"I'm OK but You're Not" and Other Peer-Relational Schemas: Explaining Individual Differences in Children's Social Goals

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This study examined the links among 5th and 6th graders' (279 girls and 310 boys) self- and peer perceptions, social goals, and social behavior. Social goals mediated the effects of self- and peer perceptions on 3 types of behavior: proactive aggression, prosocial behavior, and withdrawal. In addition to their main effects (self-perception predicting variance in agentic goals, peer perception being related to communal goals), self- and peer perception interacted in influencing social goals; for instance, the effects of a positive view of oneself were different in the contexts of a positive versus a negative perception of peers. It is suggested that in order to predict children's social behavior more accurately, researchers should investigate children's dual perceptions of themselves and of their peers—that is, their *peer-relational schemas*—instead of assessing self-perception and peer perception in isolation from each other.

Keywords: social goals, relational schemas, self-perception, peer perception, child social behavior

During social interactions with their peers, children make observations and inferences about their own behavior as well as about the reactions and behaviors of their peers. Some of the conclusions drawn are generalized and stored in the long-term memory as relatively stable knowledge structures regarding the self and others (e.g., Crick & Dodge, 1994; Ladd & Troop-Gordon, 2003). The knowledge structures, or social schemas, may be activated in novel social situations, influencing information processing (Crick & Dodge, 1994; Rudolph, Hammen, & Burge, 1995), social behavior (Burks, Dodge, Price, & Laird, 1999), and subsequent psychosocial adjustment (Ladd & Troop-Gordon, 2003; Rabiner, Keane, & MacKinnon-Lewis, 1993).

Even though both self-perception and perception of peers are considered relevant for children's social functioning, these two constructs have typically been studied in isolation from each other. The bulk of such studies have looked at the associations between children's self-perception and their social adjustment (e.g., Boivin & Hymel, 1997; Brendgen, Vitaro, Turgeon, Poulin, & Wanner, 2003; Hughes, Cavell, & Grossman, 1997; Salmivalli, 1998; Salmivalli, Kaukiainen, Kaistaniemi, & Lagerspetz, 1999; van Boxtel, Orobio de Castro, & Goossens, in press; Verschueren & Marcoen, 2002). On the other hand, there is a completely different set of studies addressing children's representation of peers in terms of peer beliefs (Rabiner et al., 1993), internal representational models of peers (Burks, Dodge, et al., 1999), and attributional biases concerning peers' intentions in hypothetical situations (see Orobio de Castro, Veerman, Koops, Vosch, & Monshouwer, 2002). Even in the few studies involving both self- and peer perceptions (e.g., Ladd & Troop-Gordon, 2003; Rudolph & Clark, 2001; Rudolph et al., 1995), these two constructs are typically treated separately, and their unique, rather than joint, effects on the outcome variables of interest are examined.

However, neither self-perception nor perception of peers alone differentiates well between children with different social behaviors. Studies on children's social self-perception suggest that although the way children feel or think about themselves in the social domain is associated with internalizing problems and feelings of loneliness, such perceptions do not seem to predict how children treat others, for example, whether or not they are aggressive or have externalizing problems (e.g., Hymel, Bowker, & Woody, 1993; Ladd & Troop-Gordon, 2003). The same is true for global self-worth, or self-esteem: Both aggressive and prosocial children report relatively high self-esteem (Salmivalli et al., 1999), even though for aggressive children this may be an indication of an inflated view of their superiority (Baumeister, Smart, & Boden, 1996). Recently, the attention in this area has shifted from the quality of self-perception (negative vs. positive, or "low" vs. "high") to its appropriateness. For instance, an exaggerated view of one's social competence or social status, compared with ratings by peers, has been found to be related to aggression (Brendgen et al., 2003; Hughes, Cavell, & Grossman, 1997; Zakriski & Coie, 1996). Interestingly, van Boxtel et al. (in press) found that overestimating one's social competence was related to increases in aggression over time for rejected children only. This suggests that the effect of a positive self-perception on social behavior might be moderated by how the child perceives his or her peers (i.e., as hostile and rejecting vs. kind and accepting).

Representations concerning peers are not strong predictors of social behavior either. One example of a child's perception of peers is so-called *hostile attribution bias* (e.g., Dodge & Coie, 1987), a child's tendency to attribute hostile intentions to others even when situational cues do not support such an inference. Although often understood as online processing of social information, this tendency has been found to follow a very general pattern, being highly stable across different situations (Dodge, Laird, Lochman, & Zelli, 2002). It has been suggested (Orobio de Castro et al., 2002) that a hostile attributional style may be indicative of a more general representation, or a "working model" of the world, that influences a child's social functioning. Although it is quite clear that a hostile attribution tendency is associated with aggression (for a meta-analysis, see Orobio de Castro et al., 2002), there is evidence of such attributions also being typical of depressive nonaggressive (Quiggle, Garber, Panak, & Dodge, 1992), anxious (Bell-Dolan, 1995), as well as withdrawn children classified as active-isolates (Harrist, Zaia, Bates, Dodge, & Pettit, 1997). These findings suggest that a hostile attributional bias may not, after all, differentiate children with different kinds of adjustment problems (internalizing vs. externalizing problems, or withdrawal vs. aggression) very well.

Furthermore, Ladd and Troop-Gordon (2003) have argued that hostile attribution of intent has to be distinguished from more general peer beliefs held by children. Whereas hostile attribution is usually studied in ambiguous situations including provocation targeted at the child himself or herself, peer beliefs may generalize across multiple situations (such as joining others' games, asking for help) and include representations of peers' behavior toward the self as well as others. Studies investigating the role of such general peer beliefs in adjustment have found that perceiving peers as hurtful, untrustful, and unsupportive is even more strongly associated with internalizing problems, loneliness, and submissive behavior than with aggression (e.g., Parkhurst & Asher, 1992; Rabiner et al., 1993; Rudolph & Clark, 2001).

Overall, there seem to be three major limitations in studies concerning the influences of self- and peer perceptions on social adjustment. First, the influences of self- and peer perceptions have so far been mostly investigated in separate studies. Although self-perception and peer perception are conceptually independent constructs, they are quite strongly intercorrelated (see Ladd & Troop-Gordon, 2003; Rudolph et al., 1995), and when the effects of only one of the two variables are studied, the results may be confounded by the common variance shared with the other variable. To investigate the relative and unique influences of children's self- and peer perceptions, it is necessary to estimate these effects simultaneously, in one and the same model containing several theoretically relevant outcome variables.

