

The Role of Classroom Norms in Contextualizing the Relations of Children's Social Behaviors to Peer Acceptance

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This study introduces a social context model within which peer acceptances of prosocial-leadership, aggression, and social withdrawal were examined as functions of the contextual norms of these behaviors. The major postulate of the model is that the extent to which a behavior permeates a social context facilitates peer acceptance of the behavior. Specific hypotheses with respect to classroom and gender as different social contexts were formulated and supported when tested in a sample of 4,650 Chinese middle school students from 82 classes. The discussion emphasizes the theoretical as well as the methodological need for alternative conceptualizations of peer relations that reflect both individual differences and contextual variations.

There is a potential paradox in the children's peer relations literature. On the one hand, many of the social behaviors of children, including peer acceptance and rejection, have been measured through class nominations. This approach correctly assumes a class to be an important social context within which children interact. On the other hand, this important social context has rarely been included in existing investigations. Most of the existing studies derive children's within-class normative standings on certain social variables that are then analyzed independent of these children's class membership. There are two consequences. First, much of the between-class variation has been unaccounted for or left to confound the individual-level associations. Second, social developmental theories thus derived reflect individual differences in behaviors but not the interactions between individuals and social groups within which social interactions take place. For example, the extent to which the norm of aggression within a social context affects peer rejection of aggression should be an important aspect of any theory about aggression.

The purpose of the present study was to introduce a social context model within which to examine the relations of prosocial-leadership, aggression, and social withdrawal to peer acceptance as functions of the classroom norms of these social behaviors. In developing this framework, I have adopted the perspective that the group norms of a social context in which children interact modify the meanings of different social behaviors that result in different outcomes. To the extent that a social norm varies across contexts

and exerts influence on a behavior, that behavior carries different consequences across social situations. The classroom was chosen as the social context because, across cultures, it provides the primary milieu for children's social interactions and because, subsequently, studies of peer relations have routinely used class nomination as the major means to measure students' social behaviors. Prosocial-leadership, aggression, and social withdrawal were investigated because they are among the most widely investigated social behaviors and, as presented below, have shown contextual variations in the literature. The proposed social context model was tested in a sample of 4,650 Chinese junior high school students from 82 classes.

Potential Classroom Effects in the Literature

In the peer relations literature, prosocial-leadership, aggression, and social withdrawal are among the most widely investigated behaviors in relation to peer acceptance (e.g., Dodge, Coie, Pettit, & Price, 1990). These behaviors and peer acceptance have usually been measured through class nominations, which are standardized within classes to reduce class size effects and are analyzed independent of the students' class membership. Among the three behaviors, prosocial-leadership has accumulated the most consistent findings in terms of its positive relation with peer acceptance. However, the magnitude of this positive relation still varies in the literature. For example, among the studies that have been based on older children and adolescents, the positive correlation between prosocial-leadership and peer acceptance ranges widely (r approximates .20 in Wentzel & Caldwell, 1997; .30 in Parkhurst & Asher, 1992; .40 in Casiglia, LoCoco, & Zappulla, 1998; .50 in Coie, Dodge, & Coppotelli, 1982; and .60 in Wentzel & Erdley, 1993). The correlations based on Chinese adolescents range from .30 (Schwartz, Chang, & Farver, 2001) to .40 (Chen, Li, Li, Li, & Liu, 2000).

The findings for social withdrawal are more variable. Predominant findings suggest a negative association between social withdrawal and peer acceptance in both Western (e.g., Verschueren, Buyck, & Marcoen, 2001) and Chinese (Hart et al., 2000; Schwartz et al., 2001) samples. However, a few Chinese (Chen,

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Rubin, & Li, 1995; Chen, Rubin, & Sun, 1992) as well as Western (Rubin, 1982) studies have also indicated a positive relation between withdrawal and peer acceptance. The negative relations, or the majority findings, also range widely, especially for studies based on adolescents or older children ($r = -.10$ in Parkhurst & Asher, 1992; $-.20$ in Wentzel & Caldwell, 1997; $-.30$ in Renshaw & Brown, 1993; $-.40$ in Pope & Bierman, 1999; $-.50$ in Schonert-Reichl, 1999; and $-.60$ in Bowker, Bukowski, Zargarpour, & Hoza, 1998).

The findings on aggression are the most variable. The majority of studies suggest that aggressive children are rejected by peers (e.g., Ladd & Burgess, 1999). Other studies, however, report no association (Masters & Furman, 1981; Phillipsen, Bridges, McLemore, & Saponaro, 1999) or a positive association between aggression and peer acceptance (Bierman, Smoot, & Aumiller, 1993; Cairns, Cairns, Neckerman, Gest, & Gariépy, 1988; Salmivalli, Kaukiainen, & Lagerspetz, 2000). Among the studies based on older children or adolescents, the correlations ranged from $-.60$ (e.g., Hoza, Molina, Bukowski, & Sippola, 1995) to $.20$ (e.g., Salmivalli et al., 2000). Because of these mixed results, some researchers have come to the conclusion that about one third to one half of aggressive children are well accepted by peers (Bierman, 1986; Coie, Belding, & Underwood, 1988; Dubow, 1988).

