



The relationship between anxiety disorders in adults and recalled childhood teasing

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ABSTRACT

This study investigated the relationship between retrospective accounts of childhood teasing and anxiety disorders as well as the relationship between experiences of teasing and more global psychological well-being. Participants ($N = 377$) with social anxiety disorder (SAD), obsessive compulsive disorder (OCD), or panic disorder with or without agoraphobia (PD) were compared on levels of self-reported teasing history using the Teasing Questionnaire-Revised (TQ-R; Storch et al., 2004). Teasing frequency scores were higher for the SAD group compared to both PD and OCD groups. **Across all groups, teasing scores were significantly related to increased social anxiety, depression, stress, and greater impairment in functioning.** Teasing frequency accounted for unique variance in severity of SAD symptoms even after controlling for concurrent mood, anxiety and stress. **These results support and extend previous findings linking childhood teasing to anxiety disorders in adulthood.**

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Approximately 20–30% of children and youth are chronically victimized by their peers on the playground and at school (Nansel et al., 2001; Storch & Masia-Warner, 2004). Peer victimization is a broad term meant to represent intentional and harmful interpersonal acts of both overt (physical and verbal) and covert (relational) forms. Peer victimization is seen as a negative and repetitive action committed by one or more peers and is associated with a host of negative consequences for children (Olweus, 1993). In any form, peer victimization connotes a rejection from one child to another and this rejection from one's peers is often damaging to self-esteem and psychological health. **Social psychologists believe that the consequences of peer victimization stem from our need to belong** (Baumeister & Leary, 1995). According to Baumeister and Leary, rejection or "lack of belongingness" constitutes a severe human deprivation equivalent to starvation (p. 497). Our need to belong is so "fundamental" that a variety of ill effects ensue when that need is not fulfilled. Psychological problems including anxiety, depression, grief, interpersonal difficulties, and loneliness are a direct result of failure to meet our belongingness need (Baumeister & Leary, 1995; Baumeister & Tice, 1990).

With the growing awareness of the impact of peer maltreatment on the psychosocial health and well being of children and

youth, interest in studying both short and long-term effects of peer maltreatment has risen. Most of this research has focused on the short-term consequences of peer maltreatment (Hawker & Boulton, 2000). Among a wide range of negative consequences associated with peer victimization, social anxiety has received particular attention. Social anxiety is commonly reported among children who are victimized physically, verbally or relationally according to studies using both cross-sectional and short-term longitudinal research designs (Craig, 1998; Hawker & Boulton, 2000; Storch et al., 2004).

There are fewer studies that have examined the long-term impact of childhood peer victimization. Of the few longitudinal studies of peer victimization that have been conducted, the findings are similar to cross-sectional studies; specifically, victimization is related to a variety of internalizing and externalizing problems (Storch & Ledley, 2005). Most of these longitudinal studies include one-year follow-up periods and longer prospective studies of the consequences of peer victimization are lacking (Fabian & Thompson, 1989; Olweus, 1993). Prospective research designs are considered superior because of the ability to control for pre-existing variables, such as elevated levels of social anxiety among children prior to victimization, as this may explain part or most of the anxiety in the child post-victimization. However prospective studies have their limitations as well in that the data are collected during a specific time period, and rarely cover the entire span of childhood (Hardt & Rutter, 2004). In addition, prospective studies are costly and laborious, leading many researchers to use retrospective studies.

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Retrospective studies involve asking participants to recall past events/experiences and this information is then used as a proxy for early-life experiences, which are then correlated to some measure of current functioning. Retrospective reports offer an efficient research tool that can provide evidence of potential etiological factors and narrow the focus of target outcome measures in longitudinal studies. In addition, they have the potential to examine a large span of time that is rarely attainable in standard longitudinal studies. Similar to cross-sectional studies, retrospective designs do not allow causation or direction of effects to be inferred. The main limitation of retrospective studies is the potential for biased or inaccurate memories, although the number of ‘false positives’ in retrospective research studies must be balanced with the equally probable number of “false negatives” (i.e., missed cases) in prospective studies resulting from short follow-up periods (Hardt & Rutter, 2004).

