

# Delighted when approved by others, to pieces when rejected: children's social anxiety magnifies the linkage between self- and other-evaluations

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**Background:** Socially anxious children tend to attach great importance to others' evaluations of them. However, the extent to which they base their momentary feelings of self-worth (i.e., state self-esteem) on social (dis)approval is unclear. It is also unclear whether this exceedingly approval-based self-esteem is a common correlate of social anxiety and depression, or specifically linked to one or the other. **Methods:** Changes in children's state self-esteem were obtained in response to a manipulated peer evaluation outcome. Participants ( $N = 188$ ) aged 10 to 13 took part in a rigged online computer contest and were randomized to receive positive or negative peer feedback. Self-reported state self-esteem was assessed via computer at baseline and immediately post-feedback. The predictive effects of self-reported social anxiety and depression symptoms on changes in state self-esteem were investigated. **Results:** Hierarchical multiple regression analyses showed that children with higher social anxiety, as indexed by the fear of negative evaluation component, experienced significantly stronger increases in state self-esteem following peer approval ( $\beta = .26, p < .05$ ), and significantly stronger decreases in state self-esteem following peer disapproval ( $\beta = -.23, p < .05$ ). In both conditions depressive symptoms did not predict changes in state self-esteem ( $ps > .20$ ). **Conclusions:** Socially anxious children's state self-esteem is strongly contingent on social approval. Because basing one's self-esteem on external validation has multiple negative consequences, these findings highlight the importance of teaching these children skills (e.g., making cognitive reappraisals) to weaken the linkage between other- and self-evaluations. **Keywords:** Social anxiety, state self-esteem, depressive symptoms, sociometer theory, pre-adolescents.

Social anxiety refers to persistent fear and/or avoidance of situations that entail potential scrutiny from others and the associated shame or humiliation (Kashdan & Herbert, 2001). The construct of social anxiety encompasses the two distinct dimensions fear of negative evaluation (FNE) and social avoidance and distress (SAD). FNE reflects the excessive fear of others' negative evaluations, whereas SAD reflects social inhibition or avoidance and excessive distress elicited by social encounters (Watson & Friend, 1969).

People with elevated social anxiety are highly concerned about being evaluated as anxious, incompetent or 'weird', typically assume that others are inherently critical, and tend to seek reassurance that they did not elicit negative social evaluations (Clark & Wells, 1995; Watson & Friend, 1969). During our evolutionary history, the early detection of potential threat protected human beings from harm. Presumably for that reason, but to an excessive extent, socially anxious individuals continu-

ously and automatically scan the environment for signs of social disapproval (e.g., Ohman, 1996) such as frowns or signs of boredom. Studies using the modified Stroop or dot probe task have also shown that the attentional resources of socially anxious individuals are strongly attracted by negative social-evaluative information (see Rapee & Heimberg, 1997).

Cognitive biases regarding the probability and costs of feared events are pivotal in anxiety problems. According to Foa and Kozak (1985), exaggerated costs associated with feared events are the most important cognitive distortion in social anxiety. Indeed, socially anxious people often 'catastrophize' the consequences of unfavorable social evaluations (e.g., 'nobody will ever like me'), and tend to equate even minor social disapproval with being defective and worthless. Processing information in this negative fashion likely maintains or exacerbates high levels of social anxiety, along with low self-esteem. Taken together, socially anxious people attach excessive importance to other's evaluations, and it appears that they lack a stable sense of self that is

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relatively independent of others' approval (Crocker & Knight, 2005).

Prominent early (e.g., Cooley, 1902) and contemporary scholars (e.g., Cole, Jacquez, & Maschman, 2001) have asserted that children gradually internalize the opinions that others hold of them into more or less stable patterns of self-esteem, and research has provided empirical support for this view (e.g., Ladd & Troop-Gordon, 2003). However, self-esteem is both a stable trait and a fluctuating state. In the early days of psychology, William James (1890) already contended that certain 'ego-involving' events produce momentary fluctuations in state self-esteem around a person's typical level of trait self-esteem. Similarly, Crocker and Knight (2005) argued that good and bad experiences in domains of 'contingent self-esteem' lead to increases or decreases in state self-esteem.