The above findings suggest basic patterns of relations in which there is small variation for some behaviors (e.g., prosocial-leadership) but moderate (e.g., social withdrawal) to large variation (e.g., aggression) with respect to others. These results raise the questions of why and where, in varying degrees, these variations arise. Because almost all of the above-reviewed studies used within-class peer nominations to obtain the variables but did not include class membership in the investigations, the variable results may reflect the uninvestigated contextual effect of the classrooms in addition to potential sampling fluctuations or design idiosyncrasies. Some existing studies indeed show that classroom contexts affect children's social behaviors. For example, Stormshak et al. (1999) found that peer acceptance of aggression, social withdrawal, and to a lesser degree, prosocial-leadership varied across classes. Another study involving 45 classes from 14 primary schools showed similar variations in both the level of, and the association among, social behaviors across classrooms (Henry et al., 2000). For example, the correlation between aggression and peer rejection ranged from $-.30$ to $.90$ across classes.

The Social Context Model

In explaining the above classroom effects, I present a social context model that focuses on the relation between an individual's behavior and the group norm for the behavior of a group. The model is based on several existing norm theories, such as the normative social influence theory (Deutsch & Gerard, 1955) or the descriptive norm influence theory (Cialdini, 1988; Cialdini, Kallgren, & Reno, 1991), the majority influence and conformity theory (Asch, 1956; Latane & Nida, 1980), and the group socialization theory (Harris, 1995). In different applications, these norm theories have accounted for the same group phenomenon, one in which social acceptance of a behavior is reinforced by the prevalence of the behavior within the group and is inhibited if most members do not engage in the behavior (see Cialdini et al., 1991, and Latane & Nida, 1980, for reviews of empirical results). In Harris's (1995)

words, "Children's peer groups operate by a 'majority rules' rule: If one or two individuals come to the group with behaviors that do not conform to the norms of the majority, they risk rejection by the group" (p. 472).

Unlike these theories, which define *norm* as the majority's behavior or the most frequently occurring behavior in a group, I define *norm* more broadly as the group level of a behavior or the extent to which a behavior exists in a group. It can be operationalized as the total or mean of the behavior over all members in a social context. In this definition, there are as many norms as there are behaviors, none of which has to represent the most prevalent or the majority in a social context. Within the focus of the present study, there are three norms. These are the classroom means of prosocial-leadership, aggression, and social withdrawal, respectively. This view on norm focuses on the distribution continuum of a behavior instead of a point or the higher end of the distribution. Consistent with existing norm theories, the meaning or social impact of a behavior depends on the norm of the behavior or the extent to which the behavior permeates the social context. Also consistent with existing norm theories, the relation between peer acceptance and a behavior differs as a function of the group norm of the behavior or of the extent to which group members engage in the behavior. Aggression, for example, is expected to be more acceptable by peers in groups in which aggression is more prevalent than in groups in which it is less prevalent. Focusing on the classroom as a relevant social context, I postulated that the classroom norm of a behavior (e.g., aggression, social withdrawal, and prosocial-leadership) would strengthen peer acceptance of the behavior.

This postulation was also based on three existing studies that have in different ways examined group effects on peer relations. In Wright, Giammarino, and Parad's (1986) original study and that of a follow-up (Boivin, Dodge, & Coie, 1995), peer acceptance of aggression and social withdrawal was mediated by the group composition with respect to that behavior. Aggressive children in these studies were less rejected in aggressive playgroups than they were in withdrawn playgroups, whereas the reverse was true for the withdrawn children. Recently, Stormshak et al. (1999) replicated similar effects across classrooms. Stormshak et al. were also among the first to use multilevel analysis to effectively analyze the social impact of aggression and withdrawal as functions of the classroom medians of these behaviors. They supported the conclusion reached earlier by Wright et al. (1986) that the group popularity or status associated with some behaviors is mediated by the fact that, if the behavior represents common group features, the individual will be accorded group status for having that behavior. Wright et al.'s theorizing is consistent with the present social context model, which postulates that the social norm of a behavior facilitates peer acceptance of the behavior.

However, these studies did not find a significant contextual effect with respect to prosocial-leadership (Stormshak et al., 1999; Wright et al., 1986). An examination of their findings in light of the earlier review of the variable results associated with the three behaviors suggests that the potential contextual effect of prosocial-leadership is in the same direction as, but of smaller magnitude than, those of aggression and withdrawal. As shown earlier, the associated contextual variation was the smallest for prosocial-leadership, rendering its potential contextual effect the smallest among the three behaviors. In the present social context model, the

classroom norm for each of these behaviors was hypothesized to positively affect the relation between peer acceptance and the concerning behavior. However, the magnitude of the normative reinforcement was expected to differ among the three behaviors. The earlier review suggested that peer acceptance of aggression had the largest contextual variation, social withdrawal had an intermediate variation, and prosocial-leadership had the smallest variation. Given this observation and the findings by Wright et al. (1986) and Stormshak et al. (1999), the acceptance-reinforcing effect associated with the classroom norm of aggression was hypothesized to be the strongest, that associated with withdrawal was hypothesized to be intermediate, and that associated with prosocial-leadership was hypothesized to be the weakest.

Gender as a Social Context

The hypothesized acceptance-reinforcing effect of the classroom norm of a behavior is expected to affect boys and girls differently. There are three related angles from which to consider this potential gender interaction effect. First, because boys and girls differ in their engagement in a behavior, they contribute differently to the classroom norm of the behavior. As the “majority” gender, the gender that shows more of the behavior “benefits” more from the “majority rules” rule or from the acceptance-enhancing effect of the extent to which the behavior is more prevalent in one gender than the other.