Despite their limitations, retrospective research studies indicate similar correlates of peer victimization as those found in cross-sectional and longitudinal studies, namely social anxiety, fear of negative evaluation, depressed mood and loneliness (McCabe, Antony, Summerfeldt, Liss, & Swinson, 2003; Roth, Coles, & Heimberg, 2002; Storch et al., 2004). For example, McCabe et al. (2003) examined reports of childhood teasing among adults with a diagnosis of panic disorder with or without agoraphobia (PD), social anxiety disorder (SAD), and obsessive-compulsive disorder (OCD) and found that those in the SAD group reported having been teased more frequently during childhood than those in the other two groups. Teasing, which is the most common form of peer victimization for both boys and girls in community studies (Olweus, 1993), includes verbal assaults on a person's character and has been linked to various psychological problems including social anxiety, depression, loneliness, body dissatisfaction, eating disturbances, somatic complaints, and poor self-esteem (Craig, 1998; Rieves & Cash, 1996; Rigby, 2003; Storch, Brassard, & Masia-Warner, 2003; Williams, Chambers, Logan, & Robinson, 1996). McCabe et al. (2003) were the first to report on the effects of childhood teasing among individuals in an adult clinical population, who because of their current psychological functioning, may be expected to differ in a number of ways from nonclinical populations, including the frequency of the recalled teasing.

The purpose of the present study was first, to replicate findings by McCabe et al. (2003), but this time using a more comprehensive measure of teasing. The *Teasing Questionnaire-Revised* (TQ-R;

Storch et al., 2004) is a broader measure of teasing than the single-item question used by McCabe et al., covering areas of Performance, Appearance, Social, Family, and Academic domains in the assessment of teasing. This measure has been found to have good test-retest reliability, internal consistency and convergent validity in samples of young adults (Strawser, Storch, & Roberti, 2005). Using a multifaceted measure of teasing may enhance our understanding of the nature of the victimization and how it relates to specific anxiety disorders.

A secondary aim of this study was to extend the findings by McCabe et al. by examining general psychological functioning associated with experiences of teasing in childhood. We expected history of teasing would be related to increased levels of depression, anxiety, and stress, as well as higher impairment across social, health, and occupational functioning. History of teasing was also expected to predict severity of SAD symptoms, and we hypothesized that this relationship would exist even after controlling for current levels of depression, anxiety, and stress. Controlling for these variables allowed us to examine the extent to which poor psychological functioning (i.e., concurrent depressed mood and anxiety) contributes to biased recall of past events. A robust relationship between teasing history and social anxiety would be more meaningful if it continued to be found after controlling for the effects of poor psychological functioning. In addition, we controlled for both age and ethnicity in our analyses based on previous research illustrating important differences in experiences and reporting of peer victimization across different age and cultural groups (Keltner, Capps, Kring, Young, & Heerey, 2001; Vaillancourt et al., 2008)

1. Method

1.1. Participants

The sample consisted of 377 participants (females = 226; males = 120) who were between the ages of 15 and 73 years ($M = 34.5$; $SD = 11.7$) referred to an outpatient anxiety disorders clinic. Of the total sample, 91% described themselves as Caucasian and 36% reported having completed college or university. Demographics for the entire sample and by subsample are provided in Table 1. Individuals referred to the clinic were given the opportunity to participate in the study if they had a principal diagnosis of SAD ($n = 200$), OCD ($n = 79$), or PD ($n = 98$). In the PD

Table 1
Demographic characteristics for the total sample and by primary diagnosis.

Demographic variables	SAD ($n = 200$)	OCD ($n = 79$)	PD ($n = 98$)	Total
Age (mean/SD)	33.7 (11.7)	33.7 (12.2)	36.8 (11.2)	34.5 (11.3)
% Females	48%	73.4%	73.5%	60.0%
Education				
Completed high school	21%	13.9%	9.2%	16.4%
Completed college/university	31%	41.8%	41.8%	36.1%
% Caucasian	91%	88.5%	89.7%	91.4%
Treatment history				
Pharmacological	58.5%	63.3%	71.4%	63.2%
Psychological	5.0%	10.1%	1.0%	5.1%
Combination	18.5%	11.4%	12.1%	15.5%
Marital status				
Single	58%	43.0%	31.6%	47.8%
Married/cohabitating	30%	53.2%	56.2%	41.9%
Household income				
<40,000	41.5%	33.0%	34.6%	37.9%
40,000–80,000	29.5%	30.4%	30.6%	29.9%
>80,000	9.5%	16.5%	23.4%	14.6%
Not reported	19.5%	20.3%	11.2%	17.5%