Second, possible mediating mechanisms between self- and peer perceptions and social behavior have received relatively little attention. Children's social goals are plausible candidates for such a mediator. The motivational perspective on children's social behavior has been increasingly emphasized in the literature, as reflected by numerous studies on social goals (Chung & Asher, 1996; Erdley & Asher, 1996; Lochman, Wayland, & White, 1993; Rose & Asher, 1999; see also Sutton, Smith, & Swettenham, 2001). So far these studies have mainly focused on *consequences* of goals on adjustment: For instance, instrumental goals are associated with aggression, especially proactive aggression (e.g., Crick & Dodge, 1996). It has also been found that *agentic* goals (such as aiming for power or getting respect from others) are related to aggression, whereas *communal* goals (maintaining a relationship or getting close to others) are associated with prosocial behavior, and low degrees of both agentic and communal goals predict withdrawal (Ojanen, Grönroos, & Salmivalli, in press). Similar attention has not been paid to factors that might explain individual differences in goals. Why do some children value friendship and positive relationships with others, whereas for others power and status are more important, and yet others want to avoid trouble and just wish to be left alone? We suggest that children's social goals are influenced by their perceptions of themselves and of their peers and that these goals in turn affect their behavior.

Finally, possible interaction effects of self- and peer perceptions on children's social functioning have so far been overlooked. It is plausible to assume that self- and peer perceptions moderate the influences of each other. A child's positive view of himself or herself may have different motivational consequences when it is combined with a negative or a positive view of peers. Although positive self-esteem, or a highly positive view of oneself, is related to initiative-taking behaviors (Baumeister, Campbell, Krueger, & Vohs, 2003), it may depend on other factors (such as a general perception of the others one is interacting with) whether initiative is taken for good or for ill. Moreover, the goals of a child who perceives peers as hostile and rejecting may depend on his or her self-perception. Examining such interactions might enable us to explain why both withdrawn/depressed and aggressive children (e.g., Harrist et al., 1997; Orobio de Castro et al., 2002) tend to make hostile attributions yet their behavior is very different. The differences in social behavior might be produced by the variation in self-perception. In accordance with the recent literature on social cognition, especially the relational schema approach (e.g., Baldwin, 1992; Holmes, 2000), we suggest that in order to better understand children's social functioning, one should examine the *combinations* of children's self-representation and their representation of peers rather than study either one separately.

Relational schemas (e.g., Baldwin, 1992; Holmes, 2000) are defined as dual representations consisting of a *self-schema*, or representation of oneself in interaction with another, and an *other schema*, representing attributes of the interaction partner. In the present study, we conceptualized children's *peer-relational schemas* as combinations of their perception of themselves in the peer context and their perception of peers. To our knowledge, such schemas and their correlates have not been studied in child samples. Some studies have investigated adolescents' relationship schemas or working models of friendships, using narrative techniques (Furman, 2001; Waldinger et al., 2002). Our approach comes closer to that of Eltz (1998), who categorized adolescents into four relational schema groups on the basis of their self- and peer perceptions as assessed by self-report questionnaires. That study apart, the idea of systematically looking at combinations of self- and other perceptions has mainly appeared in the adult attachment literature (e.g., Bartholomew & Horowitz, 1991).

It has been suggested in the literature concerning adults' social motivation that interpersonal goals are associated with attachment styles (Mikulincer, 1998), relational schemas (Locke, 2000), relationship representations (Fitzsimons & Bargh, 2003), and internal working models of relationships (Pietromonaco & Barrett, 2000; see also Crick & Dodge, 1994). The peer-relational schemas can

be considered children's "working model of peer relations." Even if working models are usually described as consisting of a representation of the "generalized other" coupled with the complementary representation of the self, they have rarely been operationalized as such dual perceptions, at least in research with children (see Perry, Hodges, & Egan, 2001).

The Present Study

Our aim in the present study was to investigate links among children's peer-relational schemas (i.e., their dual perceptions of themselves and of their peers), their social goals in the peer context, and their social behavior within the peer group. We hypothesized that social goals mediate the relationship between self- and peer perception and three types of social behavior: proactive aggression, prosocial behavior, and withdrawal.[1] In line with theoretical accounts of different types of aggression (Dodge & Coie, 1987; Vitaro, Brendgen, & Tremblay, 2002), we did not expect to find such effects for reactive aggression, which was assumed to be unrelated to goals.

According to the relational schema approach, relational schemas are context specific, that is, relationship specific. Because perceptions of self-worth vary across different relational contexts such as with parents, teachers, and classmates (Harter, Waters, & Whitesell, 1998), it is reasonable to use a child's perception of self-with-peers, rather than a more global assessment of self-perception, when predicting social goals within the peer group. Accordingly, the "perception of other" part of the schema was construed by assessing children's representations of their peers rather than of people in general.

Our specific hypotheses about the nature of the relationships among self- and peer perceptions, goals, and behavior were as follows. First, we expected a positive self-perception to be associated with agentic goals such as aiming for power, status, and influence. This expectation is in accordance with several studies indicating that high self-esteem is associated with self-enhancement motivation (Tice, 1991), assertiveness, taking initiative, as well as speaking up and proposing directions for action within groups (for a recent review, see Baumeister et al., 2003). Such goals, in turn, were assumed to be positively related to proactive aggression and negatively associated with both prosocial behavior and withdrawal.

Second, we hypothesized that perception of peers is related to communal, or relationship, goals. Getting close to others and maintaining positive relationships can be assumed to be relevant goals for someone who conceives of others as accepting, kind, and trustful. Viewing others in negative terms, on the other hand, is likely to undermine a child's communal goals. The literature on attachment working models (e.g., Pietromonaco & Barrett, 2000) suggests, for instance, that only people with a positive view of other persons (i.e., with either a secure or a preoccupied attachment working model) have a chronic goal to achieve intimacy with others. Communal goals, in turn, were expected to be positively related to prosocial behavior and negatively associated with withdrawal.

Finally, we examined whether self-perception and peer perception interact in influencing social goals. We assumed that the effects of a positive self-perception might be different for children with a negative or a positive view of their peers. For instance, it is

conceivable that a positive self-perception in combination with a negative view of peers (a "dismissing" schema) would lead to highly agentic goals—even more so than having a positive perception of both oneself and one's peers. On the other hand, the effects of peer perception may be moderated by the quality of self-perception. We assumed that children with a positive view of both peers and themselves (a "secure" schema) would have highly communal goals—even more so than children with a positive view of peers combined with a negative view of themselves.

Method

Participants

The participants were 589 fifth- and sixth-grade children (279 girls and 310 boys), 11–12 and 12–13 years of age, from 26 school classes from eight different schools in Turku (a medium-sized town in southwest Finland with approximately 170,000 inhabitants). Class sizes varied from 15 to 32 students (with 20 to 26 students in most classes, the mean class size being 23). No information was available concerning individual socioeconomic status levels. As in Finnish schools in general, the students represented all social classes, from working class to lower- and upper-middle socioeconomic classes, with no large between-school socioeconomic differences. Consent forms were sent to parents, who were asked to return the form if they did not want their child to participate. Only 1.8% of the students in the participating classes ($n = 11$) did not get parental permission to participate.

Measures

Peer-Relational Schemas

Perception of self. Children's perception of themselves in the peer group context was assessed with the 10 items of the Rosenberg Self-Esteem Scale (e.g., "I feel that I have a number of good qualities," "I feel that I am a person of worth, at least on an equal plane with others"; Rosenberg, 1965), with an instruction to "report the way you feel about yourself when with your peers." Children evaluated on a Likert-type scale, ranging from 0 (*no, not at all*) to 3 (*yes, completely*), the extent to which they felt the way described in each item. The responses were coded so that higher scores always indicated a more positive self-perception. The individual scores were calculated by averaging across the 10 items. Internal consistency was high ($\alpha = .80$).