Another way to look at the potential gender interaction is to treat gender as a social context subsumed within the classroom context. In addition to being a personal attribute, gender is considered as a social context (Deaux & Major, 1987) that renders gender-based contextual effects on behaviors. Boys and girls grow up apart by developing different norms and cultures (Maccoby, 2000) that emerge most clearly in mixed-gender contexts (Harris, 1995) such as classrooms. The same argument about the classroom norm of a behavior applies to the gender norm of the behavior. The extent to which a behavior permeates one gender more than the other results in different gender norms and gender norm effects of the behavior. Boys and girls behave differently by adhering to their respective gender norms. There is evidence for a gender norm difference in aggression (Bukowski, Gauze, Hoza, & Newcomb, 1993; Crane-Ross, Tisak, & Tisak, 1998), social withdrawal (Kerr, Lambert, Stattin, & Klackenberg-Larsson, 1994; Waas & Graczyk, 1999) and, to a lesser degree, prosocial behavior (Maccoby, 1986; Pakaslahti, Karjalainen, & Keltikangas-Jarvinen, 2002). Like the classroom norm, the gender norm of a behavior is expected to facilitate social acceptance of the behavior, and the potential gender norm difference is expected to result in a gender-related differential acceptance of the behavior.

Finally, examining gender as a social context also resembles the gender-in-context perspective of Deaux and Major’s interactive model of gender (Deaux & Major, 1987; see also Deaux & LaFrance, 1998). In their postulation, gendered behaviors and expectancies of gendered behaviors are activated by a skewed distribution of one gender over the other. In such a context, the gender norm becomes more salient than other contextual norms, resulting in gendered behaviors. Similarly, in classes where there is a larger gender difference in terms of the prevalence of a behavior, a stronger gender-differential acceptance of the behavior is expected. In classes where the two genders show a similar extent

of the behavior, the classroom norm becomes more salient in facilitating gender-undifferentiated acceptance of the behavior. I postulated that the gender norm difference of each of the three behaviors investigated in this study would facilitate a gender-differential acceptance of the behavior in favor of the “majority,” or the behavior-prevailing, gender.

The Chinese Sample and Summary of the Study

The social context model was tested on a sample of Chinese middle school students. When a study is conducted that is based on non-Western subjects, the practice has been to address potential cultural or ethnic differences. However, I chose not to speculate on culture because, as in many single-sample studies, culture in the present study was not a variable and because ethnological culture may not be the most relevant and immediate context in the study of children’s social interactions. A more relevant and proximal context is the classroom, which, both in structure and function, is highly similar between East and West. This is in contrast to a context where, for example, a child’s peer relationships consist mostly of those with other children who are fighting guerrilla wars (“Burma’s Terror Twins,” 2000). Comparing the classroom context with a guerrilla war context, for example, provides a contextual understanding of children’s peer relations that is more relevant than a mere East-classroom–West-classroom comparison. Partly because of the contextual similarities of schools, the processes of children’s classroom social interactions in general and the social impact of aggression, social withdrawal, and prosocial-leadership in particular have been found to be similar with Western and Chinese children (Chang, Liu, Fung, Wang, & Xu, 2004; Hart et al., 2000; Schwartz et al., 2001; Xu, Farver, Schwartz, & Chang, 2003) and other Asian children (Eisenberg, Pidada, & Liew, 2001; French, Jansen, & Pidada, 2002; Schwartz, Farver, Chang, & Lee-Shin, 2002). The purpose of the present study was to postulate and test norm influences derived from the common social milieu of the classroom. A demonstration of this psychological mechanism is deemed independent of the potential (ethnological) cultural “contamination” that the mechanism might transmit. For geographical reasons, this potentially universal process was tested on a sample of Chinese subjects, just as studies based on North American subjects are conducted in a single context. Determining cross-cultural generalizations remains an interesting future inquiry but was not the purpose of the present study.

In summary, a social context model was proposed to account for the existing variations in the relations of prosocial-leadership, aggression, and social withdrawal to peer acceptance. One postulate of the model states that the social contextual norm of a behavior facilitates social acceptance of the behavior. Under this postulate, three acceptance-facilitating classroom normative effects were hypothesized, in order of their effect sizes from largest to smallest, in relation to aggression, social withdrawal, and prosocial-leadership. Another postulate of the model is that the gender norm difference in a behavior facilitates the potential gender-differential acceptance of the behavior. For example, I hypothesized that aggression would be more acceptable among boys than among girls in classes characterized by a larger male–female gender norm difference (obtained by subtracting the female classroom mean from the male classroom mean) regarding aggression.

Method

Sample

Similar to the situation in the United States and other countries, there are two kinds of high schools in China. Junior high schools provide the first 3 years of secondary education or the equivalent of the American Grades 7, 8, and 9. Senior high schools in China provide the entire 6 years of secondary education. The present sample was taken from a junior high school selected from among large-sized schools in a northeastern city of China. There were 84 classes in this school, 82 of which participated in the study. Like most high school students in China, these students attend schools from 8 o'clock in the morning until 3 or 4 o'clock in the afternoon. They also have lunch in the schools. Similar to the case in many countries, students are organized by classes and spend most of their time working or interacting with classmates in a designated class. Class size in China, however, is probably larger than that in many countries. The average high school class size in China is between 50 and 60 students. In the present sample, the average class size was 56.76 ($SD = 8.57$).