Note. SAD, social anxiety disorder; OCD, obsessive-compulsive disorder; PD, panic disorder.

group, 84 participants (86%) had a principal diagnosis of panic disorder with agoraphobia and 14 (12%) had a principal diagnosis of panic disorder without agoraphobia. Individuals in the OCD or PD groups who had an additional diagnosis of SAD were excluded from the analyses. Diagnoses were determined using the Structured Clinical Interview for DSM-IV (SCID-IV; First, Spitzer, Gibbon, & Williams, 1996). When more than one Axis I disorder was present, the principal diagnosis was defined as the disorder that caused the most distress and/or functional impairment.

1.2. Measures

1.2.1. Teasing Questionnaire-Revised (TQ-R)

The TQ-R (Storch et al., 2004) is a 29-item self-report scale designed to assess retrospective accounts of teasing in childhood. Responses are made on a 5-point Likert scale ranging from 0 = "I was never teased about this" to 4 = "I was always teased about this." The scale comprises five factors: Performance, Appearance, Social, Family, and Academic Excellence. Internal consistency for the factors ranged from moderate ($\alpha = .47$) to strong ($\alpha = .87$). Test-retest reliabilities ranged from .66 to .89 for the individual scales (Strawser et al., 2005). Sample items for the five subscales include, "I was teased because I didn't do well in school" (Performance); "I was teased about my weight" (Appearance); "I was teased because I was scared of doing lots of things (e.g., swimming, going camping, etc.)" (Social); "I was teased because my family didn't have as much money as the other kids' families" (Family); and "I was teased because I always volunteered to answer questions in class" (Academic). The internal consistencies of these subscales in the present study were as follows: Performance, $\alpha = .73$; Appearance, $\alpha = .82$; Social, $\alpha = .81$; Family, $\alpha = .47$; Academic, $\alpha = .86$. Due to the low reliability of the Family factor, this variable was excluded from further analysis.

1.2.2. The Social Phobia Inventory (SPIN; Connor et al., 2000)

The SPIN is a self-report measure of the symptoms of social anxiety. The scale consists of 17 items that form both a total score and three subscale scores which evaluate fear (e.g., of people in authority); avoidance (e.g., of talking to strangers); and physiological discomfort (e.g., sweating). Each item is rated on a scale from 0 to 4: not at all, a little bit, somewhat, very much, and extremely. The range of possible response scores is 0 to 68 and Connor et al. report that a cut-off score of 19 or greater best distinguishes between individuals with social phobia and controls. The SPIN has demonstrated good test-retest reliability, internal consistency, convergent and divergent validity, and clinical trials show the SPIN is responsive to changes in symptoms across time, including changes corresponding to psychopharmacological treatments (see Antony, Coons, McCabe, Ashbaugh, & Swinson, 2006; Connor et al., 2000). The internal consistency of the SPIN (total score) in the current sample was high, $\alpha = .94$.

1.2.3. The Depression Anxiety Stress Scales (DASS; Lovibond & Lovibond, 1995)

The DASS is a 21-item questionnaire, shortened from the original 42-item DASS and is composed of three subscales measuring the emotional states of anxiety, depression, and stress. The DASS has been shown to distinguish well between features of depression, physical arousal, and psychological tension and agitation (Antony, Bieling, Cox, Enns, & Swinson, 1998). In addition, the DASS-21 has demonstrated good internal consistency and concurrent validity in studies using both clinical and nonclinical samples (Antony, Bieling, et al., 1998). Factor analyses using clinical (Brown, Chorpita, Korotitsch, & Barlow, 1997) and

nonclinical (Lovibond & Lovibond, 1995) populations support a three-factor solution (depression, anxiety, and stress). The Depression subscale (7 items) includes items associated with dysphoric mood (e.g., sadness) and the Anxiety scale (7 items) includes items related to physical arousal such as trembling and faintness. The Stress scale (7 items) measures symptoms such as tension and irritability; however these symptoms do not overlap with items from the Anxiety scale. The internal consistencies of these subscales in the present study were: Depression, $\alpha = .92$; Anxiety, $\alpha = .81$; Stress, $\alpha = .86$.