Generalized perception of peers. The "perception-of-peers" part of the peer-relational schema was assessed with 13 items describing positive and negative qualities of children's peers, such as "They can really be relied on," "They are hostile," or "They really care about what happens to me." Like the similar inventories previously used by Rabiner et al. (1993) and Ladd and Troop-Gordon (2003), this measure included items about peers' supportiveness, kindness, and trustworthiness versus their unsupportiveness, hostility, and untrustworthiness: A complete list of the items is

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[1] For a subset of our sample, the links between social goals and three behavior variables have been reported elsewhere (Ojanen et al., in press): Proactive aggression seems to be concurrently positively associated with agentic goals, whereas prosocial behavior is positively related to communal goals and negatively related to agentic goals, and withdrawal is associated with low levels of both agentic and communal goals. The focus of the present study was not on associations between goals and behavior, and we included the behavior variables in the study mainly for the purposes of testing the mediational model. The relations of agentic and communal goals and reactive aggression were tested for the first time in the present study, however.

presented in Appendix A. Children were instructed to think about their age-mates in general, not just their closest friends or the peers they spent most of their time with, when filling in the questionnaire. They provided Likert-type scale responses, ranging from 0 (*no, not at all*) to 3 (*yes, completely*), to rate the extent to which each item was true of their peers. Again, responses were coded so that higher item scores indicated a more positive perception of peers. The scores were averaged across items. The internal consistency of the final scale was good ($\alpha = .89$).

Social Goals

Social goals were assessed with the Interpersonal Goals Inventory for Children (IGI-C; Ojanen et al., in press), a self-report questionnaire involving 33 items representing eight goal scales. The inventory is adapted from a measure previously used with adult samples (the Circumplex Scales of Interpersonal Values; see Locke, 2000, 2003), and it is theoretically based on the interpersonal circumplex model. The goal scales represent different blends of agentic (dominance, power, status) and communal (friendliness, warmth, love) goals.

The eight scales are Agentic (e.g., "Others respect and admire you"), Submissive (e.g., "Others do not get angry with you"), Communal (e.g., "You feel close to one another"), Separate (e.g., "You don't let your peers know how you feel"), Agentic and Communal (e.g., "Others listen to what you have to say"), Agentic and Separate (e.g., "You get to decide what to play"), Submissive and Communal (e.g., "The others accept you"), and Submissive and Separate (e.g., "You don't do anything foolish"). The circumplex structure of the scales is presented in Appendix B.

Children evaluated on a Likert-type scale, ranging from 0 (*not important to me at all*) to 3 (*very important to me*), the subjective importance of the interpersonal outcomes described in the items when they are with their peers.

The IGI-C yields valid data. The eight goal scales have been shown to have a circumplex structure and good internal consistency and test–retest reliability (Ojanen et al., in press). In the present sample, all of the scales were internally consistent, with alphas ranging from .60 to .77. On the basis of children's scores on the individual goal scales, we calculated communal (**C**) and agentic (**A**) vector scores using the formula provided by Locke (2003) and, originally, by Wiggins, Phillips, and Trapnell (1989; see Appendix B).

Social Behavior

Social behavior was assessed by peer reports. Children filled in a class roster, checking off the names of their classmates who behaved in the ways described in the items. There were three items each for proactive aggression ("harasses others on purpose"; "dominates, forces others to do as (s)he wishes"; and "embarrasses others without a reason"; $\alpha = .90$), reactive aggression ("loses his or her temper and 'blows up' easily"; "lashes out for a minor reason"; and "gets angry and mean for no reason at all"; $\alpha = .90$), prosocial behavior ("is friendly toward the others"; "really tries to ensure that everybody has fun"; and "helps the others"; $\alpha = .90$), and withdrawal ("withdraws outside the group"; "is timid and shy"; and "is quiet"; $\alpha = .85$). The number of nominations a child received for each item was divided by the number of classmates who were present and doing the evaluation. The scale scores were the sum scores computed for the three items (scores on the final scales ranged from 0.00 to 3.00).

Procedure

Several weeks before data collection was started, the parents of all the children were sent a letter describing the project. The letter included a consent form, which the parents were asked to return if they did not want their child to participate. Contact information for two researchers was

provided in case the parents wanted more information about the study before making their decision.

Data collection took place during school hours. The session started with an introduction to the project, and the confidentiality of the study was emphasized. In addition to the assessments used in the present study, data were collected for other purposes as well. The order of the measures was counterbalanced across classrooms: Questionnaires concerning self- and peer perceptions, however, were always given together. Children completed the pencil-and-paper questionnaires individually at their desks in classrooms, with two research assistants supervising the situation. The session lasted for about 1 hr.

Results

Peer-Relational Schemas and Social Goals: Descriptive Statistics

Means and standard deviations of boys and girls on all the measures are presented in Table 1. The bivariate correlations among the measures are shown in Table 2. Children's representations of themselves and of their peers were often concordant; that is, a positive self-view was associated with a positive view of peers (rs = .52 and .43 for boys and girls, respectively). As expected on the basis of the theoretical model behind the IGI-C, overall agentic and communal goals (vector scores) were independent of each other (zero correlations for both boys and girls).

The distributions of the behavior variables strongly departed from normality: Therefore, they were transformed into normal scores computed by the *rankit* procedure (Norusis, 1993). The proportion estimation formula used in this procedure is $(r - \frac{1}{2})/w$, where w is the number of observations and r is the rank, ranging from 1 to w. The normal scores are the z scores that in the standard normal distribution correspond to the estimated cumulative proportions associated with the ranks. The transformation successfully reduced the skewness as well as the kurtosis of the variables. In all analyses that follow, the behavior variables used are the normal scores. Furthermore, normal scores for self- and peer perception variables were used when forming categorical variables based on these scales.

Table 1
Mean Scores and Standard Deviations as a Function of Gender for All Variables in the Study

Variable	Girls ($n = 279$)		Boys ($n = 310$)	
	M	SD	M	SD
Self-perception	2.05	0.47	2.15	0.44
Peer perception	2.29	0.54	2.18	0.52
Goals (vector scores)				
Agentic	−1.63	1.25	−1.38	1.28
Communal	2.53	1.48	1.50	1.35
Behavior				
Proactive aggression	.16	.25	.26	.37
Reactive aggression	.19	.27	.29	.38
Prosocial behavior	.91	.45	.64	.47
Withdrawal	.24	.36	.19	.28

Table 2
Correlations Among the Variables in the Study, Separately for Boys (Above the Diagonal) and Girls (Below the Diagonal)

Variable	1	2	3	4	5	6	7	8
1. Self-perception	—	.52**	.09	.23**	−.04	−.09	.16**	−.10
2. Peer perception	.43**	—	.00	.37**	−.01	−.07	.10	−.17**
3. Agentic goals	.19**	−.01	—	.01	.20**	.14*	−.14*	−.10
4. Communal goals	.27**	.47**	−.01	—	.03	.02	.22**	−.02
5. Proactive aggression	−.04	−.16**	.05	−.05	—	.82**	−.28**	−.17**
6. Reactive aggression	−.09	−.25**	−.01	−.07	.82**	—	−.35**	−.14*
7. Prosocial behavior	.16**	.21**	−.04	.24**	−.28**	−.35**	—	−.12*
8. Withdrawal	−.09	−.08	−.08	−.30**	−.17**	−.14*	−.12*	—

* $p < .05$.   ** $p < .01$.

