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Is There a Dark Side of Positive Illusions? Overestimation of Social Competence and Subsequent Adjustment in Aggressive and Nonaggressive Children

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This study examined (a) the links between children's overly positive perceptions about the relations with the peer group and with their best friend to subsequent behavioral, emotional, and social adjustment, and (b) whether these links are moderated by children's aggression. Using a short-term longitudinal design, the study was based on a sample of 819 4th- to 6th-graders (427 girls) from low to average SES families. Results showed that positive illusions about their social relations with classmates and with friends were related to an increase in children's peer-rated social preference and fostered the stability of children's dyadic friendships, regardless of children's level of aggression. In addition, overestimation of social competence with the peer group and overestimation of friendship quality were both related to a decrease in children's depressive feelings. Extreme overestimation as well as extreme underestimation of social competence with the peer group was also related to an increase in children's aggression. This latter result, however, was only true for children who were highly aggressive to begin with. The theoretical and practical implications of these results are discussed.

KEY WORDS: positive illusions; social acceptance; friendship quality; aggression; depression.

When investigating children's social relations with their peers, researchers usually find a rather limited concordance between children's own perceptions of their social relations with others and their peers' perceptions in this respect (e.g., Boivin & Begin, 1989; Brendgen, Little, & Krappmann, 2000; Krantz & Burton, 1986; Panak & Garber, 1992; Patterson, Kupersmidt, & Griesler, 1990; Rubin, Hymel, Lemare, & Rowden, 1989). The discrepancy between one's own and others' perceptions of children's social functioning is especially pronounced in young children, who tend to overestimate their own competencies in a variety of domains (Harter, 1990). As children mature, their self-perceptions become more "accurate" when compared to external criteria (Hymel, Franke, & Freigang, 1985).[5] Nevertheless, many children continue to overestimate their social competence compared to their peers' view, and increasing evidence suggests that aggressive children are especially prone to positively biased perceptions in this context. Thus, aggressive children tend to hold very positive perceptions about their acceptance in the peer group, and they also evince very favorable evaluations of their friendship quality, although their peers and teachers do not necessarily share this positive view (Boivin & Begin, 1989; Brendgen, Vitaro, Turgeon, & Poulin, 2002; David & Kistner, 2000; Hoza, Pelham, Dobbs, Owens, & Pillow, 2002; Hymel, Bowker, & Woody, 1993; Patterson, et al., 1990; Zakriski & Coie, 1996). Despite the consistency of these findings, it is still

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[5]As emphasized by Kruglanski (1989) and Cillessen and Bellmore (1999), a comparison of perspectives does not imply a specific judgment's superiority over another. The terms "perceptual bias" as well as "over and "underestimation" used hereafter are not meant to convey a perceptual *error* but the relation between own and others' perspectives.

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not well-known whether and how such highly positive views of their social relations with peers are linked to aggressive children's behavioral, emotional, and social adjustment. Investigating this question is important, however, because children's perceptions of their social relations within the peer group and their dyadic friendships are likely to influence the way they feel and behave, and as a result, to shape the course of those relationships (Cillessen & Bellmore, 1999; Furman, 1996).

Several scholars (e.g., Bandura, 1997; Taylor & Brown, 1988, 1994) have suggested that positive illusions about the self are characteristic of mental health and successful developmental adaptation because they may facilitate goal-attainment and promote emotional well-being. From this perspective, an overly positive perception about their social relations with peers might be beneficial for nonaggressive and aggressive children alike. For one thing, positive illusions about their own competence may protect aggressive and nonaggressive children from negative emotions such as feelings of depression. Some support for this notion is provided by studies on childhood depression showing that children's overestimation of their own competence in various domains is predictive, albeit relatively weakly, of a decrease in depressive symptoms (e.g., Cole, Martin, Peeke, Seroczynski, & Fier, 1999; Hoffman, Cole, Martin, Tram, & Seroczynski, 2000; but see McGrath & Repetti, 2002, for a lack of evidence). In addition, an overly optimistic view about their social relations with others may encourage aggressive as well as nonaggressive children to openly approach and interact with others. This, in turn, may facilitate the maintenance of existing and the development of new relationships with others. Support for this notion is provided by findings from a longitudinal study by Sandstrom and Coie (1999). These authors showed that children's positive perceptions about their social status in the peer group were related to an increase in actual peer status in a normative sample of fourth graders, albeit only for boys. Similar results were obtained in a study by Rabiner and Coie (1989) on peer-rejected children, many of whom are aggressive (Parkhurst & Asher, 1992). Through experimental manipulation of social feedback, some of these children were led to expect social success with peers. The children in the experimental group were then compared to control-rejected children without similarly positive self-perceptions with respect to their behavior toward new, unfamiliar peers, and their social acceptance in the new peer group. The children in the experimental group were indeed better liked by their new peers and they also behaved more competently (i.e., less aggressively and more prosocially) than children in the control group, although the latter finding was only true for girls.

Other researchers, however, have challenged the view that an overly positive evaluation of their social relations with others has a positive effect on individuals' developmental adjustment (e.g., Baumeister, Bushman, & Campbell, 2000; Baumeister, Smart, & Boden, 1996; see also Colvin, Block, & Funder, 1995; Zakriski & Coie, 1996). According to this perspective, an overly positive evaluation of their relations with peers leads to unrealistically high expectations about friendly behavior from others. If these expectations are not met because the peers do not perceive the relationship as equally positive, individuals have two choices. First, individuals may accept the negative feedback and adjust their inflated self-perceptions, which may entail the risk of depressive feelings. The second option is to reject the negative feedback from others, which may result in anger and hostility toward the source of the negative feedback.From this perspective, an overly positive view of their interpersonal relationships is especially detrimental for children who are prone to aggression because it may prevent them from reducing their aggressive behavior and from adopting a more prosocial behavior. Instead, aggressive children's overly positive views of their social competence may actually promote aggressive behavior, thus further compromising their social relations with other children. As suggested by Baumeister et al. (1996), such detrimental effects of positive illusions are especially likely in aggression-prone individuals with extremely positive perceptions of their own social competence.

Evidence for a negative effect of overly positive social self-perceptions is provided by a study on highly aggressive children selected for an intervention program (Hughes, Cavell, & Prasad-Gaur, 2001). In this study, aggressive children who had a highly positive perception of their own social acceptance were found to be even less liked by their peers 30 months later than were aggressive children with a more modest and realistic view about their social competence with peers. Contrary to what would be predicted by the Baumeister et al. (1996) perspective, however, a positive perceptual bias was not related to a further increase in aggressive behavior. Notably, this latter finding might have been due to the already very high initial level of aggressive behavior in the intervention sample used in the Hughes et al.'s study (Hughes et al., 2001), which may have limited the potential for further increase of aggressive behavior. Moreover, the authors did not test for the possibility of a curvilinear relation between children's overestimation of their social competence and subsequent developmental adjustment (or of a moderating effect of children's aggression in this context), as would be suggested by the Baumeister et al. perspective (Baumeister et al., 1996).