Parental consent forms were distributed to all the students. Close to 95% of the students' parents returned the consent forms to allow their children's participation. The final sample consisted of 4,650 students from 82 classes. Among the 82 classes, 52% were Grade 3 (equivalent to the American Grade 9) and 24% were Grades 1 and 2 (equivalent to the American Grades 7 and 8, respectively). The age of the students ($M = 15.08$ years; $SD = 1.23$) ranged from 13 (10%) to 16 (12%), with a few older and younger children. Female students were 51% of the sample. Within classes, gender was equally distributed. Some of the data have previously been used in another study (Chang, 2003).

A team of researchers from a different city came to the school to administer a series of self-response and peer nomination questionnaires. No school-related adults were present during the questionnaire administration, which was conducted by a researcher during one full class period. Students were informed that no one in their school would see their responses and that the researchers would not know who the students were in processing their collective responses. At the end of the session, the students were briefed about the purpose of the research and the absolute anonymity of their identities.

Measures

Peer acceptance was based on unlimited peer nominations. This approach has been shown to yield results similar to those from limited nominations (Bukowski, Pizzamiglio, Newcomb, & Hoza, 1996). In order to have meaningful between-class comparisons, the percentages of these and other nomination measures discussed below were taken within classes instead of standardized scores.

Aggression, social withdrawal, and prosocial-leadership were obtained by student nominations. Students were asked to nominate up to three names from the class. The nomination items were derived from the literature (e.g., Schwartz, McFadyen-Ketchum, Dodge, Pettit, & Bates, 1998), having previously been used on Chinese children with satisfactory reliability (Schwartz et al., 2001). The six prosocial-leadership items were, in some-

what abbreviated forms, "kids who are leaders, are helpful, are listened to when speaking up, get along with everyone, lead others, and stand up for themselves without hitting, fighting, or getting angry." The seven aggression items were, in abbreviated forms, "kids who start fights, hit or push, bully, say mean things to, pick on, disturb, and exclude others." The six social withdrawal items were "kids who are often alone, are shy, are quiet, are submissive, would rather be alone, and do not join others." The internal consistency reliabilities were .92 for prosocial-leadership, .86 for aggression, and .89 for social withdrawal. These and other analyses were based on within-class percentage scores but not within-class standardized scores in order to retain between-class variations.

The classroom norms associated with prosocial-leadership, aggression, and social withdrawal, respectively, were obtained by computing the geometric mean of each of these three variables within 82 classes. See the Appendix for detailed calculations and explanations. These measures were then standardized across 82 classes.

To test the gender norm difference hypotheses, I obtained a gender difference score for the classroom norm of each behavior by computing the difference between the means of the behaviors of the two genders for each class. For each behavior, the mean of the gender expected to have less of the behavior was subtracted from the mean of the other gender expected to have more of the behavior in the class. Thus, the mean difference represented the extent to which the behavior was more normative of one gender than the other. For aggression and prosocial-leadership, the female mean was subtracted from the male mean, and for social withdrawal, the male mean was subtracted from the female mean. In testing the gender-related hypotheses, a gender interaction was first estimated and tested at the student level. This gender interaction effect represented gender-differential acceptance of a particular behavior. Each of the above-described gender difference scores was used as the predictor of the gender interaction, and a significant result suggested that a gender norm difference for a behavior would facilitate gender-differential acceptance of the behavior.

Results

Descriptive Statistics

Table 1 presents the means and standard deviations of the variables used in the present study. Also reported in Table 1 are breakdowns of the means and standard deviations by gender. Independent t tests and one-way analyses of variance (ANOVAs) were also conducted on these breakdowns. There were many statistically significant mean differences due to the extraordinarily large sample of 4,650 cases. The only differences that are of practical significance are that boys had higher aggression, $t(4648) = 19.08$, $p < .01$, and slightly lower withdrawal, $t(4648) = -4.65$, $p < .01$, than girls. There were no other practical gender or grade differences.

The correlation coefficients of these variables were computed four times using different methods. The four sets of the correlation coefficients are reported in Table 2. The first correlation matrix in

Table 1
Means and Standard Deviations of Student Nomination Variables

Sample	Prosocial		Aggression		Withdrawal		Peer acceptance	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Total	.18	.38	.11	.22	.13	.26	.17	.09
Female	.17	.38	.05	.09	.15	.28	.17	.08
Male	.19	.39	.16	.27	.12	.22	.18	.09

Table 2
Correlation Coefficients

Variable	1	2	3	4
Total sample				
1. Prosocial	—			
2. Aggression	.03	—		
3. Withdrawal	-.02	-.02	—	
4. Peer acceptance	.29	-.06	-.19	—
A randomly selected class				
1. Prosocial	—			
2. Aggression	-.04	—		
3. Withdrawal	-.13	-.12	—	
4. Peer acceptance	.51	-.33	-.21	—
Highest positive				
1. Prosocial	—			
2. Aggression	.42	—		
3. Withdrawal	.57	.36	—	
4. Peer acceptance	.60	.47	.03	—
Highest negative				
1. Prosocial	—			
2. Aggression	-.17	—		
3. Withdrawal	-.33	-.36	—	
4. Peer acceptance	-.03	-.44	-.65	—

Note. The first correlation matrix was based on the total sample of 4,650 students independent of their class membership. The second matrix was based on one randomly selected class from the 82 classes. The third and fourth matrices contain the highest positive and highest negative correlation coefficients, respectively, selected from 82 within-class correlation matrices.