About a decade ago, Leary and Downs (1995) advanced a model of self-esteem that accounts for the linkages between interpersonal appraisals and short-term changes in state self-esteem. According to their *sociometer* theory, humans are strongly motivated to feel accepted by others (the 'need to belong'; Baumeister & Leary, 1995). Sociometer theory further asserts that during our evolutionary history a motivational-affective system evolved that monitors how much one is accepted and valued by others (Leary & Baumeister, 2000), automatically scans the environment for cues of relational devaluation, and upon detection emits a warning signal that is experienced as a decrease in state self-esteem.

Although interpersonal state self-esteem reactivity is a universal human trait, research has shown that the strength of the effect varies considerably between individuals. For example, Srivastava and Beer (2005) observed that elevated anxious attachment in adults predicts significantly stronger reactions to others' liking and disliking. Similarly, elevated narcissistic traits in children magnify decreases in state self-esteem in response to social disapproval (Thomaes et al., in press). The present study was designed to test the premise that the sociometer is also hypersensitive in pre-adolescents displaying elevated social anxiety.

The decision to examine pre-adolescents was based on several considerations. First, state self-esteem is relatively unstable in pre-adolescence (Harter, 2006; Thomaes et al., in press), and therefore appraisals of significant others, especially peers, likely have a particularly strong impact at this age. Second, due to multiple normative developmental changes (e.g., increased interpersonal concerns, increased self-consciousness, rapid physical maturation that may also increase social physique anxiety; Smith, 2004), social anxiety increases steeply in pre- and early adolescence (e.g., Mancini, Van Ameringen, Bennett, Patterson, & Watson, 2005). Third, we wanted to examine the effects of social anxiety symptoms when they are still relatively

malleable, compared to the social anxiety of older adolescents that is likely more deeply ingrained and more resistant to change. The onset of social anxiety disorder (SAD) peaks around age 15 for both boys and girls (Rapee, 1995), and therefore research examining factors that may contribute to the escalation of social anxiety symptoms in a community sample of pre-adolescents seems critical.

For several reasons, we also examined the effects of depressive symptoms. First, social anxiety and depression show high comorbidity (e.g., Merikangas & Angst, 1995). Second, clinical researchers (e.g., Beck, 1983) have suggested that people with self-esteem that hinges on others' love and admiration (a 'sociotropic' style) are at increased risk for depression when faced with major everyday negative interpersonal events. However, whereas some studies have provided support for this hypothesis (e.g., Lakey & Ross, 1994), others suggest that increases in depression are most likely for people whose self-esteem is contingent on external validation *in general* (e.g., Sargent, Crocker, & Luhtanen, 2006).

The present study examined the link between pre-adolescents' social anxiety symptoms and changes in state self-esteem in response to experimentally manipulated peer feedback. Participants randomly received either negative or positive peer feedback. We predicted that elevated social anxiety, in particular the FNE component, would significantly magnify decreases in state self-esteem in response to the negative peer feedback. Due to the discussed inconsistent previous findings, no a priori hypotheses are offered for the effects of social anxiety on state self-esteem changes subsequent to positive peer feedback.

## Method

### Participants

Participants were 188 children (55% boys) in fifth and sixth grade classes from four public elementary schools in the Netherlands (seven schools were initially approached), who were predominantly from a middle-class SES background. They ranged in age from 10 to 13 years ( $M = 11.6$ ,  $SD = .7$ ), and were primarily Caucasian (85%). We obtained IRB approval and approval from the school principals. The initial sample consisted of 305 children for whom parental consent letters were sent home; 259 letters were returned and 188 parents (73%) gave written informed consent. Children were informed that they could discontinue their participation at any time and they received a small gift (e.g., mechanical pens) in return for their voluntary participation.

### Procedure

In the first session, which lasted about 30 minutes, participants were administered self-report measures to assess social anxiety and depression symptoms. Master's-level students read the directions aloud and children could ask for help when needed. Children were

informed that during a second session later that month they would individually participate in a computer-contest ('Survivor'). This second session lasted about one hour and was carried out in a quiet classroom on the school grounds.

*Survivor contest.* Participants were seated in front of a laptop computer. First, their photo was taken by a web-cam connected to the laptop. Participants were informed on screen that they would be competing with four same-gender, same-age contestants (all were fictitious co-players) from different schools in the same region, and that all participants would be evaluated by a panel of same-age peer judges, consisting of eight boys and eight girls.