Despite the seeming, albeit limited support for both theoretical perspectives, no longitudinal study has directly examined (a) whether an overly positive perception of their social competence has a positive effect on children's subsequent developmental adjustment, as posited by Taylor and Brown (1988) or (b) whether the effect depends on children's level of overestimation and their level of aggression, as would be suggested by the Baumeister et al. perspective (Baumeister et al., 1996). Without longitudinal data, a control for previous levels of adjustment, as well as a direct test of quadratic relations and of a moderating effect of children's aggression, however, it is difficult to determine which of the two competing hypotheses is endorsed. Moreover, it is still unclear how children's overly positive perceptions of their own competence are related to their subsequent *emotional adjustment*. So far, empirical evidence in this regard is available from only one longitudinal study with elementary school children (Cole, Martin, Peeke, Seroczynski, & Hoffman, 1998). The results showed that children's positive (or negative) perceptual bias was unrelated to change in depression over time. This finding obviously fails to support the positive illusions model posited by Taylor and Brown (1988). Again, however, potential curvilinear links between overestimation of social competence and adjustment and potential moderating effects of children's level of aggression—as would be suggested by the Baumeister et al. (1996) model—were not tested.

Goals of This Study

As is apparent from the review of the extant literature, it is not yet clear which of the two theoretical models discussed above best describes the effects of an overestimation of social competence on aggressive versus nonaggressive children's subsequent developmental adjustment. To address this issue, the main goal of the present study was therefore to investigate (a) the linear and curvilinear links between children's overly positive perceptions about their peer relations and their subsequent behavioral, emotional, and social adjustment, and (b) the moderating effect of children's level of aggression on these links. On the basis of the theoretical models outlined previously, two competing scenarios were tested: On the one hand, based on the positive illusion model proposed by Taylor and Brown (1988), an overly optimistic outlook regarding their social relations with peers should be adaptive for children's behavioral, emotional, and social adjustment, regardless of children's level of aggression. Thus, children who overestimate their social success with peers should subsequently become less aggressive and less depressed, and they should also experience more positive relations with their peers over time. On the other hand, based on the arguments put forth by Baumeister and colleagues (1996), an overly positive evaluation of their peer relations should be related to further aggression and relationship difficulties. Notably, this relationship should be curvilinear, as it should mainly be observed in extremely overestimating children. Moreover, this curvilinear relationship between children's overestimation of social competence on subsequent aggression and relationship difficulties should be moderated by children's level of aggression. Specifically, these links should only hold for aggression-prone children. In contrast, nonaggressive children (but not aggressive children) should experience an increase in depressive feelings as a result of an overestimation of their social competence according to the Baumeister et al. perspective (Baumeister et al., 1996). Previous studies assessing one or the other of these two theoretical models report either no moderating effects of gender (e.g., Cole et al., 1998; Hughes et al., 2001) or inconsistent patterns for boys and girls (e.g., Rabiner & Coie, 1989; Sandstrom & Coie, 1999). Consequently, no moderating effects of gender were expected in the present study.

To test the two competing hypotheses, this study employed a short-term longitudinal design covering a 6-month period from fall to spring of the same school year. This design allowed us to examine changes in children's relations with the same pool of peers. This ensured that any potential increase or decrease in children's social preference, which in elementary school is based on the classmates' appraisals, would not be influenced by changes of the peer group composition from one school year to the next. In this context, this study extended previous research by examining the effect of children's positive bias not only with respect to their relations with the general peer group (i.e., their social preference), but also with respect to their dyadic friendships (i.e., the quality of the relationship with their best friend) on children's subsequent adjustment. Inclusion of this dyadic relationship aspect is important given the unique role dyadic friendships play in children's developmental adjustment (Hartup, 1992). To increase the pool of true best friends, information regarding children's dyadic friendship relations referred to best friends that could be chosen within the entire school.

METHOD

Participants

Participants for the study came from an initial pool of 1,887 fourth through sixth graders from 37 schools

in low to average SES areas in Montreal, Canada. Only classes where at least 75% of all students received parental consent ($n = 1{,}149$ or 61%) were considered for participation in the study to ensure valid data for the peer nomination procedure (see description below). More than 80% of the participants were Caucasian. The data for this study were collected in fall and in spring during the same school year. Participants' age ranged from 8 to 13 years at T1 ($M = 10.3$ years). Two hundred and five children (20%) were excluded from the study and not reassessed at T2 because they did not have valid data on their dyadic friendships (i.e., because they either failed to provide intelligible information regarding their friends' names, because they nominated school friends from younger grades than were targeted in the study, or because the friends they nominated were absent during data collection or did not receive parental permission to participate in the study). An additional 125 participants (11%) assessed at T1 were excluded from the study because of missing data or because they were absent during the second wave of data collection. Bonferroni-corrected *t* tests for independent samples revealed that the remaining participants ($N = 819$, 427 girls) differed from those who were excluded or lost in that the former were less aggressive, were better accepted by their peers and perceived themselves as more accepted by their peers.

Procedure

Data were collected in school during regular class hours. The research assistant read the instructions out loud and made sure that each participant understood the instructions. Throughout the procedure, the children were reminded to maintain confidentiality of their responses. All instruments were administered in French. Following the procedure suggested by Vallerand (1989), instruments that were originally written in English were first translated into French and then translated back into English. Bilingual judges verified the semantic similarity between the back-translated items and the original items in the questionnaire. The research questions and instruments were submitted to, and approved by, the University of Montreal Ethics Committee and the school board administrators.

T1 and T2 Measures

Peer-Perceived Social Preference

Children's *Peer-Perceived Social Preference* was assessed with peer nominations. Specifically, a list of the names of all children in a given class who had received parental consent was handed out to the participants. The children were then asked to nominate three children of the same or opposite sex from this list that they most liked to play with (positive nominations) and three other children of the same or opposite sex from this list that they least liked to play with (negative nominations). The criteria outlined by Coie, Dodge, and Coppotelli (1982) were used to compute the social preference score for each participant, separately for each time. Specifically, the total number of received positive nominations was calculated for each participant and *z*-standardized within the classroom to create a total Liked-Most-score (LM). Similarly, the total number of received negative nominations was calculated for each participant and *z*-standardized within the classroom to create a total Liked-Least-score (LL). The LL-score was then subtracted from the LM score to create the Social Preference score, which was again *z*-standardized within the classroom. The Social Preference score thus represents a continuous measure of children's peer-rated social standing in the peer group that covers the entire range from high acceptance to rejection ($M = 0.19$, $SD = 0.94$, range from -2.90 to 2.60 at T1 and $M = 0.21$, $SD = 0.92$, range from -3.06 to 2.52 at T2 in the study sample). Test–retest reliability was $r = .57$.

Friendship Status

Participants were asked to nominate up to five best friends (ordered from first to fifth best friend) who also attended the same school. A participant was considered to have a reciprocal very best friend when the peer the participant had nominated as his or her first best friend had in turn rated the participant as his or her first best friend. Of the 819 children in the study sample, 237 participants (29%; 142 girls) had their very best friendship nomination reciprocated at the same level at T1. Girls were more likely than boys to have their very best friendship nomination reciprocated at the same level at T1, $\chi^2(1) = 8.09$, $p < .01$. Also, the children who had their very best friendship nomination reciprocated at the same level at T1 differed from those without a very best reciprocal friend in that the former perceived themselves as more accepted by their peers at T1 and they were more accepted by their peers both at T1 and T2 than the latter.

