

# Recalled Childhood Teasing among Non-Clinical, Non-College Adults

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Published online: 22 August 2007  
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**Abstract** This study examined the psychometric properties of the Teasing Questionnaire—Revised (TQ-R) in a non-clinical community sample of adults. The TQ-R, Brief Fear of Negative Evaluation Scale, Beck Depression Inventory-II, and UCLA Loneliness Scale were administered to 355 adults, aged 18–86 years. Confirmatory factor analysis showed the five-factor teasing model proposed by Storch et al. (*Journal of Anxiety Disorders*, 18, 665–679, 2004c) was not a good fit for these data. A three-factor model consisting of Academic, Social, and Appearance factors was found through exploratory analyses [termed the Teasing Questionnaire—Revised—Short Form (TQ-R-S)]. Internal consistency was good for the TQ-R-S Total Score and resultant TQ-R-S Academic, Social, and Appearance factors. TQ-R-S scores were directly correlated with current psychosocial functioning with correlations of a small to medium effect size. These results provide evidence that teasing during childhood is linked to later symptoms of depression, anxiety, and loneliness.

**Keyword** Teasing · Childhood ·  
Teasing Questionnaire—Revised ·  
Depression · Loneliness

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Bullying is a form of peer maltreatment in which someone harms another person through verbal or physical assaults. Bullying is a widespread phenomenon in childhood, affecting up to one in every five children (Olweus 1993; Storch and Masia-Warner 2004). Teasing is the most common form of bullying (Olweus 1993) and consists of verbal assaults directed toward behavior, weight, appearance, intelligence, and clothing (Kowalski 2000; Storch et al. 2004b). Because teasing is derogative in nature, this form of bullying often interferes with successful psychosocial adjustment in children and adolescents both concurrently and longitudinally (see Storch and Ledley 2005 for a review).

Most research on the long-term effects of childhood teasing emerges from the study of eating disorders. Many of these studies suggest that being teased in childhood is positively related to body dissatisfaction and eating disturbances in adulthood (e.g., Grilo et al. 1994; Jackson et al. 2000; Rieves and Cash 1996; Schwartz et al. 1999; Thompson 1996; Thompson and Heimberg 1993). For example, Jackson et al. (2000) found that childhood teasing about appearance was positively related to weight concerns, body dissatisfaction, and decreased psychological functioning in a clinical sample of 115 adult women with binge eating disorder. Because most research on long-term effects of teasing has been limited to patients with eating disorders, relatively little is known about the extent to which childhood teasing is correlated with later psychological distress in non-clinical, adult populations.

Four studies have advanced the understanding of the relationship between childhood teasing and later functioning. Roth et al. (2002), noting that existing teasing measures assessed only teasing about appearance, developed a broader measure called the Teasing Questionnaire (TQ). They found recalled childhood teasing to be

positively related to anxiety, depression, and fear of negative evaluation in a sample of 514 college students. Although the TQ assessed teasing about a variety of topics (e.g., academic excellence, appearance), factor analysis showed the measure did not adequately capture teasing in different domains as was intended.

Building upon this study, Storch et al. (2004b) revised the TQ to assess multiple teasing domains. The new measure, called the Teasing Questionnaire—Revised (TQ-R), built upon the TQ by lengthening the TQ from 20 to 29 questions and assessing multiple domains of childhood teasing (e.g., performance, academic, social, family, and appearance). In a sample of 414 college students, confirmatory factor analysis verified a five-factor structure of recalled childhood teasing that included performance, academic, social, family, and appearance domains. Results were consistent with Roth et al. (2002) in that recalled childhood teasing was linked to current anxiety, depression, fear of negative evaluation, and loneliness. When examining relations among factor scores and current adjustment, consistent and positive relationships were generally found. Strawser et al. (2005) replicated the correlational analyses of Storch et al. (2004b) in a sample of 303 college students, and examined 2-week test–retest reliability of the TQ-R in a subsample of participants. Test–retest reliability ranged from good to excellent across TQ-R scores.

The three studies mentioned thus far focused on the relationship between childhood teasing and later psychological distress. One study examined the relationship between childhood teasing and later interpersonal difficulties (Ledley et al. 2006). This study found that recalled childhood teasing in the Performance, Social, and Appearance factors was related to later attachment difficulties and decreased social confidence. In contrast, recalled childhood teasing in the Academic and Family factors showed weak relationships with later interpersonal difficulties.