Subsequent to rating their baseline (Time 1) level of state self-esteem via computer (see Measures), participants answered several personal questions on screen (e.g., their favorite musical group; things they like and dislike about themselves; several personality traits, such as sense of humor). These answers and their picture (i.e., their 'profile') were allegedly posted on the *Survivor* webpage to be viewed online by the peer judges. These judges would then provide them concrete feedback in the form of what they liked or disliked about each participant.

After a two-minute waiting period, participants were informed on screen that they would now have five minutes to look over the judges' feedback. An overview screen appeared containing pictures of all 16 judges. By clicking on a photo, participants could see that judge's profile (i.e., name, age, residence) along with that judge's feedback about them. This feedback – the specific feedback remarks differed across judges – always consisted of four brief evaluative statements that were presented in a short narrative. In the approval condition, for all judges three of these four statements were positive (e.g., 'I would like to be friends with this person', '(s)he seems fun to hang out with'), and one was neutral in valence (e.g., 'I think this person likes reading a lot'). In the disapproval condition, again for all judges, three of the four evaluative statements were negative (e.g., 'I would not like to be friends with this person'), and one was neutral in valence.

Participants could move back and forth between judges by clicking on their photos. After reading their feedback, participants completed the state self-esteem measure again (Time 2), and were then thoroughly debriefed following procedures outlined in Thomaes et al. (in press).

## Measures

*Social Anxiety Scale for Children-Revised (SASC-R; La Greca & Stone, 1993).* The SASC-R is an 18-item self-report inventory. Items are rated on a 5-point Likert scale (1 = *not at all*, 5 = *all the time*). The SASC-R consists of three separate factors, including *Fear of Negative Evaluation* (FNE, 8 items reflecting fears or concerns regarding negative peer evaluation, e.g., 'I worry what other kids think of me'); *Social Avoidance and Distress-New* (SAD-New, 6 items reflecting avoidance and distress with new situations or unfamiliar peers, e.g., 'I get nervous when I talk to new kids'), and *Social Avoidance and Distress-General* (SAD-General, 4 items reflecting gen-

eralized social avoidance and distress, e.g., 'I feel shy even with kids I know very well'). For all subscales, ratings are summed across items. Higher scores indicate higher levels of social anxiety.

The SASC-R has demonstrated good psychometric properties. For example, confirmatory factor analysis in a community sample of fourth to sixth graders revealed a good fit for the three-factor model. Also, good test-retest reliability, high internal consistency, and significant negative associations between social anxiety scores and both perceived social acceptance and global self-worth were observed. Moreover, rejected children reported significantly higher social anxiety scores than did their accepted classmates (La Greca & Stone, 1993). In another study with school-aged children, SASC-R scores significantly and meaningfully predicted cognitive and behavioral reactions to an in vivo peer rejection stressor (Reijntjes, Dekovic, & Telch, 2007). In the present sample, Cronbach alpha's were .90, .74, and .68 for the FNE, SAD-N and SAD-G subscales, respectively.

*Children's Depression Inventory (CDI; Kovacs, 1992).* The CDI is a 27-item self-report measure assessing children's depressive symptoms. Each item consists of three sentences describing a symptom of depression in increasing severity. Respondents choose the sentence that best describes them during the past week. Each item set is scored from 0 (symptom absent) to 2 (symptom is always or nearly always present). Scores are summed across all items. Higher scores indicate more depressive symptoms.

The CDI has shown good psychometric properties. For example, in a large sample ( $n = 563$ ) of school children and psychiatric inpatients youth, good internal consistency and adequate test-retest reliability were observed (Saylor, Finch, Spirito, & Bennett, 1984). Moreover, CDI scores were significantly and meaningfully related to trait self-esteem and attributional style, and scores distinguished clinic-referred children from their non-referred counterparts. Kovacs (1992) also found that CDI scores significantly differed between children with major depressive disorder and normal school children. Coefficient alpha in the present sample, using the Dutch translation of the instrument (Braet & Timbremont, 2002), was .85.

*State self-esteem.* Participants' state self-esteem was assessed using a 6-item self-report measure developed for a previous study (Thomaes et al., in press). The measure assesses children's overall sense of worth *right now, at the present time*, on a 5-point Likert scale (1 = *not at all*; 5 = *very much*). The instrument is modeled after standard measures of trait self-esteem (e.g., the global self-worth subscale of the Self-Perception Profile for Children; Harter, 1985). Items tap both positive state self-esteem (e.g., 'I feel good about who I am right now') and negative state self-esteem (e.g., 'I am dissatisfied with myself right now'). Higher scores reflect higher state self-esteem.