Table 2 was based on the total sample of 4,650 students and ignored their class membership. These are the correlation coefficients normally reported in the literature that do not take a multi-level approach to class-derived variables. As can be seen from the matrix, many of the correlation coefficients are moderate. The second matrix was based on one randomly selected class. These within-class correlation coefficients had larger magnitudes, better reflecting the variation in normative social standings within a class. To illustrate the potential range of variation across classes in these class-derived correlations, the third and fourth matrices contain the highest positive and highest negative within-class coefficients selected from 82 within-class correlation matrices. Averaging each pair of these high positives and negatives would significantly reduce the magnitudes of these coefficients. This is similar to computing the correlation coefficients on all the cases independent of their class membership, as has normally been done in the literature and as is shown in the first correlation matrix in Table 2.

Interpreting Hierarchical Linear Modeling Results

The potential statistical confounding represented by these correlation matrices can be solved by hierarchical linear modeling (HLM; see, e.g., Raudenbush & Bryk, 2002). HLM was used to sort out and utilize classroom variations (Level 2) of the student-

level associations (Level 1). In laypersons' terms, HLM is like regression of regression. It conducts random effect regression at Level 1 (students in the present study) and treats the resulting coefficients as random variables on which to conduct another regression using a set of Level 2 predictors (classroom norms in the present study). In doing so, it decomposes the total variance into that of students and that of classes (to stay in the context of the present study) and accounts for each. By utilizing information from multilevel data sources and by relying on modern statistical estimation and computation methods, its statistical estimates are also more robust and consistent than the more traditional ordinary least squares (OLS) estimates.

A simple rule of thumb for interpreting HLM results is that when a higher level (class level in the present study) coefficient is of the same sign as the corresponding lower level coefficient (student level in the present study), the higher level predictor serves to strengthen the lower level association in the same direction as indicated by the lower level coefficient. When the two levels are of opposite signs, a significant higher level predictor serves to weaken or to affect the lower level association in the direction opposite to that indicated by the lower level coefficient. This rule of thumb was used to interpret the HLM results reported below.

Another technical characteristic of HLM results is that HLM estimates of higher level coefficients and variance components can take small numerical values that are of practical significance. The small values are in part the results of having different measurement units across levels, especially when lower level regression coefficients take on smaller units than do higher level predictor variables. Because of this technical characteristic, three to four decimal points are routinely reported for HLM results. Four decimal points were retained in the present study. The following HLM results were obtained using HLM-5 (Raudenbush, Bryk, Cheong, & Congdon, 2000).

Level 1: Student-Level Analyses

Random effect regression using HLM was first conducted on student-level data while taking into consideration students' class membership. Peer acceptance was the outcome variable. The predictor variables were prosocial-leadership, aggression, social withdrawal, and gender, as well as the three gender interactions that were computed by multiplying gender with each of the three social variables. Of interest were the gender interaction terms but not gender per se, which must be included in the analysis but is not reported here. Table 3 contains the results, which are indicated as Level 1 regression coefficients. The Level 2 regression coefficients also reported in Table 3 are discussed in the next section. Prosocial-leadership was a positive predictor of peer acceptance ($\beta = .4439$) when other variables, including gender interactions, were controlled. (This last statement, which applies to all of the analysis results, is not repeated.) The effects of aggression ($\beta = -.7506$) and social withdrawal ($\beta = -.3972$) were negative. These three main effects were all significant ($p < .01$).

The two gender interactions involving aggression and social withdrawal, respectively, were also significant ($p < .01$). Because male was coded as 1 and female as 0, the positive interaction effect involving aggression ($\beta = .3885$) suggests that the negative effect of aggression on peer acceptance (as shown by the main effect of

Table 3
Classroom Norm Effects on Student-Level Regression Coefficients

Outcome and predictor	β	SE	t(79)
Main effect with peer acceptance (PA) as the outcome variable			
Prosocial-PA slope (1)	.4439	.0378	11.74**
Class size (2)	-.0008	.0034	-0.25
Classroom prosocial (2)	.0661	.0223	2.97**
Aggression-PA slope (1)	-.7506	.1176	-6.39**
Class size (2)	-.0108	.0060	-1.79
Classroom aggression (2)	.1246	.0294	4.23**
Withdrawal-PA slope (1)	-.3972	.0337	-11.77**
Class size (2)	-.0066	.0027	-2.46*
Classroom withdrawal (2)	.0387	.0152	2.54*
Gender interaction effects with PA as the outcome variable			
Sex \times Prosocial-PA Slope (1)	.0496	.0405	1.22
Class size (2)	.0013	.0028	0.48
Gender norm difference in prosocial (2)	-.0022	.0213	-0.10
Sex \times Aggression-PA Slope (1)	.3885	.1392	2.79**
Class size (2)	-.0142	.0077	-1.85
Gender norm difference in aggression (2)	.1372	.0363	3.79**
Sex \times Withdrawal-PA Slope (1)	-.1672	.0504	-3.32**
Class size (2)	-.0084	.0050	-1.68
Gender norm difference in withdrawal (2)	-.0528	.0247	-2.13*

Note. The numbers in parentheses indicate a Level 1 or Level 2 regression coefficient.
* $p < .05$. ** $p < .01$.

aggression in Table 3) was significantly weaker for boys than for girls. The negative gender interaction effect involving social withdrawal ($\beta = -.1672$) indicates that the negative effect of social withdrawal on peer acceptance was stronger for boys than for girls. The gender interaction involving prosocial-leadership was not significant, indicating that the positive social impact of the behavior was invariant across genders.