Associations Among Self- and Peer Perceptions, Goals, and Behavior

Testing Main Effects and Mediation

We started by testing the expected mediational model, in which self-perception and peer perception influence behavior through the mediating effect of social goals, with a path analysis using Mplus 2.14 (Muthén & Muthén, 2001). We first tested a model with three behavior variables included: proactive aggression, prosocial behavior, and withdrawal. These were the behaviors we expected to be influenced by self- and peer perceptions via social goals. In accordance with our hypothesis, the initial model included paths from self-perception to agentic goals, from peer perception to communal goals, from agentic goals to all behavior variables, and from communal goals to prosocial behavior and withdrawal. Listwise deletion was used when computing the covariance matrix (resulting in data from 585 students being included in the analysis), and the maximum-likelihood method was used to estimate the paths. As indices of model fit, we used the chi-square test, the comparative fit index (CFI), and the root-mean-square error of approximation (RMSEA).

The mediational model presented in Figure 1 produced a good fit with the data, $\chi^2(10, N = 585) = 18.44$, $p = .05$, CFI = .98, RMSEA = .04. Self-perception was concurrently associated with agentic goals, and peer perception was related to communal goals, as expected. Furthermore, goals were related to behavior in mean-

ingful ways: Proactive aggression was related to agentic goals, prosocial behavior was associated with high degrees of communal goals and low degrees of agentic goals, whereas withdrawal was typical of children with low scores on both agentic and communal goal dimensions.

Finally, reactive aggression was added to the model in order to test our hypothesis about the lack of association between goals and reactive aggression. In accordance with our expectations, goals (either agentic or communal vector scores) had no significant effect on reactive aggression. The model modification indices suggested, however, that the fit of the model would be improved by adding a direct path from peer perception to reactive aggression. This path was estimated, and it turned out to be negative and significant (standardized path = −.09, $z = −3.26$). Also, this model fit the data adequately, $\chi^2(13, N = 585) = 24.19$, $p = .03$, CFI = .99, RMSEA = .04.

Several alternative models were also tested; first we tested the one with only direct effects of self- and peer perception on the four behavior variables (i.e., from peer perception to reactive aggression, prosocial behavior, and withdrawal, and from self-perception to proactive aggression, prosocial behavior, and withdrawal). This model fit the data adequately, $\chi^2(2, N = 588) = 7.97$, $p = .02$, CFI = .99, RMSEA = .07, and there were several significant paths from self- and peer perception to behavior: Peer perception was positively associated with prosocial behavior (standardized path = .12, $z = 2.86$), and negatively associated with reactive aggression
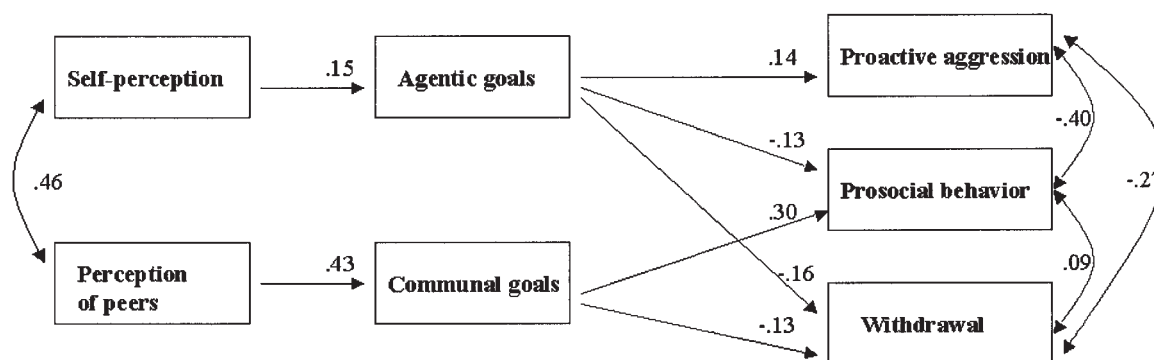

Figure 1. The mediational model of associations among self- and peer perception, social goals, and three types of social behavior. $\chi^2(10, 585) = 18.44$, $p = .05$; comparative fit index = .98; root-mean-square error of approximation = .04. All paths are significant.

(standardized path = −.09, z = −2.89). Self-perception was negatively associated with withdrawal (standardized path = −.10, z = −2.11), whereas the path from peer perception to withdrawal was not quite significant (standardized path = −.08, z = 1.83).

Next, we tested a model with both direct effects and the indirect effects displayed in Figure 1. In this model, $\chi^2(8, N = 585) = 17.46$, p = .03, CFI = .99, RMSEA = .05, the only direct effect that emerged as significant was the path from peer perception to reactive aggression (standardized path = −.09, z = −3.05). The other direct effects reported above thus disappeared when the indirect paths via the goal variables were added to the model. This indicates that these effects were completely mediated by goals. Finally, we tested a model with paths from goals to behavior via self- and peer perceptions, and a model with paths from behavior variables to cognitive variables. Neither of these models fit the data.

Our data were nested within classrooms. Because this clustering might confound our results (i.e., lead to inflated associations between variables), we still tested the model presented in Figure 1 using the *complex* method available in Mplus (Muthén & Muthén, 2001). This analysis takes into account the hierarchical nature of the data, adjusting the standard errors for clustering. The results remained unchanged: The fit of the model was still good, and all paths remained significant. This indicates that the previously reported associations were not confounded by the clustering effect of classroom. In fact, examination of the intraclass correlations (i.e., proportions of total variance of each variable associated with different classrooms) indicated that for most variables, there was no clustering effect: Intraclass correlations were near zero. The only exception was prosocial behavior, with a relatively high intraclass correlation of .25. Although classrooms differed from each other with respect to prosocial behavior, the differences in goals were only between individual children. This individual variation in goals explained individual differences in prosocial behavior (as well as other behaviors) regardless of the classroom influences. There might be other factors, however, that could be used to explain variation in prosociality at the classroom level.

Multigroup models. In order to find out whether the paths presented in Figure 1 were similar for boys and girls, a multigroup model test was conducted. This was done by comparing a model in which the paths were constrained to be equal across genders to a model allowing different path parameters for girls and boys. The model fit was significantly better in the latter case, $\Delta\chi^2(7) = 25.21$, $p < .05$, suggesting that the relations between the variables are different for boys and girls.

