

Childhood Teasing and Adult Implicit Cognitive Biases

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Abstract There is growing evidence for the role of negative implicit cognitions in eating disorders as well as other forms of psychopathology. What is less well understood are the potential developmental correlates of these biases and whether there is any preferential relation between the type of childhood experiences and implicit cognitions for one disorder versus another. This study examined the relations of implicit eating-relevant and depression-relevant cognitions with adult women's reports of childhood teasing. As hypothesized, reports of childhood teasing were significantly related to both eating-relevant and depressive implicit associations. Supporting the preferential relations hypothesis, reports of a specific type of teasing—weight-related teasing—were significantly more strongly related to eating-relevant implicit associations than depression-relevant implicit associations. These findings were maintained even after statistically controlling for current symptom levels. Given the high comorbidity of eating disorders and depression, these findings represent an important step in better discerning the characteristics of negative childhood events hypothesized to be uniquely associated with disorder-specific cognitions.

Keywords Cognitive biases · Implicit associations · Depression · Eating disorders · Teasing

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Introduction

A number of studies have now documented the link between experiences of childhood teasing and maladaptive outcomes in adulthood (e.g., Storch et al. 2004; Thompson et al. 1995). For example, there is growing evidence that teasing and related constructs such as verbal victimization and emotional abuse may contribute risk to the development of eating disorders among women (for a review, see Kluck 2008).

There is also evidence that teasing contributes risk to other disorders as well, such as depression. Eating disorders and depression are highly comorbid, as the lifetime comorbidity of eating disorders and depression usually exceeds the comorbidity of eating disorders and any other Axis I disorder (for a review, see O'Brien and Vincent 2003). Studies support the relation between childhood teasing and levels of depression in young adults (Storch et al. 2004). Further, it has been suggested that the gender differences seen in depression are a function of the increasingly stronger influence that negative interpersonal life events have on the emotional maladjustment of females as compared to males as they enter adolescence (Hankin et al. 2007). Not only do these females tend to experience these types of stressors more frequently than males, but they are more likely to become depressed following these negative interpersonal events (Hankin et al. 2007).

One mechanism by which teasing may increase risk for maladaptive outcomes is through its influence on information-processing biases. For example, Rose and Abramson (1992) hypothesized that emotional abuse, which includes teasing, may contribute to the development of a cognitive vulnerability to depression. They hypothesized that teasing is more likely to promote the development of a cognitive vulnerability to depression than are other

negative life events, because with emotional abuse the depressogenic inferences are directly supplied to the child by the abuser (e.g., “You are stupid”). Supporting these hypotheses, there is evidence that childhood emotional abuse/verbal victimization does contribute to the development of depressive cognitive styles and that these depressive cognitions mediate the relation between childhood emotional abuse/verbal victimization and symptoms and diagnoses of depression in children and adults (Gibb and Alloy 2006).

Teasing may also be related to dysfunctional cognitions associated with eating disorders. It is well known that explicit negative cognitions (e.g., dysfunctional beliefs about weight, shape, food and eating) are a key feature in eating disorders (e.g., Fairburn et al. 1998). There is also growing evidence for the role of implicit cognitions among individuals with maladaptive eating behaviors and beliefs (Vartanian et al. 2004). Therefore, paralleling Rose and Abramson’s (1992) hypotheses, childhood teasing may contribute to the development of these explicit and implicit eating-related cognitive biases by directly supplying such messages to the teased victim. An important question, however, is whether there may be any type of preferential relation between the types of teasing experienced and the types of cognitions exhibited. This question seems particularly important given the high comorbidity noted above between eating disorders and other forms of psychopathology, particularly depression (for a review, see O’Brien and Vincent 2003).

In terms of a specific type of interpersonal stress, research has demonstrated that feedback from peers to alter one’s weight is greater among females, as they are more strongly pressured to move closer to societal ideals of weight and size than males (McCabe and Ricciardelli 2001). Research on eating disorders has found that weight-related teasing among peers is related to later body image disturbances and a greater likelihood of eating disorder symptoms (Thompson et al. 1995). In a recent study, Benas and Gibb (2008) found that adults’ reports of general forms of childhood teasing were associated with dysfunctional eating-relevant and depression-relevant cognitions and that reports of weight-related teasing were related specifically to dysfunctional eating-related cognitions. A limitation of this study, however, is that all of the measures were based on self-report and on explicit cognitions. It remains unclear whether similar specificity would be observed for implicit measures of cognitions.