Level 2: Class-Level Analyses

This HLM regression is different from that normally reported in the literature because the present analysis allowed the otherwise

fixed regression coefficients to vary across classes. The above-discussed, six Level 1 regression coefficients had statistically significant variations across classes. The variance components associated with these regression coefficients are reported in Table 4, where they are indicated as the original variance. The major objective of the present study was to account for these variations in the student-level regression. To do so, I included the hypothesized classroom norm variables as the Level 2 (class level) predictors of the Level 1 (student level) regression slopes. Class size was also entered as a Level 2 predictor to control for the potential class size effect. These results are reported in Table 3 as Level 2

Table 4
Variance Components of Level 1 Regression Slopes and Percentage of Variance Explained by Level 2 Classroom Variables

Effect	Original variance ^a	Residual variance ^b	Residual variance ^c	Percentage of variance explained ^d
Peer acceptance (PA) as the outcome variable				
Main effects				
Prosocial-PA slope	.02747**	.02592**	.02305**	11.07
Aggression-PA slope	.16443**	.14625**	.11766**	19.55
Withdrawal-PA slope	.03826**	.03454**	.02870**	16.91
Gender interaction effects				
Sex \times Prosocial-PA Slope	.03573**	.03537**	.03484**	1.50
Sex \times Aggression-PA Slope	.26609*	.25334*	.20939*	17.35
Sex \times Withdrawal-PA Slope	.05721*	.05614*	.04984	11.22

^a Original variance of the Level 1 regression coefficient across classes. ^b Residual variance after class size was entered at Level 2. ^c Residual variance after class size and the classroom norm variable were entered at Level 2. ^d Variance explained was computed using as the baseline the residual variance after class size was entered.
* $p < .05$. ** $p < .01$.

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regression coefficients. Relevant to these results, the Level 2, or class-level, sample size was 82 classes.

As shown in Table 3, classroom prosocial-leadership had a positive effect ($\beta = .0661, p < .01$) on the positive association between student prosocial-leadership and peer acceptance ($\beta = .4439$) when the class size effect was controlled. In this case, classroom prosocial-leadership strengthened the positive association between the behavior and peer acceptance at the student level. Classroom aggression had a positive effect ($\beta = .1246, p < .01$) on the negative association between student aggression and peer acceptance ($\beta = -.7506$) with class size controlled. In this case, classroom aggression served to weaken the negative association between student aggression and peer acceptance. For example, in classes characterized by a high level of aggression, aggressive students were more accepted by peers. Similarly, classroom social withdrawal ($\beta = .0387, p < .05$) served to attenuate the negative association between students' social withdrawal and peer acceptance after class size was controlled. Together, these findings are consistent with the postulate that the classroom norm of a behavior strengthens peer acceptance of the behavior. With social withdrawal, class size also had a significant negative effect ($\beta = -.0066, p < .05$), indicating a stronger negative association between student social withdrawal and peer acceptance in larger classes than in smaller classes.

How much variance in the student-level regression did these classroom norm variables explain? Table 4 provides the percentage of variance explained at the class level of the student-level associations.¹ Also reported in Table 4 are two residual variance components. The first was the residual variance after class size was entered, and the second was the residual variance after the classroom norm variables were also accounted for. The percentage of variance explained was computed on the basis of the residual variance after class size had been accounted for. The highest percentage of variance explained was by classroom aggression, which accounted for 19.55% of the between-class variation in the association between aggression and peer acceptance. The lowest percentage of variance explained was by classroom prosocial-leadership (11.07%), with social withdrawal being intermediate (16.91%). These findings support the hypothesis that an acceptance-reinforcing effect of the classroom norm of a behavior was strongest with aggression, intermediate with social withdrawal, and weakest with prosocial-leadership.

Gender Effects

Also presented in Table 3 are the effects of gender norm differences on student-level gender interactions. A gender norm difference in aggression ($\beta = .1372, p < .01$) served to facilitate the student-level gender interaction effect ($\beta = .3885$). Again, male was coded 1 and female was coded 0. The student-level gender interaction ($\beta = .3885$) suggests that aggression was more acceptable for boys than for girls. This gender-differential acceptance of aggression was facilitated by the extent to which more boys than girls in the class engaged in the behavior. That is, a male-female difference (obtained by subtracting female scores from male scores) in peer acceptance of aggression was stronger in classes characterized by boys demonstrating higher levels of the behavior than girls.

Similarly, a gender norm difference in social withdrawal ($\beta = -.0528, p < .05$) facilitated the gender-differential effect of withdrawal on peer acceptance ($\beta = -.1672$). The Level 1 gender interaction effect was negative, indicating that social withdrawal was more accepted among girls than among boys. This gender-differential effect was facilitated by the extent to which girls in a class showed higher levels of the behavior than boys. These results support the postulation that a difference in the gender norm of a behavior contributes to the potential gender-differential acceptance of the behavior. Finally, a gender norm difference in prosocial-leadership did not register a significant effect. As reported earlier, there was also no gender-differential acceptance of prosocial-leadership at the student level.