1.2.4. The Illness Intrusiveness Rating Scale (IIRS; Devins et al., 1983)

The IIRS is a 13-item measure assessing the impact of illness on domains of functioning including work, health, and relationships. For each item, individual's rate on a scale of 1–7 the degree to which an illness and/or its treatment interferes with a number of life domains including diet, finances, relationships, work, etc. Consistent with previous studies in anxiety disorder populations (e.g., Antony, Roth, Swinson, Huta, & Devins, 1998; Bieling, Rowa, Antony, Summerfeldt, & Swinson, 2001), participants were asked the extent to which their "anxiety" (rather than "an illness") affects these domains. Higher scores indicate more intrusiveness. Both exploratory and confirmatory factor analyses using a number of medically ill (Devins, 1994) and mentally ill populations (specifically anxiety disorders; Bieling et al., 2001) have found support for both a one-factor and a three-factor structure of the IIRS. In the current study we used the one-factor structure of the IIRS and the internal consistency using the total score was $\alpha = .88$.

2. Results

2.1. Analysis of sample characteristics

Cross-tabulations of gender by diagnostic category illustrated statistically significant differences in frequency of females versus males across anxiety disorder subgroups, $\chi^2(2) = 24.82, p < .001$. Specifically, the SAD group had 48% females compared to 73% females in the OCD group and 74% in the PD group. There was no other between group differences based on age or education level.

2.2. History of teasing across anxiety disorder categories

A multivariate analysis of variance (MANOVA) was performed to compare total score on the TQ-R across participants with a principal diagnosis of SAD, OCD, or PD. Results indicated a statistically significant difference between groups, $F(2, 309) = 17.41, p < .001$. Follow-up *t*-tests were conducted to evaluate differences between mean frequency scores across anxiety disorder groups. Levene's test of equality of error suggested significant differences in the variances between groups: $F(2, 309) = 10.97, p < .001$. Post-hoc comparisons using Dunnett's *C* tests showed significant mean differences between the SAD group compared to the OCD and PD groups. There were no significant differences between the OCD and PD groups.

Next, we tested for differences across SAD, OCD, and PD on each of the TQ-R subscales (Performance, Appearance, Social, and Academic Excellence) using the steps outlined above. Significant differences were found between diagnostic groups on all TQ-R subscales. Post-hoc comparisons using Dunnett's *C* tests indicated that the SAD group displayed higher mean levels of teasing on both the Performance and Social behavior subscales compared to both the OCD and PD groups. There were no significant differences between the SAD and OCD groups on academic and appearance-related teasing, although both groups had higher mean scores on the Academic and Appearance subscales than did the PD group (see Table 2).

Table 2
Means, standard deviations, and comparisons of diagnostic groups on the Teasing Questionnaire-Revised (TQ-R) subscales.

TQ-R subscale	SAD	OCD	PD	F	p
Performance					
M	3.28 _a	1.82 _b	1.38 _b	16.30	.000
SD	3.03	2.17	1.95		
Appearance					
M	9.48 _a	7.11 _b	5.76 _b	7.61	.001
SD	7.47	7.57	5.40		
Social					
M	6.89 _a	3.01 _b	2.46 _b	27.75	.000
SD	6.02	3.58	3.40		
Academic					
M	3.96 _a	4.34 _a	2.23 _b	9.02	.000
SD	4.86	5.29	3.31		

Note. SAD, social anxiety disorder; OCD, obsessive-compulsive disorder; PD, panic disorder. Means sharing the same subscripts (across groups) do not differ at $p < .05$.

2.3. History of teasing and global measures of psychological functioning

In general, TQ-R scales were significantly related to each of the global measures of psychological functioning. The strongest correlation was between the scores of the TQ-R and scores on the SPIN ($r = .40$), with subsequent correlations of $r = .32$ (DASS-S), $r = .31$ (DASS-D), $r = .30$ (IIRS), and $r = .27$ (DASS-A).