Research has demonstrated adequate internal consistency and test-retest reliability for the state self-esteem measure (Thomaes, Bushman, de Castro, Cohen, & Denissen, 2009; Thomaes et al., in press). Moreover, significant and meaningful associations emerged between state self-esteem scores and

measures tapping perceived social competence, trait self-esteem, depression, and state mood. In the present sample, Cronbach alpha was .72.

### Statistical analyses

First, we assessed inter-correlations among the study variables. Next, ANOVAs were conducted to test equivalence of experimental groups at baseline. A repeated measures ANOVA was then performed to examine state self-esteem changes elicited by approval and disapproval feedback, with feedback condition serving as the between-subjects factor and Time 1 versus Time 2) as the repeated measures factor.

Next, to examine our main research question, hierarchical multiple regression analyses were conducted with residualized changes in state self-esteem from Time 1 to Time 2 serving as the dependent variable. Separate analyses for the three SASC-R subscales were performed due to marked multicollinearity problems when all subscale scores were entered simultaneously (i.e., Variance Inflation Factors > 10; Neter, Wasserman, & Kutner, 1990). In Step 1, condition, gender, centered CDI score, and the centered SASC-R subscale score were entered. In Step 2, the two-way interactions between these variables were entered, and in Step 3 the three-way interactions were entered.

## Results

### Preliminary analyses

**Descriptive statistics.** Means and standard deviations for all variables are presented in Table 1. Scores for depressive symptoms and state self-esteem at baseline did not differ as a function of gender, age, or their interaction ( $ps > .20$ ). Consistent with previous work (La Greca & Lopez, 1998), girls scored significantly higher on all three social anxiety subscales ( $ps < .05$ ). Six participants (3%) met clinical cut-off scores for social anxiety (La Greca & Stone, 1993). Scores on the social anxiety subscales did not differ as a function of age, or the interaction between age and gender.

**Equivalence of experimental groups.** No significant differences at baseline emerged between the two experimental conditions for any study variable ( $ps > .15$ ), indicating effective random assignment to conditions.

**Table 1** Means and standard deviations of baseline measures by condition and gender

Measure	Range	Feedback condition					
		Success ( <i>n</i> = 95; 50 boys)		Failure ( <i>n</i> = 93; 53 boys)		Total ( <i>n</i> = 188)	
		M	SD	M	SD	M	SD
SASC-R	8–32	15.06	5.87	14.94	4.99	15.00	5.44
FNE							
SASC-R	4–16	9.96	2.81	10.24	2.84	10.10	2.82
SAD-New							
SASC-R	6–16	6.66	2.35	6.73	2.27	6.70	2.30
SAD-General							
SASC-R	18–63	31.68	9.37	31.90	8.26	31.79	8.81
Total score							
CDI	0–30	7.80	6.31	6.99	5.96	7.40	6.14
State Self-Esteem	14–30	25.27	2.85	25.43	3.20	25.35	3.02
Age (years)	10–13	11.5	.62	11.7	.65	11.6	.64

*Note:* FNE, Fear of Negative Evaluation; SAD-New, Social Avoidance and Distress in New situations; SAD-General, Generalized Social Avoidance and Distress; CDI, Children Depression Inventory. For all measures, higher scores indicate higher symptom levels.

The three social anxiety subscales are significantly positively interrelated (mean  $r = .50$ ;  $ps < .001$ ), significantly positively related to CDI scores (mean  $r = .33$ ;  $ps < .01$ ), and significantly negatively related to baseline state self-esteem (mean  $r = .26$ ;  $ps < .05$ ). CDI scores are also significantly negatively related to baseline state self-esteem ( $r = -.50$ ,  $p < .001$ ).

### Primary analyses

**Changes in state self-esteem in response to the feedback manipulation.** Table 2 displays scores on state self-esteem at Time 1 and Time 2. Analyses revealed a significant Time by Condition interaction effect,  $F(1, 185) = 44.84$ ,  $p < .001$ . Subsequent simple effects analyses revealed a significant increase in state self-esteem in the approval condition,  $F(1, 93) = 7.46$ ,  $p < .01$ ,  $d = .25$ , and a significant decrease in the disapproval condition,  $F(1, 92) = 38.43$ ,  $p < .001$ ,  $d = .66$ .