These gender interaction effects are also illustrated in Figures 1, 2, and 3. In these figures, standardized regression of peer acceptance on a behavior was plotted for boys and girls, respectively, as functions of the behavior's gender norm difference. Two gender norm differences were extrapolated, respectively, with the male mean being 1 standard deviation higher and 1 standard deviation lower than the female mean.

The percentage of variance explained of the student-level gender interaction effects by the class-level gender-norm difference variables is also reported in Table 4. Again, the gender difference in aggression had the largest percentage of variance explained (17.35%), social withdrawal had an intermediate percentage explained (11.22%), and prosocial-leadership had the smallest percentage explained (1.50%).

Discussion

Social developmental research may be viewed as consisting of two broad approaches. One focuses on age-related developmental processes internal to children and adolescents. In the peer relations area, an examination of the relations of prosocial-leadership, aggression, and social withdrawal to peer acceptance constitutes an internal approach. The other approach is a Bronfenbrennerian approach that focuses on how social contexts facilitate or inhibit various internal processes. Research efforts representing the latter contextual approach have been relatively lacking (Cook, Herman, Phillips, & Settersten, 2002), especially in peer relations research, where schoolchildren's social interactions have often been studied independent of such school-related contexts as teacher beliefs, school cultures, or classroom norms. Because most peer relations studies have been based on children's and adolescents' social interactions within the classroom, the classroom provides the most immediate and relevant context in defining children's behaviors and peer relationships. The present study recognizes this charac-

¹ The concept of "percentage of variance explained," derived from the OLS regression, does not have a straightforward mathematical counterpart in HLM, which involves more than one level of analysis (Snijders & Bosker, 1999). Nonetheless, the same OLS approach to computing variance explained has been advocated for HLM (Raudenbush & Bryk, 2002). When multiple HLM slopes are involved, as in the case of the present study, the variance explained sometimes may take negative values (Snijders & Bosker, 1999). To circumvent this problem in the present study, the variance and the percentage of variance explained that were associated with some of the regression slopes were computed by including the concerning slope as random while holding other slopes as fixed.

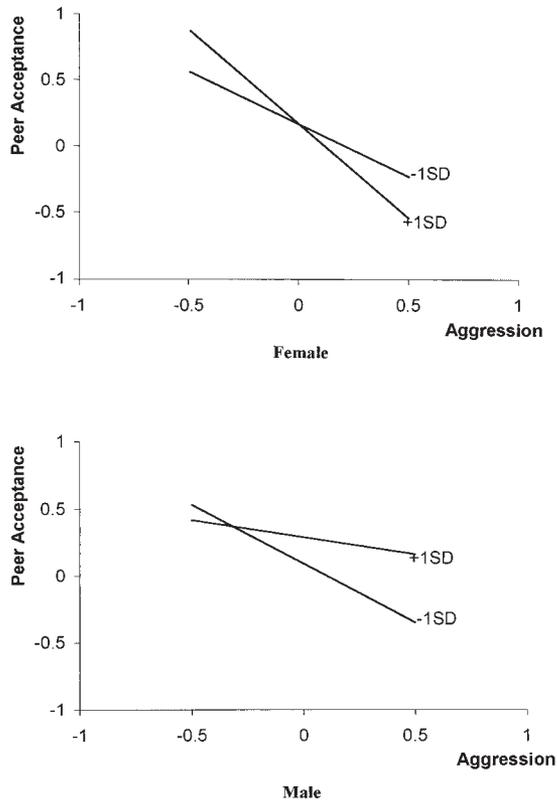


Figure 1. Gender and gender norm effect: Gender difference in the regression of peer acceptance on aggression as functions of extrapolated gender norm difference. +1SD (-1SD) = the regression plot in which the male aggression norm was 1 standard deviation higher (lower) than the female aggression norm. The upper plot represents the female slope, and the lower plot, the male slope.

teristic and postulates a social context model by which to cast peer relations questions that allow inferences to be drawn for both individual differences and contextual variations.

The findings support the postulation of the social context model that contextual norms affect behaviors by reinforcing their social acceptance. Specifically, the classroom norm of a behavior strengthens a positive association or attenuates a negative association between the behavior and peer acceptance. To different degrees, this postulation was supported with respect to prosocial-leadership, aggression, and social withdrawal, respectively. For example, in classes characterized by a high level of social withdrawal, this behavior was more acceptable among peers than in classes having a low level of the behavior. Because similarities facilitate liking in a group (Levine & Moreland, 1998), to the extent that a behavior is consistent with the group majority, it is endorsed by individuals in the group. Supported by these findings, the social context model provides a different perspective on the processes by which adolescents form peer relations. The formation of adolescent relationships in a social group reflects what the adolescent likes as well as what the group likes. This is similar to Hymel's (1986) earlier postulation that peer liking of a child derives from direct contacts with the child and from the child's group reputation. The group influence on peer liking can be seen

as individuals' efforts to attain social conformity. It may be argued that adolescents conform to group norms by endorsing behaviors to the extent that the behaviors are consistent with the group majority, and these conforming efforts in turn contribute to group norms. Efforts to conform in a group are motivated by and, in turn, lead to smooth social interactions and friendship relationships (Sheehan, 1979). The desires to conform and to have friends are both salient and strong developmental characteristics of adolescence (Steinberg, 1996).