Although these studies provide further insight into the relationship between childhood teasing and adulthood psychological adjustment, each is limited by the use of a convenience sample of college students. It is uncertain if relations among teasing and adjustment indices are maintained over durations longer than several years. Further, the TQ-R psychometric properties may differ in a sample of older adults who are not in college and are, therefore, exposed to different social and interpersonal situations. The present study had four goals: (1) To confirm the TQ-R five-factor model; (2) To examine the internal consistency and factor intercorrelations of the TQ-R scores; (3) To provide normative data for the TQ-R in an adult non-clinical sample and examine age and gender differences; and (4) To examine the relationship between recalled childhood teasing and adulthood psychological distress in an adult non-clinical sample.

## Method

### Participants

Participants were 355 adults (men=150), 18 to 86 years of age solicited outside retail stores ( $n=344$ ) or after religious organizational meetings ( $n=11$ ). Demographics of participants (e.g., gender distribution, ethnicity, age) solicited from retail stores and religious organizations did not differ ( $p>0.10$ ). Participants' mean age was 43.95 years ( $SD=15.66$ ). Ethnic distribution was as follows: 81% of participants were Caucasian, 7% African American, 2% Asian, 5% Hispanic, 3% Native American, and 1% did not list ethnicity.

### Measures

*Teasing Questionnaire—Revised (TQ-R; Storch et al. 2004b)* The TQ-R is a 29-item self-report measure that assesses memories of childhood teasing experiences. The questionnaire utilizes a 5-point Likert type scale (0 = “was never teased about this” and 4 = “was always teased about this” to assess the frequency with which individuals were teased across five factor analytically derived domains: Performance, Academic, Social, Family, and Appearance (Storch et al. 2004b). Moderate correlations among the five factors suggest the TQ-R gauges conceptually unique but related elements of teasing (Storch et al. 2004b). There has been support for the internal consistency of the TQ-R Total Score ( $\alpha=0.87$ ), although internal consistencies for the factors have ranged from poor to adequate: Performance (three items,  $\alpha=0.58$ ), Academic (six items,  $\alpha=0.84$ ), Social Behavior (seven items,  $\alpha=0.70$ ), Family (three items,  $\alpha=0.48$ ), and Appearance (ten items,  $\alpha=0.78$ ; Storch et al. 2004b).

*Brief Fear of Negative Evaluation Scale (B-FNE; Leary 1983)* The B-FNE is a 12-item self-report questionnaire utilizing a 5-point Likert type scale (1 = “not at all,” 5 = “extremely” to measure fear of negative evaluation, which is considered a core component of social anxiety. The B-FNE is based on Watson and Friend's (1969) 30-item Fear of Negative Evaluation scale. In non-clinical populations, the B-FNE is highly correlated with Watson and Friend's Fear of Negative Evaluation scale ( $r=0.96$ ; Leary 1983). Internal consistency for the B-FNE total score and each factor score has been found to be excellent (B-FNE total score,  $\alpha=0.88–0.94$ ; Duke et al. 2006; Rodebaugh et al. 2004; Strawser et al. 2005). Cronbach's alpha in this sample was 0.80.

*Beck Depression Inventory—Second Edition (BDI-II; Beck et al. 1996)* The BDI-II is a 21-item self-report instrument

that measures depressive symptoms present during the two weeks prior to administration (e.g., irritability, fatigue, eating disturbances) on a 3-point Likert-type scale (e.g., 0 = “I do not feel sad,” 3 = “I am so sad or unhappy that I can’t stand it”). The BDI-II has good concurrent validity with other depression measures (Beck et al. 1996; Whisman et al. 2000), a stable factor structure (Storch et al. 2004a), and good internal consistency in non-psychiatric ( $\alpha=0.81$ ) and psychiatric samples ( $\alpha=0.86$ ; Beck et al. 1996). Cronbach’s alpha in this sample was 0.92.