To assess the impact of teasing frequency on severity of SAD symptoms, multivariate hierarchical regressions were conducted using scores on the SPIN as the outcome variable. Age and ethnicity were entered at step one of the regression analysis and scores of the TQ-R were entered at the second step. Age ($\beta = -.178$, $p < .0001$) but not ethnicity ($\beta = -.063$, $p = .130$) significantly predicted symptoms of SAD, accounting for 3.7% of the total variance in the model, $F(2, 559) = 10.76$, $p < .0001$. At step 2 of the analysis, teasing frequency ($\beta = .387$, $p < .0001$) was significantly related to symptoms of SAD $F(3, 558) = 41.16$, $p < .0001$. The addition of teasing frequency to the model explained an additional 14.4% of the total variance in scores on the SPIN. In a second regression analysis, age and ethnicity were entered as level 1 predictors, with the Depression, Anxiety, and Stress subscales of the DASS entered as level 2 predictors, and frequency of teasing entered in the final step. Results indicated that teasing frequency still accounted for an additional 4% of the variance in SPIN scores, above and beyond demographic variables (3.6%) and the DASS Depression ($\beta = .337$, $p < .0001$), Anxiety ($\beta = .228$, $p < .0001$) and Stress ($\beta = .020$, $p = .678$) subscales, which accounted for 34% of the model's variance, $F(6, 553) = 65.54$, $p < .0001$ (final model).

3. Discussion

The goals of the present study were to build upon results reported by McCabe et al. (2003), who found that adults with SAD report having been teased and bullied more frequently than adults with either PD or OCD. We extended this research by examining a larger sample of adults with anxiety disorders, using a more reliable and valid measure of teasing experiences (TQ-R), and exploring more thoroughly the general psychological functioning of adults who recall being teased, above and beyond their current anxiety disorder diagnosis.

Results of this study replicated those obtained by McCabe et al. (2003) even with our use of a more comprehensive measure of teasing. Adults with SAD reported more experiences of teasing than adults in either the PD or OCD groups. However in addition to a general finding regarding the relationship between teasing and SAD, the results of this study offer a more detailed account of the

type of teasing that is related to social anxiety. Specifically, teasing frequency was highest for individuals with SAD and these effects were observed across Appearance, Social, and Performance domains of teasing.

As hypothesized, teasing frequency was positively correlated with other measures of psychological maladjustment. The largest correlations were between scores of the TQ-R and scores on the Social Phobia Inventory (SPIN). This finding is not surprising given that our results indicate teasing history is greater for individuals with SAD and the SPIN measures severity of symptoms associated with SAD. The regression analyses indicated that retrospective accounts of childhood teasing were statistically significant in predicting current levels of social anxiety. The final model with all predictor variables explained 42% of the variance in SPIN scores and the individual effect sizes (Cohen, 1988) for predictor variables were lowest for demographic characteristics (Age, Cohen's $f^2 = .04$), moderate for teasing frequency (TQ-R, Cohen's $f^2 = .17$) and large for the general psychological functioning variables (DASS Depression, Anxiety Stress subscales, Cohen's $f^2 = .52$). The relation between childhood teasing and social anxiety is not likely confounded by concurrent psychological functioning given that teasing frequency contributed to additional variance in scores on the SPIN even after accounting for current levels of depression, anxiety, stress, and impairment in social, occupational and physical health. This is an important point to highlight as one of the challenges of interpreting results of retrospective studies has been concern over potential respondent biases resulting from concurrent mood disorder (Hardt & Rutter, 2004).

Results presented in this study support previous findings linking peer victimization to social anxiety in nonclinical and clinical populations using cross-sectional, prospective and retrospective reports. It seems plausible to suggest that social anxiety may be the result of exposure to anxiety-provoking peer interactions in childhood. Cross-sectional and prospective research supports such an assertion. Although research methods used in the current study preclude us from drawing causal inferences, the present study highlights an important element of peer victimization that may be overlooked if we relied exclusively on cross-sectional and prospective studies with short follow-ups. Although social anxiety may originate within the peer group, it can extend much beyond this specific type of social interaction. Adults with SAD experience social anxiety across a variety of contexts including interactions with authority figures and public audiences (American Psychiatric Association, 2000). Immediate effects of peer maltreatment may be withdrawal from the peer group, increased social anxiety during peer interaction, and fear of further harassment from peers; however these effects may extend beyond the context of peer-to-peer interactions to other domains and more global feelings of social anxiety across development. If so, interventions in childhood that focus exclusively on increasing opportunities for positive peer interactions may neglect the more global impact on social interactions stemming from exposure to peer maltreatment.

