EXPLORING THE RELATIONSHIP BETWEEN NEGATIVE SOCIAL EXPERIENCES AND SOCIAL ANXIETY

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Michelle Jeanne Nora Teale Sapach, candidate for the degree of Master of Arts in Clinical Psychology, has presented a thesis titled, *Exploring the Relationship Between Negative Social Experiences and Social Anxiety*, in an oral examination held on July 30, 2015. The following committee members have found the thesis acceptable in form and content, and that the candidate demonstrated satisfactory knowledge of the subject material.

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*Via teleconference*
Social anxiety disorder (SAD) is a pattern of pronounced and enduring fear and anxiety about being scrutinized in social interactional, observational, or performance situations (American Psychiatric Association, 2013). Negative social experiences (i.e., social traumas) have been implicated in etiological models of SAD (Kimbrel, 2008; Ollendick & Hirshfeld-Becker, 2002; Rapee & Spence, 2004). Research evidence links peer victimization with adolescent SAD symptoms and suggests the type of victimization may differentially influence symptom presentation (e.g., Storch, Brassard, & Masia-Warner, 2003; Storch & Masia-Warner, 2004). Preliminary evidence suggests that severity of reaction to social trauma may also influence the presentation of SAD symptoms (Levinson, Langer, & Rodebaugh, 2013; Rosen, Underwood, Gentsch, Rahdar, & Wharton, 2012). The current investigation utilized a retrospective design to examine how experiences of different types of social traumas (i.e., antagonistic vs. non-antagonistic), and severity of reaction to social traumas, relate to SAD symptoms in early adulthood. The influence of betrayal on severity of reaction to social traumas was explored, as well as the temporal relationship between the experience of social traumas and the onset of social anxiety symptoms. North American participants ($n = 173$; ages 18 to 25) completed an online battery of questionnaires measuring social anxiety symptoms, experiences of social traumas, and reactions to past social traumas. Regression and mediation analyses were used to characterize the relationships between social trauma frequency, reaction severity, and social anxiety symptoms. The relationships between frequency of both covert peer victimization and non-antagonistic social traumas and social anxiety symptoms appeared to be mediated by trauma-like responses. Betrayal did
not appear to influence severity of social trauma response. The majority (62%) of participants experienced a social trauma following the onset of their symptoms. The results of the current investigation suggest that certain types of social traumas may play a more poignant role in the maintenance of social anxiety symptoms, largely through trauma-like reactions to such events. Understanding the nature of aversive reactions to socially traumatic events can inform cognitive behavioural treatment approaches and improve therapeutic efficacy.
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DEDICATION

To Nathan, who makes my world go round.
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1.0 Literature Review

1.1 Introduction and Outline

Social and evolutionary psychology theorists posit that humans have a fundamental need for companionship (e.g., Baumeister & Leary, 1995), and research has documented the negative psychological sequel that follows aversive social experiences and exclusion (e.g., Hawker & Boulton, 2000; Nansel et al., 2001). Individuals with social anxiety disorder (SAD) report impairment in life functioning (Keller, 2003; Kessler, 2003) due to their fear and avoidance of social situations, which some researchers suggest may be tied to past aversive social experiences (e.g., Kimbrel, 2008; Ollendick & Hirshfeld-Becker, 2002; Rapee & Spence, 2004). The relationship between negative social experiences and the presentation of SAD symptoms remains an important avenue for clinical psychology research. The following literature review will first outline the diagnostic criteria for SAD and its associated etiology, epidemiology, and comorbidity. Second, development and maintenance models of SAD will be reviewed, as well as the literature to date on the role of experiencing and reacting to negative social experiences in the development of SAD. The current investigation will then be outlined along with the methodology and the results. Lastly, the findings and implications will be discussed, as well the limitations of the current investigation and some directions for future research.

1.2 Social Anxiety Disorder

The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, (DSM-5; American Psychiatric Association [APA], 2013) describes SAD as a pronounced and enduring fear or anxiety of being scrutinized in social interactional (e.g., conversing with
others), observational (e.g., walking in front of others), or performance (e.g., giving a presentation) situations. People with SAD are afraid to show signs of anxiety (e.g., sweating) or act in a way (e.g., saying something embarrassing) that will cause others to judge them negatively. Social situations invariably cause fear and anxiety for individuals with SAD, and are therefore often avoided or else endured with great distress. The fear or anxiety caused by social situations is disproportionate to the level of threat associated with the situation based on sociocultural norms (i.e., the consequences of negative evaluation are exaggerated). The fear, anxiety, or avoidance persists for a significant period of time (typically more than six months) and causes substantial distress or impairment in social, vocational, or other key areas of functioning. Symptoms must not be better explained by another medical or mental disorder, or the physiological effects of a substance. If another medical condition is present with the fear, anxiety, or avoidance, a separate diagnosis of SAD can be given if the symptoms are unrelated to the medical condition or are excessive. A “performance only” specifier can be applied to a diagnosis of SAD if the fear, anxiety, and avoidance are restricted to performing in public.

Previous editions of the Diagnostic and Statistical Manual of Mental Disorders (Fourth Edition, Text Revision [DSM-IV-TR]; APA, 2000; Third Edition, Revised, APA, 1987) included a “generalized” specifier based on previous theory that fearing only one specific situation (i.e., circumscribed SAD) was more common than fearing most social situations (i.e., generalized SAD). As reviewed by Bögels et al. (2010), evidence now suggests that SAD is better conceptualized on a continuum wherein a greater number of feared situations indicates a greater level of social anxiety and impairment, and that fearing several types of social situations (i.e., interactional, observational, performance)
is more common than only fearing performance situations. Furthermore, only fearing performance situations may be qualitatively distinct from other types of SAD. Evidence suggests that those with performance only fears tend to develop their fear later in life, often do not experience negative childhood experiences thought to contribute to the development of SAD (e.g., parental marital conflict, abuse), are less likely to be shy or behaviourally inhibited as children, are more likely to experience strong physiological responses to feared situations, and may respond better to certain pharmacological treatments (i.e., $\beta$-blockers) than those with generalized SAD (for review see Bögels et al., 2010).

1.2.1 Etiology. Onset for most (75%) individuals with SAD occurs between 8 and 15 years of age (median onset age is 13 years), but may occur in childhood or later in adulthood (APA, 2013; Hofmann, Heinrichs, & Moscovitch, 2004; Kessler, Berglund, et al., 2005). SAD may develop following a humiliating or stressful event, or after a life event that changes an individual’s social role (e.g., after a job promotion), but more often develops gradually (APA, 2013; Schneier, Luterek, Heimberg, & Leonardo, 2004). SAD is often a chronic disorder, following an unremitting course (Hofmann et al., 2004; Schneier et al., 2004). For approximately 60% of individuals with SAD, the disorder will persist for several years without intervention (APA, 2013). SAD has a lower remission rate than most other anxiety disorders, including generalized anxiety disorder and panic disorder (Yonkers, Bruce, Dyck, & Keller, 2003), and has even lower remission rates when comorbid personality disorders are present, particularly avoidant personality disorder (Massion et al., 2002). Symptoms of SAD may fluctuate depending on life demands and circumstances (e.g., anxiety associated with dating will subside after an
individual marries, but may increase after divorce); however, the chronic nature of SAD is associated with high rates of disability and increased (i.e., one and a half times greater) risk of suicide attempts relative to persons without SAD (APA, 2013; Keller, 2003).

1.2.2 Epidemiology. SAD has a 12-month prevalence rate of 6.8% (Kessler, Chiu, Demler, & Walter, 2005) and a lifetime prevalence rate of 12.1% in adult, Western populations (Kessler, Berglund, et al., 2005), making it the fourth most prevalent of all psychiatric disorders. SAD is more prevalent in women relative to men across all ages and cultures in the general population, with the sex ratio as great as 2:1 (Faravelli et al., 2000; Furmark, 2002; Merikangas, Avenevoli, Acharyya, Zhang, & Angst, 2002). Although the sex difference becomes more comparable in clinical populations, rates of SAD may be slightly higher in men than in women in clinical samples (Furmark, 2002; Rapee, 1995). North American and European countries report similar 12-month and lifetime prevalence rates, whereas Asian countries report lower rates (Furmark, 2002). Social expectations, daily life structure, and methodological differences that impact the reporting of SAD may all contribute to varying rates (Furmark, 2002; Rapee & Spence, 2004). Cultural norms may also influence the presentation of SAD symptoms. Taijin kyofusho is a syndrome in which individuals meet the criteria for SAD due to evaluative concerns, but the concern is more about offending or making others uncomfortable than embarrassing themselves (APA, 2013). Taijin kyofusho is thought to be more prevalent in Asian countries (e.g., Japan and Korea) due to cultural expectations (APA, 2013).

1.2.3 Comorbidity. SAD has a high rate of psychiatric comorbidity with other anxiety, affective, and substance-related disorders (Brown, Campbell, Lehman, Grisham, & Mancill, 2001; Chartier, Walker, & Stein, 2003; Furmark, 2002). Typical
comorbidities include specific phobia, panic disorder, agoraphobia, generalized anxiety disorder, major depressive disorder, dysthymia (Brown et al., 2001), and posttraumatic stress disorder (PTSD; Zayfert, DeViva, & Hofmann, 2005). One study indicated that 46% of those with SAD had another current psychological disorder and that 72% of those with SAD would experience an additional comorbid psychological disorder within their lifetime (Brown et al., 2001). There is also evidence of comorbidity rates as high as 44% between SAD and personality disorders (Massion et al., 2002). The most prevalent comorbid personality disorder with SAD is avoidant personality disorder, affecting an estimated 35% of all individuals with SAD (Massion et al., 2002). Comorbid disorders increase severity of and impairment from SAD symptoms (Erwin, Heimberg, Juster, & Mindlin, 2002).

1.2.4 Etiological models. Comprehensive etiological models of SAD (Kimbrel, 2008; Ollendick & Hirshfeld-Becker, 2002; Rapee & Spence, 2004) implicate many individual and environmental factors in its development and maintenance. Predisposing factors include genetics (i.e., specific vulnerabilities to SAD and general vulnerabilities to anxiety and mood psychopathologies), temperament (e.g., behavioural inhibition), parental and peer influences (e.g., modelling and reinforcing certain attitudes and behaviours), aversive social experiences (i.e., traumatic or negative socialization events), general negative life events (e.g., parental divorce), social skill deficits (e.g., inability or inhibition of eye contact), and cognitive tendencies (e.g., overestimating the threat of negative evaluation). Kimbrel (2008) acknowledged that positive social experiences (e.g., having supportive, sociable peers and family) may counter-condition the effects of the aforementioned predisposing factors, acting as protective factors against the development
of SAD. Rapee and Spence (2004) suggested that sociodemographic variables such as age (e.g., social anxiety may not become impairing until later in life when social demands increase), gender (e.g., higher prevalence of SAD in men in clinical samples suggests that gender roles may influence impairment), and culture (e.g., collectivist versus individualistic values may make similar levels of social anxiety advantageous or distressing) may also influence the development and presentation of SAD.

1.2.5 Cognitive behavioural maintenance models. Several cognitive behavioural models of the maintenance of SAD have gained empirical support (e.g., Clark & Wells, 1995; Heimberg, Brozovich, & Rapee, 2010; Hofmann, 2007; Rapee & Heimberg, 1997), all of which posit distorted cognitive processing as a common feature. Distorted cognitive processing not only causes individuals to think negatively about themselves and their abilities, but also about how critical others are. As a result, individuals with SAD are often highly self-critical and self-conscious, attend more to negative stimuli in social situations, overestimate the negativity of others’ appraisals of their performance, overestimate the probability of negative evaluations, and catastrophize the consequences of negative evaluations.

Hofmann (2007) extended previous cognitive behavioural models (Clark & Wells, 1995; Rapee & Heimberg, 1997) to suggest that social anxiety may result from perceptions of extremely high social expectations and goals, an underlying desire to make a particular impression, and insecurity in personal ability to make a particular impression. Perceived incompetence in making a particular impression may actually reflect an inability to adequately define goals and choose the best, most personally attainable strategies to reach these goals. Perceived inability increases self-focused attention and
anxiety in social situations, which provokes detrimental cognitive processes like overestimating the probability of negative evaluation and exaggerating the costs of negative evaluation. Hofmann’s model also posits that individuals with SAD do not feel in control of their anxiety in social situations, maintain negative views of themselves, and believe their social skills to be deficient. Therefore, individuals with SAD expect social failures and either perform safety behaviours–actions hoped to reduce the chance of a feared occurrence–or avoid social situations altogether. Following social situations individuals with SAD will engage in post-event rumination (i.e., the tendency to recall and scrutinize details of the past event), which evokes further anxiety that contributes to a cycle of social anxiety, ultimately maintaining and intensifying SAD pathology.

Heimberg, Brozovich, and Rapee (2010) updated their original model (Rapee & Heimberg, 1997), which was designed to explain anxiety upon entrance into or anticipation of social situations. Like Hofmann’s (2007) model, Rapee and Heimberg’s (1997) model posits that individuals with SAD consider making a desirable impression of utmost importance, but believe that others are overly critical and will evaluate them negatively. Upon entry into a social situation, individuals with SAD vigilantly monitor several sources of information for signs of negative evaluation. Individuals monitor the environment, a mental image of themselves that they believe is representative of how others perceive them, as well as cognitive (i.e., negative internal rebuking or exaggeration of the costs of negative evaluation), behavioural (i.e., escape or safety behaviours), and physical (e.g., sweating or shaking) symptoms of their current anxiety. Continual surveillance for negative cues, integration of external (e.g., yawns interpreted as a sign of boredom) and internal (e.g., increased heart rate) information into their mental
representations, and subsequent monitoring of self presentation and behaviour is thought to detract from cognitive processes available to affectively engage in the present social situation. Individuals with SAD will also overestimate the audience’s performance standards and perceive their mental representation to fall short of these overestimated standards, causing individuals to overestimate the likelihood of negative evaluation and the costs associated with such negative evaluations.

The updated model (Heimberg et al., 2010) elaborates on five cognitive principles to help further explain the cycle of SAD, including imagery, post-event processing, the combined cognitive bias hypothesis, fear of positive evaluation, and emotion regulation. Heimberg and colleagues suggest that before, during, and after social situations individuals with SAD will spontaneously recall negatively distorted images of previous times when they were socially anxious. Most often these images are from an observer perspective (i.e., as if watching themselves from an audience), which is associated with greater self-criticism, subsequent negative thoughts and affect, physical sensations of anxiety, and use of safety behaviours; such negative consequences have been shown to contribute to objectively-rated poorer social performance. Like negative imagery, post-event processing (or rumination in Hofmann’s [2007] model) becomes more negatively biased with each iteration (e.g., recalling the situation becomes more embarrassing with the passage of time) and, in turn, increases anticipatory anxiety for future social situations (Heimberg et al., 2010). The combined cognitive biases hypothesis (Hirsch, Clark, & Mathews, 2006) facilitates explanations of how the different cognitive biases associated with SAD interact with one another and maintain the cycle of SAD. For example, negative imagery and interpretation biases may interact and exacerbate each other, while
also influencing memory biases (Heimberg et al., 2010). Negatively distorted memories may detrimentally influence current mental imagery and interpretation of internal and external stimuli, therein leading to encoding more negative memories, which are then subjected to post-event processing. Previous models proposed fear of negative evaluation as central to SAD, but emerging research suggests fear of positive evaluation may also be central to SAD (Weeks, Heimberg, & Rodebaugh, 2008). Positive evaluation is considered fear inducing because it may lead to future negative evaluation when an individual can no longer meet the raised standards of others due to the original positive evaluation, or may cause conflict with others of a higher social status due to an increase in social status from the positive evaluation. Finally, individuals with SAD tend to avoid expressing emotions in order to avoid negative consequences (e.g., angering another by expressing negative emotions), but this may make them appear distant and lead to less successful social interactions.

1.2.6 Behavioural maintenance models. As evidenced by the detail included in the preceding cognitive behavioural models, SAD is largely considered to result from cognitive processes, which in turn influence behaviours in response to social situations. Traditional behavioural models of SAD that focus solely on direct conditioning events have often been viewed as less credible as they have failed to account for cognitive processes associated with learning and why many individuals develop SAD without having experienced an aversive social experience, nor why some individuals who experience an aversive social incident do not develop SAD (McNeil, Lejuez, & Sorrell, 2010). Revised behavioural models have since came to include indirect conditioning
(e.g., Rachman, 1977; Beidel & Turner, 1998) as to improve some of the shortcomings of previous behavioural models.

Beidel and Turner (1998) proposed a comprehensive behavioural model of SAD, which suggests the development and maintenance of SAD is multidimensional, resulting from the interaction of many psychological, biological, and environmental factors. They emphasize the influence of direct conditioning, as well as observational learning, and information transfer in the development of SAD. Unlike direct conditioning, wherein an individual personally experiences a socially aversive event (e.g., freezing in the middle of a speech, which contributes to a fear of public speaking), vicarious conditioning or observational learning may contribute to the development of SAD via seeing another experience a socially aversive event and internalizing that fear. Instead of personally freezing during a speech, an individual may witness another individual freeze when giving a speech and then become fearful of public speaking. Alternatively, experiencing or witnessing a socially aversive event may not be necessary for an individual to internalize fear of a stimulus; instead, hearing about it from others may lead to an individual becoming fearful (i.e., information transfer). For example, if a child continually hears his father saying how he dreads making presentations at work and how awful presentations are, the child may internalize these views and fear public speaking as well. Information transfer may lead to rule-governed behaviour; that is, repeatedly being told that giving a presentation is frightening and provides a strong chance of being humiliated will cause the child to develop a personal rule that all public speaking activities should be feared and avoided.
Updated behavioural models highlight the potential importance of conditioning traumatic experiences or observational learning in the development of SAD and argue that the cognitive biases that appear to maintain SAD (e.g., vigilance for negative social cues) may stem from these conditioning or observed experiences (McNeil et al., 2010). Furthermore, negative self-imagery that plays a central role in cognitive behavioural models may be distorted memories of socially aversive events (i.e., social traumas) that occurred just previous to the onset of the disorder (Hackmann, Clark, & McManus, 2000). Nevertheless, questions still remain regarding why some individuals who experience a social trauma go on to develop SAD while others do not. Evidence for the prevalence of social traumas in relation to SAD remains mixed. In one study, only 56% of individuals with circumscribed SAD and 40% of individuals with generalized SAD reported a traumatic social experience (although information regarding the temporal relationship between the onset of SAD symptoms and the occurrence of the social traumas were unavailable for this sample; Stemberger, Turner, Beidel, & Calhoun, 1995). In the same sample, 20% of individuals without SAD reported having experienced a traumatic social experience (Stemberger et al., 1995). Other results suggest that although traumatic conditioning experiences (including vicarious conditioning and informational transfer) were reported by 89% of individuals with public speaking anxiety, few of them attributed the development of their fears to these social traumas and most reported them happening after the onset of their fears (Hofmann, Ehlers, & Roth, 1995). Only 15% of individuals in this study reported social traumas around the time of onset of their fears. Further examination into the characteristics of negative social experiences, individual reactions to the events, and the temporal relationship between social traumas and the
onset of SAD may help to elucidate the relationship between social traumas and SAD, in turn facilitating preventative and treatment efforts.

1.2.7 **Social traumas as risk factors.** A recent focus of research on the etiology of SAD has been on peer victimization given its substantial prevalence (Nansel et al., 2001; Public Health Agency of Canada, 2011), evolving nature (i.e., cyberbullying), and the associated media attention it has received due to anecdotes of youth suicide following peer victimization and cyberbullying. Peer victimization can be defined as overt (i.e., physical or verbal harassment) or covert (i.e., relational and reputation sabotage) acts committed repetitively by one or more persons with the intention to harm another (McCabe, Miller, Laugesen, Antony, & Young, 2010). Nearly 41% of American youth and 22% of Canadian youth, grades 6 through 10, have reported being bullied at least once; 8.4% of American youth, and between 3 and 8% of Canadian youth, report being victimized at least once a week (Nansel et al., 2001; Public Health Agency of Canada, 2011).