*UCLA Loneliness Scale (Version 3; Russell and Cutrona, Development and evolution of the UCLA Loneliness Scale, unpublished manuscript, Center for Health Services Research, College of Medicine, University of Iowa, 1988)* The UCLA Loneliness Scale is a 20-item self-report measure that utilizes a 4-point Likert-type scale (1 = “never,” 4 = “always”) to assess loneliness as a function of desired versus actual levels of social interaction. Internal consistency of the scale has been found to be high with various populations (e.g.,  $\alpha=0.89$ – $0.94$ ; Russell and Cutrona, *Development and evolution of the UCLA Loneliness Scale, unpublished manuscript, Center for Health Services Research, College of Medicine, University of Iowa, 1988*). The scale modestly correlates with self-reports of time spent alone (Russell and Cutrona, *Development and evolution of the UCLA Loneliness Scale, unpublished manuscript, Center for Health Services Research, College of Medicine, University of Iowa, 1988*) and current peer relationships (Ledley et al. 2006). Cronbach’s alpha in this sample was 0.91.

## Procedures

This study was approved by the University of Florida’s Institutional Review Board. Questionnaire packets were administered to individuals who shopped at retail stores or attended various religious organizations. With permission of clergy, an investigator visited religious organizations at the conclusion of regularly scheduled meetings. The investigator explained that the study was examining recollections of having been teased in childhood and offered people in attendance an opportunity to participate following their religious meeting. The investigator then waited outside and offered instructions to any participants who expressed interest based on the above description (e.g., informed the investigators that s/he wished to participate).

Investigators also set up tables outside retail and grocery stores. As participants entered the store, they were told that the investigator was conducting a study about recollections of having been teased in childhood. Then, they were invited to participate. Interested individuals (i.e., who indicated a

desire to participate) were told the investigators’ affiliation, the purpose of the study, and that this research was part of the principal investigator’s senior thesis. All participants were informed that participation was voluntary and anonymous. No compensation was provided for participation. Although the vast majority of people who initially indicated a desire to participate completed the study, the exact percentage was not collected.

## Results

### Initial Data Screening

Initial data screening revealed that 14 cases needed to be eliminated due to missing values. Prior to conducting multivariate analyses, the data were screened for univariate and multivariate outliers. Assessing the critical value of the Mahalanobis distance, 26 multivariate outliers were identified ( $\chi^2_{(29)} = 59.70, p < 0.001$ ) and a close examination of these cases revealed that several of their item scores deviated severely ( $Z = \pm 3.00$ ) from the remainder of the sample. The demographic characteristics of these outlying cases (7% of the total sample) were not systematically different from that of the total sample, thus the remaining sample of 315 were used for subsequent analyses.

West et al. (1995) have noted that skewness of  $\pm 3$  and a kurtosis of  $\pm 7$  indicate an extreme deviation from normality. The univariate skewness of the 29 items ranged from .64 to 2.27 ( $M = 1.66$ ) and their univariate kurtosis ranged from  $-0.75$  to 4.78 ( $M = 2.12$ ). Item 22 (cried a lot) and Item 27 (taller than other kids) were assumed to deviate from a univariate normal distribution. More than 90% of the participants indicated that these items did not represent a type of teasing they experienced as a child and were deleted. Mardia’s (1970) normalized estimate of multivariate kurtosis was 289.44, the critical ratio of which was 64.90, representing a deviation from a multivariate normal distribution.

### Reliability Analysis

Given the deletion of two items with inadequate univariate normality, alpha coefficients were assessed for each of the five subscales of the TQ-R. Iterative deletion of items compromising the Family factor (three items;  $\alpha = 0.42$ ) did not improve the internal reliability of the factor. Examination of the inter-item correlation matrix revealed that none of the three items correlated substantially ( $r < 0.15$ ). The Family factor was deleted since the three items were unreliable indicators of the underlying latent construct (Kline 1998). Internal consistency (Cronbach 1951) of the remaining subscales was not substantially improved with iterative

deletion of items: Performance  $\alpha=0.63$ , Social  $\alpha=0.78$ , Academic  $\alpha=0.79$ , and Appearance  $\alpha=0.82$ .