The paths were estimated separately for boys and girls. For girls, the paths from agentic goals to either proactive aggression or prosocial behavior were not significant. For boys, on the other hand, lack of communal goals did not contribute to withdrawal at all. The paths from self- and peer perceptions to goals were similar for boys and girls with the exception that the path from self-perception to agentic goals was stronger for girls (standardized paths = .09 and .19 for boys and girls, respectively).

Interaction Effects

Multivariate linear regression analyses were used in order to examine the possible interaction effects of self- and peer perception on social goals. We started by looking at whether peer perception moderates the effects of self-perception on goals. A categorical variable indicating the quality of representation of peers was formed, using the sample mean as the cutoff score (1 = *perception of peers more negative than average*, 2 = *perception of peers more positive than average*). This variable served as a factor variable, dividing the sample into two groups. The procedure enabled us to compare the magnitude of the effects of self-perception on social goals for children in the two groups. There were 299 children in the group with a negative view of peers and 287 children in the group with a positive view of peers.

Gender, peer perception, and self-perception were first included as independent variables in the linear model: They all had a significant multivariate effect on goals: for gender, $F(2, 581) = 38.06$, p = .000, η^2 = 12; for peer perception, $F(2, 581) = 43.75$, p = .000, η^2 = .13; for self-perception, $F(2, 581) = 8.78$, p = .000, η^2 = .03. According to univariate tests, gender had a significant effect on communal goals, $F(1, 582) = 73.62$, p = .000, η^2 = 11 (girls scoring higher), but only a marginal effect on agentic goals, $F(1, 582) = 2.91$, p = .09, η^2 = .01 (boys scoring higher). Self-perception had a univariate effect on agentic goals, $F(1, 582) = 15.03$, p = .000, η^2 = .03, whereas peer perception had an effect on communal goals, $F(1, 582) = 84.50$, p = .000, η^2 = .13. Two-way Gender × Self-Perception and Gender × Peer Perception interactions were added into the model: They were nonsignificant and were thus omitted.

Next, a Self-Perception × Peer Perception interaction term was added into the model. The independent variables were now gender, self-perception, peer perception (all defined as covariates in the model), and the Self-Perception × Peer Perception interaction (Peer Perception being a categorical, fixed factor variable). Agentic and communal goals served as the dependent variables.

There was a significant Self-Perception × Peer Perception interaction effect on goals, multivariate $F(2, 580) = 7.65$, p = .000, η^2 = .03. The univariate tests showed that this interaction effect was significant in the case of agentic goals, $F(1, 581) = 8.12$, p = .005, η^2 = .02, as well as communal goals, $F(1, 581) = 7.15$, p = .008, η^2 = .01. The effects of self-perception on goals thus differed for children with a negative versus a positive view of peers, as indicated by t tests comparing the beta coefficients in the two groups (see Table 3, first two rows). The effect of a positive self-perception on agentic goals was especially strong when the perception of peers was negative (B = .61, SE = 0.12, p = .000, η^2 = .04) as compared with the situation when the perception of peers was positive (B = .41, SE = 0.13, p = .002, η^2 = .02). Moreover, a positive self-perception was associated with communal goals only when the perception of peers was positive (B = .30, SE = 0.14, p = .03, η^2 = .01). The three-way Gender × Self-Perception × Peer Perception interaction was added to the model. It was nonsignificant, indicating that the above effects were similar for boys and girls.

We next examined whether self-perception moderates the effects of peer perception on social goals. Analogously to the previous analysis, we formed a categorical variable indicating the quality of self-perception (1 = *perception of self more negative than average*, 2 = *perception of self more positive than average*), which now served as a factor variable in the analysis, dividing the sample into two groups. This time we compared the magnitude of the effects of peer perception on social goals for children with a negative (n = 292) versus a positive (n = 294) perception of

Table 3

Beta Coefficients Indicating the Magnitude of the Effects of Self- and Peer Perception on Goals at Different Levels of the Moderator Variable (Peer Perception or Self-Perception)

			Level of moderator		
Predictor	Moderator	Criterion	Low (negative)	High (positive)	Comparing betas (*p*)
Self-Perception × Peer Perception → Agentic goals			.61***	.41**	.01
Self-Perception × Peer Perception → Communal goals			.10	.30*	.01
Peer Perception × Self-Perception → Agentic goals			−.18	−.24*	*ns*
Peer Perception × Self-Perception → Communal goals			.94***	1.18***	.001

* *p* < .05. ** *p* < .01. *** *p* < .001.

themselves. This was done by including the Peer Perception × Self-Perception interaction (Self-Perception now being a categorical, fixed factor variable) in the model (the other independent variables being gender, self-perception, and peer perception). The multivariate test showed a significant Peer Perception × Self-Perception interaction effect on goals, $F(2, 580) = 6.35$, $p = .000$, $\eta^2 = .02$. According to the univariate tests, this effect was only significant in the case of communal goals, $F(1, 581) = 11.99$, $p = .001$, $\eta^2 = .02$. The association between peer perception and communal goals was significantly stronger for children with a positive view of themselves ($B = 1.18$, $SE = 0.12$, $p = .000$, $\eta^2 = .14$) as compared with children with a negative view of themselves ($B = .94$, $SE = 0.12$, $p = .000$, $\eta^2 = .10$; see Table 3, the last row). Again, the three-way interaction with gender (Gender × Peer Perception × Self-Perception) was tested: It was not significant, indicating that the interaction effect was similar for boys and girls.

Relational Schema Groups

The findings presented so far represent associations between continuous variables; that is, they were based on analysis at the variable level. To further validate these findings and to illustrate their meaning at the person level, we categorized children into four relational schema groups on the basis of their self- and peer perceptions, and we compared these groups with respect to the social goals they possessed. The categorizations were made using the average scores as cutoffs: For instance, a child was considered to have a positive view of himself or herself if he or she scored above the sample mean on the (normalized) self-perception scale, and scoring below the mean was considered to be an indication of a negative self-perception.

As could be expected on the basis of the positive correlation between self-perception and peer perception (see Table 2 and Figure 1), the most frequent schema groups were the group of children with a positive view of both themselves and their peers (labeled as the "secure" group; 34.8% of the sample; 115 boys and 90 girls) and the group with a negative view of both themselves and their peers (the "troubled" group; 33.8%; 100 boys and 99 girls). In addition, 15.1% (31 boys and 58 girls) and 16.5% (64 boys and 32 girls) of children belonged to the "self-deprecating" (negative view of self, positive view of peers) and "dismissing" (positive view of self, negative view of peers) groups, respectively.

Girls and boys were not evenly distributed in the relational schema groups. A chi-square analysis, $\chi^2(3, N = 589) = 20.34$, $p = .000$, showed that there were more girls than could have been expected by chance in the self-deprecating group (observed and expected frequencies = 58 and 42.2, respectively; adjusted standardized residual = 3.7) and that boys were overrepresented in the dismissing group (observed and expected frequencies = 64 and 50.5, respectively; adjusted standardized residual = 3.0).