For those who had a very best reciprocal friend at T1, a *Friend-rated Friendship Ranking* score was computed at T2 to examine whether the reciprocal best friend at T1 had nominated the target child again among his or her five friends at T2 and, if yes, at what rank level (i.e., first friend, second friend, etc.). Specifically, if the reciprocal

best friend at T1 had nominated the target child again as his or her first best friend at T2, the target child received a score of five. If the reciprocal best friend at T1 had nominated the target child as his or her second best friend at T2, the target child received a score of four. A nomination as third friend corresponded to a score of three, a nomination as fourth friend corresponded to a score of two, and a nomination as fifth friend corresponded to a score of one. If the reciprocal best friend at T1 had not nominated the target child again among his or her five friends at T2, the target child received a score of zero. Because the friend had nominated the target child as first best friend at T1, the friend-rated friendship nomination ranking at T2 (i.e., ranging from a nomination as first friend to no nomination at all) provided an index of change in the target child's dyadic relation with his or her very best friend from T1 to T2, from the friend's point of view. This friend-evaluation of the target child's dyadic relationship at T2 thus complemented the peer-evaluation of the target child's social relation with the larger peer group (i.e., peer-rated social preference) at T2 as an outcome measure in the analyses. Of the 237 children with a very best reciprocal friend at T1, 110 (46.4%) were nominated by their T1 very best friend again as first best friend at T2, 38 (16%) were nominated as second friend, 15 (6.3%) were nominated as third friend, 8 (3.4%) were nominated as fourth friend, 7 (3%) were nominated as fifth friend, and 59 (24.9%) were not nominated again as a friend at T2 by their T1 reciprocal very best friend.

Aggression

Children's aggression at T1 and T2 was measured through five peer-rated items taken from the Pupil Evaluation Inventory (PEI; Pekarik, Prinz, Liebert, Weintraub, & Neale, 1976), from the Proactive and Reactive Aggression Scale (Dodge & Coie, 1987), and from the Indirect Aggression Scale (Bjoerkqvist, Oesterman, & Kaukiainen, 1992): "Those who start a fight over nothing," "say they can beat everybody up," "make fun of people," "say bad things behind others' backs," "get other children to gang up on a peer." Following the procedure used by David and Kistner (2000), these items were chosen to reflect a variety of aggressive behaviors including physical aggression and indirect aggression. Both types of aggression are moderately to strongly correlated with each other (rs between .4 and .8) and are used by both genders, although physical aggression is more frequent in boys whereas indirect aggression is more prevalent in girls (see Crick et al., 1999). As such, we aimed at obtaining a measure of aggression that comprised behaviors typical of both genders. A list of the names of all children in a given class who had received parental consent was presented to the participants and they were asked to nominate up to four classmates of the same or the opposite sex from this list who best fit each behavioral descriptor. Individual aggression scores were computed by summing the total number of received nominations for the five items, separately for T1 and T2, and scores were then z-standardized within each classroom ($\alpha = .91$ at T1 and at T2, $M = -0.04$, $SD = 0.82$, range $= -0.96$ to 3.44 at T1, and $M = -0.02$, $SD = 0.84$, range from $-.95$ to 3.69 at T2 in the study sample). Test-rest reliability of this aggression measure was $r = .85$.

Depression

Participants' depressive feelings were assessed using the Children's Depression Inventory (CDI; Kovacs, 1985). The CDI is a self-rated 27-item scale assessing affective, cognitive, motivational, and somatic symptoms of depression. In the present study, the suicidal ideation item was eliminated because of concerns raised by the school board that this item might upset some students. Individual item scores ranged from 0 to 2 with higher ratings indicating more severe symptoms (possible total range: 0 to 56). The CDI has relatively high internal consistency and stability and has been validated using normative and clinic-referred samples (Finch, Saylor, & Edwards, 1985; Fundulis et al., 1991). Internal consistency was high in this sample ($\alpha = .85$, $M = 9.39$, $SD = 6.85$, range from 0 to 37 at T1, and $\alpha = .87$, $M = 8.41$, $SD = 7.19$, range from 0 to 38 at T2). Test-rest reliability of the CDI was $r = .65$.

T1-Only Measures

Self-Perceived Social Acceptance

Following the procedure by Vernberg (1990), *Self-Perceived Social Acceptance* among peers was measured through the six-item social acceptance subscale of the Self-Perception Profile for Children (*SPPC*; Harter, 1985). The SPPC self-perceived social acceptance subscale includes positively as well as negatively worded items. As such, although the self-rated social acceptance scale is not exactly comparable to the peer-rated social preference scale, it does yield a measure of children's self-rated social standing in the peer group that also covers the entire range from high competence to a complete lack of social competence. Items were scored from 1 through 4 and an average total Self-perceived Social Acceptance scale was computed such that a higher total score reflects a more positive self-image. The instrument has shown

excellent internal consistency, test-retest reliability, and factorial and convergent validity with 3rd through 6th graders (Boivin, Vitaro, & Gagnon, 1992). Cronbach's alpha for the total self-perceived social acceptance scale was = .76, $M = 3.07$, $SD = 0.70$, range from 1 to 4.

Friendship Quality

After nominating their five best friends in school (see procedure described above), participants were asked to describe the quality of the friendship with their first nominated (i.e., very best) school friend using a short version (27 items) of the Friendship Quality Questionnaire (*FQQ*; Parker & Asher, 1993). The items of the FQQ assess six dimensions (Companionship and Recreation, Help and Guidance, Validation and Caring, Intimate Exchange, Conflict Resolution, and Conflict). The children were asked to rate how true a specific item description was for their relationship with their best friend, ranging from 0 = *not at all true* to 4 = *really true*. The FQQ has been extensively used for third through sixth grade children and has shown good internal consistency and factorial and convergent validity in this age group (Parker & Asher, 1993). To obtain a measure of global friendship quality, we first reversed the scores of the items pertaining to the conflict dimension and then computed an average score across all items such that a higher score indicated a more positive overall friendship quality. Internal consistency for the global friendship quality scale based on the short version of the questionnaire was satisfactory in this study, $\alpha = .80$, $M = 3.00$, $SD = 0.68$, range from .59 to 4.00.

For participants whose very best friendship nomination was reciprocated at the same level ($n = 237$; 142 girls) it was possible to obtain not only their own but also their reciprocal best *friend's evaluation of friendship quality*. Notably, the fact that the children as well as their friends provided friendship quality data about the same friendship resulted in the presence of dependent data within the sample. Specifically, for 103 dyads, both partners provided reports of friendship quality and had complete data on all other measures, such that both partners could be considered target children. Therefore, we randomly excluded one member of these dyads for all analyses involving friendship quality. For 31 children, friends' friendship quality ratings were available although the friends themselves were not included as target children in the study sample because of missing data on other variables, thus posing no problem of dependent data for these cases. Together, these adjustments resulted in a subsample of $n = 134$ children (82 girls) for the analyses involving friendship quality, whereas all other analyses were conducted with the sample of 819.