The aim of this project was to build upon this past research and examine potential developmental correlates of implicit cognitions commonly seen among individuals suffering from symptoms of eating disorders and depression. Specifically, we sought to determine whether the specific relation observed between reports of weight-related

teasing and self-reported dysfunctional eating-relevant cognitions (Benas and Gibb 2008) would generalize to computer-based measures of implicit cognitions. We hypothesized that reports of teasing from peers during childhood would be significantly related to implicit associations for both eating-relevant and depressive stimuli. However, we also predicted that reports of weight-related teasing would be significantly more strongly related to eating-related implicit cognitions than depressive implicit cognitions. To the extent that these relations reflect the enduring impact of childhood teasing on current implicit associations, it should be at least partially independent of current symptom levels. Therefore, we also hypothesized that the link between reported histories of teasing and implicit associations would be maintained even after statistically controlling for the influence of current symptom levels.

Method

Participants

Participants included 202 female undergraduate students, between the ages of 18 and 22, currently enrolled in a psychology class who participated in exchange for receiving course credit. The average age of the women in the sample was 18.93 years ($SD = 1.17$). The racial composition of the sample was as follows: 63% Caucasian, 11% African American, 14% Asian, 6% Hispanic, and 6% from other racial/ethnic groups.

Measures

Implicit Cognitions

The Implicit Association Test (Greenwald et al. 1998, 2003) was used to assess participants’ implicit associations for depression and eating-related stimuli. The IAT rests on the assumption that it is easier to make the same behavioral response (i.e., a key press) to concepts that are strongly associated with one another than to concepts that are weakly associated with one another (Greenwald et al. 1998). The IAT procedure requires respondents to identify stimulus items and categorize them into one of four superordinate categories (Nosek et al. 2005). Association strengths are measured based on the reaction time for categorizing members of these superordinate categories. For example, because depressed individuals tend to strongly associate the concepts “me” and “bad”, respondents are expected to identify and categorize items falling into these categories quicker when they share the same response key than when two weakly associated concepts,

such as “me” and “good”, share the same response key (Nosek et al. 2005). The IAT was developed, administered and scored according to recommended IAT procedures (Greenwald et al. 2003) and used established depression- and eating disorder-relevant word lists (e.g., Smith and Rieger 2006). An IAT summary was created by calculating a *D* score for each subject by computing the difference in mean latency between the noncompatible (e.g., not me + bad) and compatible (e.g., me + bad) conditions and dividing by the standard deviation of response latency for all trials (Greenwald et al. 2003; Nock and Banaji 2007). Positive *D* scores reflect relatively faster responding (a stronger association) when “me” and “bad” are paired, and negative *D* scores reflect relatively slower responding (a weaker association) when “me” and “bad” are paired (Nock and Banaji 2007). For the purposes of this study, the superordinate categories “Me/Not Me”, “Good/Bad” and “Fat/Thin” were included in the IAT. Separate tasks were administered to assess biases for each disorder (i.e., trials blocks of depression- and eating disorder-relevant stimuli were randomly presented within the same experiment). There were two IAT summary scores: one reflecting an implicit association for depression-relevant stimuli (i.e., a strong association between “me” and “bad”) and one reflecting an implicit association for eating-relevant stimuli (i.e., a strong association between “me” and “fat”). As per suggested IAT algorithm scoring guidelines (Greenwald et al. 2003), response latencies longer than 10,000 ms (10 s) were excluded (24 trials total, 0.05% of all trials).