### Confirmatory Factor Analysis of the TQ-R

It was hypothesized that the structure of the 29-item TQ-R would consist of the five factors proposed by Storch et al. (2004b). During the initial data screening five items were eliminated, thus, the remaining four factors consisting of 24 items was assessed. To compare the observed structure with the structure proposed in the theoretical model, a confirmatory factor analysis (CFA) was conducted using AMOS 4.0 (Arbuckle 1999) structural equation modeling software. Given the presence of multivariate non-normal data and the ordinal nature of the TQ-R item responses, a “bootstrap” procedure was utilized. The bootstrap technique allows for examination of parameter distributions yielded from multiple subsamples drawn from the original sample (West et al. 1995).

The first step in the bootstrap procedure was to create 1,000 random samples with replacement from the original dataset. Each randomly generated sample utilized a sample size of 315 participants to yield estimations of each path coefficient for the remaining four factors (24 items) of the TQ-R. Adequate fit of the measurement model was determined with a number of commonly used methods. First, the model was evaluated with the tests of significances ( $p$  values) for bootstrap ML parameter estimates, standard errors, and 95% bias-correction confident intervals for the bootstrapped factor loading estimates. The regular MLE parameter estimates were also inspected for a baseline comparison. Secondly, the Bollen–Stine (1993)  $X^2$  goodness-of-fit statistic was computed to evaluate the appropriateness of the hypothesized model. A modified bootstrap technique for the  $X^2$  goodness-of-fit statistic (Byrne 2001), the Bollen–Stine  $X^2$  goodness-of-fit statistic represents a method of testing the null hypothesis that the specified model is correct. Lastly, several commonly used fit indices were evaluated: goodness of fit index (GFI), incremental fit index (IFI), root mean square residual (RMR), and the root mean square error of approximation (RMSEA). IFI and GFI parameters range from 0 to 1, with values of .90 or higher indicating an adequate fit between the observed model and the theoretical model. For the RMSEA and RMR, values below 0.05 indicate a good fit and values as high as .08 represent an adequate fit (Byrne 2001).

The bootstrap procedure produced 1000 usage samples with no evidence of unusable solutions. Table 1 revealed that regular ML standardized factor loading parameters ranged from 0.242 to 0.819 with  $p$  values  $<0.0001$ . The discrepancy between the regular ML and bootstrapped standard error estimates for the factor loading weights revealed wider distributions than would be expected under

**Table 1** Standardized parameters of the TQ-R using a bootstrap method

	ML standardized regression weights	SE <sup>1</sup> –SE <sup>2</sup>	95% bias-corrected CI for bootstrapped standardized regression weights
TQ-R social factor			
Item 19	0.432	0.000	0.319–0.547
Item 17	0.752	0.065	0.651–0.831
Item 16	0.819	0.040	0.730–0.877
Item 14	0.743	0.049	0.637–0.813
Item 9	0.661	0.025	0.528–0.763
Item 3	0.309	0.047	0.165–0.468
TQ-R academic factor			
Item 25	0.655	0.000	0.511–0.755
Item 20	0.801	0.133	0.726–0.860
Item 15	0.705	0.111	0.612–0.785
Item 10	0.673	0.016	0.539–0.773
Item 4	0.698	0.069	0.600–0.775
Item 2	0.726	0.114	0.618–0.803
TQ-R performance factor			
Item 1	0.598	0.000	0.481–0.693
Item 18	0.679	0.037	0.551–0.776
Item 24	0.539	0.017	0.395–0.666
TQ-R appearance factor			
Item 11	0.739	0.000	0.651–0.811
Item 12	0.697	0.024	0.578–0.801
Item 13	0.776	0.009	0.688–0.836
Item 23	0.687	0.024	0.555–0.788
Item 21	0.424	0.022	0.273–0.550
Item 26	0.344	0.019	0.192–0.484
Item 7	0.739	0.009	0.674–0.803
Item 8	0.526	0.028	0.388–0.654
Item 28	0.242	0.016	0.105–0.378

SE<sup>1</sup>–SE<sup>2</sup> = The discrepancy between the regular ML standard error estimates for the regression weight and the bootstrap standard error estimates for the regression weight.

normal theory assumptions. Further, bootstrapped standardized factor loading weights were significant with  $p$  values  $<0.001$ , thus rejecting the hypothesis that the TQ-R factor loading weights are equal to zero in the population. The Bollen–Stine  $X^2$  goodness-of-fit  $p$  value = 0.001, thus indicating the specified model is incorrect and should be rejected. Lastly, the goodness-of-fit indices also suggested a poor fit, GFI = 0.827, IFI = 0.829, RMSEA = 0.084, and RMR = 0.064.