**Do social anxiety, depression, or gender predict changes in state self-esteem?** The distribution of the CDI and the SAD-General subscale scores did not meet normality assumptions (i.e., skewness values > 1 for both measures, and a kurtosis value

**Table 2** Means and standard deviations for state self-esteem at Time 1 and Time 2 by condition and gender

Measure	Feedback condition							
	Approval ( <i>n</i> = 95)				Disapproval ( <i>n</i> = 93)			
	Boys ( <i>n</i> = 50)		Girls ( <i>n</i> = 45)		Boys ( <i>n</i> = 53)		Girls ( <i>n</i> = 40)	
	M	SD	M	SD	M	SD	M	SD
State self-esteem Time 1	25.64	2.30	24.87 <sup>a</sup>	3.31	25.72 <sup>a</sup>	3.10	24.87 <sup>a</sup>	3.42
State self-esteem Time 2	26.06	2.80	26.00 <sup>b</sup>	2.59	23.91 <sup>b</sup>	3.72	21.65 <sup>b</sup>	4.33

*Note:* Scores with different subscripts indicate significant changes over time ( $p < .05$ ).

> 2 for the CDI). We therefore performed a square root transformation on the CDI and the three SASC-R subscales, which yielded skewness and kurtosis values < 1 for all variables. These transformed variables were used in the regression analyses reported below.

Results revealed a significant condition effect,  $t = -7.36$ ,  $\beta = -.48$ ,  $p < .001$  (see above), which was qualified by a significant interaction between condition and FNE score,  $t = -2.66$ ,  $\beta = -.37$ ,  $p < .01$ , as well as an interaction between condition and gender that approached significance ( $t = -1.95$ ,  $\beta = -.45$ ,  $p < .06$ ) (see Table 3). No other moderating effects for gender emerged. To interpret these interactions, subsequent regression analyses were conducted for both conditions separately. Results revealed that in the *approval* condition, higher FNE scores predicted significantly stronger increases in state self-esteem,  $\beta = .26$ ,  $R^2_{\text{change}} = .05$ ,  $F_{\text{change}} = 4.46$ ,  $p < .05$  (see Figure 1). No significant effect for gender emerged.

As predicted, in the *disapproval* condition higher FNE scores predicted significantly stronger decreases in state self-esteem,  $\beta = -.23$ ,  $R^2_{\text{change}} = .04$ ,  $F_{\text{change}} = 4.02$ ,  $p < .05$  (see Figure 1). Moreover, girls experienced stronger decreases in state self-esteem than boys,  $\beta = -.23$ ,  $R^2_{\text{change}} = .05$ ,  $F_{\text{change}} = 4.97$ ,  $p < .05$ . For the two other SASC-R subscales, no significant effects emerged.

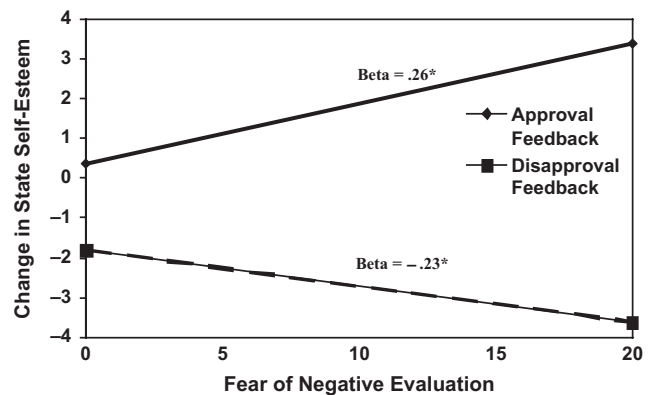
## Discussion

The present study demonstrated that elevated social anxiety in pre-adolescents, in particular the FNE component, magnifies state self-esteem reactivity