Childhood Peer Teasing

The Physical Appearance Related Teasing Scale (PARTS; Thompson et al. 1991) is a self-report questionnaire used to assess appearance related teasing experiences in childhood and is composed of two factors: general appearance teasing (GAT; e.g., “Did other kids ever make jokes about your hair?”, “Did people say you had funny teeth?”) and weight/size teasing (W/ST; e.g., “Did other kids call you derogatory names that related to your size or weight?”). Subjects respond on a Likert-type scale, with responses ranging from “never” to “frequently.” Previous studies have suggested that both the W/ST and GAT subscales exhibit good internal consistency (α s = .91–.92 for W/ST and .71–.82 for GAT; Benas and Gibb 2008; Thompson et al. 1991). The subscales also exhibit high retest reliability over 2 weeks with r s = .86 and .87 for W/ST and GAT, respectively (Thompson et al. 1991). The concurrent validity of the W/ST teasing subscale has also been established by demonstrating that it is significantly related to measures of eating disturbance, body image dysfunction, self-esteem, and depression (Thompson et al. 1991). In this study, both the W/ST and GAT

subscales exhibited good internal consistency (α s = .93 and .82, respectively).

Eating Disordered Symptoms

The Eating Disorder Examination (EDE; Cooper and Fairburn 1987; Fairburn and Cooper 1993) is a semi-structured interview created to assess the specific pathology associated with eating disorders. The EDE assesses key behavior associated with eating disorders such as overeating and extreme weight control methods, as well as other behaviors associated with eating disorder psychopathology (e.g., food avoidance, eating in secret) (Fairburn and Cooper 1993). Items were rated in terms of the severity of their symptoms or the frequency of its occurrence. The inter-rater reliability of the EDE has been found to be uniformly high (Cooper and Fairburn 1987), and was also high in this study ($ICC = .96, P < .001$).

The Eating Disorder Examination Questionnaire (EDE-Q; Fairburn and Beglin 1994) is a self-report measure based directly on the EDE. As with the EDE, the EDE-Q provides frequency data on key behavioral features of eating disorders and assesses key behaviors of eating disorder psychopathology. The EDE-Q exhibited good internal consistency in this study ($\alpha = .83$).

Depressive Symptoms

The Hamilton Rating Scale for Depression (HRSD; Hamilton 1960) is a commonly used interviewer-administered measure of depressive symptoms. The HRSD has high inter-rater reliability and internal consistency and correlates highly with self-report measures of depressive symptoms (for a review, see Nezu et al. 2002). In this study, the HRSD had high inter-rater reliability ($ICC = .93, P < .001$).

The Beck Depression Inventory-II (BDI-II; Beck et al. 1996) is a 21-item self-report measure that was used to assess the severity of depression in the subjects. The BDI-II exhibits good reliability and validity (Beck et al. 1996) and had good internal consistency in this study ($\alpha = .90$).

Results

Preliminary analyses were conducted to examine the distributions of the study variables. Reaction times for the IAT in the sample were examined via a box plot analysis, and no outliers were evident. In contrast, a number of the teasing and symptom measures exhibited significant skew. These variables were transformed (e.g., square root, log 10, inverse) to satisfy assumptions of normality prior to further analysis. Correlations among the study variables, as well as

Table 1 Intercorrelations and descriptive statistics for study variables

	1	2	3	4	5	6	7	8
1. PARTS W/ST	–							
2. PARTS GAT	.36**	–						
3. IAT Eating	.39**	.15*	–					
4. IAT Depression	.16*	.14*	.34**	–				
5. EDE	.40**	.29**	.25**	.14	–			
6. EDE-Q	.50**	.31**	.34**	.16*	.87**	–		
7. HRSD	.26**	.40**	.16*	.17*	.40**	.40**	–	
8. BDI-II	.25**	.44**	.13	.18**	.37**	.37**	.74**	–
Mean	16.14	8.88	–.24	–.44	1.00	1.35	4.68	7.85
SD	7.66	3.93	.29	.25	1.03	1.16	4.43	7.20
Range	12.00–57.00	6.00–26.00	–0.91 to 0.79	–1.16 to 0.29	0.00–4.44	0.00–5.00	0.00–21.00	0.00–36.00

PARTS W/ST Physical appearance related teasing scale: weight/size teasing subscale, *PARTS GAT* Physical appearance related teasing scale: general appearance teasing subscale, *IAT eating* Implicit association bias for eating-relevant words, *IAT depression* Implicit association bias for depressive-relevant words, *EDE* Eating disorders examination, *EDE-Q* Eating disorders examination- questionnaire, *HRSD* Hamilton rating scale for depression, *BDI-II* Beck depression inventory-II