Group differences in goals, along with a possible Group × Gender interaction, were tested with a multivariate analysis of variance, with relational schema group and gender as independent variables and agentic and communal goals as the dependent ones. Both relational schema group, $F(6, 1156) = 19.63$, $p = .000$, $\eta^2 = .09$, and gender, $F(2, 577) = 25.91$, $p = .000$, $\eta^2 = .08$, had a significant multivariate effect on goals. Univariate tests showed that relational schema group had an effect on both agentic, $F(3, 578) = 4.23$, $p = .01$, $\eta^2 = .02$, and communal, $F(3, 578) = 37.62$, $p = .000$, $\eta^2 = .16$, goals, whereas gender had a significant effect on communal goals, $F(1, 578) = 48.82$, $p = .000$, $\eta^2 = .08$, and a marginal effect on agentic goals, $F(1, 578) = 2.74$, $p = .09$, $\eta^2 = .01$. The Relational Schema × Gender interaction did not turn out to be significant. The mean agentic and communal scores of children in the different relational schema groups are displayed in Figure 2. The goal scores presented in the figure (and reported below) are *z* standardized, a score of 0 representing the mean of the whole sample.

As can be seen from Figure 2, children in the secure group (perceiving both themselves and their peers positively) scored highest on communal goals ($M = .50$, $SE = .06$). As indicated by pairwise comparisons (least significant difference [LSD] test), they differed in this respect from the self-deprecating ($M = .12$, $SE = .10$), dismissing ($M = -.30$, $SE = .09$), and troubled ($M = -.36$, $SE = .06$) groups. The high scores on communal goals of children in the secure group could be expected on the basis of the interactions presented above: It was shown that the link between a positive perception of peers and communal goals was especially strong in the presence of a positive self-perception. Children in both the secure and the self-deprecating groups had a positive perception of peers, and yet the former group had significantly higher scores on communal goals than the latter group. As can also be seen from the figure, children with a dismissing schema had the most agentic goals ($M = .32$, $SE = .11$). According to the LSD
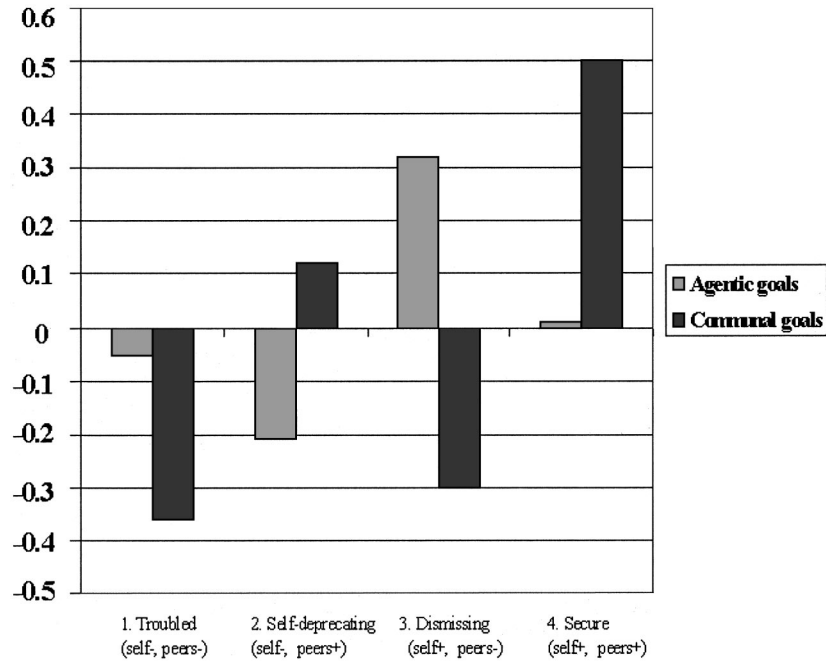
Figure 2. The means (z standardized) of agentic and communal goals in children with different peer-relational schemas: troubled (1), self-deprecating (2), dismissing (3), and secure (4). For communal goals, $4 > 2 > 1$ and 3; for agentic goals, $3 > 1$, 2, and 4 (least significant difference test for pairwise differences).

pairwise test, they differed from all other groups in this respect (for the secure group, $M = .01$, $SE = .07$; for the troubled group, $M = -.05$, $SE = .07$; for the self-deprecating group, $M = -.21$, $SE = .11$). Again, this is in line with the finding that a positive view of oneself is related to agentic goals, especially when the view of peers is negative.

Similar analyses were conducted with respect to children's social behavior scores as dependent variables. Even if the influences of self- and peer perception on behavior are mediated by social goals, as indicated by the previous analyses, these effects should be shown anyway as differences in the social behavior of the children in the four relational schema groups. A multivariate analysis of variance showed significant multivariate effects of both relational schema group, $F(12, 1746) = 2.161$, $p = .01$, $\eta^2 = .02$, and gender, $F(4, 580) = 13.26$, $p = .000$, $\eta^2 = .08$, on behavior.

The univariate tests showed that the effect of relational schema group was significant at the .05 level for prosocial behavior and for reactive aggression, marginal ($p = .07$) for withdrawal, but nonsignificant in the case of proactive aggression. The univariate gender effects were all significant at the $p < .05$ level and in the expected directions: Girls scored higher than boys on withdrawal (for girls, $M = .10$, $SE = .06$; for boys, $M = -.07$, $SE = .06$) and were more prosocial (for girls, $M = .29$, $SE = .06$; for boys, $M = -.27$, $SE = .06$), whereas boys scored higher on reactive aggression (for girls, $M = -.12$, $SE = .06$; for boys, $M = .17$, $SE = .06$) and proactive aggression (for girls, $M = -.14$, $SE = .06$; for boys, $M = .16$, $SE = .06$). The Group $\times$ Gender interaction was nonsignificant.

Examination of the mean scores of children in the different relational schema groups (see Table 4) showed that the troubled

Table 4
Means (and Standard Errors) of the Social Behavior Variables (Normal Scores) for Children With Different Peer-Relational Schemas

	Peer-relational schema group			
Behavior	Troubled (self−, peers−)	Self-deprecating (self−, peers+)	Dismissing (self+, peers−)	Secure (self+, peers+)
Withdrawal	.14 (.07)$_a$	.08 (.10)	−.07 (.10)	−.09 (.07)$_b$
Prosocial behavior	−.14 (.07)$_c$	.10 (.10)$_{a,b}$	−.02 (.10)	.14 (.07)$_a$
Proactive aggression	.07 (.06)$_a$	−.18 (.10)$_b$	.12 (.09)$_a$	.03 (.06)
Reactive aggression	.11 (.06)$_{a,b}$	−.16 (.10)$_c$	.17 (.09)$_a$	−.06 (.07)$_{b,c}$

Note. Different subscripts in a row denote significant pairwise differences between groups, as indicated by the least significant difference test.

group scored highest on withdrawal, differing significantly from the secure group. The secure group scored highest on prosocial behavior, differing in this respect from the troubled group. The dismissing group was high on both reactive and proactive aggression, differing significantly from the self-deprecating group in both. In addition, the dismissing group differed from the secure group in reactive aggression. In support of our argument that the effects of relational schemas are mediated by goals, the above effects disappeared when goals (agentic and communal vector scores) were added in the model as covariates. Only for reactive aggression was there a marginal ($p = .10$) effect left.