### Exploratory Factor Analysis of the TQ-R

The CFA indicated the five-factor model provided a poor fit to the sample data; therefore, an exploratory factor analysis was conducted on the remaining 24 items. To obtain meaningful and unambiguous factor analytic results, recommendations by Fabrigar et al. (1999) and Preacher and MacCallum (2003) were followed. For the exploratory factor analysis, the

sample data of 315 participants and the four factors consisting of 24 items were utilized. Sampling adequacy was excellent with a Kaiser–Meyer–Olkin (KMO) value of 0.906 and individual item KMO values ranging from 0.87 to 0.94. Factorability was also confirmed with Bartlett’s test of sphericity,  $\chi^2 (276, N=315)=3362.01, p<0.0001$ .

Because the TQ-R item responses are ordinal, the polychoric inter-item correlation matrix was used to conduct the factor analysis. An unweighted least squares extraction method was conducted on the remaining 24-items of the TQ-R to estimate the number of factors. Initial determination of the appropriate number of factors to retain was assessed with the scree plot (Cattell 1966) and parallel analysis (Velicer and Jackson 1990). Evaluation of the scree plot revealed three factors. Using methodology recommended by O’Connor (2000), a parallel analysis was conducted. The size of eigenvalues obtained from unweighted least squares extraction method were compared with those obtained from a randomly generated data set of the same size. Only factors with eigenvalues greater than the values obtained from the random dataset are retained. Eigenvalues from the randomly generated dataset were: 1.489, 1.317, 1.287, and 1.225.

Oblique rotations on the 24 remaining TQ-R items were utilized to examine the three factor solution. An oblique (promax) rotation was used to account for correlations between factors. A three-factor solution using promax rotation was found most statistically and conceptually appropriate.

Criteria for factor refinement via item reduction were based on recommendations by Pett et al. (2003). Items were eliminated from the factor pattern matrix when: (1) individual items had factor loadings under 0.40; (2) individual items had cross-loading values greater than 0.25; and (3) communalities had values less than .40. This process reduced the 24-items of the TQ-R to 15-items, which is referred to as the Teasing Questionnaire—Revised—Short Form (TQ-R-S). The 15-items using the ULS with promax rotation accounted for 63.0% of the total variance explained by the three factors. Taken as a whole, these factor analytic findings met criteria for interpretation (Tabachnick and Fidell 2001). The three factors in addition to the individual items, factor loadings, communality estimates, means, standard deviations, and item–total correlations are presented in Table 2. Summed factor scores were computed by summing all items loading primarily on the specified factor.

Interfactor Correlations of the TQ-R-S

Summed factor score to total score Pearson product–moment correlation coefficients showed significant relationships between the TQ-R-S Total Score and TQ-R-S Academic ( $r (315)=0.80$ ), Social ( $r (315)=0.80$ ), and Appearance ( $r (315)=0.90$ ) summed factor scores. Summed factor scores also showed moderate correlations among themselves, with correlations ranging from 0.53 to 0.62 (see Table 2).

**Table 2** TQ-R-S individual items, factor loadings, corrected item–total correlations, communality estimates, means, and standard deviations

15-Items ( $\alpha=0.90$ )	Factor loadings			Corrected item–total correlations	$h^2$	$M (SD)$
	F1	F2	F3			
Factor 1: academic ( $\alpha=0.85$ )						
Item 2	0.83	−0.13	−0.01	0.57	0.55	0.66 (0.95)
Item 4	0.64	0.03	0.08	0.62	0.50	0.62 (0.97)
Item 10	0.60	0.11	−0.09	0.58	0.45	0.42 (0.71)
Item 15	0.69	0.06	−0.07	0.57	0.48	0.58 (0.92)
Item 20	0.90	−0.05	−0.08	0.63	0.68	0.66 (1.01)
Item 25	0.56	0.05	0.11	0.59	0.42	0.33 (0.69)
Factor 2: social behavior ( $\alpha=0.85$ )						
Item 9	0.13	0.53	0.05	0.55	0.41	0.35 (0.74)
Item 14	−0.04	0.78	−0.02	0.55	0.56	0.56 (0.89)
Item 16	0.09	0.78	−0.04	0.65	0.67	0.45 (0.79)
Item 17	−0.07	0.86	−0.09	0.53	0.62	0.55 (0.86)
Item 18	−0.05	0.64	0.10	0.53	0.44	0.57 (0.87)
Factor 3: appearance ( $\alpha=0.83$ )						
Item 7	0.20	0.06	0.48	0.56	0.41	1.18 (1.23)
Item 11	0.20	0.20	0.46	0.66	0.51	0.66 (0.94)
Item 12	−0.07	−0.09	0.98	0.52	0.83	0.86 (1.19)
Item 23	−0.07	−0.07	0.88	0.54	0.70	0.53 (1.04)
Eigenvalue	6.30	1.68	1.47	Total		
Percent variance	41.99	11.20	9.82	63.01		