* $P \leq .05$; ** $P < .01$

their means, standard deviations, and ranges are presented in Table 1.¹

Next, we examined the relations between reports of childhood teasing and women's implicit eating-relevant and depressive cognitions. Reports of general appearance teasing (as measured by the PARTS GAT) were significantly related to both IAT eating biases ($r = .15$, $P = .03$) and IAT depression biases ($r = .14$, $P = .05$). The difference in the magnitude of these correlations was not significant ($z = 0.13$, $P = .90$). Reports of weight-related teasing (as measured by the PARTS W/ST) were significantly related to IAT eating biases ($r = .39$, $P < .001$) and IAT depression biases ($r = .16$, $P = .02$). Supporting the preferential relations hypothesis, reports of weight-related teasing were significantly more strongly related to IAT eating biases than IAT depression biases ($z = 2.98$, $P = .003$). Providing further support for this hypothesis, weight-related teasing remained significantly related to IAT eating biases when controlling for the variance shared with IAT depression biases ($r = .36$, $P < .001$). However, when statistically controlling for the influence of IAT eating biases, the relation between weight-related teasing and IAT depression biases was reduced to nonsignificant ($r = .04$, $P = .60$).

Next, to evaluate the robustness of the relations, we examined whether they would be maintained even after statistically controlling for current symptom levels, as measured by both interview and self-report. The relations between general appearance teasing were no longer significantly related to either type of implicit associations

(lowest $P = .36$). In addition, the relation between weight-related teasing and IAT depression biases was no longer significant after controlling for interview assessed ($r = .11$, $P = .14$) or self-reported symptoms ($r = .09$, $P = .21$). Importantly, however, separate analyses revealed that the relation between weight-related teasing and IAT eating biases was still maintained after controlling for both interviewer-assessed ($r = .32$, $P < .001$) and self-reported symptoms ($r = .28$, $P < .001$) of eating disorders and depression. Further, reports of weight-related teasing were significantly more strongly related to IAT eating biases than IAT depression biases after controlling for depressive and eating disorder symptom levels as measured both by interview ($z = 2.60$, $P = .01$) and self-report ($z = 2.34$, $P = .02$) measures.²

Discussion

The aim of this study was to examine potential developmental correlates of implicit cognitive biases commonly seen among individuals with eating disordered symptoms. Further, given the high comorbidity of eating disorders and depression, as well as parallel findings reflecting the effects

¹ To facilitate comparisons with other studies, the means, standard deviations, and ranges presented are from the untransformed variables.

² Although we also conducted analyses controlling for both interviewer-assessed and self-reported symptoms of eating disorders and depression in the same analysis, these analyses yielded a suppressor effect due to the strong correlations between the self-report and interviewer-administered measures of each construct (the valence of the relation switches from positive to negative once other variables are included in the model). Therefore, we focus on the results of analyses with interviewer-assessed and self-reported symptoms included as covariates in separate analyses.

of teasing on depressive symptoms, another aim of the study was examine whether one form of childhood teasing—weight-related teasing—would demonstrate a preferential relation to eating-relevant versus depression-relevant implicit cognitions. As predicted, both types of childhood peer teasing (i.e., general appearance and weight-related teasing) were significantly related to both eating-relevant and depressive implicit associations. Also as predicted, weight-related teasing was significantly more strongly related to eating-relevant cognitive biases than to depression-relevant cognitive biases. Importantly, this relation was maintained even after controlling for symptom levels, suggesting that the link is not due simply to current levels of eating disordered or depressive symptoms. These results extend previous research suggesting the unique relation between childhood experiences of weight-related teasing and negative eating-relevant explicit cognitions in adults by showing similar relations with implicit measures of cognition.

Although these results are consistent with the hypothesis that weight-related teasing contributes to the development of eating-related implicit cognitions, no causal conclusions can be drawn given the study's cross-sectional design. We should also note that it is possible that childhood teasing directly contributes to the development of symptoms of eating disorders and depression, which then predispose individuals to develop negative information-processing biases. This said, the mediation hypothesis suggested in this study—that negative cognitions mediate the link between childhood teasing and later risk for psychopathology—has been supported in other prospective studies of depression risk (e.g., Gibb and Alloy 2006). Future prospective research is needed to determine whether weight-related teasing predicts prospective changes in eating-related cognitions.