One limitation to the present study is the relatively narrow focus of peer maltreatment, as teasing is only one specific form of peer victimization, and there is evidence to indicate that the psychological maladjustment associated with peer maltreatment varies as a function of the type of victimization. For example, Miller and Vaillancourt (2007) found covert (relational – e.g., gossiping, social exclusion) but not overt (physical or verbal) victimization was associated with heightened levels of neurotic perfectionism among young adult females from two university samples. Storch, Masia-Werner, Crisp, and Klein (2005) similarly found reports of covert (relational) but not overt peer victimization predicted increased social anxiety and avoidance one year later among a sample of adolescents in the community. An interesting avenue of

future research would be to extend these community studies to a clinical population and compare both covert and overt peer victimization among a clinical sample of adults with social anxiety disorder.

In addition to studies examining different forms of peer maltreatment, it would be beneficial to examine types of perpetrators such as classmates, friends, siblings, or strangers. In some studies, the effects of teasing and the interpretation of the teasing episode varies as a function of who is the teaser (Keltner, Young, Heerey, Oemig, & Monarch, 1998). Similarly, there is evidence of cross-cultural variation in teasing frequency and associated psychological distress (Keltner et al., 2001). This question could not be addressed in the current study as the sample was 91% Caucasian. Questions concerning the characteristics of perpetrators and victims have been addressed in the bullying literature (Vaillancourt et al., 2008) and may help inform studies seeking to understand the characteristics of children who tease and are teased.

Retrospective studies of peer victimization are particularly useful research methodologies when the goal of the study is clinical application. Perception of peer victimization is what matters most in terms of understanding the psychological functioning of the person (Miller & Vaillancourt, 2007). Regardless of the accuracy of the recalled victimization, subjective appraisals of victimization are more intimately linked to current psychological functioning than actual victim status (Graham & Juvonen, 1998; Hymel & Franke, 1985). It is these self-appraisals of rejection and victimization which best predicts loneliness, social anxiety, low self-worth, and depression (Graham & Juvonen, 1998; Panak & Garber, 1992). In contrast, prospective studies are likely to provide the most useful information when the goal of the study is to understand what role peer victimization plays in the etiology of anxiety disorders and other psychopathology in later life. Moreover, longitudinal studies are the most appropriate design for addressing questions related to the developmental course of peer victimization, or the antecedents of peer victimization including anxious predispositions.

In order to move forward in peer victimization research, longitudinal designs are needed and these studies will require lengthy follow-up periods. A minimum follow-up of 10 years is recommended given that both overt and covert forms of peer victimization reach their peak prior to the onset of adolescence (before age 12) and vulnerability to most mental disorders is highest in early adulthood (Regier et al., 1988). Using multiple methods of assessment in these future studies will also be important. In the present study we were limited to self-report for both teasing history and current psychological functioning. Using the same methods to assess both the independent and dependent variables creates shared method variance and this can inflate effect sizes. Prospective studies of peer victimization should attempt to use teacher, peer or parent reports along with self-reports of both victimization and psychological functioning where possible.

Findings presented in this study have important clinical implications. Social experiences are instrumental in the development of beliefs about oneself and the world (Storch et al., 2004). **Being teased as a child may contribute to development of negative schemas, dysfunctional cognitions or feelings of low self-worth in the social aspect of children's self-identity. Slee (1994) argues that increased social anxiety following peer victimization results from the victim's overconcern with what other children think of them.** Initial experiences of peer victimization may cause individuals to become threat-sensitive during subsequent interactions (Leary, 2001), resulting in increased social apprehension and withdrawal behaviors, which ultimately perpetuate the cycle of victimization (Crick & Bigbee, 1998; Egan & Perry, 1998; Olweus, 1993; Zadro, Boland, & Richardson, 2005). Furthering our understanding of how

peer victimization may shape pathological beliefs and negative biases that contribute to current psychological functioning may aid in the treatment of internalizing disorders such as anxiety and depression (Storch et al., 2004).

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