$h^2$  Communality estimates;  $\alpha$  alpha reliability coefficient;  $M$  mean;  $SD$  standard deviation;  $F1$  =Academic;  $F2$  Social;  $F3$  Appearance

**Table 3** Age differences among TQ-R-S scores

	Years of age					<i>F</i> value
	18–29 years	30–39 years	40–49 years	50–59 years	60–86 years	
Total	15.35 (11.40)	11.79 (10.76)	11.89 (13.03)	11.42 (11.67)	10.13 (10.23)	2.43*
Academic	5.64 (5.38)	2.97 (3.93)	3.31 (4.62)	4.06 (5.35)	3.27 (4.33)	4.00**
Social	3.85 (4.18)	3.93 (4.75)	3.87 (4.66)	2.65 (3.69)	3.43 (4.22)	1.07
Appearance	5.85 (4.85)	4.89 (4.78)	4.71 (5.70)	4.71 (5.10)	3.43 (3.96)	2.45*

Mean (and standard deviation).

\* $p < 0.05$ ; \*\* $p < 0.01$

### Age and Gender Differences

To examine age differences between TQ-R-S summed factor scores, age was divided into the following cohorts: 18–29 ( $n=81$ ), 30–39 ( $n=61$ ), 40–49 ( $n=84$ ), 50–59 ( $n=66$ ), and 60–86 ( $n=63$ ). Means and standard deviations of TQ-R-S summed factor scores across age and gender are shown in Tables 3 and 4. A 5 (age)  $\times$  2 (gender) multivariate analysis of variance was conducted to examine age and gender differences in TQ-R-S summed factor scores. A significant multivariate effect was found for age,  $F(4, 345)=2.409$ ,  $p < 0.001$ , Wilks' Lambda=0.895. Univariate tests showed that individuals from different age cohorts recall teasing on the Academic [ $F(4, 345)=3.998$ ,  $p=0.003$ ] and Appearance [ $F(4, 345)=2.453$ ,  $p=0.046$ ] summed factor scores differently. Specifically, Tukey's HSD test showed individuals from the 18–29 year cohort recalled more teasing on the Academic summed factor score than individuals in every other cohort,  $0.009 \leq p \leq 0.026$ , except the 50–59 year cohort ( $p=0.263$ ). Individuals in the 18–29 year cohort also recalled more teasing on the Appearance summed factor score than individuals in the 60–86 year cohort ( $p=0.025$ ). A Univariate ANOVA revealed differences among cohorts were not present on the Social summed factor score [ $F(4, 342)=1.057$ ,  $p < 0.378$ ].

No significant multivariate effect was found for gender on TQ-R-S Total Score,  $F(1, 343)=1.988$ ,  $p=0.115$ , Wilks' Lambda=0.983; however, univariate tests showed women recalled significantly more teasing on the Appearance summed factor score,  $F(1, 345)=5.671$ ,  $p=0.018$  (see Table 4). A significant multivariate interaction was found

**Table 4** Gender differences among TQ-R scores

	Women mean (SD)	Men mean (SD)	<i>F</i> value
Total	13.32 (12.63)	10.82 (9.98)	4.22*
Academic	4.22 (5.31)	3.50 (4.17)	2.31
Social	3.80 (4.73)	3.26 (3.68)	1.16
Appearance	5.30 (5.33)	4.06 (4.40)*	5.67*

\* $p < 0.05$

between age cohort and gender,  $F(5, 345)=2.272$ ,  $p=0.008$ , Wilk's Lambda=0.925.