Peer victimization primarily occurs during adolescence, which is not only a time of increased risk for the development of anxiety disorders, but also a time in which approval and social relationships are of utmost importance (Stapinski et al., 2014). Peer victimization may contribute to social anxiety by developing negative relational schemas about what to expect from others and a negative sense of self through the internalization of negative feedback, both of which may create anxiety about future social experiences (e.g., Gren-Landell, Aho, Andersson, & Svedin, 2011; Roth, Coles, & Heimberg, 2002; Storch, Masia-Warner, Crisp, & Klein, 2005). Negative self-evaluations and anxiety
about social situations may contribute to avoidance of social experiences, therein impeding engagement in positive social experiences that could decrease social anxiety.

Being a target of peer victimization has been associated with poorer social and emotional adjustment, greater difficulty making friends, poorer relationships with classmates, and greater loneliness (Nansel et al., 2001). Victims also report greater symptoms of depression, low self-esteem, general anxiety, social anxiety, and increased suicidal ideation and suicide attempts (Brunstein Klomek, Marrocco, Kleinman, Schonfeld, & Gould, 2007; Hawker & Boulton, 2000). Longitudinal research suggests that experiencing frequent peer victimization in either primary or secondary school increases the risk of developing an anxiety disorder in early adulthood by three times and increases the risk of diagnostic comorbidity with other anxiety and depressive disorders by four times (Copeland, Wolke, Angold, Costello, 2013; Sourander et al., 2007; Stapinski et al., 2014). Evidence also exists for a dose-response pattern between frequency of victimization and risk of developing an anxiety disorder later in life; adolescents who reported occasional victimization have been found to be twice as likely to have an anxiety disorder at the age of 18 years, whereas adolescents who reported frequent victimization have been found to be three times as likely to have an anxiety disorder at age 18 years (Stapinski et al., 2014).

Overt and covert peer victimization have both been associated with social anxiety symptoms; however, covert victimization may share a stronger relationship with SAD. Higher levels of social anxiety, fear of negative evaluation, social avoidance, and loneliness have been reported in adolescences who experienced covert victimization (with or without overt victimization), relative to adolescents who only reported overt
victimization (Storch, Brassard, & Masia-Warner, 2003; Storch & Masia-Warner, 2004). Covert victimization has also predicted symptoms of social anxiety in adolescents one year later, but overt victimization has not (Storch et al., 2005). Other research has found peer victimization to be both a predictor and consequence of social anxiety in adolescents over a two-month period, but covert peer victimization demonstrated the strongest prospective relationship with social anxiety (Siegel, La Greca, & Harrison, 2009).

Most research conducted on the association between peer victimization and social anxiety has involved adolescent samples. Roth et al. (2002) investigated the relationship between memories of being teased and anxiety and depression in adulthood. Results suggested that recollections of teasing were related to measures of fear of negative evaluation and anxiety sensitivity, two constructs thought to contribute to social anxiety (e.g., Heimberg et al., 2010). McCabe, Antony, Summerfeldt, Liss, and Swinson (2003) were the first to examine the relationship between self-reported peer victimization and anxiety disorders. A history of teasing or bullying was associated with earlier onset of psychopathology, and a greater proportion of adults with SAD reported a history of teasing or bullying, compared to individuals with obsessive-compulsive disorder and panic disorder. McCabe et al. (2010) extended their 2003 results by considering general measures of psychological functioning. Teasing was associated with greater social anxiety, depressive symptoms, and stress across all groups, but teasing frequency was greatest among those with SAD compared to those with obsessive-compulsive disorder or panic disorder. Teasing frequency accounted for unique variance in the prediction of SAD symptoms, even after controlling for current levels of mood, anxiety, and stress. While these studies suggest youth peer victimization may contribute to adulthood
symptoms of social anxiety, all of them used measures of teasing and none of them differentiated between forms of peer victimization. Dempsey and Storch (2008) found that relational peer victimization in youth was predictive of fear of negative evaluation in a college sample, but did not include a measure of overt victimization and was limited in their measure of social anxiety symptoms. Further research examining the relationships between type of youth peer victimization (i.e., overt vs. covert) and early adulthood symptoms of social anxiety is needed.

Like peer victimization, cyberbullying can be defined as behaviours performed by individuals or groups that communicate aggressive or hostile messages intended to harm others, with the difference being that the communication happens solely through electronic or digital media (Tokunaga, 2010). Between 20-40% of youth around the world report being a victim of cyberbullying (Tokunaga, 2010). Different tactics of cyberbullying can be classified into overt and covert forms of victimization (Willard, 2007). Harassment and cyberstalking—including abusive, offensive, or threatening messages towards the victim—are considered forms of overt aggression, whereas denigration, impersonation, outing/trickery, and exclusion are considered relational forms of aggression (Willard, 2007). Denigration includes posting or disclosing information or pictures about the victim that is/are harmful, untrue, or cruel, with the intent to damage the victim’s reputation or relationships. Impersonation involves gaining access to the victim’s phone, email, or other digital media accounts and posting or disclosing information that makes the victim look bad or sabotages the victim’s relationships. Outing/trickery includes sending, forwarding, or posting information about the victim that is personal, sensitive, or otherwise embarrassing in nature so that unintended
recipients can view such information. Exclusion includes blocking the victim’s access to online social activity (e.g., chat rooms, games).

Similarities between peer victimization and cyberbullying exist, but distinctions between the two suggest that cyberbullying may be more harmful (Dempsey, Sulkowski, Nichols, & Storch, 2009; Tokunaga, 2010). Cyberbullying appears more pervasive and volatile due to the potential anonymity associated with online communication. Anonymity may make it more of an opportunistic offense, encouraging individuals to victimize others that would not normally victimize others face-to-face. A lack of supervision or monitoring of digital media may also increase the prevalence due to lack of repercussions associated with harmful online acts. Constant and broad accessibility to digital media may amplify the pervasiveness and impact of cyberbullying. Bullies have ongoing access to victims who could otherwise escape through structured boundaries (e.g., hours spent at school). In addition, bullies are able to victimize more people in front of larger audiences.

There is less research on cyberbullying because widespread access to digital media is relatively recent; as such, there is less information on whether cyberbullying differentially impacts psychosocial adjustment relative to peer victimization. Preliminary factor analytic results suggest that cyberbullying is distinct from overt and covert forms of peer victimization (Dempsey et al., 2009). Cyberbullying may be independently be related to impairment in school performance (Beran & Li, 2007), depressive symptoms (Perren, Dooley, Shaw, & Cross, 2010), and increased social anxiety in adolescent samples (Dempsey et al., 2009; Juven & Gross, 2008). No research has examined thorough personal responses to cyberbullying (i.e., in terms of severity of reaction) or
adulthood recollections of cyberbullying. Such research could help to elucidate the relationship between cyberbullying and social anxiety.

1.2.8 Reactions to social traumas. Cumulatively, the available research suggests that youth peer victimization and cyberbullying may contribute to the development of SAD. Research to date has typically used frequency indices of victimization to study the association between peer victimization, cyberbullying, and psychosocial adjustment in youth and adulthood. Instead of event frequency, the relationship between peer victimization in youth and social anxiety in adulthood may be a function of reactions to victimization. Rosen, Underwood, Gentsch, Rahdar, and Wharton (2012) found that the severity of “feeling bad” following peer victimization in secondary school was predictive of social anxiety symptoms in an undergraduate sample, whereas frequency was not. Levinson, Langer, and Rodebaugh (2013) utilized the Cyberball Ostracism Task (Williams & Jarvis, 2006) in a sample of young adults to elicit reactions to social exclusion. Reactivity to social exclusion was a better predictor of social anxiety symptoms two months later than indices of past and current peer victimization, implying that reactions to peer victimization may contribute to social anxiety in adulthood, rather than peer victimization itself. Reactivity was assessed by subtracting a self-reported index of state anxiety during an inclusion task from the same index of state anxiety following an exclusion task. The measure was informative, but lacked depth and breadth in the subjective long-term reaction to a social trauma. Further research is needed to elucidate the relationship between social trauma frequency, social trauma reaction, and SAD symptoms.
People may demonstrate traumatic reactions to socially stressful events. Erwin, Heimberg, Marx, and Franklin (2006) examined reexperiencing, avoidance, and hyperarousal symptoms required for a diagnosis of PTSD (according to the DSM-IV-TR; APA, 2000) in response to socially stressful events. More than a third of individuals with a diagnosis of SAD would have met criteria for PTSD had their socially stressful event met Criterion A (i.e., an event including exposure to actual or threatened death or serious illness). Individuals who had experienced socially stressful events and Criterion A events reported similar reexperiencing and avoidance symptoms in response to both events; however, they reported more hyperarousal symptoms in response to their worst socially stressful event relative to their worst Criterion A event. About 14% of the individuals that would have met PTSD criteria in response to their socially stressful event did not meet criteria in response to their Criterion A event, underscoring the potential impact of aversive social situations. Individuals that would have met PTSD criteria for their socially stressful event, but not their Criterion A event, reported their socially stressful event to be a form of peer victimization and their Criterion A events to involve witnessing a life threatening illness, witnessing an actual death, or repeated sexual assault.

Carleton, Peluso, Collimore, and Asmundson (2011) also examined responses to socially stressful events in a community sample. One in three participants who reported experiencing Criterion A events and socially stressful events endorsed the socially stressful event as more distressing. Participants who reported a socially stressful event (regardless of whether they perceived it to be worse than a Criterion A event) reported more severe PTSD and SAD symptoms, as well as higher levels of fear of negative
evaluation and anxiety sensitivity. Furthermore, posttraumatic stress symptoms, fear of negative evaluation, and anxiety sensitivity were all significant predictors of SAD symptoms, suggesting a traumatic response to a socially stressful event may contribute to the development of SAD.

Current trauma literature supports notions that the severity of reaction to a traumatic event is influenced by various factors (Brewin, Andrews, & Valentine, 2000). Symptoms of posttraumatic stress are more persistent and severe following traumatic events that have a human antagonist as opposed to trauma without an antagonist (e.g., natural disasters; APA, 2013; August & Gianola, 1987). Traumatic incidents involving betrayal by a close other (e.g., sexual abuse) have been associated with more severe posttraumatic stress symptoms than non-betrayal traumas (Tang & Freyd, 2012). A similar relationship between trauma type and symptom severity may also be reflected in social anxiety following a social trauma. Indeed, a social trauma without an antagonist or malicious intent (i.e., an accident with embarrassing consequences, such as having one’s pants fall down in front of a large crowd) may be less likely to precipitate pathological social anxiety than social traumas with an antagonist (e.g., peer victimization). Furthermore, covert peer victimization appears to have a stronger relationship to symptoms of social anxiety than overt victimization (e.g., Storch et al., 2003; Storch & Masia-Warner, 2004), possibly reflecting a more severe reaction due to the betrayal often inherent in covert victimization.

Collimore, Asmundson, Taylor, and Jang (2009) compared posttraumatic stress symptoms and socially related fears (i.e., fear of negative evaluation and fear of publicly observable signs of anxiety) in individuals who had experienced antagonistic Criterion A
trauma (i.e., trauma that included personal physical assault through the intent of another, such as sexual assault) and non-antagonistic Criterion A trauma (i.e., trauma that jeopardized physical integrity without the intent of another, such as a motor vehicle accident). The two groups did not differ on measures of socially related fears, implying that trauma type might not influence the development of SAD symptoms. The study was limited, however, in scope of traumas (i.e., only examined Criterion A events that may be less relevant to SAD) and socially related fears (i.e., did not include measures of social interaction anxiety, performance anxiety, observational anxiety). Some evidence suggests that specific Criterion A traumas may uniquely relate to SAD (e.g., sexual assault; Magee, 1999), but the literature remains inconclusive (e.g., Collimore, Carleton, Hofmann, & Asmundson, 2010). No previous research has examined whether non-antagonistic social traumas (e.g., humiliation from freezing during a speech) relate to later symptoms of social anxiety, and whether antagonistic versus non-antagonistic social traumas differentially contribute to SAD. Further research examining the relationship between trauma type, reaction, and anxiety response is important.

2.0 Current Investigation

2.1 Purpose

The current investigation was designed to further explore the relationship between socially traumatic events and types of social anxiety symptoms in adulthood. More specifically, the current study sought to understand (a) whether different types of social traumas (i.e., antagonistic vs. non-antagonistic) differentially contribute to different forms of social anxiety (i.e., interactional, observational, and performance), and (b) whether these potential relationships are mediated or moderated by the severity of
traumatic reaction to the event. The type of social trauma was quantified by frequency and differentiated by the presence of an antagonist; in other words, whether or not the trauma resulted from malicious intent. Malicious intent traumas were further differentiated by type (i.e., overt vs. covert victimization) and modality (i.e., peer victimization vs. cyberbullying). The influence of betrayal on social trauma responses was also considered, along with self-reports of the temporal relationship between social anxiety symptom onset and the social trauma. Other environmental risk factors (e.g., abuse, low socioeconomic status), temperamental traits (i.e., behavioural inhibition), and experiences of other types of trauma were also assessed. The hypotheses (detailed below) regarding social trauma types as predictors of SAD symptoms were based on a combination of theoretical supposition stemming from behavioural models of SAD and empirical evidence to date.

2.2 Hypotheses

1. Covert victimization would be the strongest predictor of social interaction anxiety symptoms given its focus on relational sabotage through social interaction, which could potentially contribute to a fear of interacting with others (Beidel & Turner, 1998).

2. Overt victimization would be the strongest predictor of observational anxiety symptoms given that such victimization is likely to cause “a scene,” which others stare at or attend to, potentially contributing to a fear of being watched or observed (Beidel & Turner, 1998).

3. Non-antagonistic (i.e., accidental) social trauma would be the strongest predictor of performance anxiety symptoms given that performance
anxiety is thought to resemble specific phobia (Bögels et al., 2010), which often develops after an accidental trauma or negative experience with the feared object or situation.

4. Based on recent research differentiating between frequency of and severity of reaction to social traumas (Levinson et al., 2013; Rosen et al., 2012), severity of reaction would moderate or mediate the relationship between social trauma frequency (regardless of type) and SAD symptoms.

5. Drawing parallels from trauma literature (Tang & Freyd, 2012), reactions to victimization that include betrayal would be more severe.

6. Based on conditioning theories of SAD (Beidel & Turner, 1998), a larger proportion of individuals would have experienced a socially traumatic event prior to the development of their social anxiety symptoms.

2.3 Method

2.3.1 Procedure. Ethical approval for this investigation was obtained from the University of Regina Research Ethics Board (Certificate of Approval, File 2014-122; Appendix A). Participants from across Canada and the United States were recruited through web-based advertisements (e.g., Used Everywhere, Reddit, Facebook, various social anxiety forums). Interested participants were directed to a SurveyMonkey link where they provided informed consent for their participation (Appendix B) and anonymously completed a questionnaire battery including the measures outlined below.

2.3.2 Participants. Individuals were invited to participate if they self-identified with “regularly experiencing social anxiety symptoms or nervousness in social settings” and were between the ages of 18 and 25. Age restrictions were implemented for several
reasons. First, most people who develop SAD will have done so by age 25, therein increasing the likelihood of obtaining a sample of adults with clinically significant social anxiety symptoms. Second, peer victimization and cyberbullying are most likely to occur during adolescence; as such, recruiting young adults should have increased the likelihood of obtaining a sample that had recently experienced antagonistic social traumas. Third, recruiting young adults should have limited recollection biases of social traumas that may occur with the passage of time. A power analysis (G*Power 3.1.2) was conducted, imputing parameters based on previous research examining the relationship between peer victimization and adulthood SAD (e.g., McCabe et al., 2003; McCabe et al., 2010). Entering a small to medium effect size ($f^2 = 0.11$), alpha = .05, and power = .95, a sample size of $n = 197$ participants would be sufficient to assess for the hypothesized relationships. In total, 500 individuals began the survey. Likely due to the survey length, only 179 people completed all of the questionnaires. There were six participants who indicated their data should not be used and so their responses were deleted. Of those six, four left no comment as to why and two said the survey was too long for them to maintain full attention. Sample demographics are presented in Table 1.

2.3.3 Self-report measures.

Demographics (Appendix C). Demographic information including age, sex, gender, sexual orientation, relationship status, and ethnicity, as well as both personal and parental employment status, education and familial history of psychiatric diagnoses was collected. An index of childhood socioeconomic status was derived according to the Hollingshead four-factor index of socioeconomic status, which is based on parental marital status, occupation, employment status, and education (Hollingshead, 2011).
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Note. Demographic statistics are based on all participants who started the survey. Participants were instructed to select all that applied.
Demographic information was used to characterize the sample and provide risk factor indices for SAD.

*Adverse Childhood Experiences International Questionnaire (ACE-IQ; World Health Organization, 2014; Appendix D).* The ACE-IQ is an adapted version of the questionnaire used in the Adverse Childhood Experiences Study (Centers for Disease Control and Prevention, 2014), modified for use around the world. The 31 items are organized into 13 categories: emotional abuse, physical abuse, sexual abuse, violence against household members, living with household members who were substance abusers, living with household members who were mentally ill or suicidal, living with household members who were imprisoned, having only one or no parents or experiencing parental separation or divorce, emotional neglect, physical neglect, bullying, community violence, and collective violence. Item responses are either dichotomous (i.e., yes/no) or rated on a 4-point Likert Scale ranging from 0 (*never*) to 3 (*many times*). Items measuring the same type of adversity are collectively scored to yield an index for that specific type of adversity. That is, single or multiple affirmative responses (i.e., either “yes” or a frequency greater than “never”) to questions regarding a particular type of adversity results in a score of 1 for that type of adversity. Responding non-affirmatively (i.e., “no” or “never” as a frequency) to all questions regarding a particular type of adversity results in a score of 0 for that particular type of adversity. Therefore, ACE-IQ scores range from 0-13. ACE-IQ adversities are considered risk factors for mental health problems (e.g., Edwards, Holden, Felitti, & Anda, 2003; Finkelhor, Shattuck, Turner, & Hamby, 2013) and were used in the current study to control for predisposing environmental influences. The bullying index was not included in the total score of the current study because it was
better accounted for in the analyses by measures outlined below. Thus, the ACE-IQ total score in the current study ranged from 0-12. The nature of the ACE-IQ precludes reporting an estimate of internal consistency, but the average inter-item correlation was .14.

Depression Anxiety Stress Scales–21 (DASS-21; Lovibond & Lovibond, 1995; Appendix E). The DASS-21 is a shortened version of the original 42-item DASS (Lovibond & Lovibond, 1995) designed to measure symptoms of depression, anxiety, and stress. The 21 items are presented as self-statements that respondents rate regarding how much each item applied to them over the last week on a 4-point Likert scale ranging from 0 (did not apply to me at all) to 3 (applied to me very much, or most of the time). The DASS-21 has demonstrated good internal consistency and concurrent validity with other measures of depression and anxiety (Antony, Bieling, Cox, Enns, & Swinson, 1998; Henry & Crawford, 2005). Factor analyses have demonstrated three factors (depression, anxiety, and stress; 7 items each) in clinical (Brown, Chorpita, Korotitsch, & Barlow, 1997) and nonclinical samples (Lovibond & Lovibond, 1995). The depression subscale measures symptoms consistent with a diagnosis of depression (e.g., hopelessness, disinterest); the anxiety subscale measures autonomic arousal (e.g., trembling, faintness); the stress subscale measures chronic non-specific arousal (e.g., tension, irritability), distinct from the physiological arousal measured by the anxiety subscale. The DASS-21 was included in the current study to control for current levels of general psychological distress. In the current sample, the internal consistency was excellent ($\alpha = .92$) for the depression scale, good ($\alpha = .80$) for the anxiety scale, and good ($\alpha = .83$) for the stress scale. The average inter-item correlations were .61, .37, and .41, respectively.
**Retrospective Measure of Behavioral Inhibition (RMBI; Gladstone & Parker, 2005; Appendix F).** The 18 items of the RMBI are designed to measure inhibited temperament during childhood, which is thought to be a risk factor for later mental health problems, particularly SAD (Hishfeld-Becker et al., 2008). Respondents are asked to rate how often they remember exhibiting aspects of behavioural inhibition (e.g., social withdrawal; fearfulness, freezing in response to unfamiliarity, avoidance of risk activities) before the age of 13 (Gladstone & Parker, 2005). All items are rated on a 3-point Likert scale ranging from 0 (*no/hardly ever*) to 2 (*yes/most of the time*) and six items are reverse scored. Respondents are also given the option report that they do not remember in order to discourage guessing. The RMBI has demonstrated a 4-factor solution, each of which are thought to represent different dimensions of behavioural inhibition; namely, the RMBI measures non-approach (six items), fearful inhibition (five items), risk avoidance (three items), and shyness and sensitivity (four items). The RMBI has demonstrated adequate internal consistency for the subscale scores and good internal consistency for the total score, as well as adequate test-retest reliability, discriminant validity, and good construct validity (Gladstone & Parker, 2005). The RMBI was included in the current study to control for childhood behavioural inhibition. The internal consistency of the RMBI total score in the current sample was good (*α* = .84) and the average inter-item correlation was .22.