Overestimation of Social Competence With the Peer Group and Overestimation of Friendship Quality

To operationalize children's overestimation (and underestimation) of their social competence in regard to the relation with the larger peer group we followed the strategy adopted in previous studies (e.g., Cole et al., 1998, 1999; David & Kistner, 2000; Hoffman et al., 2000; McGrath & Repetti, 2002). Specifically, we computed a standardized residual score by regressing children's self-rated social acceptance in the peer group at T1 on their peer-rated social preference at T1. The correlation between peer-rated social preference and self-rated social acceptance was $r = .25$, $p < .001$, indicating that considerable residual variance existed in children's self-rated social acceptance that was not accounted for by peer-rated social preference. The strategy of a residual difference score was chosen over a simple difference score because peer-rated social preference and self-rated social acceptance were not based on the same measure, which makes it inherently difficult to establish a base of comparison between the two variables. This problem is circumvented by using a residual score, which reflects the portion of self-rated social acceptance that cannot be predicted from peer-rated social preference. As such, a standardized residual score above zero represents a more positive perception of their social acceptance in the peer group from the children's own perspective than what would be expected based on their peer-rated social preference score. In contrast, a residual score below zero represents a more negative perception of their social acceptance from the children's own perspective than what would be expected based on their peer-rated social preference score. Thus, although not a measure of "true" difference or change, the residual difference score is an ideal way of "singling out individuals who changed more (or less) than expected" (Cronbach & Furby, 1970, p. 74), or, in the context of the present study, of identifying individuals whose self-evaluations are higher (= overestimations) or lower (= underestimations) than what would be expected based on their peer-rated social preference. To obtain a comparable measure for children's overestimation of friendship quality, the same rationale was employed to compute a standardized residual score between children's and their friends' views of the quality of their friendship. Again, only a modest correlation was found between friend-rated and self-rated friendship ($r = .21$, $p < .05$), indicating that considerable residual variance existed in children's self-ratings of friendship quality that was not accounted for by friend-rated friendship quality. To test for the possibility of a curvilinear relation between children's overestimation of social competence with peers in general or of friendship

quality, on the one hand, and subsequent adjustment, on the other hand, we also calculated quadratic terms of the residual scores regarding social competence and friendship quality.

RESULTS

Preliminary Analyses

Prior to analyses, variables were screened for the presence of univariate outliers and normality of distributions. Absolute skewness and kurtosis values were well below 1.00 for all variables except for aggression and depression. Skewness values were 1.8 at T1 and 1.9 at T2 for aggression and 1.1 at T1 and 1.2 at T2 for depression. Kurtosis values were 3.2 at T1 and 3.4 at T2 for aggression and 1.0 at T1 and 1.1 at T2 for depression. However, further screening of residuals showed that assumptions of normality, linearity, and homoscedasticity were met, so that no variable transformations were performed. Screening for multivariate outliers using Mahalanobis Distance with a criterion of $p < .001$ revealed no such cases. In Table I, the zero-order correlations of the study variables, including sex and age, are presented for the whole sample. As can be seen, girls were less aggressive and they were also slightly better liked by their peers than boys. In addition, girls' friends rated their friendship quality more positively than did boys' friends. Girls—more than boys—also tended to rate their friendships more positively than their friends. Aggression and depression were unrelated to each other, but each was negatively related to peer-rated social preference. Aggression, but not depression, was related to a more negative evaluation of friendship quality from the friend's perspective. Aggression was also related to an overestimation of social competence with peers but not to an overestimation of friendship quality, whereas depression was related to an underestimation of social competence with peers and of friendship quality. Peer-rated social preference was positively related to friend-rated friendship quality. Moreover, children who overestimated their social competence with peers also tended to more positively evaluate their friendship quality compared to their friend's view. Age was negatively—albeit very weakly—related to peer-rated social preference at T2, but not related to any other variable, and was therefore dropped from subsequent analyses.

Predictions to Children's Behavior and Emotional Well-Being

In the first set of analyses, we examined (a) whether children's overly positive perceptions of their social acceptance in the peer group and of their friendship quality would be predictive of children's aggressive behavior or depressed mood, respectively, and (b) whether these predictive links were moderated by children's levels of aggression. Notably, potential moderating effects of sex were also tested in separate analyses. No significant moderating effects of sex were found, however, and these analyses are therefore not presented in further detail. Analyses involving the social acceptance residual score as a predictor were based on the complete study sample of $N = 819$, whereas analyses involving the friendship quality residual score as a predictor were based on the subsample of $n = 134$ children who had a very best reciprocal friend.

Table I. Zero-Order Correlations Among the Study Variables

	A	B	C	D	E	F	G	H	I	J	K	L
A Sex	—	.02	−.40***	−.40***	.02	.03	.07*	.00	−.01	.42***	.19*	−.14
B Age		—	.03	.04	.03	.00	−.04	.03	−.07*	.08	−.12	.10
C T1 aggression			—	.85***	.04	.06	−.22***	.13***	−.09**	−.40***	.03	.09
D T2 aggression				—	.04	.05	−.15***	.14***	−.11***	−.45***	.06	.05
E T1 depression					—	.65***	−.15***	−.52***	−.15*	−.13	−.17*	.02
F T2 depression						—	−.15***	−.41***	−.17***	−.10	−.21*	−.03
G T1 P-p social preference							—	.00	.57***	.25**	.10	.00
H T1 social acceptance res.								—	.10**	.05	.29***	.08
I T2 P-p social preference									—	.34***	.07	.09
J T1 F-p friendship quality										—	.01	.11
K T1 friendship quality res.											—	.19*
L T2 F-p friendship ranking												—

Note. P-p = peer-perceived; Res. = residual score after regressing self-perceptions onto peer-/friend-perceptions; F-p = friend-perceived.
$N = 819$; correlations involving friendship quality or friendship ranking are based on $n = 134$. Sex is coded so that a higher value (1) represents girls. Spearman rank correlations are reported for associations with the Friendship Ranking measure.
$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Predictions to Aggression

First, a hierarchical linear regression analysis was conducted to examine the link between children's overestimation of social preference at T1 and aggression at T2. For this purpose, we entered sex, aggression at T1, depression at T1, peer-rated social preference at T1, the social acceptance residual score at T1, and the squared social acceptance residual score at T1 as independent variables on the first step. This approach allowed us to examine the predictive effect of children's over (or under) estimation of their social acceptance in the peer group in general on aggression at T2 while controlling for the stability of aggression and for the predictive effect of peer-rated social preference on aggression. On the second step, two 2-way interaction terms (Social acceptance residual score × Aggression and Squared social acceptance residual score × Aggression) were added. To facilitate interpretation, all dependent and continuous independent variables were *z*-standardized prior to creating the interaction terms and the *z*-standardized variables were used in the analyses. Following the same procedure, a second hierarchical linear regression analysis was conducted to examine the link between children's overestimation of their friendship quality at T1 and aggression at T2. The analytical steps were the same as in the first analysis. The only difference was that friend-rated friendship quality at T1 replaced peer-rated social preference at T1 as predictor and the friendship quality residual score at T1 replaced the social acceptance residual score at T1 as a predictor. The tolerance and variance inflation indicators showed that multicollinearity was not a problem in the two sets of analysis both before and after inclusion of the interaction terms. The overall model F-change, the change in R^2, the regression coefficients, and the corresponding t values from the two analyses are provided in Table II.