### Correlations Between Recalled Childhood Teasing and Symptoms of Anxiety, Depression, and Loneliness

Pearson-product moment correlations were calculated to assess relationships between recalled childhood teasing and fear of negative evaluation (FNE), depressive symptoms, and loneliness. Taking into account that a relatively large sample size increases the chance that small correlations would be statistically significant, correlations of 0.10–0.29 were defined as a small effect size, correlations of 0.30–0.49 as a medium effect size, and correlations above 0.50 as a large effect size (Cohen 1977).

As can be seen in Table 5, many significant correlations emerged. For the sake of simplicity, only medium effect sizes will be reported here. The TQ-R-S Total Score was positively related to FNE, depressive symptoms, and loneliness with correlations of medium effect size. The TQ-R-S Social summed factor score was related to FNE, depressive symptoms, and loneliness with correlations of medium effect size. The TQ-R-S Appearance summed factor score was related to loneliness with correlation of a medium effect size. The TQ-R-S Academic summed factor score showed no correlations of medium effect size or greater.

### Discussion

This study assessed the psychometric properties of the TQ-R and correlations between recalled childhood teasing and symptoms of adulthood psychosocial maladjustment in a non-clinical sample of non-student adults. In contrast to expectations, the five-factor model proposed by Storch et al. (2004b) was not confirmed in this sample. A three-factor model, named the Teasing Questionnaire—Revised—Short Form (TQ-R-S), proved a better fit. The primary difference between the TQ-R and TQ-R-S was elimination of the

**Table 5** Pearson product moment correlations for various measures of psychological functioning

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) TQ-R Total	–	0.80**	0.58**	0.90**	0.35**	0.29**	0.34**
(2) Academic		–	0.53**	0.62**	0.20**	0.20**	0.23**
(3) Social			–	0.58**	0.35**	0.32**	0.33**
(4) Appearance				–	0.33**	0.20**	0.28**
(5) UCLA					–	0.50**	0.30**
(6) BDI-II						–	0.30**
(7) BFNE							–
Mean	16.22	3.26	3.02	6.38	2.04	3.61	41.08
Std. Dev	14.83	4.05	3.77	6.30	2.27	4.39	10.33

\*\* $p < 0.01$

Performance and Family factors. Teasing in Performance and Family domains may not be of significance to older adults, as teasing in these domains may be directed toward qualities outside control of the victim and/or be infrequent. Interestingly, the Performance and Family factors typically had the lowest reliability in past studies (e.g., Storch et al. 2004b), perhaps suggesting their limited empirical value. In the revised model, internal consistencies of TQ-R-S scores were higher than those of the factors found in Storch et al. (2004b) and were generally excellent. One interpretation of these data is that this factor structure represents a better depiction of the TQ-R-S factor structure in adults of varying ages.

A goal of this study was to examine age and gender differences in recalled childhood teasing in a non-clinical, non-collegiate sample of adults. Interestingly, participants from the youngest cohort reported more teasing on the Academic summed factor score than participants from every cohort except the 50–59 year cohort. Because a higher level of formal education has become more frequent over the last several decades, it is possible that it has become increasingly common to target those who differ from the norm (e.g., children less academically oriented). Increased societal pressure to succeed academically may also contribute to participants in the youngest cohort recalling these teasing experiences more easily than other negative peer experiences. Explanation for increased report of Academic teasing in the 50–59 year cohort must take the interaction between age and gender into account. Analyses revealed men in the 50–59 year cohort did not, in fact, report increased teasing on the Academic summed factor score. Rather, women from the 50–59 year cohort reported significantly more teasing on the Academic summed factor score than all other women except women in the youngest cohort.