**Liebowitz Social Anxiety Scale–Self Report Version (LSAS-SR; Liebowitz, 1987; Appendix G).** The LSAS-SR is an adapted version of the original clinician-administered measure (LSAS) that was designed to assess fear and avoidance in 24 performance and social interaction situations. Respondents rate both their fear (on a 4-
point Likert scale ranging from 0 [no fear] to 3 [severe fear]) and avoidance (on a 4-point Likert scale ranging from 0 [never] to 3 [usually]) in response to each situation. Among discrepant factor analytic findings, four factors remain consistent and were therefore utilized as subscales in the current study: social interaction anxiety (LSAS-SI), observation anxiety (LSAS-O), public speaking anxiety (LSAS-PS), and eating and drinking in public anxiety (Baker, Heinrichs, Kim, & Hofmann, 2002; Oakman, Van Ameringen, Mancini, & Farvolden, 2003; Safren et al., 1999; Stein, Kasper, Andersen, Nil, & Lader, 2004). Like the LSAS, the self-report format has also demonstrated good test-retest reliability, internal consistency, convergent and discriminant validity, is sensitive to treatment change (Baker et al., 2002; Fresco et al., 2001), and can discriminate between generalized and nongeneralized subtypes of SAD (Rytwinski et al., 2009). The LSAS-SR demonstrates equivalent psychometric properties when administered over the Internet or on paper (Hedman et al., 2010). The LSAS-SR was included in the current study as a measure of social interaction anxiety, observation anxiety, and performance (public speaking) anxiety. The internal consistency in the current sample was excellent (α = .92) for the LSAS-SI, good (α = .80) for the LSAS-O, excellent (α = .90) for the LSAS-PS, and excellent (α = .95) for the total score. The average inter-item correlations were .32, .28, .48, and .29, respectively.

PTSD Checklist – for DSM-5 (PCL-5; Weathers et al., 2013; Appendix H; Appendix I). The PCL-5 is a self-report measure designed to assess, monitor, and screen for PTSD symptoms as described in DSM–5 (APA, 2013). The 20 items are rated on a 5-point Likert scale ranging from 0 (not at all) to 4 (extremely). A total symptom severity score can be derived by summing the 20 items or symptom cluster severity scores can be
obtained by summing the corresponding items (Weathers et al., 2013). Due to the recent release of the PCL-5, little data regarding its psychometric properties is available; however, previous editions (that reflected DSM-IV-TR criteria) have been found to have high diagnostic efficiency of .90 (Buckley, Blanchard, & Hickling, 1996), good internal consistency, and strong convergent and discriminant validity (Weathers, Litz, Herman, Huska, & Keane, 1993; Wilkins, Lang, & Norman, 2011).

The PCL-5 can be administered with or without the assessment of Criterion A events (Weathers et al., 2013) and was administered both ways in the current study. First, participants were asked to identify their most distressing social trauma (if they experienced multiple) and respond to the PCL-5 regarding that event (PCL-ST; Appendix H). Second, participants were asked to identify their worst Criterion A trauma and complete the PCL-5 in response to that event, therein providing an index to control for previous trauma experience (PCL-CA; Appendix I). Participants were first asked for their responses to social traumas as to prevent participants from considering social traumas to be insignificant in comparison to Criterion A traumas. Follow-up questions regarding both administrations asked participants which trauma (i.e., the Criterion A or the social trauma) was more distressing and about the temporal relationship between the onset of social anxiety symptoms and the occurrence of the traumas. The PCL-5 was included as a measure of response severity to both social traumas and Criterion A traumas. In response to social traumas, the internal consistency of the PCL-5 total score was excellent ($\alpha = .97$) in the current sample and the average inter-item correlation was .65. In response to Criterion A events, the internal consistency of the PCL-5 total score was excellent ($\alpha = .98$) in the current sample and the average inter-item correlation was .67.
Retrospective Bullying Questionnaire (RBQ; Schäfer et al., 2004; Appendix J).

The RBQ is designed to assess frequency, perceived seriousness, and duration of six different types of victimization (two forms of physical, two forms of verbal, and two forms of relational victimization). The questions are posed for experiences in both primary and secondary school. Measures of intrusive recollections and suicidal ideation related to the bullying are also included. A final section queries victimization experiences in post-secondary education or in the workforce in order to assess the frequency of bullying in the past six months. The majority of the 44 questions are multiple-choice options, with a few free response options. No factor structure is available for the RBQ given that it asks about several different, potentially unrelated aspects of bullying with varying response types for different questions (e.g., dichotomous, nominal, and ordinal variables). The RBQ has demonstrated good test-retest reliability over a two-month period (Schäfer et al., 2004).

The RBQ (Schäfer et al., 2004) was modified for the purposes for the current study. The original measure inquired about how long bullying attacks occurred, unspecific to any type (i.e., physical, verbal, relational) of victimization, so additional items were added to inquire about the length of attacks for each type of victimization. Additional items were added to be more inclusive of the experiences of physical (i.e., otherwise physically harmed) and relational victimization (i.e., had private or embarrassing information about you revealed) to which individuals could respond. Additional items about overt and covert cyberbullying were also included; such items were derived from the Student Needs Assessment Survey (Willard, 2007) and included similar follow-up questions about frequency, severity, and perceived seriousness as the
original RBQ items. Questions to assess feelings of betrayal by the victimization were added. Furthermore, rating scale anchors were quantified to specify information regarding the frequency of peer victimization events (e.g., *sometimes* from the original anchor was specified as 2-3 times a month). The modified RBQ was included as a measure of experience and response to overt and covert victimization, both in person and online. The format of the RBQ precludes reporting estimates of internal consistency.

*Non-Antagonistic Social Trauma Questionnaire (Investigator Developed; Appendix K).* A questionnaire was developed for the current study to assess various non-antagonistic social traumas. Participants were first instructed to disclose situations that were humiliating, embarrassing, or extremely distressing that were accidental and not the result of malicious intent by another individual. Participants then answered questions about the social trauma that mirrored the follow-up questions in the RBQ (Schäfer et al., 2004), such as frequency, perceived seriousness, and duration of the non-antagonistic social trauma. This assessment allowed for obtaining similar descriptive information across different types of social trauma. Exploratory factor analysis to determine the psychometric reliability was precluded for this measure because it mirrors the RBQ format, which includes mixed response types (e.g., dichotomous, nominal, and ordinal variables). The Non-Antagonistic Social Trauma Questionnaire was included as a measure of experience and response to non-antagonistic social trauma. The format of the Non-Antagonistic Social Trauma Questionnaire precludes reporting estimates of internal consistency.
2.3.4 Analyses.

**Preliminary and descriptive analyses.** Data were first examined to identify any potential univariate and multivariate outliers in all dependent and independent variables. Pearson’s chi-square tests of homogeneity and independent samples $t$-tests were used to compare participant demographics of those who completed all required questionnaires to those who did not. Descriptive statistics and Pearson correlations were calculated to characterize the relationships between all dependent and independent variables.

**Primary analyses.** Hypotheses 1 through 3 were tested using hierarchical multiple regression analyses to determine whether frequency of different forms of social trauma and reactions to social trauma differentially predict symptoms of social anxiety. Several variables were controlled for by entering them into the first step of the regression; specifically, sex differences observed in frequency and reaction to different forms of victimization (e.g., Storch et al., 2005), current levels of psychological distress that may influence current levels of social anxiety (as per previous research; e.g., Carleton et al., 2011; McCabe et al., 2010), and risk factors for social anxiety such as childhood adversity, family history of mental disorders, childhood behavioural inhibition (RMBI), and Criterion A traumas (PCL-CA; Kimbrel, 2008; Ollendick & Hirshfeld-Becker, 2002; Rapee & Spence, 2004). The frequencies of five social trauma types (i.e., non-antagonistic [NAST], overt peer victimization [OPV], overt cyberbullying [OCB], covert peer victimization [CPV], covert cyberbullying [CCB]) were entered on the second step. Social trauma response (PCL-ST) was entered on the third step to determine whether trauma-like reactions contribute to the prediction of social anxiety symptoms beyond the frequency of social trauma experiences.
Hypothesis 4 was tested with moderation and mediation analyses using Hayes’ (2013) PROCESS macros to determine whether severity of social trauma response influenced or accounted for the relationship between social trauma frequency and social anxiety symptoms. Hypothesis 5 was tested with independent samples t-tests to determine whether social trauma response severity differed based on subjective feelings of betrayal and whether victims of peer victimization did or did not consider perpetrators to be friends. Hypothesis 6 was tested by examining the prevalence of social traumas and when social traumas were experienced in relation to the onset of SAD symptoms.

3.0 Results

3.1 Preliminary and Descriptive Analyses

Univariate outliers were identified by calculating standardized scores for all continuous independent and dependent variables. There were two participants with standardized scores greater than 3.29 (more than two standard deviations from the mean) on the PCL-CA, suggesting that, relative to the rest of the sample, they were far more traumatized by their Criterion A trauma experiences. Only 12 participants reported overt cyberbullying about once a week or several times a week that resulted in standardized scores greater than 3.29 on the index of overt cyberbullying. Similarly, only 11 participants reported covert cyberbullying about once a week or several times a week that resulted in standardized scores greater than 3.29 on the index of covert cyberbullying. Only three participants reported experiencing non-antagonistic social traumas several times a week that resulted in standardized scores greater than 3.29. Using Mahalanobis Distance and a chi-square cut-off of 36.19 (19 variables, $p = .01$), six multivariate outliers were identified. Visual inspection of the identified cases suggested that their outlier status
may have resulted from endorsing frequent social victimization and little-to-no trauma responses to these negative social experiences. The cases could invariably impact the results; however, the current investigation was designed to determine whether individuals with negative social experiences develop trauma-like symptoms, which would support including all individual experiences. Thus, all identified outliers were included in subsequent analyses, but bootstrapping was used in order to balance their potential impact.

The demographics of those who completed the survey and those who did not were compared. Chi-square tests of homogeneity were conducted on measures of sex, marital status, education, and ethnicity, and none were statistically significantly different (all \( p > .05 \)). Independent samples \( t \)-tests were conducted on measures of age and income, and neither were statistically significantly different between completers and non-completers (all \( p > .05 \)). Descriptive statistics for all independent and dependent variables are presented in Table 2. Several skew statistics were larger than recommended values (i.e., skew statistics divided by standard error were > 2; Tabachnick & Fidell, 2013), as were a few kurtosis statistics (i.e., kurtosis statistics divided by standard error were > 7; Tabachnick & Fidell, 2013). Bootstrapping using 2000 samples was used in subsequent analyses to address issues of non-normality. Table 3 presents the frequencies of the different types of social traumas.

Bootstrapped Pearson and point-biserial inter-correlations of the dependent and independent variables are presented in Table 4. Contrasting previous research (e.g., Finkelhor et al., 2013; McLaughlin et al., 2011), measures of childhood adversity, childhood socioeconomic status, family history of mental disorders, and sex were not
Table 2

Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>$M$</th>
<th>$SD$</th>
<th>$S (SE)$</th>
<th>$K (SE)$</th>
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<tr>
<td><strong>Dependent Variables</strong></td>
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<tr>
<td>LSAS-Social Interaction Anxiety</td>
<td>43.31</td>
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<td>-0.04 (.32)</td>
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<tr>
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<td>6.18</td>
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<td>-0.84 (.32)</td>
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<td>7.91</td>
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<td>-0.80 (.32)</td>
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<td><strong>Independent Variables</strong></td>
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<td>DASS-Depression</td>
<td>10.65</td>
<td>6.07</td>
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<td>DASS-Stress</td>
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<td>4.67</td>
<td>0.13 (.15)</td>
<td>-0.54 (.30)</td>
</tr>
<tr>
<td>CHSES</td>
<td>45.73</td>
<td>12.20</td>
<td>-0.36 (.14)</td>
<td>-0.66 (.28)</td>
</tr>
<tr>
<td>ACE-IQ</td>
<td>5.25</td>
<td>2.27</td>
<td>0.29 (.15)</td>
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<tr>
<td>PCL-5 Criterion A Trauma</td>
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<td>19.11</td>
<td>1.70 (.18)</td>
<td>1.77 (.36)</td>
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<td>PCL-5 Social Trauma</td>
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<td>24.05</td>
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<tr>
<td>OPV</td>
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<td>1.42</td>
<td>0.06 (.16)</td>
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<tr>
<td>OPV</td>
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<td>-0.07 (.16)</td>
<td>-1.08 (.32)</td>
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<td>CPV</td>
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<td>5.01 (.32)</td>
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<td>CCB</td>
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<td>0.85</td>
<td>1.58 (.17)</td>
<td>2.82 (.34)</td>
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<tr>
<td>NAST</td>
<td></td>
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</tr>
</tbody>
</table>

*Note. S = Skew; K = Kurtosis; SE = Standard Error; LSAS = Liebowitz Social Anxiety Scale; DASS = Depression Anxiety Stress 21 Item Scale, CHSES = Childhood Socioeconomic Status; ACE-IQ = Adverse Childhood Experiences International Questionnaire; RMBI = Retrospective Measure of Behavioural Inhibition; PCL-5 = PTSD Checklist for DSM-5; OPV = Overt Peer Victimization Frequency; CPV = Covert Peer Victimization Frequency; OCB = Overt Cyberbullying Frequency; CCB = Covert Cyberbullying Frequency; NAST = Non-Antagonistic Social Trauma Frequency.*
### Table 3

**Frequency of Social Traumas**

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>%</th>
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<td><strong>Frequency of Overt Peer Victimization</strong></td>
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<td></td>
</tr>
<tr>
<td>Never</td>
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<td>21</td>
</tr>
<tr>
<td>Rarely (Once or Twice)</td>
<td>45</td>
<td>20</td>
</tr>
<tr>
<td>Sometimes (2-3 Times a Month)</td>
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<td>22</td>
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<tr>
<td>Frequently (About Once a Week)</td>
<td>37</td>
<td>16</td>
</tr>
<tr>
<td>Constantly (Several Times a Week)</td>
<td>47</td>
<td>21</td>
</tr>
<tr>
<td><strong>Frequency of Covert Peer Victimization</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
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<td>15</td>
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<td>Frequently (About Once a Week)</td>
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<td>18</td>
</tr>
<tr>
<td>Constantly (Several Times a Week)</td>
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<td>21</td>
</tr>
<tr>
<td><strong>Frequency of Overt Cyberbullying</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>167</td>
<td>74</td>
</tr>
<tr>
<td>Rarely (Once or Twice)</td>
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<td>16</td>
</tr>
<tr>
<td>Sometimes (2-3 Times a Month)</td>
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<tr>
<td>Frequently (About Once a Week)</td>
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<tr>
<td><strong>Frequency of Covert Cyberbullying</strong></td>
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<td></td>
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<tr>
<td>Never</td>
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<td>74</td>
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<td>Sometimes (2-3 Times a Month)</td>
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<td>8</td>
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<tr>
<td>Frequently (About Once a Week)</td>
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<td>Constantly (Several Times a Week)</td>
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<tr>
<td><strong>Frequency of Non-Antagonistic Social Trauma</strong></td>
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<td>Never</td>
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<td>55</td>
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<td>Rarely (Once or Twice)</td>
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<td>Sometimes (2-3 Times a Month)</td>
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<td>Frequently (About Once a Week)</td>
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<td>Constantly (Several Times a Week)</td>
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Table 4

**Correlations between Dependent and Independent Variables**

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<tr>
<td>1. Liebowitz Social Anxiety Scale, Social Interaction Anxiety</td>
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<tr>
<td>2. Liebowitz Social Anxiety Scale, Observation Anxiety</td>
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<td>3. Liebowitz Social Anxiety Scale, Public Speaking Anxiety</td>
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<td>.46***</td>
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<td>[0.58, 0.78]</td>
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<tr>
<td>4. Depression Anxiety Stress 21 Item Scale, Depression</td>
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<td>.27**</td>
<td>.35***</td>
</tr>
<tr>
<td></td>
<td>[0.15, 0.53]</td>
<td>[0.08, 0.43]</td>
<td>[0.16, 0.52]</td>
</tr>
<tr>
<td>5. Depression Anxiety Stress 21 Item Scale, Anxiety</td>
<td>.44***</td>
<td>.36**</td>
<td>.38**</td>
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<tr>
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<td>[0.28, 0.59]</td>
<td>[0.15, 0.55]</td>
<td>[0.21, 0.54]</td>
</tr>
<tr>
<td>6. Depression Anxiety Stress 21 Item Scale, Stress</td>
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<td>.21*</td>
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<tr>
<td></td>
<td>[0.11, 0.48]</td>
<td>[-0.01, 0.39]</td>
<td>[0.03, 0.39]</td>
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<td>7. Sex</td>
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<tr>
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<td>[-0.13, 0.27]</td>
<td>[-0.26, 0.11]</td>
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<td>8. Family History of Mental Disorders</td>
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<td>.04</td>
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<tr>
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<td>[-0.37, 0.01]</td>
<td>[-0.23, 0.14]</td>
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<td>9. Childhood Socioeconomic Status</td>
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<td>-.07</td>
<td>-.23*</td>
</tr>
<tr>
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<td>[-0.27, 0.14]</td>
<td>[-0.39, 0.27]</td>
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<td>.17</td>
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<td>[-0.09, 0.33]</td>
<td>[-0.03, 0.36]</td>
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<td>11. Retrospective Measure of Behavioural Inhibition</td>
<td>.46***</td>
<td>.37**</td>
<td>.47**</td>
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<td>[0.28, 0.61]</td>
<td>[0.16, 0.55]</td>
<td>[0.24, 0.66]</td>
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<td>12. PTSD Checklist for DSM-5, Criterion A Events</td>
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<td>[-0.15, 0.21]</td>
<td>[0.02, 0.32]</td>
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<tr>
<td>13. PTSD Checklist for DSM-5, Social Traumas</td>
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<td>.27**</td>
<td>.28**</td>
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<tr>
<td></td>
<td>[0.15, 0.47]</td>
<td>[0.05, 0.47]</td>
<td>[0.09, 0.45]</td>
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<tr>
<td>14. Overt Peer Victimization Frequency</td>
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<td>.14</td>
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</tr>
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<td>15. Covert Peer Victimization Frequency</td>
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<td>.11</td>
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<td>[0.10, 0.45]</td>
<td>[0.02, 0.41]</td>
<td>[-0.08, 0.30]</td>
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<tr>
<td>16. Overt Cyberbullying Frequency</td>
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<td>.07</td>
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<td>[-0.05, 0.26]</td>
<td>[0.07, 0.39]</td>
<td>[-0.06, 0.19]</td>
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<td>17. Covert Cyberbullying Frequency</td>
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<td>[-0.24, 0.08]</td>
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<td>18. Non-Antagonistic Social Trauma Frequency</td>
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<td>.27**</td>
<td>.25*</td>
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<tr>
<td></td>
<td>[0.05, 0.44]</td>
<td>[0.07, 0.45]</td>
<td>[0.04, 0.42]</td>
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</tbody>
</table>

*Note. Confidence intervals (presented in brackets) are 95% bias corrected and accelerated confidence intervals based on 2000 bootstrapped samples. n = 100.*** p < .01 (2-tailed); ** p < .05 (2-tailed).*
statistically significantly related to the dependent variables. The current sample was substantially smaller than samples used in previous research, which suggests that insignificant correlations may be a result of insufficient power. The RMBI was correlated ($rs$ ranging from .37 to .47, $ps < .01$) with all the dependent measures. Measures of general anxiety, and stress were all correlated ($rs$ ranging from .21 to .44, $ps < .05$) with the dependent measures, with the exception of stress not being statistically significantly correlated with and the LSAS-O. The PCL-ST was correlated ($rs$ ranging from .27 to .32, $ps < .01$) with all dependent measures, but the PCL-CA was not correlated with the dependent measures. CPV was correlated with the LSAS-SI and LSAS-O ($r = .27, p < .01$, 95% BCa CI [0.10, 0.45]; $r = .21, p < .05$, 95% BCa CI [0.02, 0.41], respectively), whereas other victimization frequency indices did not demonstrate consistent, statistically significant correlations with the dependent variables. NAST was correlated ($rs$ ranging from .25 to .27, $ps < .05$) with all the dependent variables.