As can be seen in Table II, children's initial level of aggression at T1 predicted aggression at T2, $b = .82$, $p < .001$. Boys became more aggressive than girls, $b = -.15$, $p < .001$, as did children who were more accepted by their peers at T1, $b = .05$, $p < .001$. In addition, the social acceptance residual score at T1 as well as the squared social acceptance residual score at T1 were positively related to aggression at T2. However, the interaction terms entered on the next step showed that the quadratic effect—albeit not the linear effect—was moderated by children's level of aggression. To interpret the nature of the interaction, we followed the procedure for interaction terms involving continuous predictors described by Jaccard, Turrisi, and Wan (1990). Specifically, we

Table II. Hierarchical Multiple Linear Regression Analysis Predicting to Children's Aggression at T2

	Set A: Predictions from the social acceptance residual				
Step no.	Predictor	*b*	*t*	*F* change (*df*)	R^2 change
Step 1				372.25 (6, 812)	.73***
	Sex	−.15***	−3.77		
	T1 aggression	.82***	39.90		
	T1 depression	.04	1.66		
	T1 peer-rated social preference	.05*	2.42		
	T1 social acceptance residual	.07**	2.95		
	T1 social acceptance residual$^{sq.}$	.04*	2.08		
Step 2				3.94 (2, 810)	.01*
	T1 soc. acc. res. × T1 agg.	.02	1.28		
	T1 soc. acc. res.$^{sq.}$ × T1 agg.	.06**	2.61		
	Set B: Predictions from the friendship quality residual				
Step 1				64.57 (6, 127)	.75***
	Sex	−.29**	−2.69		
	T1 aggression	.74**	14.61		
	T1 depression	−.08	−1.79		
	T1 friend-rated friendship quality	−.10	−1.92		
	T1 friendship quality residual	.12*	1.98		
	T1 friendship quality residual$^{sq.}$	.11	1.84		
Step 2				2.63 (2, 125)	.01
	T1 frd. qual. res. × T1 agg.	.13*	2.10		
	T1 frd. qual. res.$^{sq.}$ × T1 agg.	.13	1.79		

Note. The first regression analysis is based on $N = 819$; the second regression analysis is based on $n = 134$. Sex effect refers to boys as reference group. Res. = residual score; Soc. acc. = social acceptance; Agg. = aggression; frd. qual. = Friendship quality.

examined the effect of the T1 squared social acceptance residual score on T2 aggression at three levels of T1 aggression: low (= 1 *SD* below the mean), moderate (= at the mean or 0), and high (= 1 *SD* above the mean). The regression coefficient and *t* value associated with the T1 squared social acceptance residual score at a medium level of T1 aggression was provided in the second step of the regression equation, $b = .03$, $t = 2.00$, $p < .05$. When T1 aggression increased by one standard deviation, (i.e., when initial aggression was high), the effect of the T1 squared social acceptance residual score on T2 aggression was also significant, $b = .08$, $t = 3.20$, $p < .001$.[6] However, when T1 aggression decreased by one standard deviation (i.e., when initial aggression was low), the T1 squared social acceptance residual score had no significant effect on T2 aggression, $b = -.02$, $t = 0.77$, *ns*.

Figure 1 illustrates the relation between children's overestimation of social acceptance at T1 and subsequent aggression at T2 for children with low, moderate, and high initial levels of aggression. As can be seen, for children with low initial levels of aggression, an overestimation of social acceptance in the peer group by 2 *SD*s was related to an increase in aggression (*predicted mean* = .18), whereas an underestimation of social acceptance by peers by 2 *SD*s was related to a decrease of aggression for these children (*predicted mean* = −.09). Because of its extremely small effect size, however, this link has to be interpreted with caution. For children with moderate initial levels of aggression, even an underestimation of social acceptance by 2 *SD*s did not seem to predict a notable change in aggression (*predicted mean* = .03), but aggression at T2 increased exponentially the more these children overestimated their social acceptance in the peer group (*predicted mean* = .14 for an overestimation by 1 *SD* and *predicted mean* = .30 for an overestimation by 2 *SD*s). A similar, yet more pronounced pattern was found for children with high initial levels of aggression (*predicted mean* = .19 for an overestimation by 1 *SD*, and *predicted mean* = .50 for an overestimation by 2 *SD*). Notably, however, children with high initial levels of aggression also became more aggressive when they greatly underestimated their social acceptance in the peer group (*predicted mean* = .23 for an underestimation of 2 *SD*s), something that was not observed for other children.

[6]The regression coefficients associated with the friendship quality residual score at low and high levels of aggression at T1 were calculated by subtracting and adding, respectively, the regression coefficient of the interaction term from the regression coefficient of the friendship quality residual score when aggression at T1 was zero (i.e., at the mean). The associated *t* values were calculated based on the variances and covariances of the regression coefficients following procedures described by Jaccard et al. (1990).

The regression analysis involving the T1 friendship quality residual score as a predictor also revealed a positive linear relation between children's overestimation of friendship quality compared to the friend's view at T1 and aggression at T2, $b = .12$, $p < .05$. The step involving the interaction terms did not reach statistical significance, however, indicating that this link was independent of children's initial level of aggression at T1.

Predictions to Depression

Similar to the analyses predicting to aggression at T2, two hierarchical linear regression analyses were conducted to examine the link from children's overestimation of social acceptance by peers at T1 (and of their friendship quality at T1, respectively) to depression at T2. The analytical strategy followed the same rationale as before. The overall *F*-change, the change in R^2, the regression coefficients, and the corresponding *t* values from these two analyses are provided in Table III. As can be seen in Table III, the first regression analysis revealed that, in addition to the significant autocorrelation of depression at T1 and T2, $b = .58$, $p < .001$, the T1 social acceptance residual score predicted depression at T2, $b = -.11$, $p < .001$. The interaction terms entered on the next step did not make any further contribution to the model, indicating that this link was independent of children's initial level of aggression at T1. The regression analysis involving the T1 friendship quality residual score as a predictor revealed that, after controlling for children's initial levels of depression at T1, no other variables contributed significantly to the prediction of T2 depression.

Predictions to Children's Social Relations

In the next set of analyses we investigated whether children's overestimation of their T1 social acceptance in the peer group or of their T1 friendship quality would be predictive of children's social relations with the peer group or with their friends at T2. As previously, we examined whether children's initial levels of aggression moderated these predictive links. We also examined potential moderating effects of sex but, again, no moderating effects of sex were found and these analyses are therefore not presented in further detail. As before, the analyses involving the social acceptance residual score as a predictor were based on the complete study sample of $N = 819$, whereas analyses involving the friendship quality residual score as a predictor were based on the subsample of $n = 134$ children who had a very best reciprocal friend.

