3 4 5 6

NO!!!
12. Imagine you’re in the bathroom at school and you hear your teacher in the hallway outside talking about a student with another teacher. You hear her say that she really doesn’t like having this child in her class. You wonder if she could be talking about YOU.

How NERVOUS would you feel, RIGHT THEN, about whether or not the teacher was talking about you?

<table>
<thead>
<tr>
<th>not nervous</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>very, very nervous</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
</table>

How MAD would you feel, RIGHT THEN, about whether or not the teacher was talking about you?

<table>
<thead>
<tr>
<th>not mad</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>very, very mad</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
</table>

Do you think the teacher meant YOU when she said there was a kid she didn’t like having in the class?

<table>
<thead>
<tr>
<th>YES!!!</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>NO!!!</th>
<th>6</th>
</tr>
</thead>
</table>

Appendix F: Strengths and Difficulties Questionnaire

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 the items as best as you can even if you are not absolutely certain. Please give your answers on the basis of how things have been for you over the last six months.

<table>
<thead>
<tr>
<th>Item</th>
<th>Not True</th>
<th>Somewhat True</th>
<th>Certainly True</th>
</tr>
</thead>
<tbody>
<tr>
<td>I try to be nice to other people. I care about their feelings.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am restless, I cannot stay still for long.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I get a lot of headaches, stomach-aches or sickness.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I usually share with others, for example CD’s, games, food.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I get very angry and often lose my temper.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I would rather be alone than with people of my age.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I usually do as I am told.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I worry a lot.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am helpful if someone is hurt, upset or feeling ill.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am constantly fidgeting or squirming.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have one good friend or more.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I fight a lot. I can make other people do what I want.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am often unhappy, depressed or tearful.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other people my age generally like me.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am easily distracted. I find it difficult to concentrate.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am nervous in new situations. I easily lose confidence.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am kind to younger children.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am often accused of lying or cheating.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other children or young people pick on me or bully me.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I often offer to help others (parents, teachers, children).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I think before I do things.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statement</td>
<td>Not True</td>
<td>Somewhat True</td>
<td>Certainly True</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>----------</td>
<td>---------------</td>
<td>----------------</td>
</tr>
<tr>
<td>I take things that are not mine from home, school or elsewhere.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I get along better with adults than with people my own age.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have many fears, I am easily scared.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I finish the work I’m doing. My attention is good.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix G: Social Phobia and Anxiety Inventory for Children

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