3.2 Primary Analyses

3.2.1 Regression analyses. Regression analyses were used to test Hypotheses 1 through 3. Regression analyses were first run controlling for sex, depression, general anxiety, stress, childhood adversity, familial history of mental disorders, childhood socioeconomic status, childhood behavioural inhibition (RMBI), and response to Criterion A traumas (PCL-CA) in the first step, entering the five indexes of social trauma (i.e., NAST, OPV, OCB, CPV, OCB) in the second step, and entering severity of social trauma response (PCL-ST) in the third step. Coefficient statistics were examined for issues of multicollinearity and statistical suppression. Measures of sex, depression, general anxiety, stress, childhood adversity, familial history of mental disorders, and
childhood socioeconomic status were all either statistically insignificant predictors or displayed statistical suppression (i.e., larger part correlations than zero-order correlations with the dependent variable, beta weights and zero order correlations with opposing signs). Insufficient power due to the relatively small sample that was collected in relation to the relatively large number of predictors in the analyses may explain the results. To increase power, measures that were not statistically significant or that produced suppression effects (i.e., sex, depression, general anxiety, stress, childhood adversity, familial history of mental disorders, childhood socioeconomic status) were removed from the regression models.

OCB only had a statistically significant correlation with the LSAS-O and CCB did not have any statistically significant correlations with any of the dependent variables. Further examination of the OCB and CCB variables revealed that the majority of individuals in the current sample were never cyberbullied (Table 3). Low frequencies could perhaps explain the lack of correlations with the dependent variables, but also raised concern about their reliability as predictors in the regression models. To be certain, OCB and CCB were originally included, but were highly correlated \( r = .73, p < .001 \) and displayed multicollinearity (variance inflation factors > 10.00, tolerances ≤ .10); therefore, they were also removed from the regression models. Regressions were rerun entering the RMBI and PCL-CA in the first step, OPV, CPV, and NAST, in the second step, and the PCL-ST in the third step.

**Hierarchical multiple regression predicting social interaction anxiety (Table 5).**
The first model predicting the LSAS-SI was statistically significant, \( F(2,99) = 13.73, p < .001 \), adjusted \( R^2 = .20 \). The RMBI was a statistically significant predictor, but the
### Table 5

**Hierarchical Multiple Regression Predicting Social Interaction Anxiety**

<table>
<thead>
<tr>
<th>Model</th>
<th>Independent Variable</th>
<th>Coefficients</th>
<th>Correlations</th>
<th>Model Statistics</th>
</tr>
</thead>
<tbody>
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<td></td>
<td></td>
<td>β</td>
<td>p</td>
<td>LLCI</td>
</tr>
<tr>
<td>1</td>
<td>RMBI</td>
<td>.47</td>
<td>&lt; .001</td>
<td>0.57</td>
</tr>
<tr>
<td>1</td>
<td>PCL-CA</td>
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<td>.502</td>
<td>-0.06</td>
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<tr>
<td>2</td>
<td>RMBI</td>
<td>.40</td>
<td>&lt; .001</td>
<td>0.43</td>
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<tr>
<td>2</td>
<td>PCL-CA</td>
<td>.02</td>
<td>.777</td>
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<td>2</td>
<td>OPV</td>
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<td>2</td>
<td>CPV</td>
<td>.14</td>
<td>.133</td>
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<td>2</td>
<td>NAST</td>
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<td>.273</td>
<td>-1.49</td>
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<tr>
<td>3</td>
<td>RMBI</td>
<td>.40</td>
<td>&lt; .001</td>
<td>0.47</td>
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<td>3</td>
<td>PCL-CA</td>
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<td>PCL-ST</td>
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</table>

*Note.* Confidence intervals are 95% bias corrected and accelerated confidence intervals based on 2000 bootstrapped samples. LLCI = Lower Limit Confidence Interval; ULCI = Upper Limit Confidence Interval; RMBI = Retrospective Measure of Behavioural Inhibition; PCL-CA = PTSD Checklist for DSM-5, Criterion A Traumas; OPV = Overt Peer Victimization Frequency; CPV = Covert Peer Victimization Frequency; NAST = Non-Antagonistic Social Trauma Frequency; PCL-ST = PTSD Checklist for DSM-5, Social Traumas. All models are statistically significant at the *p* < .001 level.
PCL-CA was not. Entering OPV, CPV, and NAST in the second step resulted in a statistically significant model, $F(5,96) = 6.24, p < .001$, but did not improve the variance accounted for $\Delta F(3,96) = 1.19, p = .318, \Delta R^2 = .03$. None of the added variables were statistically significant predictors. The final model was also statistically significant, $F(6,95) = 6.68, p < .001$, and entering the PCL-ST in the third step improved the variance accounted for, $\Delta F(1,95) = 6.95, p = .010, \Delta R^2 = .05$. Only the RMBI and the PCL-ST were statistically significant predictors in the final model.

**Hierarchical multiple regression predicting observation anxiety (Table 6).** Similar to when predicting the LSAS-SI, the first model predicting the LSAS-O was statistically significant, $F(2,99) = 7.32, p = .001$, adjusted $R^2 = .11$, but only the RMBI was a statistically significant predictor. When OPV, CPV, and NAST were entered in the second step, the model remained statistically significant, $F(5,96) = 3.69, p = .004$, but the variance accounted for did not statistically significantly improve, $\Delta F(3,96) = 1.23, p = \text{.303}, \Delta R^2 = .03$. None of the added variables were statistically significant predictors. The third model was also statistically significant after entering the PCL-ST on the third step, $F(6,95) = 3.71, p = .002$, but did not statistically significantly improve the variance accounted for $\Delta F(1,95) = 3.40, p = .068, \Delta R^2 = .03$. The RMBI was the only statistically significant predictor in the final model, which differed from the regression analysis predicting the LSAS-SI.

**Hierarchical multiple regression predicting public speaking anxiety (Table 7).** The first model predicting the LSAS-PS was statistically significant, $F(2,99) = 18.59, p < .001$, adjusted $R^2 = .26$. Both the RMBI and PCL-CA were statistically significant predictors. Entering OPV, CPV, and NAST in the second step produced a statistically
Table 6

Hierarchical Multiple Regression Predicting Observation Anxiety

<table>
<thead>
<tr>
<th>Model</th>
<th>Independent Variable</th>
<th>Coefficients</th>
<th>Correlations</th>
<th>Model Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>β</td>
<td>p</td>
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</tr>
<tr>
<td>1</td>
<td>RMBI</td>
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<td>.001</td>
<td>0.15</td>
</tr>
<tr>
<td></td>
<td>PCL-CA</td>
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<td>.406</td>
<td>-0.02</td>
</tr>
<tr>
<td>2</td>
<td>RMBI</td>
<td>.29</td>
<td>.010</td>
<td>0.07</td>
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<tr>
<td></td>
<td>PCL-CA</td>
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<td>.596</td>
<td>-0.03</td>
</tr>
<tr>
<td></td>
<td>OPV</td>
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<td>.633</td>
<td>-0.74</td>
</tr>
<tr>
<td></td>
<td>CPV</td>
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<td></td>
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<td>3</td>
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<td></td>
<td>PCL-CA</td>
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<td>OPV</td>
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<td></td>
<td>PCL-ST</td>
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<td>-0.01</td>
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</table>

Note. Confidence intervals are 95% bias corrected and accelerated confidence intervals based on 2000 bootstrapped samples. LLCI = Lower Limit Confidence Interval; ULCI = Upper Limit Confidence Interval; RMBI = Retrospective Measure of Behavioural Inhibition; PCL-CA = PTSD Checklist for DSM-5, Criterion A Traumas; OPV = Overt Peer Victimization Frequency; CPV = Covert Peer Victimization Frequency; NAST = Non-Antagonistic Social Trauma Frequency; PCL-ST = PTSD Checklist for DSM-5, Social Traumas. All models are statistically significant at the $p < .01$ level.
### Table 7

*Hierarchical Multiple Regression Predicting Public Speaking Anxiety*

<table>
<thead>
<tr>
<th>Model</th>
<th>Independent Variable</th>
<th>Coefficients</th>
<th>Correlations</th>
<th>Model Statistics</th>
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<tr>
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<td>$\beta$</td>
<td>$p$</td>
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</tr>
<tr>
<td></td>
<td>RMBI</td>
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<td>&lt; .001</td>
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<tr>
<td></td>
<td>PCL-CA</td>
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<td>.009</td>
<td>.02</td>
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<tr>
<td>2</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>RMBI</td>
<td>.50</td>
<td>&lt; .001</td>
<td>.30</td>
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<tr>
<td></td>
<td>PCL-CA</td>
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<td>.011</td>
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<tr>
<td></td>
<td>RMBI</td>
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<td>&lt; .001</td>
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<td>PCL-CA</td>
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<td>OPV</td>
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<td>CPV</td>
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<td></td>
<td>PCL-ST</td>
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<td>.086</td>
<td>-0.01</td>
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</tbody>
</table>

*Note.* Confidence intervals are 95% bias corrected and accelerated confidence intervals based on 2000 bootstrapped samples. LLCI = Lower Limit Confidence Interval; ULCI = Upper Limit Confidence Interval; RMBI = Retrospective Measure of Behavioural Inhibition; PCL-CA = PTSD Checklist for DSM-5, Criterion A Traumas; OPV = Overt Peer Victimization Frequency; CPV = Covert Peer Victimization Frequency; NAST = Non-Antagonistic Social Trauma Frequency; PCL-ST = PTSD Checklist for DSM-5, Social Traumas. All models are statistically significant at the $p < .001$ level.
significant model, $F(5,96) = 7.96, p < .001$, but the variance accounted for did not statistically significantly improve, $\Delta F(3,96) = 0.90, p = .443, \Delta R^2 = .02$. None of the added variables were statistically significant predictors. Entering the PCL-ST in the third step produced a statistically significant model, $F(6,95) = 7.27, p < .001$, but once again did not statistically significantly improve the variance accounted for $\Delta F(1,95) = 3.00, p = .087, \Delta R^2 = .02$. The RMBI was the only statistically significant predictor in the final model.

### 3.2.2 Moderation and mediation analyses

Frequency of social traumas did not consistently account for unique variance in symptoms of social anxiety beyond the variance accounted for by childhood behavioural inhibition in the regression analyses. Furthermore, frequency indices also continued to display evidence of statistical suppression (i.e., larger part correlations than zero-order correlations with the dependent variable, beta weights and zero order correlations with opposing signs) despite removing insignificant and other suppressor variables. Moderation and mediation analyses were thus conducted to test Hypothesis 4 and further explore the relationships between the frequency of different types of social traumas, reactions to social traumas, and different types of social anxiety symptoms. Moderation analyses were first run between the frequency of all types of social traumas (i.e., OPV, CPV, OCB, CCB, NAST) and all types of social anxiety symptoms (i.e., LSAS-SI, LSAS-O, LSAS-PS), with reaction to social trauma as the moderating variable (PCL-ST). When entered simultaneously with social trauma responses, only CPV and OCB were statistically significant ($p < .05$) predictors of the LSAS-SI and LSAS-O, respectively. None of the interaction terms between frequency of social traumas and social trauma responses were statistically
significant \((ps > .05)\). Therefore, none of the moderation analyses results were reported.

Mediation analyses were then conducted, entering each of the frequency indices as independent variables, the three different types of social anxiety symptoms as the dependent variables, with response to social trauma as the mediating variable. Due to the large number of mediation analyses (i.e., five indices of social trauma frequency \(\times\) three types of social anxiety symptoms = 15 mediation analyses) only those with statistically significant results were reported.

**Mediation analyses predicting social interaction anxiety.** The PCL-ST mediated the relationship between CPV and the LSAS-SI (Figure 1), \(b = 0.60, 95\% \text{ CI} [0.13, 1.50]\), which produced a medium effect, \(\kappa^2 = .06, 95\% \text{ BCa CI} [0.01, 0.14]\). The PCL-ST also mediated the relationship between NAST and LSAS-SI (Figure 2), \(b = 1.53, 95\% \text{ CI} [0.42, 3.52]\). This mediation produced a medium effect, \(\kappa^2 = .10, 95\% \text{ BCa CI} [0.03, 0.21]\). None of the other independent variables had statistically significant total effects on the LSAS-SI.

**Mediation analyses predicting observation anxiety.** The PCL-ST mediated the relationship between CPV and the LSAS-O (Figure 3), \(b = 0.28, 95\% \text{ CI} [0.06, 0.68]\), which produced a medium effect, \(\kappa^2 = .06, 95\% \text{ BCa CI} [0.01, 0.13]\). The PCL-ST also mediated the relationship between NAST and LSAS-O (Figure 4), \(b = 0.62, 95\% \text{ CI} [0.11, 1.67]\). This mediation also produced a medium effect, \(\kappa^2 = .09, 95\% \text{ BCa CI} [0.02, 0.21]\). None of the other independent variables had statistically significant total effects on the LSAS-O.

**Mediation analyses predicting public speaking anxiety.** The PCL-ST only mediated the relationship between NAST and the LSAS-PS (Figure 5),
Figure 1. Social trauma response mediates the relationship between frequency of covert peer victimization and social interaction anxiety.

Note. Confidence intervals are 95% bias corrected and accelerated confidence intervals based on 2000 bootstrapped samples.
**Figure 2.** Social trauma response mediates the relationship between frequency of non-antagonistic social trauma and social interaction anxiety.

*Note.* Confidence intervals are 95% bias corrected and accelerated confidence intervals based on 2000 bootstrapped samples.
Social Trauma Response mediates the relationship between frequency of covert peer victimization and observation anxiety.

Total effect, $b = 0.99$, $p = .034$

Direct effect, $b = 0.71$, $p = .122$

Indirect effect, $b = 0.28$, 95% BCa CI [0.06, 0.68]

$\kappa^2 = .06$, 95% BCa CI [0.01, 0.13]

*Figure 3.* Social trauma response mediates the relationship between frequency of covert peer victimization and observation anxiety.

*Note.* Confidence intervals are 95% bias corrected and accelerated confidence intervals based on 2000 bootstrapped samples.
Non-Antagonistic Social \rightarrow Observation Anxiety

Total effect, $b = 1.82$, $p = .004$

Social Trauma Response

$\text{Non-Antagonistic Social} \rightarrow \text{Social Trauma Response}$

$b = 10.12$, $p < .001$

$\text{Social Trauma Response} \rightarrow \text{Observation Anxiety}$

$b = 0.06$, $p = .024$

Non-Antagonistic Social \rightarrow Observation Anxiety

Direct effect, $b = 1.20$, $p = .073$

Indirect effect, $b = 0.62$, 95% BCa CI [0.11, 1.67]

$k^2 = .09$, 95% BCa CI [0.02, 0.21]

*Figure 4.* Social trauma response mediates the relationship between frequency of non-antagonistic social trauma and observation anxiety.

*Note.* Confidence intervals are 95% bias corrected and accelerated confidence intervals based on 2000 bootstrapped samples.
Figure 5. Social trauma response mediates the relationship between frequency of non-antagonistic social trauma and public speaking anxiety.

Note. Confidence intervals are 95% bias corrected and accelerated confidence intervals based on 2000 bootstrapped samples.
\[ b = 0.73, \text{95\% CI} [0.12, 1.87]. \] This mediation produced a medium effect, \( \kappa^2 = .09, \text{95\% BCa CI} [0.02, 0.20]. \) None of the other independent variables had statistically significant total effects on the LSAS-PS.

### 3.2.3 Independent samples \( t \)-tests.

Independent samples \( t \)-tests were conducted to test Hypothesis 5 and determine whether betrayal impacted severity of reaction to social traumas. Severity of social trauma responses did not differ based on subjective feelings of betrayal, \( t(90) = 1.49, p = .140, \text{95\% BCa CI} [-1.76, 17.44], \) Cohen’s \( d = 0.32, \) nor whether individuals did or did not consider perpetrators of peer victimization to be friends prior to the events, \( t(80) = 0.66, p = .51, \text{95\% BCa CI} [-7.59, 15.09], \) Cohen’s \( d = 0.15. \) Given that the results contrasted the hypothesis, an additional independent samples \( t \)-test was run to compare severity of reaction to social trauma based on the presence of an antagonist. Interestingly, non-antagonistic social traumas \( (M = 37.19, SD = 23.51) \) appeared to cause more severe reactions than antagonistic social traumas \( (M = 26.85, SD = 21.24), t(71) = -1.97 p = .053, \text{95\% BCa CI} [-20.74, -0.28], \) Cohen’s \( d = 0.46. \)

### 3.2.4 Trauma frequencies and temporal relationships.

To test Hypothesis 6 and further understand the relationship between social trauma and social anxiety, the frequency of traumas, the temporal relationship between traumas and SAD symptom onset, and the subjective relationship between the two were explored (Table 8). Approximately 33% of the participants had experienced a social trauma, 19% had experienced both a social trauma and a Criterion A trauma, and 36% had not experienced
Table 8

*Participant Trauma Experience*

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAD Symptom Severity (≥ 60 on LSAS-SR)</td>
<td>171</td>
<td>74</td>
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<tr>
<td>Traumas experienced</td>
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<tr>
<td>Social Trauma Only</td>
<td>59</td>
<td>33</td>
</tr>
<tr>
<td>Criterion A Trauma Only</td>
<td>21</td>
<td>12</td>
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<tr>
<td>Both Social and Criterion A Trauma</td>
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<td>19</td>
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<tr>
<td>Neither Social or Criterion A Trauma</td>
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<td>36</td>
</tr>
<tr>
<td>Trauma Response Severity</td>
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<tr>
<td>Participants Meeting PCL-5 Criteria in Response to Social Trauma</td>
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<td>34</td>
</tr>
<tr>
<td>Participants Meeting PCL-5 Criteria in Response to Criterion A Trauma</td>
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<td>46</td>
</tr>
<tr>
<td>Worst Type of Trauma – Total Sample</td>
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<td>Social Trauma</td>
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<tr>
<td>Criterion A Trauma</td>
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<td>Worst Type of Trauma – Only Participants who Experienced Both Types of Trauma</td>
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<td>Criterion A Trauma</td>
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<tr>
<td>Temporal Relationship between Social Trauma Experience and Onset of SAD Symptoms</td>
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<tr>
<td>Years Prior to Onset of SAD Symptoms</td>
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<td>20</td>
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<tr>
<td>Within a Year Prior to Onset of SAD Symptoms</td>
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<td>9</td>
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<tr>
<td>Months/Weeks Prior to Onset of SAD Symptoms</td>
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<tr>
<td>After the Onset of SAD Symptoms</td>
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<td>Subjective Relationship between SAD Symptoms and Social Traumas Preceding Symptom Onset</td>
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<tr>
<td>Felt Social Trauma was Connected to SAD Symptoms</td>
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<td>50</td>
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<tr>
<td>Did Not Feel Social Trauma was Connected to SAD Symptoms</td>
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<tr>
<td>Subjective Relationship between SAD Symptoms and Social Traumas Following Symptom Onset</td>
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<td>Felt Social Trauma was Connected to SAD Symptoms</td>
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<tr>
<td>Did Not Feel Social Trauma was Connected to SAD Symptoms</td>
<td>28</td>
<td>40</td>
</tr>
</tbody>
</table>

*Note.* LSAS-SR = Liebowitz Social Anxiety Scale, Self-Report version; SAD = Social Anxiety Disorder; PCL-5 = PTSD Checklist for DSM-5.
either. A third of the participants (34%) would have met DSM-5 PTSD\textsuperscript{1} criteria in response to their social trauma had it been a Criterion A event, and nearly half (46%) met PTSD criteria in response to their Criterion A events. The majority (61%) of participant who had experienced both types of trauma claimed that their Criterion A event was the worst trauma. The majority of participants who experienced a social trauma experienced it following the onset of their SAD symptoms (62%). Half of the participants (50%) that experienced a social trauma preceding the onset of their symptoms felt it was connected to their symptoms. Over half of the participants (60%) that experienced a social trauma following the onset of their symptoms felt it was connected to their symptoms.