There are potential clinical implications raised by this study. Given that depression and eating disorders are highly comorbid (for a review, see O'Brien and Vincent 2003), knowledge of developmental factors specific to each disorder could aid in further refinements of prevention programs and early identification of at-risk individuals. Specifically, it may be useful to tailor specific prevention strategies to the specific content of the teasing children are experiencing. For example, those who have high levels of weight-related teasing could complete a specific prevention program that targets body image concerns. Meta-analytic reviews have found prevention programs for adolescent girls with high levels of body image concerns to be effective when they focus on decreasing the thin-ideal internalization and/or promoting healthy eating and exercise (Stice et al. 2009). Further, results of the study also suggest the potential for future therapeutic interventions to objectively assess the impact of teasing on cognitive biases,

without relying solely on self-reported perceptions of experience. Computerized tasks such as the IAT, which measure cognitions outside of a person's awareness, may help identify presenting problems or vulnerabilities that the patient is unwilling to endorse, which in turn are contributing to the maintenance of the disorder. These tasks could specifically utilize messages that may have been received during teasing experiences (e.g., the experiences that are highlighted in self-report teasing measures such as the PARTS).

The current study exhibited a number of strengths including the focus on computer-based assessments of cognitive biases as well as the relatively large sample size. This said, some limitations should be acknowledged. First, as with all retrospective assessments, there is the potential for recall or response bias in our measure of childhood teasing. However, the fact that the results were maintained even after statistically controlling for the influence of current symptoms suggests that they were not due simply to the presence of current eating disordered or depressive symptoms. This said, however, future research would benefit from (a) prospective designs starting in childhood and/or (b) the inclusion of structured interview-based assessments of childhood experiences. Second, the effect sizes found in the current study were relatively small. This may be due to the restricted range of our sample population, and future replication studies would benefit from the inclusion of a broader population. Specifically, examining these hypotheses among a sample of outpatient women (with diagnoses of either depression or an eating disorder) may lead to more robust relations. Despite this, the magnitudes seen in this study are similar to those obtained in previous studies focused on explicit cognition (e.g., Benas and Gibb 2008). Further research can focus on potential moderators of these relations (e.g., social support, continued teasing through adolescence) with the goal of identifying subgroups of individuals for whom the link between childhood teasing and current implicit cognitions may be particularly strong. Lastly, although this was not necessarily a limitation, it should be noted that the study included only female participants. This decision was made based on research suggesting that women, compared to men, are at greater risk for depression and eating disorders (Hudson et al. 2007) and experience more feedback from peers to alter their weight (McCabe and Ricciardelli 2001). This said, however, it would be important to determine whether these results replicate with a male sample.

Overall, the study findings are consistent with previous research examining the relation between teasing and cognitive biases (e.g., Benas and Gibb 2008). Given the high comorbidity of depression and eating disorders (e.g., Hudson et al. 2007) this project was an important step in

better discerning the characteristics of negative childhood events hypothesized to be uniquely associated with these disorder-specific cognitions. Future prospective research is necessary to determine whether the preferential relations observed in this study will generalize to predictions regarding the actual development of eating-relevant versus depression-relevant information-processing biases.