All analyses of variance were still repeated using more extreme relational schema groups. We formed the relational schema groups using cutoff scores of $-.75$ and $.75$ for both self- and peer perception (instead of the mean split). For instance, a child belonged to the troubled group if his or her scores on both measures were below $-.75$. A child belonged to the dismissing group if he or she scored above $.75$ on self-perception and below $-.75$ on peer perception, and so forth. With these smaller but more extreme groups, we ended up with identical results for both goals and social behavior but with somewhat larger effect sizes. For instance, the multivariate effect size (η^2) for the effect of relational schema group on social goals went up from $.09$ to $.14$, and the effect size for the effect of relational schema group on social behavior increased from $.02$ to $.05$.

Discussion

Although both self- and peer perceptions have been considered relevant for children's social competence and adjustment (e.g., Crick & Dodge, 1994), only rarely have both constructs been included in a single study testing their diverse effects on several adjustment variables (for exceptions, see Ladd & Troop-Gordon, 2003; Rudolph & Clark, 2001; Rudolph et al., 1995). In the present study, we reported findings on the unique effects of self- and peer perception on children's social goals and, consequently, on three types of social behavior: proactive aggression, prosocial behavior, and withdrawal. Furthermore, we showed that self-perception and peer perception moderate each other's influences on social motivation. Our findings suggest that, in line with recent social cognition research (Baldwin, 1992; Holmes, 2000), it is more fruitful to assess children's peer-relational schemas, that is, the combinations of their perceptions of themselves and of their peers, than to study the two constructs in isolation.

As expected, the effects of self- and peer perception on proactive aggression, prosocial behavior, and withdrawal were completely mediated by social goals. At the main effect level, a positive self-perception was related to high degrees of agentic goals. Such goals, in turn, were positively associated with proactive aggression and negatively associated with both prosocial behavior and withdrawal. A positive perception of peers, on the other hand, was associated with communal goals, which were found to be positively associated with prosocial behavior. Lack of communal goals was also associated with withdrawal.

The gender-specific models suggested that overall, agentic goals might explain more variance in boys' social behavior, whereas communal goals are more important predictors of social behavior among girls. Because of the preliminary and explorative nature of the gender-specific model specification, these findings need to be

validated by future studies. One clear difference between boys and girls was in their overall degrees of agentic and communal goals: Girls had more communal goals than boys, whereas boys scored somewhat higher than girls on agentic goals. These findings are consistent with those of previous studies (e.g., Chung & Asher, 1996; Jarvinen & Nicholls, 1996; Rose & Asher, 1999). The associations between perceptions and goals (main effects as well as interactions) were similar for boys and girls.

Children's positive view of peers not only enhanced their communal goals but also moderated the effects of self-perception on goals. When children viewed peers in negative terms (as untrustworthy and hostile), the relationship between their positive self-view and the degree of agentic goals was especially strong. When the children's view of peers was positive, however, their positive self-perception was associated with communal goals.

At the person level, the above interactions mean that a child with a positive view of himself or herself combined with a negative view of peers (a dismissing schema, i.e., "I'm OK but you're not") is especially likely to have a high degree of agentic goals but a low degree of communal goals. In fact, our group comparisons showed that children with a dismissing schema had the most agentic goals of all. At the same time, their communal goals were clearly below the sample average. They were also the most aggressive children. Findings from the regression analysis further suggested that a child with a positive view both of himself or herself and of peers (a secure schema, i.e., "I'm OK and you're OK") is likely to endorse relatively high degrees of agentic goals but also (and especially) high degrees of communal goals. According to the group comparisons, these children had average scores on agentic goals, but they scored higher than any other group on the communal dimension. They were the most prosocial children.

Because the influences of self- and peer perceptions on behavior are mediated by social goals, it is natural that the effect sizes were weaker when predicting behavior than when predicting goals. The fact that the relational schema groups differed with respect to their behavior, however, adds to the strength of the study. It supports our argument that considering children's dual perceptions of themselves and of their peers, rather than their self- and peer perceptions separately, ultimately helps to predict their social behavior more accurately. Furthermore, because social behavior was assessed by peer reports, the associations between peer-relational schemas and behavior are not confounded by shared method bias and can thus be considered even more compelling than the links between self- and peer perceptions and (self-reported) goals.

Overall, the results provide a new framework for understanding several previous findings reported in the literature. For instance, both aggressive and prosocial children (i.e., defenders, who take sides with the bullied victims) have been found to report a relatively positive view of themselves (Salmivalli et al., 1999). In light of the present results, it is conceivable that because of their positive self-perception, both have agentic goals, which explains their initiative-taking behavior. However, probably only the latter children also have a positive view of others and, consequently, strongly communal goals, which explain their prosocial helping behavior. Our results may also help in interpreting the findings of Quiggle et al. (1992), and Harrist et al. (1997), which showed that, in addition to aggressive children, depressive–nonaggressive and withdrawn children also tend to make hostile attributions of peers' intent. Our findings suggest that self-perception (and not peer

perception) might be the factor distinguishing aggressive and withdrawn children.

Interestingly, reactive aggression was associated with a negative view of peers, but this effect was not mediated by goals at all. Although our findings are in line with studies showing that aggressive children tend to view peers as having hostile intentions (Orobio de Castro et al., 2002), they also support the view that, unlike proactive aggression, reactive aggression is not related to social goals (e.g., Dodge & Coie, 1987). For reactively aggressive children, other factors (such as hostile attribution of intent) may mediate the effect of the negative peer perception on behavior. The links between self- and peer perceptions and information-processing constructs, such as intent attribution or response-access/response-selection, remain to be examined in future studies.

Although our labels for the relational schema groups resemble attachment classifications (e.g., Bartholomew & Horowitz, 1991; Pietromonaco & Barrett, 2000), we prefer to conceptualize the dual perceptions of one's self and one's peers (such as "I'm OK and you're OK" or "I'm not OK and you're not OK either") as peer-relational schemas, rather than as styles of attachment to peers. It should be noted, however, that Bowlby's (1982) concept of an "internal working model" of relationships and, later, Bartholomew's classification of adult attachment styles (Bartholomew & Horowitz, 1991) are very similar to the concept of the relational schema. Whereas attachment working models were previously discussed primarily in the context of infant–caretaker relationships, the work in this area has now been extended to later childhood and adolescence (e.g., Furman, Simon, Shaffer, & Bouchey, 2002), to romantic relationships (Hazan & Shaver, 1987), and to relationships with peers (Bartholomew & Horowitz, 1991, Study 2; Freeman & Brown, 2001). The findings presented here can also be interpreted from the attachment perspective. In fact, our results parallel the findings concerning attachment working models and social motivation presented in the adult attachment literature (e.g., Pietromonaco & Barrett, 2000). In our view, the relational schema framework has potential for linking together findings from socialization studies, social–cognitive models of children's social behavior, and attachment theory.