4.0 Discussion

4.1 Investigation Summary

The current investigation was designed to explore the relationship between social anxiety symptoms and negative social experiences. Models of SAD (e.g., Beidel & Turner, 1998; Heimberg et al., 2010; Hofmann, 2007) posit that experiencing, witnessing, or learning about traumatic social events can contribute to the development and maintenance of social anxiety symptoms. Additional research is necessary to delineate the conditioning effects of social trauma characteristics on types of social anxiety symptoms experienced. The current investigation explored whether different types of negative social events predicted different types of social anxiety symptoms, and whether

\textsuperscript{1} There are several ways to use the PCL-5 to determine whether an individual meets DSM-5 diagnostic criteria for PTSD. The current study utilized one of the more strict sets of criteria, requiring participants to endorse at least one intrusion symptom, one avoidance symptom, two negative alterations in cognitions and mood symptoms, and two alterations in arousal and reactivity, with a response of \textit{moderate} (2) or higher (Weathers et al., 2013).
or not this relationship is influenced or accounted for by reactions to the events. More specifically, the current investigation examined whether the frequency of antagonistic (i.e., overt peer victimization, covert peer victimization, overt cyberbullying, covert cyberbullying) and non-antagonistic social traumas (i.e., accidental, embarrassing events) differentially related to symptoms of social anxiety (i.e., interactional, observational, and performance anxiety), and whether these potential relationships were influenced or accounted for by the severity of trauma-like reactions to the experiences. Betrayal in social trauma was explored as a potential factor influencing the severity of reaction to the event. The temporal relationship between social traumas and the onset of social anxiety symptoms was also examined.

4.2 Primary Findings

There were six hypotheses tested in the current investigation. Hypotheses 1 through 3 tested whether type of social trauma experienced differentially predicted the type of social anxiety symptoms experienced. Covert victimization was expected to be the strongest predictor of social interaction anxiety due to the intentional sabotage of relationships or reputation through social interactions (Hypothesis 1). Overt victimization was expected to be the strongest predictor of observation anxiety, based on the assumption that overt victimization (e.g., physical and verbal abuse) often creates a scene for an audience to attend, therein potentiating a fear of being observed (Hypothesis 2). Non-antagonistic social traumas were expected to be the strongest predictor of performance or public speaking anxiety, based on the assumption that humiliating accidents or personal mishaps in front of others are likely to cause fear of future performance situations, or situations in which the outcome is based on personal
performance rather than the malicious intent of others (Hypothesis 3). Support for Hypotheses 1 through 3 would contribute to behavioural models of SAD and underscore the importance of negative social experiences in conditioning symptoms of SAD. Hypotheses 1 through 3, as stated, were largely unsupported by the primary analyses; however, some support for the specificity between the type of social trauma and symptoms of social anxiety experienced was found.

Covert peer victimization was moderately correlated with both social interaction and observation anxiety, whereas overt peer victimization did not correlate with any types of social anxiety symptoms. Covert cyberbullying did not strongly correlate with any symptoms of social anxiety and overt cyberbullying only moderately correlated with observation anxiety. Non-antagonistic social traumas were moderately correlated with all symptoms of social anxiety. The correlation results did not fully support the proposed conditioning theory-based hypotheses that social trauma type may influence social anxiety symptoms experienced (Hypotheses 1 through 3), but did concur with previous work that suggested covert peer victimization has the strongest relationship with social anxiety (e.g., Storch et al., 2003; Storch & Masia-Warner, 2004; Storch et al., 2005). Although the correlation results did not cumulatively support Hypotheses 1 through 3 as stated, the results did provide initial support for the existence of specific relationships between antagonistic and non-antagonistic social traumas, and symptoms of social anxiety experienced.

Regression analyses revealed more specific relationships between frequency of social traumas, reactions to social traumas, and symptoms of social anxiety. A history of childhood behavioural inhibition was the strongest predictor of all types of social anxiety
symptoms. None of the frequency indices of social traumas were uniquely related to 
social interaction, observation, or public speaking anxiety while controlling for childhood 
behavioural inhibition. Severity of social trauma response did, however, uniquely relate 
to social interaction anxiety, implying that response severity may potentially account for 
the relationship between frequency of social trauma and social anxiety symptoms. 
Overall, the regression results did not support Hypotheses 1 through 3 and contrasted the 
results of previous investigations that provided evidence for specific relationships 
between the frequency of overt and covert forms of peer victimization and symptoms of 
social anxiety (e.g., Storch et al., 2003; Storch & Masia-Warner, 2004; Storch et al., 
2005). Previous investigations did not control for childhood behavioural inhibition, 
which, in the current study, accounted for a large proportion of variance in all types of 
social anxiety symptoms. Finding that frequency of peer victimization did not uniquely 
relate to social anxiety symptoms while controlling for childhood behavioural inhibition 
suggests that although negative social experiences may be related to social anxiety 
symptoms, childhood behavioural inhibition may play a more central role in developing 
social anxiety symptoms (Elizabeth et al., 2006). Alternatively, childhood behavioural 
inhibition may play a causal role in experiencing peer victimization, based on the causal 
priority principle of hierarchical regression (Petrocelli, 2003).

Hypothesis 4 predicted that severity of response to social traumas, regardless of 
the type of social trauma, would influence or account for the relationship between social 
trauma frequency and the experiences of social anxiety symptoms. Results of the 
moderation and mediation analyses suggested that severity of social trauma response 
mediated the relationship between SAD symptoms and the frequency of both antagonist
and non-antagonist forms of social trauma. Social trauma responses mediated the relationship between frequency of covert peer victimization and both social interaction anxiety and observation anxiety. Social trauma responses also mediated the relationships between frequency of non-antagonistic forms of social trauma and all types of social anxiety symptoms. Mediation effect sizes for responses to both antagonistic and non-antagonistic social traumas were similar in size, suggesting that reactions to both types of social trauma play similar roles in social interaction anxiety and observation anxiety. The mediation results also suggested that reactions to non-antagonistic social traumas, but not reactions to peer victimization, may play a unique role in public speaking anxiety. Overall, the relationships between types of social traumas and social interaction anxiety closely paralleled the relationships between types of social traumas and observation anxiety, which both differed slightly from the relationships between social traumas and public speaking anxiety. The results are consistent with recent research indicating that performance anxiety may be qualitatively distinct from and develop differently than social interaction and observation anxiety (Bögels et al., 2010).

4.3 Secondary Findings

Hypothesis 5 predicted that betrayal would contribute to more severe social trauma responses. There were no significant differences in social trauma responses based on subjective feelings of betrayal, nor whether victims considered perpetrators to be friends prior to the victimization. A lack of support for Hypothesis 5 in the current sample suggests that betrayal does not play the same role in responses to negative social experiences as it does to Criterion A events (e.g., Tang & Freyd, 2012). Limitations of the current measurements of betrayal (i.e., single question responses) may explain the
discrepancy. Alternatively, cognitive tendencies that are characteristic of individuals with SAD may also explain the different response patterns to betrayal. Individuals in the current sample reported high levels of childhood behavioural inhibition, which by definition is a predisposition to be wary of novel people and situations. Expectations that others will be untrustworthy may have contributed to equally distressing responses, regardless of whether an individual felt betrayed. Also in contrast to Criterion A trauma literature (e.g., APA, 2013; August & Gianola, 1987), non-antagonistic social traumas appeared to contribute to more distressing social trauma responses. The discrepancy may also be explained by cognitive tendencies characteristic of individuals with SAD. Individuals with social anxiety are more likely to be overly self-conscious and self-critical. Being overly self-conscious and self-critical could contribute to non-antagonistic forms of social trauma being interpreted as more distressing, given that such events often “spotlight” the victims’ actions that caused the event or their reaction to the event.

Hypothesis 6, which predicted that a larger proportion of individuals would have experienced a social trauma prior to the onset of their social anxiety symptoms, was not supported. Although more than half (52%) of the sample had experienced a social trauma, most of the participants (62%) experienced their social trauma following the onset of their SAD symptoms. Half of the participants (50%) felt that social traumas preceding the onset of their symptoms were connected to their symptoms. The results concur with previous estimates that 40% of individuals meeting SAD criteria have experienced a social trauma (Stemberger et al., 1995), but that the majority experience the social trauma after symptom onset and do not attribute their symptom development to the event (Hofmann et al., 1995). The results also suggest that social traumas may be
associated with developing SAD symptoms for some people, but more likely act as a symptom synergist.

4.4 Research Implications

The current results add to the literature in several ways. First, non-antagonistic social traumas were found to be experienced less frequently than victimization in-person, but more frequently than victimization online. Approximately 47% of the sample reported having experienced at least one non-antagonistic social trauma. The current results are the first indication that non-antagonistic social traumas correlate with all types of social anxiety symptoms and that non-antagonistic social traumas may potentiate distressing responses like antagonistic social traumas. The current results support the need for future research considering non-antagonistic forms of social trauma–in addition to antagonistic forms–in the development, maintenance, and treatment of SAD.

Second, the current results suggest that distinctive types of social traumas may differentially contribute to types of social anxiety symptoms. Although the hypotheses were not supported as stated, covert peer victimization and non-antagonistic social traumas were uniquely related to social interaction anxiety, observation anxiety, and public speaking anxiety. The original hypotheses predicted that different characteristics of social traumas would condition similar social anxiety symptoms (e.g., being observed during overt peer victimization would lead to a fear of being observed). The results suggested that outcome of social traumas, regardless of the trauma characteristics, may condition fear of evaluation, which is common to all types of social anxiety symptoms. That is, the humiliation or embarrassment resulting from covert peer victimization or non-antagonistic social traumas may condition a fear of evaluation, whereas the physical
harm resulting from overt victimization is unlikely to condition a fear of evaluation. The respective relationships between social anxiety symptoms and covert peer victimization and non-antagonistic social traumas further support conditioning theories of SAD.

Third, the current results suggest that online forms of victimization may be less related to social anxiety than in-person forms of victimization. Frequency of online victimization in the current sample was consistent with previous estimates (e.g., Tokunaga, 2010), but the current results contrasted previous research that demonstrated relationships between frequency of online victimization and social anxiety (Dempsey et al., 2009; Juvnen & Gross, 2008). Frequency of online victimization did not consistently relate to social anxiety symptoms and did not predict social trauma responses. A lack of relationships between frequency of online victimization and social anxiety symptoms also contrasted findings for in-person forms of victimization in the current sample, which demonstrated consistent relationships between covert victimization and social anxiety symptoms that were largely accounted for by trauma-like responses to the victimization. Discrepant results may be explained by the use of different samples. Previous research utilized middle school participants (ages 11-17; Dempsey et al., 2009; Juvnen & Gross, 2008) to examine the relationship between frequency of recent online victimization and social anxiety symptoms. Perhaps recent or ongoing online victimization in middle school samples may relate to social anxiety symptoms, but online victimization may not have as strong a relationship with social anxiety symptoms later in life. Indeed, online victimization did not appear to predict trauma-like responses in the current young adult sample, which largely accounted for the relationship between social anxiety symptoms in early adulthood and strict frequency of victimization in adolescence. Replication is
needed to determine whether online victimization relates to social anxiety and through what mechanisms.

Fourth, the current results provided additional evidence that negative social experiences can elicit trauma-like responses typically following Criterion A events (Carleton et al., 2011; Erwin et al., 2006). Approximately one third (34%) of the current sample would have met PTSD criteria in response to their social trauma had it been a Criterion A event. The majority (61%) of individuals who experienced both types of trauma endorsed the Criterion A traumas as worse than the social traumas. Criterion A traumas may ultimately cause more distressing responses, but the current results suggest that social traumas do have the potential to elicit adverse, lasting reactions. Previous research (e.g., Dempsey et al., 2009; Juvnen & Gross, 2008; Siegel et al., 2009; Storch et al., 2005) has often used frequency of social traumas to investigate the relationship between negative social events and social anxiety symptoms. In accordance with more recent research (Levinson et al., 2013; Rosen et al., 2012), the current results suggest that the relationship between social traumas and social anxiety symptoms may be better accounted for by reactions to the events than strict frequency indices. The relationship between social trauma response and social interaction anxiety was robust to controlling for responses to Criterion A events and childhood behavioural inhibition, which demonstrates the relative importance that social trauma responses play in social anxiety. Future research should investigate additional factors besides frequency that may contribute to social trauma responses, and consider using a metric of social trauma response (instead of frequency indices) when exploring the relationships between negative social experiences and social anxiety.
Fifth, the current investigation utilized a retrospective design to provide initial support for the long-term effects that specific types of social traumas can have on social anxiety symptoms later in life. Longitudinal designs to date have only focused on antagonistic forms of social trauma and rarely differentiate between forms of peer victimization (e.g., Copeland et al., 2013; Sourander et al., 2007; Stapinski et al., 2014). Longitudinal designs have also relied on frequency indices to study the relationship between negative social experiences and social anxiety (e.g., Copeland et al., 2013; Sourander et al., 2007; Stapinski et al., 2014). No causal relationships can be drawn from the current investigation, but the results provide important considerations for future prospective research, namely, differentiating between type of victimization, considering non-antagonistic forms of social traumas, and measuring reactions to the events. Another important consideration is controlling for other risk and resiliency variables for the development of SAD. Previous longitudinal designs have controlled for risk factors like childhood adversities (e.g., parental divorce), parental mental health, and childhood socioeconomic status, but did not control for childhood behavioural inhibition (e.g., Copeland et al., 2013; Stapinski et al., 2014). The current results suggest behavioural inhibition shares a seminal relationship with social anxiety symptoms and should therefore be considered in longitudinal research. Conditioning models of SAD (Kimbrel, 2008) posit that positive social experiences and relationships can have a counter-conditioning effect on the outcomes of socially traumatic events. As such, positive social experiences should be considered as resiliency variables in longitudinal research on the risk of anxiety psychopathology following social trauma.
Sixth, recollections of the temporal relationship between experiencing a social trauma and the onset of SAD symptoms suggested that experiencing a social trauma does not always precede the development of social anxiety symptoms. Indeed, social traumas may contribute to the development of SAD for some people, but more likely exacerbate predispositions for, or existing symptoms of SAD. Longitudinal research is required to verify alternate explanations (i.e., cognitive behavioural vs. behavioural model explanations) of the development of SAD.

4.5 Clinical and Practical Implications

The current results suggest covert peer victimization and non-antagonistic social traumas relate to symptoms of social anxiety in early adulthood. The relationship between experiencing a negative social event and social anxiety appears largely accounted for by individual reactions. The results support previous work (e.g., Erwin et al., 2006) that suggested conceptualizing and measuring social trauma responses much like responses to Criterion A events. Participants who reported experiencing social traumas and Criterion A traumas still underscored the latter as more distressing, but responses to negative social events appear more important when conceptualizing the development, maintenance, and treatment of SAD.

Cognitive behavioural models of SAD (Heimberg et al., 2010) suggest negative imagery maintains SAD through spontaneous recollections of negatively distorted images from previous anxiety-provoking events, as well as through post-event processing. A social trauma could contribute to the maintenance of SAD symptoms via spontaneous recall before, during, or after subsequent social situations. Tendencies to exaggerate negative evaluations and sequel may contribute to the spontaneous recall of such events.
becoming more negatively biased, therein facilitating a negative cycle of post-event processing that contributes to the maintenance of SAD.

Spontaneous imagery experienced by individuals with SAD may be related to events around the time of symptom onset (Hackmann et al., 2000), much like intrusive symptoms following Criterion A events. Traumatic social experiences may produce pathological memory representations in the form of an associative network, similar to fear networks described in different PTSD theories (Sansen, Iffland, & Neuner, 2015). Experimental research has shown that specific stimuli associated with a social trauma can become associated with negative affective, cognitive, and physiological responses in memory (Iffland, Sansen, Catani, & Neuner, 2014; Sansen et al., 2015). As such, when a specific stimulus is encountered, a whole cognitive network may be triggered, producing an intrusive negative image accompanied by the originally associated cognitive, affective, and physiological responses. Associative networks may be one explanation for why some individuals with SAD can feel distressed in situations that are not otherwise objectively threatening.

Growing evidence that social traumas can relate to social anxiety by way of trauma-like responses and negative imagery has prompted research on imagery rescripting in the treatment of SAD (Erwin et al., 2006; Iffland et al., 2014; Sansen et al., 2015; Wild & Clark, 2011). Imagery rescripting was originally used to change unpleasant memories for individuals with borderline personality disorder and PTSD (Wild & Clark, 2011). Imagery rescripting is thought to be more effective than reprocessing verbal content since images are more likely to trigger emotional and physiological responses due to similar neural mechanisms (Brewin, Gregory, Lipton, & Burgess, 2010). Imagery
rescripting involves proven techniques from cognitive behavioural therapy, namely “image challenging” and prolonged exposure. In Wild and Clark’s (2011) imagery rescripting protocol, clients first challenge the target image much in the same way of traditional thought challenging (i.e., look for evidence for and against the beliefs associated with the social trauma). Clients then close their eyes and imagine the event while recounting out loud the memory of the social trauma as though it was happening at present. Clients then “relive” the memory again, but from an observer perspective (i.e., their current age selves watching their younger selves experiencing the event). Finally, clients “relive” the memory once more, this time allowing the wisdom (gathered from the challenging) and compassion of the current self to interject in the experience and change the interpretation of the event. Research regarding imagery rescripting efficacy suggests rescripting is (a) more effective than simple recollection; (b) as effective as an independent intervention without traditional cognitive restructuring or when integrated as part of individual and group cognitive behavioural therapy; and (c) comparable to traditional cognitive behavioural therapy with high proportions of clinically significant change and lasting gains at 6 months follow-up (Frets, Kevenaar, & van der Heiden, 2014; McEvoy & Saulsman, 2014; Nilsson, Lundh, & Viborg, 2012; Wild & Clark, 2011; Wild, Hackmann, & Clark, 2007; Wild, Hackmann, & Clark, 2008).

Understanding that socially traumatic events may contribute to the development or maintenance of SAD through negative memories and imagery can improve SAD treatment. That is, inquiring about experiencing such negative events and exploring any residual symptoms from the events (i.e., memories and images) can help clinicians better case conceptualize their clients. If such experiences are relevant to clients’ symptoms,
tailoring treatment to include more memory-focused exposure techniques as opposed to
present-focused behavioural techniques may be beneficial. Typical cognitive behavioural
protocols for SAD commonly utilize video feedback, behavioural experiments, and
exposure to currently feared situations, which are all present-focused techniques. If a past
social trauma may be contributing to a client’s current experience through spontaneous
negative imagery, incorporating memory-focused techniques (such as imagery rescripting
or prolonged exposure commonly used in the treatment of PTSD) may result in greater
treatment gains.

Understanding that negative social experiences can elicit trauma-like responses
that contribute to social anxiety also helps give direction to preventative efforts. Knowing
that covert forms of peer victimization may elicit more severe social trauma responses
provides cause for preventative victimization efforts and the need to raise awareness
about its lasting impacts. Common sayings like “sticks and stone may break my bones,
but words will never hurt me” imply that overt forms of victimization may be more
harmful than covert forms. Anecdotally, people are often advised to simply ignore covert
forms of victimization. As the current results suggest, however, covert forms of
victimization are not so easily ignored and can have greater lasting effects than overt
forms on the development and maintenance of social anxiety. Thus, education,
awareness, and preventative strategies to better detect covert victimization (due to its
unobvious nature) and reduce its prevalence are needed. The current results also propose
the need for greater awareness of the lasting effects that non-antagonistic social traumas
can have. Common perceptions often view such occurrences as benign and harmless,
though embarrassing. Support following the experience of one may help individuals to
more realistically process such events, therein circumventing future impairment relating to the event.