**Table 3** Regression analysis predicting residualized change in state self-esteem from Time 1 to Time 2

Step	Variable	$t$	$p$	$b$ (SE)	$\beta$
1	Condition	-7.36	<.001	-1.06 (.14)	-.48
	Gender	-1.18	>.20	-.52 (.44)	-.08
	CDI	-.72	>.40	-.15 (.21)	-.05
	FNE	-.10	>.80	-.02 (.21)	-.01
2	Condition	-.53	>.50	-.24 (.45)	-.11
	Gender	.72	>.40	.64 (.89)	.10
	CDI	-.29	>.70	-.19 (.68)	-.07
	FNE	1.38	>.15	.79 (.70)	.35
	Condition by Gender	-1.95	<.06	-.57 (.29)	-.45
	Condition by CDI	.83	>.40	.12 (.14)	.12
	Condition by FNE	-2.66	<.01	-.37 (.14)	-.37
	CDI by FNE	1.40	>.15	.25 (.18)	.09
3	Condition	-.36	>.70	-.17 (.46)	-.08
	Gender	.67	>.50	.62 (.92)	.09
	CDI	.07	>.90	.09 (1.39)	.03
	FNE	-.10	>.90	-.12 (1.24)	-.04
	Condition by Gender	-1.77	<.08	-.53 (.30)	-.41
	Condition by CDI	.29	>.70	.14 (.49)	.14
	Condition by FNE	.19	>.80	.08 (.44)	.08
	CDI by FNE	1.40	>.15	1.07 (.76)	.40
Condition by FNE by CDI	-1.51	>.20	-.20 (.14)	-.21	

Note:  $R^2 = .24$  ( $p < .001$ ) for Step 1;  $\Delta R^2 = .07$  ( $p < .01$ ) for Step 2;  $\Delta R^2 = .02$  ( $p > .30$ ) for Step 3.



**Figure 1** Changes in residualized state self-esteem from Time 1 to Time 2 in response to approval and disapproval feedback

following both peer approval and disapproval. To our knowledge, this is the first study in youth to investigate these linkages in response to a social-evaluative event in real time. By including both a positive and a negative peer evaluation outcome, and also examining the effects of depressive symptoms, we obtained a stringent test of how social anxiety influences the linkage between self- and other-evaluations.

Consistent with sociometer theory's core postulate that state self-esteem fluctuates in response to others' momentary appraisals, the different evaluation outcomes yielded significant differential changes in state self-esteem. Interestingly, the self-esteem system was more responsive to social disapproval than to social approval. This observation is consistent with findings showing that across a broad range of psychological phenomena negatively valenced events have a greater impact than positively valenced events of the same type ('bad is stronger than good'; Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001).

More importantly, our findings provide support for the hypothesis that children with elevated FNE possess a more reactive, 'hair-triggered' sociometer than their peers. Specifically, these children experienced stronger increments in state self-esteem following social approval, and stronger decrements in state self-esteem following disapproval. The null findings for the two other subscales of the SASC-R are not surprising given that these measures do not directly tap excessive concern with social (dis)approval. Indeed, La Greca and Stone (1993) have stressed that the SASC-R subscales are distinct and relate in different ways to children's social functioning.

What may be the consequences of the strong tendency of children displaying elevated FNE to base their self-esteem on others' (dis)approval? Crocker and Knight (2005) have argued that the striving to obtain success and avoid failure in external domains of contingent self-esteem often has negative long-term consequences for psychological well-being. Specifically, people whose self-esteem is strongly tied to social approval are considered to be highly vul-

nerable to swings in self-esteem in response to salient positive and negative social experiences. In turn, instability in self-esteem predicts increases in depressive symptoms over time (e.g., Crocker, Karpinski, Quinn, & Chase, 2003). Moreover, because negative social experiences threaten their self-esteem, socially anxious children may be motivated to avoid the very peer activities instrumental to acquiring the adequate social skills and satisfactory social relationships they so dearly need.

Contrary to our findings for social anxiety, depressive symptoms did not predict changes in state self-esteem in response to either peer approval or peer disapproval. With regard to the relationship between anxiety and depression, the generally accepted view (Clark & Watson, 1991) is that symptoms of anxiety and depression can be categorized into three classes, namely those that are specific to anxiety (i.e., elevated levels of physiological hyperarousal), those that are specific to depression (i.e., low positive affect), and symptoms that are common to both (i.e., high levels of negative affect). Our findings provide a fresh perspective on how social anxiety and depression in youth can be differentiated, namely that socially anxious children may be more likely to base their feelings of self-esteem on social (dis)approval.