Although we did not study the origins of children's peer-relational schemas, in future studies it would be interesting to examine the extent to which they stem from early experiences with caregivers, from current social interactions with peers, or from both. It has been suggested (e.g., Rudolph & Clark, 2001) that expectations of hostility from others that emerge from early negative interpersonal transactions may be inappropriately generalized to novel social encounters, such as interactions with peers. Other authors have argued that perceptions of peers, or "peer beliefs," stem from actual ongoing peer adversities such as friendlessness (Ladd & Troop-Gordon, 2003) or prolonged victimization (Kochenderfer-Ladd & Ladd, 2001). Transactional models are needed to explain how the working models developed in early childhood and more recent social experiences with peers together influence children's peer perceptions. The same is true for self-perception: It has been suggested (e.g., Harter, 1999) that at least among very young children, parental approval is more predictive of general self-worth than is approval from peers. It is unclear, however, to what extent the self-view acquired in one context generalizes to other relational contexts and whether peers become increasingly important sources of information regarding self-worth in mid-childhood and in adolescence.

An obvious caveat of the present study is its cross-sectional nature. We tested the main as well as interaction effects of self- and peer perceptions on social goals with concurrent data, which enabled us to verify only that goals varied concurrently as a function of the quality of self- and peer perceptions. In order to make inferences about the direction of causality, that is, whether self- and peer perceptions and their different combinations actually predict changes in goals over time, longitudinal data are needed. In fact, such follow-up data are currently being collected to test these associations longitudinally in the present sample.

Another limitation of the present study is its reliance on conscious self-report questionnaires to assess the self- and peer perceptions as well as social goals. As has been pointed out by several authors (e.g., Burks, Laird, Dodge, Pettit, & Bates, 1999; Pietromonaco & Barrett, 2000), more implicit measures of these constructs, such as reaction time or recall tasks (e.g., Rudolph et al., 1995), would provide a stronger basis from which to infer cognitive processes and avoid socially desirable responding.

Furthermore, we assessed only self- and peer perceptions as components of children's peer-relational schemas. Interpersonal scripts, representing expectations, or if–then contingencies of interpersonal behavior patterns, are often described as the third component of a relational schema (Baldwin, 1992). Further studies might benefit from including this component and assessing the content of peer-relational schemas in a more detailed way.

Finally, the relational schema approach emphasizes the relationship specificity of social cognition (Baldwin, 1992). In the present study, this was only partially taken into account. Because children's feelings of self-worth have been found to vary from one relational context to another (Harter et al., 1998), we assessed children's self-perception in the peer context and their general perceptions of peers. Children have different relationships with peers, however, and future studies might benefit from focusing on the genuinely "relational" aspects of relational schemas. Children's perceptions of specific peers, or of specific groups of peers, such as same-sex classmates or close friends, may predict their goals when interacting with these peers and their behavior in that relational context. Self-perceptions may likewise vary depending on the specific peer context. For instance, a girl who feels quite confident when interacting with other girls may feel less confident when interacting with boys: Her social goals (and social behavior) in the two peer contexts may vary accordingly.

Studies in the future might also investigate the dyadic aspects of relational schemas. Social–cognitive processes such as hostile attributional bias have been found to vary across the dyadic relationships of school-age boys (Hubbard, Dodge, Cillessen, Coie, & Schwartz, 2001), and relationship effects seem to account for just as much of the variance in children's overall aggression as do actor or target effects (Coie et al., 1999). From the relational schema viewpoint, the different relational schemas activated in different dyadic contexts produce diverse social goals and different behavioral orientations (a similar discussion about working models being individual vs. relational constructs is going on in the attachment literature, see Pietromonaco & Barrett, 2000).

Despite its limitations, the present study contributes to the research on children's social cognitions in several important ways. First, investigating the influences of self- and peer perceptions

simultaneously, by including them in the same model, enabled us to gather evidence of the relative, unique influences of the two cognitive constructs. Second, our mediational model provides initial evidence of at least one mechanism through which self-perception and peer perception influence social behavior: Their effects are mediated by social goals. Furthermore, the study represents an important first step in investigating children's dual perceptions of themselves and their peers, or their peer-relational schemas, in addition to looking at the relative, unique influences of the two representations. We were able to show that self- and peer perceptions interact in influencing social goals and, consequently, social behavior in ways that help us understand several previous, partly controversial, findings. A positive self-perception combined with a negative view of peers, for instance, has very different motivational consequences than a similar self-view has in the context of a positive perception of peers. Such interaction effects of self- and peer perceptions have not been described previously in the literature.

The findings bear implications for interventions focused on changing children's social behavior: Promoting a positive view of the self is obviously not enough. If the child's view of peers is negative, a highly positive self-perception might even bring about increases, rather than decreases, in aggression. On the other hand, children with a positive view of both themselves and their peers are likely to have high degrees of both agentic and communal goals and, consequently, to be well adjusted in the peer group.

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Appendix A

## The Items of the Generalized Perception-of-Peers Questionnaire

My age-mates . . .

1. . . . can really be relied on.

2. . . . really care about what happens to me.

3. . . . are there for me whenever I need help.

4. . . . shouldn't be trusted too much.*

5. . . . don't really care about me.*

6. . . . only think about their own interests.*

7. . . . betray one's trust whenever they get the chance.*

8. . . . want to hurt me.*

9. . . . can be confided in.

10. . . . are honest with me.

11. . . . think bad things about me.*

12. . . . usually have good intentions.

13. . . . are hostile.*

Items marked with an asterisk were inversely coded.

Appendix B

The Circumplex Structure of the Eight Goal Scales Measured by the Interpersonal Goals Inventory for Children
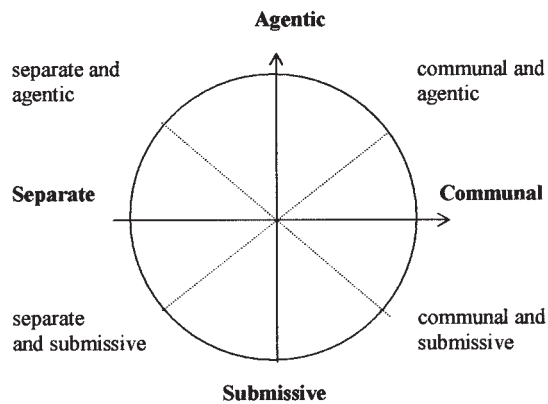
To compute communal and agentic vector scores:

$$C = \text{Communal} - \text{Separate} + [.707 \times (\text{Communal and Agentic}$$
$$+ \text{Communal and Submissive} - \text{Separate and Agentic}$$
$$- \text{Separate and Submissive})]$$

$$A = \text{Agentic} - \text{Submissive} + [.707 \times (\text{Communal and Agentic}$$
$$+ \text{Separate and Agentic} - \text{Communal and Submissive}$$
$$- \text{Separate and Submissive})].$$

The reason for multiplying the scores on the four intermediate scales (Communal and Agentic, Communal and Submissive, Separate and Agentic, and Separate and Submissive) by .707 is that .707 is the cosine of a 45° angle (the angle of those scales, or octants of the circumplex, relative to the agentic and communal vectors).