4.6 Limitations and Directions for Future Research

The current investigation has limitations that provide directions for future research. First, the current study used retrospective data, which may have been influenced by recollection difficulties or biases. For example, several participants were unsure of either one or both of their parents’ education level and their occupation while growing up, which precluded them from having an index of childhood socioeconomic status. Recollection difficulties or biases could have also influenced memories of antagonistic and non-antagonistic traumas or the temporal sequencing of such events and the onset of social anxiety symptoms. Young adults were recruited for this investigation in an attempt to help mitigate such recollection difficulties and biases. Furthermore, support exists for the stability, accuracy, and economic viability of exploratory retrospective reports of negative experiences (Hardt & Rutter, 2004; Rivers, 2001). Nevertheless, longitudinal research should be conducted to investigate the relationship between specific types of antagonistic and non-antagonistic social traumas, comparative reactions to such traumas, factors that influence such reactions to social traumas, and the experience of social anxiety so that more definitive conclusions can be drawn about the causal role such factors play in SAD.

Second, the current investigation did not include measures of cognitive tendencies thought to maintain SAD (e.g., Heimberg et al., 2010; Steinman, Gorlin, & Teachman, 2014; Teale Sapach, Carleton, Mulvogue, Weeks, & Heimberg, 2015). The primary results of this investigation suggest that reactions to social traumas largely account for the
relationship between the experience of a social trauma and social anxiety symptoms. As such, future research should measure individual differences (e.g., in intolerance of uncertainty) in order to see how cognitive variables influence reactions to negative social events. Such an understanding could contribute to treatment research by facilitating methods to mitigate adverse consequences of experiencing a negative social event.

Third, the current investigation used only self-reported assessments. Future studies implementing a variety of measurements (e.g., physiological measurements, behavioural assessments, corroborative reports from teachers, parents, or peers) may produce more accurate and reliable results that are less influenced by factors like the participants’ state while completing the survey and social desirability effects. Anonymity was maintained during this survey in an attempt to mitigate the effect of socially desirable responding. The current results, however, may have been influenced by participant fatigue, as participants took approximately 45-60 minutes to complete the extensive battery of questionnaires, and some commented negatively on the length or did not complete the questionnaires.

Fourth, the large number of analyses in the current investigation can be argued to have inflated the Type I error rate. Effect sizes and confidence intervals were also reported where applicable to help reduce the risk of making Type I errors by solely relying on significance testing. Regardless, all interpretations should be heeded with caution, and replication of these results in diagnosed clinical samples and larger community samples is necessary.
4.7 Conclusion

SAD is a pervasive and impairing disorder. The current investigation was designed to understand how certain types of social traumas may contribute to the development of SAD in order to inform etiological models and treatment approaches. The current results suggest covert peer victimization and non-antagonistic social traumas may contribute to maintaining or exacerbating SAD symptoms. Such negative experiences appear to contribute to SAD symptoms through reactions similar to posttraumatic stress responses following Criterion A traumas. Client case conceptualization may benefit from inquiring about traumatic social experiences and targeting residual symptoms of such events (e.g., intrusive negative imagery) through techniques typically used in the treatment of PTSD (e.g., prolonged exposure, imagery rescripting). Longitudinal research should further explore the causal relationship between negative social experiences and SAD.
5.0 References


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used in research on social anxiety disorder: A psychometric evaluation.

*Computers in Human Behavior, 26*, 736-740. doi: 10.1016/j.chb.2010.01.010


Petrocelli, J. V. (2003). Hierarchical multiple regression in counseling research: Common


Appendix A

Research Ethics Board Certificate of Approval

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<td>Psychology</td>
<td>2014-122</td>
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<td>The University of Regina Research Ethics Board has reviewed the above-named research project. The proposal was found to be acceptable on ethical grounds. The principal investigator has the responsibility for any other administrative or regulatory approvals that may pertain to this research project, and for ensuring that the authorized research is carried out according to the conditions outlined in the original protocol submitted for ethics review. This Certificate of Approval is valid for the above time period provided there is no change in experimental protocol, consent process or documents. Any significant changes to your proposed method, or your consent and recruitment procedures should be reported to the Chair for Research Ethics Board consideration in advance of its implementation.</td>
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<td>In order to receive annual renewal, a status report must be submitted to the REB Chair for Board consideration within one month of the current expiry date each year the study remains open, and upon study completion. Please refer to the following website for further instructions: <a href="http://www.uregina.ca/research/REB/main.shtml">http://www.uregina.ca/research/REB/main.shtml</a></td>
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Dr. Larena Hoeber, Chair
University of Regina - Research Ethics Board

Please send all correspondence to:
Office for Research, Innovation and Partnership
University of Regina
3737 Wascana Parkway, Regina, SK S4S 0A2
Telephone: (306) 585-4775 Fax: (306) 585-4893 research.ethics@uregina.ca
Appendix B

Informed Consent

University of Regina

ANXIETY AND ILLNESS BEHAVIOUR LAB

Participant Consent

TITLE OF RESEARCH: Exploring the Relationship between Negative Social Experiences and Social Anxiety

RESEARCHER: Michelle Teale Sapach
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306-337-2473

SUPERVISOR: Dr. Nicholas Carleton
Associate Professor
Department of Psychology
University of Regina
nick.carleton@uregina.ca
306-585-4595

INVITATION TO PARTICIPATE: We are inviting you to participate in this investigation if you experience regular symptoms of social anxiety, or shyness and nervousness in social situations. Michelle Teale Sapach, under the supervision of Dr. Carleton, is conducting the investigation.

PURPOSE OF THE STUDY: Social anxiety disorder is a pronounced and enduring fear or anxiety of being scrutinized in social interactional, observational, or performance situations. Negative social experiences (i.e., social traumas) have been implicated in models of the development of social anxiety disorder. Research associates peer victimization with adolescent symptoms of SAD, and suggests type of victimization may differentially influence symptom presentation. Preliminary evidence suggests that severity of reaction to social trauma may also influence the presentation of SAD symptoms. The purpose of the current investigation is to examine how the experience of different types of social traumas (i.e., peer victimization and cyberbullying) and the severity of reaction to social traumas mitigate SAD and related symptoms in early adulthood.

ROLE OF PARTICIPANTS: If you agree to participate, you will simply answer the questionnaires on the following pages, which should take you between 45-60 minutes.

POTENTIAL RISKS: The anticipated risks involved in participating in this investigation are very minimal. While answering some of the questions, you may experience some increased emotionality. This will be temporary. In the event that your
increased emotionality persists you can follow the links below to get information on finding a therapist in Canada or the United States, or contact information for crisis centers across Canada and the United States. These links will also be provided at the end of the survey, but we recommend that you save them before you proceed with your participation in case you decide to terminate your participation.

Find a therapist in Canada:
http://www.cpa.ca/public/findingapsychologist/

Find Crisis Resources in Canada:
http://suicideprevention.ca/thinking-about-suicide/find-a-crisis-centre/

Find a therapist in the United States:
http://locator.apa.org/

Find Crisis Resources in the United States:
http://hopeline.com/gethelpnow.html

POTENTIAL BENEFITS: The results of this investigation will provide information on how different types of negative social experiences during youth and adolescence may influence the experience of social anxiety in adulthood. It will also provide further information on the long-term effects of cyberbullying. Understanding how certain types of negative social experiences may contribute to the development of social anxiety disorder will inform current understanding of the disorder and therein improve treatment approaches. Furthermore, identification of events that contribute to the development of social anxiety disorder can provide support to preventative efforts such as Anti-Bullying Day in Canada and National Bullying Prevention Month in the United States. Although your participation in this study would contribute to the aforementioned efforts, there are no direct benefits to you, the participant.

CONFIDENTIALITY: Participation and all responses will be completely anonymous. No personally identifying information will be collected. No IP addresses will be collected and all data will be encrypted to ensure confidentiality. If you contact the researchers with questions regarding the study, your participation will no longer be anonymous, but your responses will remain confidential as there will be way to identify individual responses.

WITHDRAWAL FROM THE STUDY: Your decision to participate is entirely voluntary and you only have to answer questions that you feel comfortable answering. We remind you, however, that all responses will be anonymous and will assist in understanding the development of social anxiety. If you choose to withdraw, you may do so at any time without penalty. Once you complete the survey, you will be unable to withdraw your responses because all data will be anonymous and we will have no way to identify and remove your responses.
FOLLOW UP: To obtain results from the study, please visit www.aibl.ca. General results of the study will be available once the study is completed.

OFFER TO ANSWER QUESTIONS OR PROVIDE ASSISTANCE: If you have any questions or concerns regarding the study specifically you may contact the primary researcher (Michelle Teale Sapach) at the contact information listed at the top of the page. Please note that if you do contact the investigator, your data will remain confidential, but your participation will no longer be anonymous.

UNDERSTANDING AND CONSENT: I understand that this project has been approved on ethical grounds by the University of Regina Research Ethics Board on July 10, 2014. If I have any questions or concerns about my rights or treatment as a research participant, I may contact the Chair of the Ethics Board by e-mail: research.ethics@uregina.ca or at 306-585-4775 (participants out of town may call collect).

By completing and submitting these questionnaires, YOUR FREE AND INFORMED CONSENT IS IMPLIED and indicates that you understand the above conditions of participation in this study.
Appendix C

Demographics Questionnaire

The following is used for demographic purposes only and will not be reported in a way that could individually identify you.

1. Please indicate where you live.

- □ Alberta
- □ British Columbia
- □ Manitoba
- □ New Brunswick
- □ Newfoundland & Labrador
- □ Nova Scotia
- □ Northwest Territories
- □ Nunavut
- □ Ontario
- □ Prince Edward Island
- □ Quebec
- □ Saskatchewan
- □ Yukon
- □ Alabama
- □ Alaska
- □ Arizona
- □ Arkansas
- □ California
- □ Colorado
- □ Connecticut
- □ Delaware
- □ Florida
- □ Georgia
- □ Hawaii
- □ Idaho
- □ Illinois
- □ Indiana
- □ Iowa
- □ Kansas
- □ Kentucky
- □ Louisiana
- □ Maine
- □ Maryland
- □ Massachusetts
- □ Michigan
- □ Minnesota
- □ Mississippi
- □ Missouri
- □ Montana
- □ Nebraska
- □ Nevada
- □ New Hampshire
- □ New Jersey
- □ New Mexico
- □ New York
- □ North Carolina
- □ North Dakota
- □ Ohio
- □ Oklahoma
- □ Oregon
- □ Pennsylvania
- □ Rhode Island
- □ South Carolina
- □ South Dakota
- □ Tennessee
- □ Texas
- □ Utah
- □ Vermont
- □ Virginia
- □ Washington
- □ West Virginia
- □ Wisconsin
- □ Wyoming

2. Please indicate your first language:

- □ English
- □ French
- □ Other (please specify) ________________________

3. What is your biological sex?

- □ Male
- □ Female
- □ Intersex
- □ Other (please specify) ________________________

4. What gender do you identify as?

- □ Man
- □ Woman
- □ Transwoman
5. What is your sexual orientation?
   □ Heterosexual
   □ Homosexual
   □ Bisexual
   □ Other (please specify) __________________________

6. How old are you? ________________

7. Please indicate your education level:
   □ Less than grade 9
   □ Grade 9
   □ Grade 10-12 without graduating high school
   □ Graduated high school or high school equivalent
   □ Partial college/university education
   □ Graduated 2-yr college program
   □ Graduated 4-yr college/university program
   □ Partial graduate/professional degree (i.e., currently working on degree)
   □ Completed graduate/professional degree

8. Please indicate your employment status (check one or more categories, as appropriate):
   □ Employed full-time
   □ Employed part-time
   □ Self-employed
   □ Homemaker
   □ Student
   □ Unemployed
   □ On disability leave
   □ Other (please specify) __________________________

9. What is your occupation?
   ______________________________________________________

10. Please indicate the combined average income in your household:
    □ Less than $10,000
    □ $10,000 to $19,999
    □ $20,000 to $29,999
    □ $30,000 to $39,999
    □ $40,000 to $49,999
    □ $50,000 to $59,999
    □ $60,000 to $69,999
    □ $70,000 to $79,999
    □ $80,000 to $89,999
11. Please indicate your marital status:
   □ Single
   □ Separated or divorced
   □ Married or cohabitating
   □ Widowed
   □ Other (please specify) ______________________

12. To which racial or ethnic group do you most identify with?
   □ Caucasian
   □ First Nations
   □ African
   □ Asian
   □ South Asian
   □ Hispanic
   □ Latino
   □ Multiracial
   □ Other (please specify) ____________________________

The next questions pertain to your parent(s)/primary caregiver(s).

13. Please indicate the highest education level attained by your mother/one primary caregiver:
   □ Less than grade 9
   □ Grade 9
   □ Grade 10-12 without graduating high school
   □ Graduated high school or high school equivalent
   □ Partial college/university education
   □ Graduated 2-yr college program
   □ Graduated 4-yr college/university program
   □ Completed graduate school/professional degree
   □ Not known

14. Please indicate your mother's/one primary caregiver's employment status for the majority of time throughout your childhood:
   □ Employed full-time
   □ Employed part-time
   □ Self-employed
   □ Homemaker
   □ Student
   □ Unemployed
   □ On disability leave
   □ Other (please specify) ____________________________
15. Please indicate the occupation held by your mother/one primary caregiver for the longest period of time (if held multiple jobs):
________________________________________

16. Please indicate the highest education level attained by your father/other primary caregiver:
☐ Less than grade 9
☐ Grade 9
☐ Grade 10-12 without graduating high school
☐ Graduated high school or high school equivalent
☐ Partial college/university education
☐ Graduated 2-yr college program
☐ Graduated 4-yr college/university program
☐ Completed graduate school/professional degree
☐ Not known
☐ Not applicable

17. Please indicate your father's/other primary caregiver's employment status for the majority of time throughout your childhood:
☐ Employed part-time
☐ Employed full-time
☐ Self-employed
☐ Homemaker
☐ Student
☐ Unemployed
☐ On disability leave
☐ Not applicable
☐ Other (please specify) ______________________

18. Please indicate the occupation held by your father/other primary caregiver for the longest period of time (if held multiple jobs):
____________________________________________________

The next questions are about yours and family’s mental health history.

19. Has anyone in your family (immediate or distant) ever been diagnosed with a psychological disorder by a registered psychologist, psychiatrist, or medical doctor?
☐ Yes
☐ No
20. Have you ever been diagnosed with a psychological disorder by a registered psychologist, psychiatrist, or medical doctor?

☐ Yes
☐ No

If yes, please tell us what disorder and whether you are currently suffering significant symptoms of that disorder. Leave blank if none.

21. Are you currently receiving counselling services for a psychological disorder?

☐ Yes
☐ No
☐ Not applicable

If yes, please indicate duration and credentials of therapist (if known). If no, leave blank.

22. Are you currently taking any medication for psychological symptoms or conditions?

☐ Yes
☐ No
☐ Not applicable

If yes, please indicate type, duration, and dosage information. Leave blank if none.
23. For how many weeks, months, or years (approximately) have you been experiencing anxiety in social situations?

- [ ] Weeks
- [ ] Months
- [ ] Years

24. Please indicate how much social anxiety you typically experience, on a scale of 0 (no social anxiety) to 10 (the most social anxiety you’ve ever experienced):

0 1 2 3 4 5 6 7 8 9 10

25. How disturbing or distressing is your social anxiety?

- [ ] Not at all
- [ ] Somewhat
- [ ] Moderately
- [ ] Very
- [ ] Extremely

26. To what degree has your social anxiety restricted or changed your lifestyle (e.g., activities you engage in, places you go)?

- [ ] Not at all
- [ ] Somewhat
- [ ] Moderately
- [ ] Quite a bit
- [ ] Entirely
Appendix D

Adverse Childhood Experiences International Questionnaire

When you were growing up, during the first 18 years of your life...

1. Did your parents/guardians understand your problems and worries?
   - Never
   - Rarely
   - Sometimes
   - Most of the Time
   - Always

2. Did you parents/guardians really know what you were doing with your free time when you were not at school or work?
   - Never
   - Rarely
   - Sometimes
   - Most of the Time
   - Always

3. How often did your parents/guardians not give you enough food even when they could easily have done so?
   - Never
   - Once
   - A Few Times
   - Many Times

4. Were your parents/guardians too drunk or intoxicated by drugs to take care of you?
   - Never
   - Once
   - A Few Times
   - Many Times

5. How often did your parents/guardians not send you to school even when it was available?
   - Never
   - Once
   - A Few Times
   - Many Times

When you were growing up, during the first 18 years of your life...

6. Did you live with a household member who was a problem drinker or alcoholic, or misused street or prescription drugs?
   - No
   - Yes

7. Did you live with a household member who was depressed, mentally ill or suicidal?
   - No
   - Yes

8. Did you live with a household member who was ever sent to jail or prison?
   - No
   - Yes

9. Were your parents ever separated or divorced?
   - No
   - Yes
   - Not Applicable

10. Did your mother, father, or guardian die?
    - No
    - Yes
    - Don’t know/Not Sure

These next questions are about certain things you may actually have heard or seen IN YOUR HOME. These are things that may have been done to another household member but not necessarily to you.

When you were growing up, during the first 18 years of your life...

11. Did you see or hear a parent or household member in your home being yelled at, screamed at, sworn at, insulted or humiliated?
    - Never
    - Once
    - A Few Times
    - Many Times
12. Did you see or hear a parent or household member in your home being slapped, kicked, punched or beaten up?

☐ Never  ☐ Once  ☐ A Few Times  ☐ Many Times

13. Did you see or hear a parent or household member in your home being hit or cut with an object, such as a stick (or cane), bottle, club, knife, whip, etc.?

☐ Never  ☐ Once  ☐ A Few Times  ☐ Many Times

These next questions are about certain things YOU may have experienced.

When you were growing up, during the first 18 years of your life . . .

14. Did a parent, guardian or other household member yell, scream or swear at you, insult or humiliate you?

☐ Never  ☐ Once  ☐ A Few Times  ☐ Many Times

15. Did a parent, guardian or other household member threaten to, or actually, abandon you or throw you out of the house?

☐ Never  ☐ Once  ☐ A Few Times  ☐ Many Times

16. Did a parent, guardian or other household member spank, slap, kick, punch or beat you up?

☐ Never  ☐ Once  ☐ A Few Times  ☐ Many Times

17. Did a parent, guardian or other household member hit or cut you with an object, such as a stick (or cane), bottle, club, knife, whip, etc.?

☐ Never  ☐ Once  ☐ A Few Times  ☐ Many Times

18. Did someone touch or fondle you in a sexual way when you did not want them to?

☐ Never  ☐ Once  ☐ A Few Times  ☐ Many Times

19. Did someone make you touch their body in a sexual way when you did not want them to?

☐ Never  ☐ Once  ☐ A Few Times  ☐ Many Times

20. Did someone attempt oral, anal, or vaginal intercourse with you when you did not want them to?

☐ Never  ☐ Once  ☐ A Few Times  ☐ Many Times

21. Did someone actually have oral, anal, or vaginal intercourse with you when you did not want them to?

☐ Never  ☐ Once  ☐ A Few Times  ☐ Many Times

These next questions are about BEING BULLIED when you were growing up. Bullying is when a young person or group of young people say or do bad and unpleasant things to another young person. It is also bullying when a young person is teased a lot in an unpleasant way or when a young person is left out of things on purpose. It is not bullying when two young people of about the same strength or power argue or fight or when teasing is done in a friendly and fun way.

When you were growing up, during the first 18 years of your life . . .

98
22. How often were you bullied?
- □ Never  □ Once  □ A Few Times  □ Many Times

23. How were you bullied most often?
- □ I was hit, kicked, pushed, shoved around, or locked indoors
- □ I was made fun of because of my race, nationality or color
- □ I was made fun of because of my religion
- □ I was made fun of with sexual jokes, comments, or gestures
- □ I was left out of activities on purpose or completely ignored
- □ I was made fun of because of how my body or face looked
- □ I was bullied some other way

This next question is about PHYSICAL FIGHTS. A physical fight occurs when two young people of about the same strength or power choose to fight each other.

When you were growing up, during the first 18 years of your life . . .

24. How often were you in a physical fight?
- □ Never  □ Once  □ A Few Times  □ Many Times

These next questions are about how often, when you were a child, YOU may have seen or heard certain things in your NEIGHBOURHOOD OR COMMUNITY (not in your home or on TV, movies, or the radio).