Although not the main focus of the present study, it deserves mention that girls displayed significantly stronger decreases in state self-esteem after peer disapproval than did boys. This observation converges with research showing that girls display stronger social-evaluative concerns than boys (e.g., La Greca & Lopez, 1998), and that for women social relationships are a more important domain of self-definition and psychological well-being (e.g., Rose & Rudolph, 2006). In addition, in this age group girls are closer to maturity than boys, which may be linked to stronger state self-esteem reactivity. No gender differences in self-esteem reactivity were observed in response to social approval. One possible explanation for this asymmetry in findings is that girls are more strongly motivated to avoid negative social judgments than boys, but not more strongly motivated to obtain positive social judgments.

Our findings have several potential treatment implications. Because basing one's self-esteem on external validation has negative consequences across multiple domains (e.g., Crocker & Park, 2004), parents and educators may encourage socially anxious children to think more about what they really want to contribute or accomplish in life, and what they should learn or change in themselves to reach these goals, rather than trying to raise their self-esteem by having these children strive for success in domains of contingent self-esteem. Nevertheless, given the observed beneficial effects of positive social evaluations on their state self-esteem, it seems important to also encourage socially anxious children to engage in peer activities that

may engender such success experiences. Moreover, our findings point to the potential significance of teaching these children cognitive skills (e.g., making cognitive reappraisals, engaging in consequential thinking) to weaken the linkage between other- and self-evaluations.

The present research has limitations. First, our findings are based on a community sample of children, rather than a clinical sample. Indeed, few participants met clinical cut-off scores for social anxiety. However, although less severe than full-blown social anxiety disorder, elevated social anxiety symptoms are also of significant concern. Studies using community samples have shown that sub-clinical social anxiety significantly hampers children's normal development and psychological well-being, as evidenced by linkages with the onset and/or maintenance of multiple problems, including substance abuse, depression, reduced academic performance, and disengagement from peer activities that foster adequate development and socialization (e.g., Beidel, 1991; La Greca & Lopez, 1998). Nevertheless, given that our findings may only apply to those children who hold elevated but sub-clinical levels of FNE, future research should examine the effects of peer feedback on state self-esteem in clinical samples, and compare children suffering from clinical depression, social anxiety disorder, and those meeting diagnostic criteria for both disorders.

Second, we examined children's acute changes in state self-esteem in response to peer evaluation. Future longitudinal research should also investigate potential cumulative detrimental effects over time of recurring negative social evaluations and associated drops in state self-esteem (e.g., decreases in trait self-esteem and/or increases in FNE and depressive symptoms). Moreover, future research could examine whether the present findings generalize to other relevant domains, such as academic performance, and to youth from different ages and ethnic groups. It would also be interesting for future research to examine the role of social physique anxiety, and how it relates to FNE.

Notwithstanding these limitations, the present study contributes to the limited knowledge on individual differences in sociometer processes and contingencies of self-esteem in youth. Our findings suggest that the tendency to excessively base feelings of self-esteem on social (dis)approval is specifically associated with social anxiety, but not depression. Moreover, contrary to social phobia in adults (e.g., Wallace & Alden, 1997), children displaying sub-clinical social anxiety appear capable of experiencing significant increases in self-esteem in response to social success.

Several important research questions remain. First, longitudinal research should examine the developmental origins of contingent self-worth. For example, do certain parenting styles or negative experiences in the peer group magnify children's

need for social approval? Second, research examining the longer-term consequences of a heightened need for social approval appears warranted. Third, future research should examine whether different subgroups of socially anxious youth can be distinguished, for example those who respond with increased self-esteem changes to experiences of both approval and disapproval, whereas others may only show increased reactivity to either approval or disapproval. A final important issue worth investigation is the direction of effects between psychological

well-being and need for social approval. Research examining these questions will greatly increase the understanding of social anxiety in children and the features that distinguish it from other forms of childhood psychopathology.

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### Key points

- Children with elevated social anxiety, as indexed by fear of negative evaluation (FNE), attach exaggerated importance to other's evaluations of them.
- It was unclear whether elevated FNE magnifies children's state self-esteem reactivity following peer (dis)approval, and if this is a specific correlate of social anxiety versus depression.
- The present study showed that the linkage between self- and other-evaluations is potentiated among children higher in FNE, and this effect was not observed for elevated depressive symptoms.
- These findings point to the need to identify factors that may prevent socially anxious children from having their self-esteem overly dependent on others' evaluations. Intervention efforts may encourage these children to weaken the linkage between other- and self-evaluations.

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