Participants from the youngest cohort also reported significantly more teasing on the Appearance factor than participants from the oldest cohort. This combination of increased reporting in the youngest cohort and decreased

reporting from the oldest cohort may reflect differences in value individuals from these cohorts place on appearance. Specifically, individuals in the youngest cohort may place great value on physical appearance; therefore, Appearance teasing may be particularly salient for these individuals. In contrast, individuals from the oldest cohort may place relatively less value on physical appearance, making Appearance teasing less memorable for these individuals. Consistent with others (Strawser et al. 2005; Storch et al. 2004b; Roth et al. 2002), positive relationships were found between recalled childhood teasing and fear of negative evaluation, depressive symptoms, and loneliness in adulthood. More specifically, recalled childhood teasing on the Appearance (e.g., height, weight, hair color) and Social (e.g., not being good at initiating and maintaining conversations with other kids) factors were moderately related to these difficulties. In contrast, recalled teasing on the Academic factor was only weakly related to these indices. There are several possible explanations for these findings. Children may internalize negative peer comments and incorporate those comments into their self-concept (Storch et al. 2003). Self-concept is a stable trait (Zaff and Hair 2003) and, when low, may result in internalizing distress and/or avoidance of potentially reinforcing interpersonal relationships (Ledley et al. 2006).

The positive relationship between appearance related teasing and later maladjustment has potentially important implications on adult interpersonal relationships. If, for example, a person is criticized about being unattractive, that person may internalize others' negative remarks. Subsequently, s/he may withdraw from dating and social situations where attention is drawn to physical appearance. Such withdrawal may limit the quantity and quality of romantic and social interaction, perhaps contributing to increased risk for depression and loneliness. This relationship may be bi-directional. For example, psychological distress could negatively influence an individual's

ability to form meaningful social relationships (Ledley et al. 2006), further contributing to feelings of anxiety, depression, and loneliness.

The effects of teasing in the Social domain are also of note. Anxious and shy children are often targets for teasing (Olweus 1993; Troy and Stroufe 1987). To avoid teasing, these children may avoid social interactions that have a high probability for teasing. This avoidance minimizes exposure to potentially positive peer relationships that might otherwise buffer against negative consequences of being bullied (Storch et al. 2003). In addition, these children may withdraw from participation in age-appropriate activities, which generates further negative consequences. If a child withdraws from participation in physical education classes, for example, that child may receive poor academic marks and have fewer opportunities to engage in healthy lifestyle practices (e.g., exercise).

Interestingly, childhood teasing in the Academic domain appeared to have little impact on adult psychosocial functioning. It is possible that those who are teased in this domain have other goals and values (e.g., schoolwork, outside clubs or activities, religious affiliation) that provide a source of positive self-worth, serving as a buffer against the effects of peer victimization. Further research on the buffering effects of particular skills, abilities, and interests is certainly warranted.

There are limitations to this study. First, this study was unable to assess accuracy of childhood teasing memories. It is possible that time could magnify or reduce perceived childhood teasing or that perceived inadequacies in adulthood could induce false teasing recall. Second, this study is correlational in nature, so causality cannot be inferred. Quite possibly, adults who are psychologically distressed may recall childhood experiences in a negative way (Crick and Dodge 1994). Also, individuals who exhibited symptoms of psychological distress in childhood may have been teased more than their peers. If those symptoms persisted into adulthood, results of this study could reflect reversed causality. Future research should address these limitations through longitudinal methodology. Finally, although the present sample was heterogeneous in terms of age, participants were mostly Caucasian. Results may not generalize to other ethnic groups.

Within these limitations, the implications of this study are significant. This study provides further evidence for the stable impact of childhood teasing on psychosocial adjustment for adults of varying ages. Understanding this relationship may aid clinicians in understanding the etiological factors that contribute to adulthood psychological distress. For example, assessment of patients' childhood peer relations (including teasing experiences) may provide insight into current dysfunctional cognitive processes and avoidance behaviors.

Accumulating evidence for the detrimental and long-lasting effects of childhood teasing also supports the development of programs to prevent childhood teasing and other forms of peer victimization. Programs implemented in schools and recreational organizations should educate children, parents, and school personnel about the consequences of peer victimization. Furthermore, these programs should provide children with skills necessary to minimize internalization of peer assaults. Shy or anxious children may reap special benefits from these intervention programs as these children may have previously lacked other coping mechanisms (e.g., meaningful peer relationships; Storch and Masia-Warner 2004). The development of assertiveness and relaxation skills could provide methods for establishing and maintaining meaningful peer relationships that protect at risk youth from the consequences of being teased.

**Acknowledgement** We express great appreciation to Gary Geffken, Ph.D. and Julia Graber, Ph.D. for their contributions to this study.

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