When you were growing up, during the first 18 years of your life . . .

25. Did you see or hear someone being beaten up in real life?
- □ Never  □ Once  □ A Few Times  □ Many Times

26. Did you see or hear someone being stabbed or shot in real life?
- □ Never  □ Once  □ A Few Times  □ Many Times

27. Did you see or hear someone being threatened with a knife or gun in real life?
- □ Never  □ Once  □ A Few Times  □ Many Times

These questions are about whether YOU did or did not experience any of the following events when you were a child. The events are all to do with collective violence, including wars, terrorism, political or ethnic conflicts, genocide, repression, disappearances, torture and organized violent crime such as banditry and gang warfare.

When you were growing up, during the first 18 years of your life . . .

28. Were you forced to go and live in another place due to any of these events?
- □ Never  □ Once  □ A Few Times  □ Many Times

29. Did you experience the deliberate destruction of your home due to any of these events?
- □ Never  □ Once  □ A Few Times  □ Many Times
30. Were you beaten up by soldiers, police, militia, or gangs?
☐ Never ☐ Once ☐ A Few Times ☐ Many Times

31. Was a family member or friend killed or beaten up by soldiers, police, militia, or gangs?
☐ Never ☐ Once ☐ A Few Times ☐ Many Times
Appendix E

Depression Anxiety Stress Scales–21

Please read each statement and circle a number 0, 1, 2, or 3, which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.

*The rating scale is as follows:*

0 = Did not apply to me at all - NEVER  
1 = Applied to me to some degree, or some of the time - SOMETIMES  
2 = Applied to me to a considerable degree, or a good part of time - OFTEN  
3 = Applied to me very much, or most of the time - ALMOST ALWAYS

<table>
<thead>
<tr>
<th>Statement</th>
<th>Never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I found it hard to wind down.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2. I was aware of dryness of my mouth.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3. I couldn’t seem to experience any positive feeling at all.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4. I experienced breathing difficulty (e.g., excessive rapid breathing, breathlessness in the absence of physical exertion).</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5. I found it difficult to work up the initiative to do things.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6. I tended to over-react to situations.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7. I experienced trembling (e.g., in the hands).</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8. I felt that I was using a lot of nervous energy.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9. I was worried about situations in which I might panic and make a fool of myself.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10. I felt that I had nothing to look forward to.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>11. I found myself getting agitated.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>12. I found it difficult to relax.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>13. I felt down-hearted and blue.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>14. I was intolerant of anything that kept me from getting on with what I was doing.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>15. I felt I was close to panic.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>16. I was unable to become enthusiastic about anything.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>17. I felt I wasn’t worth much as a person.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>18. I felt that I was rather touchy.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
19. I was aware of the action of my heart in the absence of physical exertion (e.g., sense of heart rate increase, heart missing a beat).

   0  1  2  3

20. I felt scared without any good reason.

   0  1  2  3

21. I felt that life was meaningless.

   0  1  2  3
Appendix F

Retrospective Measure of Behavioral Inhibition

Please answer the following questions by considering how you usually felt, behaved or reacted as a child before the age of 13 (i.e., before high school). If you have no memory at all for a particular question, tick the option provided. Tick the one most relevant option.

<table>
<thead>
<tr>
<th></th>
<th>Yes/ Most of the Time</th>
<th>Some of the Time</th>
<th>No/ Hardly Ever</th>
<th>Do Not Remember At All</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>When unfamiliar visitors came to your home, would you hide or leave the room?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>2.</td>
<td>At school, did you tend to stand back and watch other children play?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>3.</td>
<td>Were you reluctant to go to school on your first day or the first day after holidays?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>4.</td>
<td>Did you prefer parties with crowds of children rather than small gatherings?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>5.</td>
<td>Were you always ‘on the go’?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>6.</td>
<td>When unfamiliar visitors came to your home, did you feel fearful or nervy?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>7.</td>
<td>When you went on outings with your family to new places, would you tend to wander off?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>8.</td>
<td>Were you fearful around other people’s pets?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>9.</td>
<td>At school, did you find it difficult to approach and play with new children?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>10.</td>
<td>When you went on outings with your family to new places, would you spend most of the time next to your mother or father (or caregiver)?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
11. Did you want to be surrounded by people and activity? ☐ ☐ ☐ ☐
12. Do you consider that you were a shy child? ☐ ☐ ☐ ☐
13. Did you tend to take risks during play, sport or other physical activities? ☐ ☐ ☐ ☐
14. Was it difficult for you to stand up in front of the class? ☐ ☐ ☐ ☐
15. Were you outgoing and talkative with other children? ☐ ☐ ☐ ☐
16. When you went on outings with your family to new places, would you become quiet or ‘freeze up’? ☐ ☐ ☐ ☐
17. Did you cry during the school day? ☐ ☐ ☐ ☐
18. When unfamiliar visitors came to your home, would you cling to your mother or father (or caregiver)? ☐ ☐ ☐ ☐
Appendix G

Liebowitz Social Anxiety Scale, Self-Report Version

This measure assesses the way that social anxiety plays a role in your life across a variety of situations. Read each situation carefully and answer two questions about that situation. The first question asks how anxious or fearful you feel in the situation. The second question asks how often you avoid the situation. If you come across a situation that you ordinarily do not experience, imagine "what if you were faced with that situation," and then, rate the degree to which you would fear this hypothetical situation and how often you would tend to avoid it. Please base your ratings on the way that the situations have affected you in the last week. Fill out the following scale with the most suitable answer provided below.

<table>
<thead>
<tr>
<th>Fear</th>
<th>Avoidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 None</td>
<td>0 Never (0%)</td>
</tr>
<tr>
<td>1 Mild</td>
<td>1 Occasionally (1-33%)</td>
</tr>
<tr>
<td>2 Moderate</td>
<td>2 Often (34-66%)</td>
</tr>
<tr>
<td>3 Severe</td>
<td>3 Usually (67-100%)</td>
</tr>
</tbody>
</table>

1. Using a telephone in public.
2. Participating in a small group activity.
3. Eating in public.
4. Drinking with others.
5. Talking to someone in authority.
6. Acting, performing, or speaking in front of an audience.
7. Going to a party.
8. Working while being observed.
9. Writing while being observed.
10. Calling someone you don’t know very well.
11. Talking face to face with someone you don’t know very well.
12. Meeting strangers.
14. Entering a room when others are already seated.
15. Being the center of attention.
16. Speaking up at a meeting.
17. Taking a test of your ability, skill, or knowledge.
18. Expressing disagreement or disapproval to someone you don’t know very well.
19. Looking someone who you don’t know very well straight in the eyes.
20. Giving a prepared oral talk to a group.
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>21.</td>
<td>Trying to make someone’s acquaintance for the purpose of a romantic/sexual relationship.</td>
</tr>
<tr>
<td>22.</td>
<td>Returning goods to a store for a refund.</td>
</tr>
<tr>
<td>23.</td>
<td>Giving a party.</td>
</tr>
<tr>
<td>24.</td>
<td>Resisting a high pressure sales person.</td>
</tr>
</tbody>
</table>
Appendix H

PTSD Checklist for DSM–5, Social Traumas

The following questions are about negative, distressing social experiences that do not involve actual or threatened death, serious injury, or sexual violence.

1. Have you ever experienced an extremely humiliating, embarrassing, or distressing social event/incident?
   □ Yes □ No

If yes, please answer a few questions about your worst socially distressing event, which for this questionnaire means the event that currently bothers you the most. This could be a form of bullying or victimization, or an accident that was extremely embarrassing that was no one’s fault. Also, it could be a single event or multiple similar events (e.g., repeated social victimization).

2. Briefly identify the worst social event (if you feel comfortable doing so):
   ____________________________

3. How long ago did it happen? _______________ (please estimate if you are not sure)

Below is a list of problems that people sometimes have in response to a very stressful experience. Please think about the worst social event you have experienced and answer the following questions in response to that event. Read each problem carefully and then circle one of the numbers to the right to indicate how much you have been bothered by that problem in the past month.

<table>
<thead>
<tr>
<th>In the past month, how much were you bothered by:</th>
<th>Not at all</th>
<th>A little bit</th>
<th>Moderately a bit</th>
<th>Quite a bit</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Repeated, disturbing, and unwanted memories of the stressful experience?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. Repeated, disturbing dreams of the stressful experience?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. Suddenly feeling or acting as if the stressful experience were actually happening again (as if you were actually back there reliving it)?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. Feeling very upset when something reminded you of the stressful experience?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>5.</td>
<td>Having strong physical reactions when something reminded you of the stressful experience <em>e.g.</em>, heart pounding, trouble breathing, sweating?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6.</td>
<td>Avoiding memories, thoughts, or feelings related to the stressful experience?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7.</td>
<td>Avoiding external reminders of the stressful experience <em>e.g.</em>, people, places, conversations, activities, objects, or situations?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8.</td>
<td>Trouble remembering important parts of the stressful experience?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9.</td>
<td>Having strong negative beliefs about yourself, other people, or the world <em>e.g.</em>, having thoughts such as: <em>I am bad, there is something seriously wrong with me, no one can be trusted, the world is completely dangerous</em>?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10.</td>
<td>Blaming yourself or someone else for the stressful experience or what happened after it?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>11.</td>
<td>Having strong negative feelings such as fear, horror, anger, guilt, or shame?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>12.</td>
<td>Loss of interest in activities that you used to enjoy?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>13.</td>
<td>Feeling distant or cut off from other people?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>14.</td>
<td>Trouble experiencing positive feelings <em>e.g.</em>, being unable to feel happiness or have loving feelings for people close to you?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>15.</td>
<td>Irritable behavior, angry outbursts, or acting aggressively?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>16.</td>
<td>Taking too many risks or doing things that could cause you harm?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>17.</td>
<td>Being “superalert” or watchful or on guard?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>18.</td>
<td>Feeling jumpy or easily startled?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>19.</td>
<td>Having difficulty concentrating?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>20.</td>
<td>Trouble falling or staying asleep?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
4. If you also experienced an extremely distressing event that involved actual or threatened death, serious injury, or sexual violence, which event was most distressing to you?
   - Didn’t experience an extremely distressing event that involved actual or threatened death, serious injury, or sexual violence
   - The one involving actual or threatened death, serious injury, or sexual violence
   - The negative social experience

5. Please explain why (briefly).

6. When did the extremely humiliating, embarrassing, or distressing social event/incident happen?
   - Years before the onset of my social anxiety symptoms
   - Within a year before the onset of my social anxiety symptoms
   - Just previous to (months/weeks before) the onset of my social anxiety symptoms
   - After the onset of my social anxiety symptoms

7. If you experienced an extremely humiliating, embarrassing, or distressing social event prior to the onset of your social anxiety symptoms, do you feel your social anxiety is connected to the event in anyway?
   - Yes
   - No
   - Not applicable

8. If yes, please explain briefly.

9. If you experienced an extremely humiliating, embarrassing, or distressing social event after the onset of your social anxiety symptoms, do you feel your social anxiety is connected to the event in anyway?
   - Yes
   - No
   - Not applicable

10. If yes, please explain briefly.
Appendix I

PTSD Checklist for DSM–5, Criterion A Traumas

This questionnaire asks about problems you may have had after a very stressful experience involving actual or threatened death, serious injury, or sexual violence. It could be something that happened to you directly, something you witnessed, or something you learned happened to a close family member or close friend. Some examples are a serious accident; fire; disaster such as a hurricane, tornado, or earthquake; physical or sexual attack or abuse; war; homicide; or suicide.

1. Have you experienced, witnessed, or learned of a very stressful experience involving actual or threatened death, serious injury, or sexual violence?
   □ Yes    □ No

If yes, please answer a few questions about your worst event, which for this questionnaire means the event that currently bothers you the most. This could be one of the examples above or some other very stressful experience. Also, it could be a single event (e.g., a car crash) or multiple similar events (e.g., multiple stressful events in a war-zone or repeated sexual abuse).

2. Briefly identify the worst event (if you feel comfortable doing so):
   ______________________________________________________________________

3. How long ago did it happen? __________________________ (please estimate if you are not sure)

4. Did it involve actual or threatened death, serious injury, or sexual violence?
   □ Yes    □ No

5. How did you experience it?
   □ It happened to me directly
   □ I witnessed it
   □ I learned about it happening to a close family member or close friend
   □ I was repeatedly exposed to details about it as part of my job (for example, paramedic, police, military, or other first responder)
   □ Other, please describe __________________________

6. If the event involved the death of a close family member or close friend, was it due to some kind of accident or violence, or was it due to natural causes?
   □ Accident or violence
   □ Natural causes
   □ Not applicable (the event did not involve the death of a close family member or close friend)
Keeping this worst event in mind, read each of the problems on the next page and then circle one of the numbers to the right to indicate how much you have been bothered by that problem in the past month.

<table>
<thead>
<tr>
<th>In the past month, how much were you bothered by:</th>
<th>Not at all</th>
<th>A little bit</th>
<th>Moderately</th>
<th>Quite a bit</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Repeated, disturbing, and unwanted memories of the stressful experience?</td>
<td>0 1 2 3 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Repeated, disturbing dreams of the stressful experience?</td>
<td>0 1 2 3 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Suddenly feeling or acting as if the stressful experience were actually happening again (as if you were actually back there reliving it)?</td>
<td>0 1 2 3 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Feeling very upset when something reminded you of the stressful experience?</td>
<td>0 1 2 3 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Having strong physical reactions when something reminded you of the stressful experience (e.g., heart pounding, trouble breathing, sweating)?</td>
<td>0 1 2 3 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Avoiding memories, thoughts, or feelings related to the stressful experience?</td>
<td>0 1 2 3 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Avoiding external reminders of the stressful experience (e.g., people, places, conversations, activities, objects, or situations)?</td>
<td>0 1 2 3 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Trouble remembering important parts of the stressful experience?</td>
<td>0 1 2 3 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Having strong negative beliefs about yourself, other people, or the world (e.g., having thoughts such as: I am bad, there is something seriously wrong with me, no one can be trusted, the world is completely dangerous)?</td>
<td>0 1 2 3 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Blaming yourself or someone else for the stressful experience or what happened after it?</td>
<td>0 1 2 3 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Having strong negative feelings such as fear, horror, anger, guilt, or shame?</td>
<td>0 1 2 3 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Loss of interest in activities that you used to enjoy?</td>
<td>0 1 2 3 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Feeling distant or cut off from other people?</td>
<td>0 1 2 3 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
7. When did the very stressful experience involving actual or threatened death, serious injury, or sexual violence happen?
   - [ ] Years before the onset of my social anxiety symptoms
   - [ ] Within a year before the onset of my social anxiety symptoms
   - [ ] Just previous to (months/weeks before) the onset of my social anxiety symptoms
   - [ ] After the onset of my social anxiety symptoms

8. If you experienced a very stressful experience involving actual or threatened death, serious injury, or sexual violence prior to the onset of your social anxiety symptoms, do you feel your social anxiety is connected to the event in anyway?
   - [ ] Yes
   - [ ] No
   - [ ] Not applicable

9. If yes, please explain briefly.

10. If you experienced very stressful experience involving actual or threatened death, serious injury, or sexual violence after the onset of your social anxiety symptoms, do you feel your social anxiety is connected to the event in anyway?
   - [ ] Yes
   - [ ] No
   - [ ] Not applicable

11. If yes, please explain briefly.
Appendix J

Retrospective Bullying Questionnaire–Modified

The following questions are about bullying. **Bullying is intentional hurtful behaviour. It can be physical or psychological. It is often repeated and characterized by an inequality of power so that it is difficult for the victim to defend him/her self.**

**All answers will be treated CONFIDENTIALLY.**

1. **Please think back to your school days.** You may have seen some bullying at school, and you may have been involved in some way. Tick the choice which best describes your own experiences at school.

   - I was not involved at all, and I never saw it happen
   - I was not involved at all, but I saw it happen sometimes
   - I would sometimes join in bullying others
   - I would sometimes get bullied by others
   - At various times, I was both a bully and a victim

2. Can you briefly describe an incident in which you observed someone else being bullied or an incident in which you felt you were bullied? Please describe the incident that was the worst if there were multiple.

   ______________________________________________________
   ______________________________________________________
   ______________________________________________________
   ______________________________________________________
   ______________________________________________________
   ______________________________________________________

**PART I: PRIMARY SCHOOL**

This part deals with your experiences at primary school (4–11 years). Tick the boxes that are right for you.

1. Did you have a happy time at primary school?

   - Detested
   - Disliked
   - Neutral
   - Liked a bit
   - Liked a lot

2. Did you have a happy time at home with your family while in primary school?

   - Detested
   - Disliked
   - Neutral
   - Liked a bit
   - Liked a lot
The next questions are about physical forms of bullying – hitting and kicking, and having things stolen from you.

3. Were you physically bullied at primary school?
   - Hit/punched or otherwise physically harmed
   - Stolen from

4. Did this happen?
   - Never
   - Rarely (once or twice)
   - Sometimes (2-3 times a month)
   - Frequently (about once a week)
   - Constantly (several times a week)

5. How long did the bullying-attacks usually last?
   - I wasn’t bullied
   - A few days
   - Weeks
   - Months
   - A year or more

6. How serious did you consider these bullying-attacks to be?
   - I wasn’t bullied
   - Not at all
   - Only a bit
   - Quite serious
   - Extremely serious

The next questions are about verbal forms of bullying – being called nasty names, and being threatened.

7. Were you verbally bullied at primary school?
   - Called names
   - Threatened

8. Did this happen?
   - Never
   - Rarely (once or twice)
   - Sometimes (2-3 times a month)
   - Frequently (about once a week)
   - Constantly (several times a week)

9. How long did the bullying-attacks usually last?
   - I wasn’t bullied
   - A few days
   - Weeks
   - Months
   - A year or more

10. How serious did you consider these bullying-attacks to be?
    - I wasn’t bullied
    - Not at all
    - Only a bit
    - Quite serious
    - Extremely serious

The next questions are about indirect forms of bullying – having lies or nasty rumours told about you behind your back, or being deliberately excluded from social groups.
11. Were you indirectly bullied at primary school?
   Had lies told about you ☐ Yes ☐ No
   Excluded ☐ Yes ☐ No
   Had private or embarrassing information about you revealed ☐ Yes ☐ No
   Had others do things or say things that would harm your relationships ☐ Yes ☐ No

12. Did this happen?
   ☐ Never
   ☐ Rarely (once or twice)
   ☐ Sometimes (2-3 times a month)
   ☐ Frequently (about once a week)
   ☐ Constantly (several times a week)

13. How long did the bullying-attacks usually last?
   ☐ I wasn’t bullied ☐ A few days ☐ Weeks ☐ Months ☐ A year or more

14. How serious did you consider these bullying-attacks to be?
   ☐ I wasn’t bullied ☐ Not at all ☐ Only a bit ☐ Quite serious ☐ Extremely serious

The next questions are about bullying in general.

15. How many pupils bullied you in primary school?
   ☐ I wasn’t bullied
   ☐ Mainly by one boy
   ☐ By several boys
   ☐ Mainly by one girl
   ☐ By several girls
   ☐ By both boys and girls

16. Did you consider the bully/bullies to be friends prior to the attacks?
   ☐ I wasn’t bullied ☐ Yes ☐ No

17. Did you feel betrayed by the bully/bullies actions?
   ☐ I wasn’t bullied ☐ Yes ☐ No

18. If you were bullied, why do you think this happened?
   _______________________________________________________
   _______________________________________________________
   _______________________________________________________
   _______________________________________________________
PART II: SECONDARY SCHOOL

This part deals with your experiences at secondary school (12–18 years).

19. Did you have a happy time at secondary school?
   □ Detested  □ Disliked  □ Neutral  □ Liked a bit  □ Liked a lot

20. Did you have a happy time at home with your family while in secondary school?
   □ Detested  □ Disliked  □ Neutral  □ Liked a bit  □ Liked a lot

The next questions are about physical forms of bullying – hitting and kicking, and having things stolen from you.