References

- Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Beck depression inventory manual* (2nd ed.). San Antonio: The Psychological Corporation.
- Benas, J. S., & Gibb, B. E. (2008). Weight-related teasing, dysfunctional cognitions, and symptoms of depression and eating disturbances. *Cognitive Therapy and Research*, 32, 143–160.
- Cooper, Z., & Fairburn, C. (1987). The eating disorder examination: A semi-structured interview for the assessment of the specific psychopathology of eating disorders. *International Journal of Eating Disorders*, 6, 1–8.
- Fairburn, C. G., & Beglin, S. J. (1994). The assessment of eating disorders: Interview or self-report questionnaire? *International Journal of Eating Disorders*, 16, 363–370.
- Fairburn, C. G., & Cooper, Z. (1993). The eating disorder examination (12th edition). In C. G. Fairburn & G. T. Wilson (Eds.), *Binge eating: Nature, assessment, and treatment* (pp. 317–360). New York, NY: Guilford Press.
- Fairburn, C. G., Shafran, R., & Cooper, Z. (1998). A cognitive behavioural theory of anorexia nervosa. *Behaviour Therapy and Research*, 37, 1–13.
- Gibb, B. E., & Alloy, L. B. (2006). A prospective test of the hopelessness theory of depression in children. *Journal of Clinical Child & Adolescent Psychology*, 35, 264–274.
- Greenwald, A. G., McGhee, D. E., & Schwartz, J. L. K. (1998). Measuring individual differences in implicit cognition: The implicit association test. *Journal of Personality and Social Psychology*, 74, 1464–1480.
- Greenwald, A. G., Nosek, B. A., & Banaji, M. R. (2003). Understanding and using the Implicit Association Test: I. An improved scoring algorithm. *Journal of Personality and Social Psychology*, 85, 197–216.
- Hamilton, M. (1960). A rating scale for depression. *Journal of Neurology, Neurosurgery and Psychiatry*, 23, 56–62.
- Hankin, B. L., Mermelstein, R., & Roesch, L. (2007). Sex differences in adolescent depression: Stress exposure and reactivity models. *Child Development*, 78, 279–295.
- Hudson, J. I., Hiripi, E., Pope, H. G., & Kessler, R. C. (2007). The prevalence and correlates of eating disorders in the National Comorbidity Survey Replication. *Biological Psychiatry*, 61, 348–358.
- Kluck, A. S. (2008). Family factors in the development of disordered eating: Integrating dynamic and behavioral explanations. *Eating Behaviors*, 9, 471–483.
- McCabe, M. P., & Ricciardelli, L. A. (2001). Parent, peer, and media influences on body image and strategies to both increase and decrease body size among adolescent boys and girls. *Adolescence*, 36, 225–240.
- Nezu, A. M., Nezu, C. M., McClure, K. S., & Zwick, M. L. (2002). Assessment of depression. In I. H. Gotlib & C. L. Hammen (Eds.), *Handbook of depression* (pp. 61–86). New York: The Guilford Press.
- Nock, M. K., & Banaji, M. R. (2007). Prediction of suicide ideation and attempts among adolescents using a brief performance-based test. *Journal of Consulting and Clinical Psychology*, 75, 707–715.
- Nosek, B. A., Greenwald, A. G., & Banaji, M. R. (2005). Understanding and using the Implicit Association Test: II. Method variables and construct validity. *Personality and Social Psychology Bulletin*, 2, 166–180.
- O'Brien, K. M., & Vincent, N. K. (2003). Psychiatric comorbidity in anorexia and bulimia nervosa: Nature, prevalence, and causal relationships. *Clinical Psychology Review*, 23, 57–74.
- Rose, D. T., & Abramson, L. Y. (1992). Developmental predictors of depressive cognitive style: Research and theory. In D. Cicchetti & S. L. Toth (Eds.), *Rochester symposium on developmental psychopathology* (Vol. IV, pp. 323–349). Rochester, NY: University of Rochester Press.
- Smith, E., & Rieger, E. (2006). The effect of attentional bias toward shape- and weight-related information on body dissatisfaction. *International Journal of Eating Disorders*, 39, 509–515.
- Stice, E., Rohde, P., Gau, J., & Shaw, H. (2009). An effectiveness trial of a dissonance-based eating disorder prevention program for high-risk adolescent girls. *Journal of Consulting and Clinical Psychology*, 77, 825–834.
- Storch, E. A., Roth, D. A., Coles, M. E., Heimberg, R. G., Bravata, E. A., & Moser, J. (2004). The measurement and impact of childhood teasing in a sample of young adults. *Anxiety Disorders*, 18, 681–694.
- Thompson, J. K., Covert, M. D., Richards, K. J., Johnson, S., & Cattarin, J. (1995). Development of body image, eating disturbance, and general psychological functioning in female adolescents: Covariance structure modeling and longitudinal investigations. *International Journal of Eating Disorders*, 18, 221–236.
- Thompson, J. K., Fabian, L. J., Moulton, D. O., Dunn, M. E., & Altabe, M. N. (1991). Development and validation of the physical appearance related teasing scale. *Journal of Personality Assessment*, 56, 513–521.
- Vartanian, L. R., Polivy, J., & Herman, C. P. (2004). Implicit cognitions and eating disorders: Their application in research and treatment. *Cognitive and Behavioral Practice*, 11, 160–167.