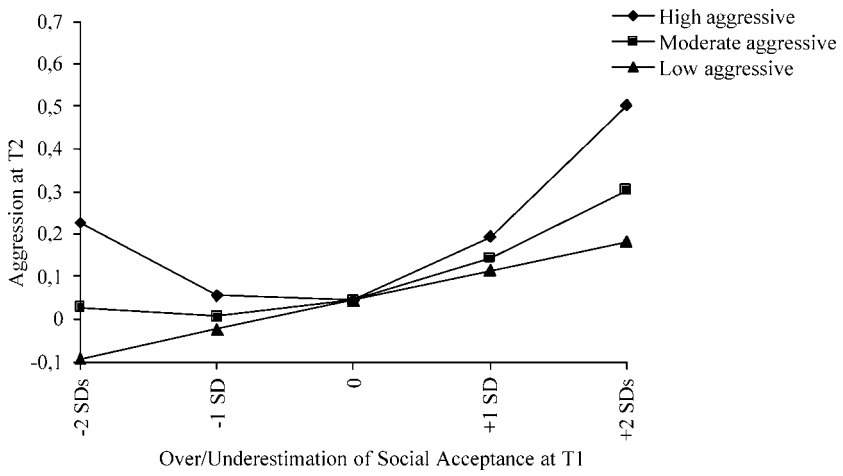

Fig. 1. Prediction of T2 aggression from over/underestimation of social acceptance at T1, at three different levels of T1 aggression (high aggressive = +1 *SD*, moderate aggressive = mean, low aggressive = −1 *SD*). Predicted values of the dependent variable were calculated based on the respective regression equations for the three different levels of T1 aggression, following the rationale described by Jaccard et al. (1990; see text).

Predictions to Social Preference

First, a hierarchical linear regression was conducted to predict children's peer-rated social preference among peers at T2. As in previous analyses, we entered sex, aggression and depression at T1, peer-rated social preference at T1, the social acceptance residual score at T1, and the squared social acceptance residual score at T1 as predictors on the first step of the regression. On the second step, two 2-way interaction terms (Social acceptance residual score × Aggression and Squared social acceptance residual score × Aggression) were included in the regression equation. The overall F-change, the change in R^2, the regression coefficients, and the corresponding t values from this analysis are provided in Table IV. As can be seen, even after controlling for children's social preference at T1, $b = .57$, $p < .001$, the T1 social acceptance residual score positively predicted children's social preference at T2, $b = .10$, $p < .01$. These results were independent of children's level of aggressiveness at T1, as indicated by the nonsignificance of the interaction terms entered on the subsequent step.

Predictions to Friendship Relations

In the final analysis, we examined how an overly positive evaluation of friendship quality—compared to the friend's view—was related to children's friendship relation with their very best friend at T2. Because of the relatively small number of children being nominated as a second, third, fourth, or fifth friend at T2, we followed suggestions by Menard (2001) and computed a new T2 friendship nomination variable with only two levels: (1) nomination as a friend at T2 ($n = 91$), and (0) no nomination as a friend any more at T2 ($n = 43$). Hierarchical logistic regression analyses were performed to predict stability or change in children's friendship relation with their very best friend from T1 to T2, using no-friend nomination as the reference category. On the first step of this analysis we included sex, aggression and depression at T1, friend-rated friendship quality at T1, the friendship quality residual score at T1, and the squared friendship quality residual score at T1 as predictor variables. On the second step, two 2-way interaction terms (Friendship quality residual score × Aggression and Squared friendship quality residual score × Aggression) were added to the equation. Preliminary analyses involving interaction terms between each predictor and its log value revealed that the assumption of linearity of the logit was met, based on a Bonferroni-corrected alpha value of $p < .05/6 = .008$. Overall model fit, χ^2-change, R_L^2, the regression coefficients and associated standard errors, as well as the odds ratios are presented in Table V.

As can be seen in Table V, the results from the logistic regression showed that sex had a significant main effect on the odds of being nominated as a friend again at T2, *odds ratio* = 0.34, $p < .01$, indicating that the odds were 66% lower for girls than boys to be nominated again as a friend

Table III. Hierarchical Multiple Linear Regression Analysis Predicting to Children's Depression at T2

Step no.	Predictor	*b*	*t*	*F* change (*df*)	R^2 change
	Set A: Predictions From the social acceptance residual				
Step 1				104.70 (6, 812)	.44***
	Sex	.05	1.59		
	T1 aggression	.05	1.77		
	T1 depression	.58**	18.42		
	T1 peer-rated social preference	−.05	−1.84		
	T1 social acceptance residual	−.11**	−3.36		
	T1 social acceptance residual	.00	0.08		
Step 2				0.19 (2, 810)	.00
	T1 soc. acc. res. × T1 agg.	−.02	−.61		
	T1 soc. acc. res.$^{sq.}$ × T1 agg.	.00	0.03		
	Set B: Predictions from the friendship quality residual				
Step 1				20.09 (6, 27)	.49***
	Sex	.28	1.80		
	T1 aggression	.07	0.89		
	T1 depression	.64**	9.49		
	T1 friend-rated friendship quality	−.05	−0.61		
	T1 friendship quality residual	−.11	−1.32		
	T1 friendship quality residual$^{sq.}$	.03	0.39		
Step 2				2.28 (2, 125)	.02
	T1 frd. qual. res. × T1 agg.	−.16	−1.80		
	T1 frd. qual. res.$^{sq.}$ × T1 agg.	−.19	−1.85		

Note. The first regression analysis is based on $N = 819$; the second regression analysis is based on $n = 134$. Sex effect refers to boys as reference group.

by their T1 reciprocal first best friend. In addition, there was also a significant positive main effect of the friendship quality residual score, *odds ratio* = 1.97, $p < .01$. In other words, for children who overestimated their friendship quality by 1 *SD* the odds increased by 97% that they would be nominated as a friend again at T2 by their T1 reciprocal very best friend, compared to children who did not perceive their friendship quality more positively than their friend. In contrast, for children who underestimated their friendship quality by 1 *SD*, the odds decreased by 51% that they would be nominated as a friend again at T2. Calculation of individual probability levels for illustrative purposes revealed that children who overestimated their friendship quality compared to their friend's view by 2 *SD*s had a probability of .95 of being nominated as a friend again at T2. In contrast, children who underestimated their friendship quality compared to their friend's view by 2 *SD*s had a probability of .53 of being nominated as a friend again at T2. The interaction terms entered on the next step did not significantly contribute to the model,

Table IV. Hierarchical Multiple Linear Regression Analysis Predicting to Peer-Rated Social Preference at T2

Step no.	Predictor	*b*	*t*	*F* change (*df*)	R^2 change
Step 1				68.60 (6, 812)	.34***
	Sex	−.09	−1.46		
	T1 aggression	.00	0.01		
	T1 depression	−.02	−0.44		
	T1 peer-rated social preference	.57**	19.07		
	T1 social acceptance residual	.10**	2.74		
	T1 social acceptance residual$^{sq.}$	.02	0.52		
Step 2				0.73 (2, 810)	.00
	T1 soc. acc. res. × T1 agg.	.04	1.21		
	T1 soc. acc. res.$^{sq.}$ × T1 agg.	0.1	0.22		