21. Were you physically bullied at secondary school?
   Hit/punched or otherwise physically harmed □ Yes □ No
   Stolen from □ Yes □ No

22. Did this happen?
   □ Never
   □ Rarely (once or twice)
   □ Sometimes (2-3 times a month)
   □ Frequently (about once a week)
   □ Constantly (several times a week)

23. How long did the bullying-attacks usually last?
   □ I wasn’t bullied  □ A few days  □ Weeks  □ Months  □ A year or more

24. How serious did you consider these bullying-attacks to be?
   □ I wasn’t bullied  □ Not at all  □ Only a bit  □ Quite serious  □ Extremely serious

The next questions are about verbal forms of bullying – being called nasty names and being threatened.

25. Were you verbally bullied at secondary school?
   Called names □ Yes □ No
   Threatened □ Yes □ No

26. Did this happen?
   □ Never
   □ Rarely (once or twice)
   □ Sometimes (2-3 times a month)
   □ Frequently (about once a week)
   □ Constantly (several times a week)
27. How long did the bullying-attacks usually last?
- [ ] I wasn’t bullied
- [ ] A few days
- [ ] Weeks
- [ ] Months
- [ ] A year or more

28. How serious did you consider these bullying-attacks to be?
- [ ] I wasn’t bullied
- [ ] Not at all
- [ ] Only a bit
- [ ] Quite serious
- [ ] Extremely serious

The next questions are about indirect forms of bullying – having lies or nasty rumours told about you behind your back, or being deliberately excluded from social groups.

29. Were you indirectly bullied at secondary school?
- Had lies told about you
- [ ] Yes
- [ ] No
- Excluded
- [ ] Yes
- [ ] No
- Had private or embarrassing information about you revealed
- [ ] Yes
- [ ] No
- Had others do things or say things that would harm your relationships
- [ ] Yes
- [ ] No

30. Did this happen?
- [ ] Never
- [ ] Rarely (once or twice)
- [ ] Sometimes (2-3 times a month)
- [ ] Frequently (about once a week)
- [ ] Constantly (several times a week)

31. How long did the bullying-attacks usually last?
- [ ] I wasn’t bullied
- [ ] A few days
- [ ] Weeks
- [ ] Months
- [ ] A year or more

32. How serious did you consider these bullying-attacks to be?
- [ ] I wasn’t bullied
- [ ] Not at all
- [ ] Only a bit
- [ ] Quite serious
- [ ] Extremely serious

The next questions are about bullying in general.

33. How many pupils bullied you in secondary school?
- [ ] I wasn’t bullied
- [ ] Mainly by one boy
- [ ] By several boys
- [ ] Mainly by one girl
- [ ] By several girls
- [ ] By both boys and girls

34. Did you consider the bully/bullies to be friends prior to the attacks?
- [ ] I wasn’t bullied
- [ ] Yes
- [ ] No

35. Did you feel betrayed by the bully/bullies actions?
- [ ] I wasn’t bullied
- [ ] Yes
- [ ] No
36. If you were bullied, why do you think this happened?
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

PART III: GENERAL EXPERIENCES AT SCHOOL

37. Which were the main ways you used to cope with the bullying? Please tick one or more options.

☐ I wasn’t bullied at school  ☐ I got help from a teacher
☐ I tried to make fun of it  ☐ I got help from family / parents
☐ I tried to avoid the situation  ☐ I tried to handle it by myself
☐ I tried to ignore it  ☐ I did not really cope
☐ I fought back  ☐ I got help from friends
☐ Other ______________________

38. Did you ever take part in bullying anyone while you were at school?

Hit/punched  ☐ Yes  ☐ No
Stole from  ☐ Yes  ☐ No
Called names  ☐ Yes  ☐ No
Threatened  ☐ Yes  ☐ No
Told lies about  ☐ Yes  ☐ No
Excluded  ☐ Yes  ☐ No
Revealed private or embarrassing information about someone  ☐ Yes  ☐ No
Did something to harm others’ relationships  ☐ Yes  ☐ No

39. Did this happen?

☐ Never
☐ Rarely (once or twice)
☐ Sometimes (2-3 times a month)
☐ Frequently (about once a week)
☐ Constantly (several times a week)

40. How often did you try to avoid school by pretending to be sick or by playing truant because you were being bullied?

☐ I wasn’t bullied at school
☐ Never
☐ Rarely (once or twice)
☐ Sometimes (2-3 times a month)
☐ Frequently (about once a week)
☐ Constantly (several times a week)

41. When you were being bullied, did you ever, even for a second, think about hurting yourself or taking your own life? Select as many as apply.

☐ I wasn’t bullied at school
☐ No, never
☐ Yes, once I thought about it
Yes, more than once I thought about it
☐ Yes, once I self-harmed
☐ Yes, more than once I self-harmed
☐ Yes, once I attempted suicide
☐ Yes, more than once I attempted suicide

42. Have you been bullied since leaving school?
☐ I haven’t been bullied since leaving school
☐ I have been bullied by my family
☐ I have been bullied by others (please specify): __________________________

Recollections of being bullied at school: Only answer these questions, if you were bullied.

43. Do you have vivid memories of the bullying event(s) which keep coming back causing you distress?
☐ No, never
☐ Not often (once a month or less)
☐ Sometimes (2-3 times a month)
☐ Often (about once a week)
☐ Always (several times a week)

44. Do you have dreams or nightmares about the bullying event(s)?
☐ No, never
☐ Not often (once a month or less)
☐ Sometimes (2-3 times a month)
☐ Often (about once a week)
☐ Always (several times a week)

45. Do you ever feel like you are re-living the bullying event(s) again?
☐ No, never
☐ Not often (once a month or less)
☐ Sometimes (2-3 times a month)
☐ Often (about once a week)
☐ Always (several times a week)

46. Do you ever have sudden vivid recollections or “flashbacks” to the bullying event(s)?
☐ No, never
☐ Not often (once a month or less)
☐ Sometimes (2-3 times a month)
☐ Often (about once a week)
☐ Always (several times a week)

47. Do you ever feel distressed in situations which remind you of the bullying event(s)?
☐ No, never
☐ Not often (once a month or less)
☐ Sometimes (2-3 times a month)
48. If you experience any of these recollections of bullying events, are they about one specific bullying incident or multiple?
☐ Don’t experience any of these recollections
☐ One specific incident
☐ Multiple incidents of the same kind
☐ Multiple incidents of different kinds

49. If you experience any of these recollections of bullying events, is there one type of bullying that causes the most distressing recollections?
☐ Physical
☐ Verbal
☐ Indirect
☐ All are equally distressing

50. Why?

51. If you were bullied, do you feel it had any long-term effects? If so, please describe below:
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

PART IV: BULLYING OR HARASSMENT IN THE WORKPLACE/SINCE LEAVING SECONDARY SCHOOL

52. Have you ever experienced bullying in your workplace?
☐ I wasn’t bullied in my workplace
☐ I have been bullied in my present job
☐ I was bullied in one of my previous jobs
☐ I have been bullied in all of my jobs
☐ I was bullied in more than one of my previous jobs
☐ I have been bullied outside of my work

53. Please state whether you have been bullied at work over the last six months.
☐ No, never
☐ Not often (once a month or less)
☐ Sometimes (2-3 times a month)
☐ Often (about once a week)
☐ Always (several times a week)
54. If yes, when did the bullying start?
   - [ ] Within the last 6 months
   - [ ] Between 6 and 12 months ago
   - [ ] Between 1 and 2 years ago
   - [ ] More than 2 years ago

55. If you have been bullied, what did you do? Please tick one or more options.
   - [ ] Tried to avoid the situation
   - [ ] Tried to ignore it
   - [ ] Confronted the bully
   - [ ] Went to the union/staff association
   - [ ] Went to personnel
   - [ ] Discussed it with colleagues
   - [ ] Went to occupational health
   - [ ] Other

[ ] Saw my doctor (GP)
[ ] I went for counselling
[ ] I got psychiatric help
[ ] Made use of the organisation’s grievance procedure
[ ] I left the job
[ ] Did not really cope
[ ] Went to the welfare department

PART V: CYBERBULLYING DURING SCHOOL YEARS

The following questions are about cyberbullying. Cyberbullying is intentional hurtful behaviour done through electronic or digital media, that is often repeated and characterized by an inequality of power so that it is difficult for the victim to defend him/her self. Cyberbullying can be done through text messages, pictures or videos, telephone calls, emails, chat rooms, instant messaging, or websites, which can either be directed toward the victim or sent to others about the victim.

56. Please think back to your school days. You may have known about cyberbullying, and you may have been involved in some way. Tick the choice which best describes your own experiences while going to school.
   - [ ] I was not involved at all, and I never knew it happened
   - [ ] I was not involved at all, but I knew it happened sometimes
   - [ ] I would sometimes join in cyberbullying others
   - [ ] I would sometimes get cyberbullied by others
   - [ ] At various times, I was both a cyberbully and a cybervictim

57. Can you briefly describe an incident in which you knew of someone else being cyberbullied or an incident in which you felt you were cyberbullied? Please describe the incident that was the worst if there were multiple.

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
The next questions are about cyberbullying during secondary school (12-18 years).

58. Were you cyberbullied during secondary (12-18 years) school?
   - Received online messages that made you afraid for your safety □ Yes □ No
   - Received mean or nasty messages from someone else □ Yes □ No
   - Put down online by someone who sent or posted cruel gossip, Rumours, or other harmful material □ Yes □ No
   - Had someone pretend to be you and send or post material that damaged your reputation or friendships □ Yes □ No
   - Had someone share your personal secrets or images online without your permission □ Yes □ No
   - Excluded from an online group by people who were mean to you □ Yes □ No

59. Did this happen?
   - □ Never
   - □ Rarely (once or twice)
   - □ Sometimes (2-3 times a month)
   - □ Frequently (about once a week)
   - □ Constantly (several times a week)

60. How long did the cyberbullying-attacks usually last?
   - □ I wasn’t bullied □ A few days □ Weeks □ Months □ A year or more

61. How serious did you consider these cyberbullying-attacks to be?
   - □ I wasn’t bullied □ Not at all □ Only a bit □ Quite serious □ Extremely serious

The next questions are about cyberbullying in general.

62. How many people cyberbullied you during secondary school?
   - □ I wasn’t cyberbullied
   - □ Mainly by one boy
   - □ By several boys
   - □ Mainly by one girl
   - □ By several girls
   - □ By both boys and girls
   - □ Didn’t know the cyberbully(bullies)

63. Did you consider the cyberbully/bullies (if known) to be friends prior to the attacks?
   - □ I wasn’t cyberbullied □ Yes □ No □ Didn’t know them

64. Did you feel betrayed by the bully/bullies actions?
   - □ I wasn’t cyberbullied □ Yes □ No

65. If you were cyberbullied, why do you think this happened?

_______________________________________________________________________
_______________________________________________________________________
_______________________________________________________________________

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PART VI: GENERAL EXPERIENCES WITH CYBERBULLYING

66. Which were the main ways you used to cope with the cyberbullying? Please tick one or more options.

- [ ] I wasn’t cyberbullied
- [ ] I got help from a teacher
- [ ] I tried to make fun of it
- [ ] I got help from family/parents
- [ ] I tried to avoid digital media
- [ ] I tried to handle it by myself
- [ ] I tried to ignore it
- [ ] I did not really cope
- [ ] I fought back
- [ ] I got help from friends
- [ ] Other ___________________________

67. Did you ever take part in cyberbullying anyone while you were going to school?

- [ ] Yes
- [ ] No

- [ ] Sent online messages to make others afraid for their safety
- [ ] Yes
- [ ] No

- [ ] Sent mean or nasty messages to someone
- [ ] Yes
- [ ] No

- [ ] Put down someone else online by sending or posting cruel gossip, Rumours, or other harmful material
- [ ] Yes
- [ ] No

- [ ] Pretend to be someone else to send or post material that damaged that person’s reputation or friendships
- [ ] Yes
- [ ] No

- [ ] Shared someone’s personal secrets or images online Without that person’s permission
- [ ] Yes
- [ ] No

- [ ] Helped exclude someone else from your online group
- [ ] Yes
- [ ] No

68. Did this happen?

- [ ] Never
- [ ] Rarely (once or twice)
- [ ] Sometimes (2-3 times a month)
- [ ] Frequently (about once a week)
- [ ] Constantly (several times a week)

69. How often did you try to avoid school by pretending to be sick or by playing truant because you were being cyberbullied?

- [ ] I wasn’t cyberbullied
- [ ] Never
- [ ] Rarely (once or twice)
- [ ] Sometimes (2-3 times a month)
- [ ] Frequently (about once a week)
- [ ] Constantly (several times a week)

70. When you were being cyberbullied, did you ever, even for a second, think about hurting yourself or taking your own life?

- [ ] I wasn’t cyberbullied
- [ ] No, never
- [ ] Yes, once I thought about it
- [ ] Yes, more than once I thought about it
- [ ] Yes, once I self-harmed
- [ ] Yes, more than once I self-harmed
- [ ] Yes, once I attempted suicide
- [ ] Yes, more than once I attempted suicide
71. Have you been cyberbullied since leaving school?
☐ I haven’t been cyberbullied since leaving school
☐ I have been cyberbullied by my family
☐ I have been cyberbullied by others (please specify): ________________________

**Recollections of being cyberbullied while going to school:** Only answer these questions, if you were cyberbullied.

72. Do you have vivid memories of the cyberbullying event(s) which keep coming back causing you distress?
☐ No, never
☐ Not often (once a month or less)
☐ Sometimes (2-3 times a month)
☐ Often (about once a week)
☐ Always (several times a week)

73. Do you have dreams or nightmares about the cyberbullying event(s)?
☐ No, never
☐ Not often (once a month or less)
☐ Sometimes (2-3 times a month)
☐ Often (about once a week)
☐ Always (several times a week)

74. Do you ever feel like you are re-living the cyberbullying event(s) again?
☐ No, never
☐ Not often (once a month or less)
☐ Sometimes (2-3 times a month)
☐ Often (about once a week)
☐ Always (several times a week)

75. Do you ever have sudden vivid recollections or “flashbacks” to the cyberbullying event(s)?
☐ No, never
☐ Not often (once a month or less)
☐ Sometimes (2-3 times a month)
☐ Often (about once a week)
☐ Always (several times a week)

76. Do you ever feel distressed in situations which remind you of the cyberbullying event(s)?
☐ No, never
☐ Not often (once a month or less)
☐ Sometimes (2-3 times a month)
☐ Often (about once a week)
☐ Always (several times a week)

77. If you experience any of these recollections of cyberbullying events, are they about one specific cyberbullying incident or multiple?
Don’t experience any of these recollections
One specific incident
Multiple incidents of the same kind
Multiple incidents of different kinds

78. If you experience any of these recollections of cyberbullying events, is there one type of cyberbullying that causes the most distressing recollections?
Don’t experience any of these recollections
Receiving online messages that made you afraid for your safety
Receiving mean or nasty messages from someone else
Being put down online by someone who sent or posted cruel gossip, rumours, or other harmful material
Having someone pretend to be you and send or post material that damaged your reputation or friendships
Having someone share your personal secrets or images online without your permission
Being excluded from an online group by people who were mean to you
All are equally distressing

79. Why?
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

80. Which modality of cyberbullying was most distressing?
Text messages
Pictures or videos
Telephone calls
Emails
Chat rooms
Instant messaging
Websites

81. Why?
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

82. If you were cyberbullied, do you feel it had any long-term effects? If so, please describe below:
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

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CYBERBULLYING OR HARASSMENT IN THE WORKPLACE

83. Have you ever experienced cyberbullying in your workplace?

☐ I wasn’t cyberbullied in my workplace
☐ I have been cyberbullied in my present job
☐ I was cyberbullied in one of my previous jobs
☐ I have been cyberbullied in all of my jobs
☐ I was cyberbullied in more than one of my previous jobs

84. Please state whether you have been cyberbullied at work over the last six months.

☐ No, never
☐ Not often (once a month or less)
☐ Sometimes (2-3 times a month)
☐ Often (about once a week)
☐ Always (several times a week)

85. If yes, when did the cyberbullying start?

☐ I wasn’t cyberbullied
☐ Within the last 6 months
☐ Between 6 and 12 months ago
☐ Between 1 and 2 years ago
☐ More than 2 years ago

86. If you have been cyberbullied, what did you do? Please tick one or more options.

☐ Tried to avoid digital media ☐ Saw my doctor (GP)
☐ Tried to ignore it ☐ I went for counselling
☐ Confronted the cyberbully ☐ I got psychiatric help
☐ Went to the union/staff association ☐ Made use of the organisation’s grievance procedure
☐ Went to personnel ☐ I left the job
☐ Discussed it with colleagues ☐ Did not really cope
☐ Went to occupational health ☐ Went to the welfare department
☐ Other___________________________________________________________
Appendix K

Non-Antagonistic Social Trauma Questionnaire

The following questions are about personal experiences that were humiliating, embarrassing, or extremely distressing and were not already disclosed through the previous questions. These events were likely accidental or situational, and were not the result of malicious intent by another individual.

1. Can you briefly describe an incident in which you observed someone else experience or you yourself experienced and extremely humiliating, embarrassing, or extremely distressing incident that was accidental or situational, and not the result of someone else’s malicious intent. Please describe the incident that was the worst if there were multiple.

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

2. Did this happen?

☐ Never
☐ Rarely (once or twice)
☐ Sometimes (2-3 times a month)
☐ Frequently (about once a week)
☐ Constantly (several times a week)

3. How long did the incident last?

☐ Didn’t experience ☐ Less than a minute ☐ Minutes ☐ Hours ☐ A day or longer

4. How serious did you consider this incident to be?

☐ Didn’t experience ☐ Not at all ☐ Only a bit ☐ Quite serious ☐ Extremely serious

5. Which were the main ways you used to cope with the distressing incident? Please tick one or more options.

☐ I didn’t experience ☐ I went for counseling
☐ I tried to make fun of it ☐ I got help from family/parents
☐ I tried to avoid similar situations ☐ I tried to handle it by myself
☐ I tried to ignore it ☐ I did not really cope
☐ I got help from friends ☐ Other ___________________________
6. How often did you try to avoid school/work by pretending to be sick or by playing truant because of the incident?
   □ Didn’t experience
   □ Never
   □ Rarely (once or twice)
   □ Sometimes (2-3 times a month)
   □ Frequently (about once a week)
   □ Constantly (several times a week)

7. Because of the incident, did you ever, even for a second, think about hurting yourself or taking your own life?
   □□ I didn’t experience such a distressing incident
   □□ No, never
   □□ Yes, once I thought about it
   □□ Yes, more than once I thought about it
   □□ Yes, once I self-harmed
   □□ Yes, more than once I self-harmed
   □□ Yes, once I attempted suicide
   □□ Yes, more than once I attempted suicide

Recollections of the incident: Only answer these questions if you experienced an extremely humiliating, embarrassing, or extremely distressing incident.

8. Do you have vivid memories of the incident which keep coming back causing you distress?
   □ No, never
   □ Not often (once a month or less)
   □ Sometimes (2-3 times a month)
   □ Often (about once a week)
   □ Always (several times a week)

9. Do you have dreams or nightmares about the incident?
   □ No, never
   □ Not often (once a month or less)
   □ Sometimes (2-3 times a month)
   □ Often (about once a week)
   □ Always (several times a week)

10. Do you ever feel like you are re-living the incident again?
    □ No, never
    □ Not often (once a month or less)
    □ Sometimes (2-3 times a month)
    □ Often (about once a week)
    □ Always (several times a week)
11. Do you ever have sudden vivid recollections or “flashbacks” to the incident?
   □ No, never
   □ Not often (once a month or less)
   □ Sometimes (2-3 times a month)
   □ Often (about once a week)
   □ Always (several times a week)

12. Do you ever feel distressed in situations which remind you of the incident?
   □ No, never
   □ Not often (once a month or less)
   □ Sometimes (2-3 times a month)
   □ Often (about once a week)
   □ Always (several times a week)

13. If you experience any of these recollections of distressing experiences, are they about one specific incident or multiple?
   □ Don’t experience any of these recollections
   □ One specific incident
   □ Multiple incidents of the same kind
   □ Multiple incidents of different kinds

14. If you experience any of these recollections, is there one type of incident that causes the most distressing recollections?
   □ Only experienced one incident   □ No   □ Yes

15. If yes, please explain briefly.

16. If you experienced such an event do you feel it had any long-term effects? If so, please describe below:

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________