Note. $N = 819$. Sex effect refers to boys as reference group.

suggesting that these results were independent of children's level of aggression.[7]

DISCUSSION

Empirical findings show that many aggressive children tend to overestimate their social acceptance in the peer group and the quality of their dyadic friendships when compared to their peers' and friends' views in this regard (Boivin & Begin, 1989; Brendgen et al., 2002; David & Kistner, 2000; Hymel et al., 1993; Patterson et al., 1990; Zakriski & Coie, 1996). The goal of the present study was to investigate whether and how such overly positive perceptions are related to aggressive children's subsequent behavioral, emotional, and social adjustment. Two competing theoretical models were tested: based on previous work by Taylor and Brown (1988) and Bandura (1997), it was hypothesized that positive illusions about their social relations with others would be adaptive for children's subsequent adjustment, for aggressive and nonaggressive children alike. In other words, children's overestimation of their social preference by the peer group or of the quality of their dyadic friendships should help children maintain or even improve the relationship with their peer group and with their dyadic friends. By the same token, children who overestimate their social preference or their friendship quality should become less aggressive and less depressed. The alternative hypothesis, based on arguments by Baumeister et al. (1996), suggests that children's overestimation of their social preference or their friendship quality—at least on an extreme level—might result in increased behavioral and social adjustment problems for aggressive children and in depressed affect for nonaggressive children.

The results of the present study provide at least partial support for the first hypothesis, suggesting that positive "illusions" about their social relations with peers can have positive consequences for nonaggressive and aggressive children's subsequent adjustment. Thus, children who overestimated their social acceptance in the peer group experienced an increase in their actual social standing among peers six months later. Similarly, an overly positive perception of friendship quality compared to the friend's view seemed to elicit positive reactions from the friend because it increased the odds of being nominated again as a friend six months later. These results were independent of children's level of aggression. Overall, these results are in line with previous findings on the effect of positive illusions on peer-rated social preference (e.g., Rabiner & Coie, 1989; Sandstrom & Coie, 1999) and support the notion that positive illusions may promote goal attainment (e.g., Bandura, 1997; Taylor & Brown, 1988). Children who believe they are much liked by other children—even if that is not necessarily true—are likely to actively seek out others, to initiate social interactions, and to increase their efforts or to use alternative pathways if their initial strategies do not yield the desired results. This action-oriented approach, in turn, might promote the establishment and maintenance of social relations with others. To the extent that this process holds for aggressive and nonaggressive children alike, it may also explain previous findings that some aggressive children actually improve their social status in the peer group over time (Sandstrom & Coie, 1999).

As suggested by the present findings, this beneficial effect of positive illusions applies not only to children's relations with the peer group as a whole but also to their dyadic friendships. Children who have a very positive perception of their friendship may convey this positive outlook through their behavior toward their friend. They might openly share secrets, show trust and understanding, and generally express their joy of being with this friend. They might also not ruminate about arguments too long because they might not believe their relationship is much tainted by conflicts and fights. In line with this notion, children's positive perceptions of their friendship quality has been found to be related to high levels of positive affect and responsiveness and to low levels of negative affect, criticism, and hostility during friendship interaction (Brendgen, Markiewicz, Doyle, & Bukowski, 2001). Such behaviors, in turn, fostered a favorable evaluation of friendship quality from the friend's point of view in the Brendgen et al. study (Brendgen et al., 2001). Thus,

[7] Additional analyses were performed to examine whether the observed effects of overestimation of social competence on adjustment could be simply explained by the absolute level of children's self-rated social acceptance (i.e., simply because high absolute self-ratings are linked to good adjustment and high self-raters are more likely to overestimate). For this purpose, multiple linear or logistic regressions were performed for all outcome variables using the following independent variables: sex, outcome at T1 (except for peer-rated social preference and friendship nomination), absolute self-rated social acceptance or absolute self-rated friendship quality, residual social acceptance or residual friendship quality, and the respective squared residual. The results showed that, with two exceptions, both absolute self-ratings and residual self-ratings significantly contributed to predicting the outcome, and the effect sizes of residual self-ratings were largely similar to the ones previously observed. The two exceptions were the analyses (a) predicting to depression using absolute self-rated and residual self-rated social acceptance as predictors, and (b) predicting to friendship nomination using absolute self-rated friendship quality and residual self-rated friendship quality as predictors. In these analyses, neither variable showed a statistically significant effect. Overall, these results seem to support the notion that, independent of the absolute level of self-ratings, overestimation of social competence is related to children's adjustment outcomes. Given the considerable multicollinearity problem when including both absolute self-ratings and residual self-ratings in the analyses, however, the results of these additional analyses need to be interpreted with much caution and be replicated in future studies.

Table V. Hierarchical Logistic Regression Analysis Predicting to Friendship Nomination at T2

Step no.	Predictor	χ^2change (*df*)	R^2_L change	*B*	*SE*	Odds ratio
Step 1		12.65 (6)*	.13			
	Sex			−1.07	0.51	0.34*
	T1 aggr ession			−0.02	0.24	0.99
	T1 depression			0.05	0.20	1.05
	T1 friend-rated friendship quality			−0.08	0.25	0.92
	T1 friendship quality residual			0.68	0.27	1.97*
	T1 friendship quality residual			0.26	0.25	1.30
Step 2		4.24 (2)	.04			
	T1 frd. qual. res. × T1 agg.			0.80	0.53	2.23
	T1 frd. qual. res.$^{sq.}$ × T1 agg.			1.04	0.68	2.82

Note. $N = 134$. Odds ratio for sex effect refers to boys as reference group.

even if the friend does not entirely share a child's extremely positive perception of friendship quality initially, such friendly behavior seems to help maintain the friendship relation, as suggested by the findings from the present study.

In addition to these positive effects, there also was evidence for a curvilinear link between children's overestimation of their social acceptance in the peer group and future aggression. Specifically, in accordance with the Baumeister et al. perpespective (Baumeister et al., 1996) an extreme overestimation of social acceptance in the peer group (albeit not of friendship quality) was related to an increase in aggression six months later. This curvilinear relation was only observed for moderately or highly aggressive children, however, as predicted by the Baumeister et al. model (Baumeister et al., 1996). For nonaggressive children only a rather weak positive linear link was observed between overestimation of social acceptance by peers and subsequent aggression. This finding might indicate that, in line with the notion put forth by Baumeister et al. (1996), children with extreme levels of overestimation might eventually notice that their peers are not quite as friendly as expected and, if they are prone to aggression, react accordingly. However, a rather unexpected finding in this context was that highly aggressive children not only became more aggressive when they overestimated but also when they underestimated their social acceptance in the peer group. Although this latter result cannot be explained by *inflated-ego* defense mechanisms, it does fit very well with the general frustration-anger theory of aggression (e.g., Berkowitz, 1978, 1989). Interestingly, both the theory of aggression as an inflated-ego defense mechanism, as proposed by Baumeister et al. (1996) and the frustration-anger theory of aggression view aggression as resulting from frustration over actual or perceived negative feedback from others, which then results in anger and hostility toward the source of rejection.

Notably, at least the observed link between an extreme overestimation of social acceptance by peers and an increase in aggression might also be explained by other factors than ego-defense. Considering that (a) extreme overestimations are most likely in aggressive children (Brendgen et al., 2002), and (b) even extremely overestimating children seem to become more popular subsequently, these children might actually feel reinforced for their behavior. In line with this notion, aggressive-rejected children are less excluded by their peers and suffer less active and passive peer disregard than nonaggressive-rejected children (Boivin & Poulin, 1993). Moreover, although aggressive-rejected children often bully and torment other children, they do not necessarily experience direct sanctions by the peer group as a consequence. Observation studies show that peers overwhelmingly (i.e., during 75% of the time) reinforce bullies by either passively watching or even joining in the aggression (O'Connell, Pepler, & Craig, 1999).

One indication that many overestimating children may either not experience or be insensitive to self-directed negative feedback might be the present finding that an overly positive perception of their social acceptance in the peer group predicted a decrease in depression. This finding is more in line with the positive illusions hypothesis proposed by Taylor and Brown (1988) than with the Baumeister et al. perspective (Baumeister et al., 1996). By the same token, this result is also in line with previous findings of a positive link between children's underestimation of their competence in a variety of life domains and subsequent depression (Cole et al., 1999; Hoffman et al., 2000). Specifically, the present results support cognitive models of depression suggesting that negatively biased perceptions of the self play an essential role in the onset and maintenance of depression (e.g., Abramson, Seligman, & Teasdale, 1978; Beck, 1963; Rehm, 1977). Notably, this effect on depression may not only be direct

but also indirect, mediated through a negative effect of children's underestimation of social competence on their social relations with peers, as was found in the present study. Indeed, children who are not accepted by their peers have been shown to become more depressed over time (Panak & Garber, 1992). Severely underestimating children may thus find themselves trapped in a vicious cycle where overly pessimistic self-evaluations not only foster depressive feelings but also impede their social relations, thereby contributing to the maintenance and perhaps even a further increase of their emotional problems.

Why was an overestimation of social acceptance in the peer group related to a decrease in children's depressive feelings, whereas an overestimation of friendship quality was not? One explanation may simply be that the analysis regarding friendship quality was based on a much smaller sample size than the analysis regarding social acceptance in the peer group in general, thus leading to reduced statistical power in the former compared to the latter analysis. This notion is supported by the fact that the regression coefficients for depression associated with children's overestimation of social acceptance in the peer group and of friendship quality, respectively, had the same relative weight (−.11). Indeed, because the predictive effect of overestimation of competence on subsequent depression found in the literature generally seems to be rather small (ranging from −.04 to −.22), differences in sample size may also explain why this effect reached statistical significance in some studies (Cole et al., 1999; Hoffman et al., 2000) but not in others (McGrath & Repetti, 2002). Another explanation for the lack of effect of overestimation of friendship quality in depression might be that children may detect differences between their own and their peers' view about their social acceptance in the peer group less easily than differences between their own and their friend's perspective with regard to friendship quality. Children interact with classmates that are nonfriends less frequently and intensely than with close friends, and they are probably also less interested in nonfriends' than in their friends' thoughts and actions. As a result, children who overestimate their social acceptance in the peer group may not easily realize that their positive views do not necessarily reflect reality. In contrast, the more intense contact with the best friend might increase the probability that children who evaluate their friendships more positively than their friend does eventually become aware of this perceptual discrepancy. If indeed children can more easily uphold their positive illusions about their social acceptance in the peer group in general than about the quality of their friendships, then this may also—at least partly—explain why an overestimation of friendship quality was less beneficial for children's emotional well-being than an overestimation of social acceptance in the larger peer group. Replication studies are clearly needed to gain a better understanding of the potential effects of overestimation of friendship quality on children's emotional well-being.

Overall, this study has important advantages over previous research examining the link between children's overestimation of their social competence and their developmental adjustment. Thus, this study extends previous research (a) by examining children's positive illusions in regard to the quality of their dyadic friendships as well as their social acceptance in the larger peer group, and (b) by considering emotional as well as social and behavioral aspects of adjustment. In addition, the longitudinal approach of this study made it possible to test the hypothesized directional effect between children's positive illusions, on the one hand, and their developmental adjustment, on the other hand. Despite these advantages, however, this study also has some limitations, which need to be considered when interpreting the findings. First, peer-nominations were restricted to the list of children who had received parental consent for participation in the study. Although necessary because of ethics-related concerns of the school board, this procedure obviously limits the pool of possible nominees and might exclude the most problematic children from being nominated. This limitation is further exacerbated by the fact that, as previously mentioned, even some children with parental consent were excluded from the study for methodological reasons or because they were lost due to attrition. These excluded children were more aggressive and they were also less liked by their peers and they perceived themselves as less liked than the final study participants. As a result, the variance of and the associations between the variables in the statistical analyses were probably smaller than what might be found in a less restricted sample, which obviously limits the generalizability of the findings. It also needs to be acknowledged that many of the effects observed in this study are rather small. However, as noted by Hoffman and colleagues in their work on the link between perceptual biases and depression, "although these effects may not seem large, one must remember that they represent changes in a remarkably stable construct. In this context, almost any effect is noteworthy" (Hoffman et al., 2000, p. 660). This statement certainly also holds for the effects of positive illusions on social preference, aggression, and depression found in the present study.

Despite its limitations, the present study offers important insights into the link between children's overestimations of their social competence and their developmental adjustment. On the one hand, our results suggest that positive illusions about their social relations with classmates and with friends can be advantageous for children's

social and emotional adjustment, which is in line with the Taylor and Brown (1988) perspective. On the other hand, the present findings suggest that an extremely inflated positive self-view might promote further aggression in children who are prone to aggressive behavior. This latter result is more in line with the Baumeister et al. perspective (Baumeister et al., 1996). By the same token, this result supports the view expressed by some scholars that efforts toward an improvement of self-esteem might not always be the most appropriate intervention strategy with aggressive children (e.g., David & Kistner, 2000). Indeed, a further increase of self-esteem for aggressive children who already hold highly inflated views about themselves may elicit even more aggressive behavior. Our results do suggest, however, that an increase of self-esteem in aggression-prone children who severely underestimate their social competence may prevent a further increase in aggression. To be sure, the explanations offered for this findings remain speculative because we did not assess the specific cognitions or behaviors that might mediate the link between an overestimation of social preference or friendship quality and subsequent adjustment outcomes. Moreover, to the extent that children become increasingly sensitive toward social feedback from others as they mature (Hymel et al., 1985), negative effects of overly positive social self-perceptions on children's social and emotional adjustment as suggested by Baumeister et al. (1996) might become more evident in older children. Further research is needed to examine such potential age-related differences and the mechanisms underlying the links found in the present study. In consequence, such research will help us obtain a better understanding of the interplay between children's social self-perceptions, their behavior toward others, and their developmental outcomes.

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