In forming peer relations, adolescents' motivation to conform can also be seen from the finding that the classroom norm effect was weaker for prosocial-leadership than for aggression and withdrawal. As shown in the present study and in the earlier review of the literature, because prosocial-leadership represents an institutional or "dominant" norm (Stormshak et al., 1999), there was smaller between-class variability with respect to prosocial-leadership. By conforming to a more common norm, adolescents showed smaller variations in endorsing prosocial-leadership. Aggression and social withdrawal, which do not represent common institutional norms, thus showed much larger between-class variations. The stronger classroom effect with respect to aggression and social withdrawal indicates the presence of a larger class norm swing in adolescents' assessment of these behaviors. The "swing

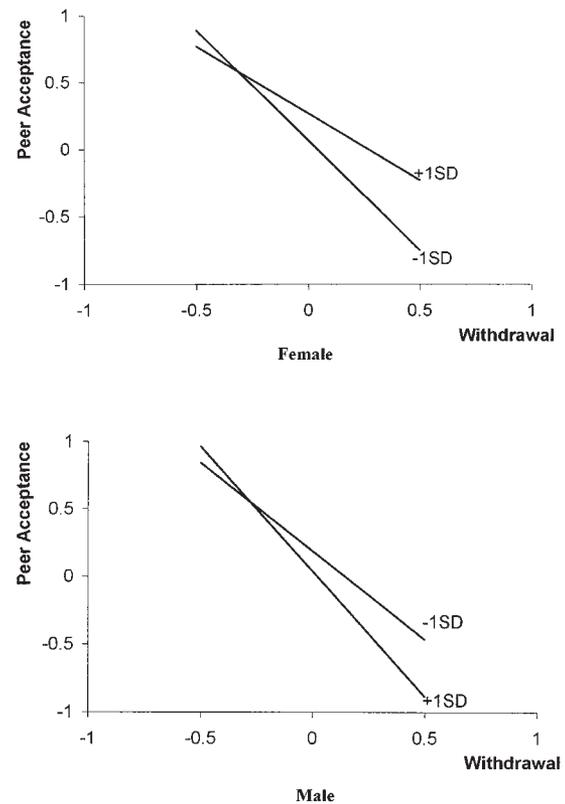


Figure 2. Gender and gender norm effect: Gender difference in the regression of peer acceptance on social withdrawal as functions of extrapolated gender norm difference. +1SD (-1SD) = the regression plot in which the female social withdrawal norm was 1 standard deviation higher (lower) than the male social withdrawal norm. The upper plot represents the female slope, and the lower plot, the male slope.

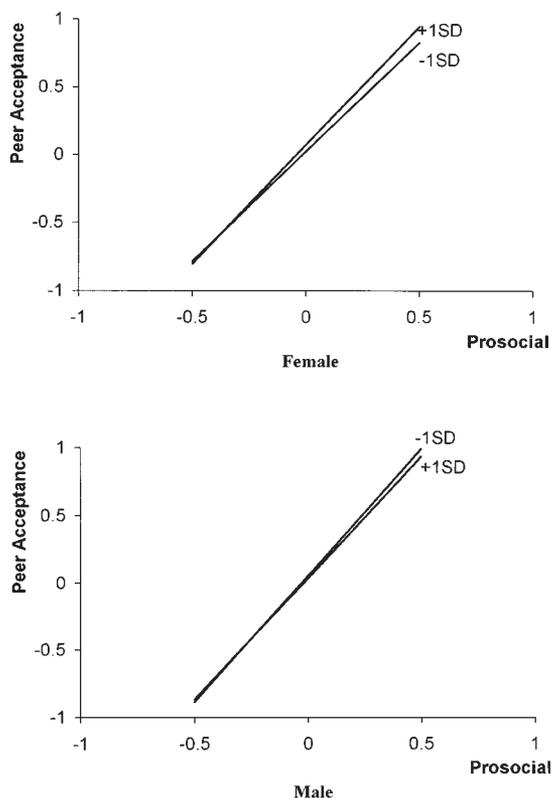


Figure 3. No gender or gender norm effect: No gender difference in the regression of peer acceptance on prosocial-leadership as functions of extrapolated gender norm difference. +1SD (-1SD) = the regression plot in which the male prosocial-leadership norm was 1 standard deviation higher (lower) than the female prosocial-leadership norm. The upper plot represents the female slope, and the lower plot, the male slope.

effect” represents individuals’ effort to conform to more variable classroom norms. For example, students from high-aggression classes may find aggression more acceptable, and those from low-aggression classes may find the behavior less acceptable. Both can be seen as efforts to conform to their respective classroom norms of aggression.

Adolescents also conform to gender norms. The postulation that gender norm differences would facilitate gender-differential acceptance of behaviors was supported for aggression and social withdrawal. The effect was not found with prosocial-leadership in part because there was no gender-differential acceptance of the behavior. The gender-differential effect that aggression was more acceptable among boys than among girls (Bukowski et al., 1993), for example, was stronger in classes having higher male–female mean differences (obtained by subtracting the female classroom mean from the male classroom mean) in aggression. Like the classroom norm of a behavior, the gender norm serves to facilitate peer acceptance of the behavior within the gender context. In Deaux and Major’s (1987) interactive model, they stipulated that a gendered social context facilitates gendered behaviors and expectancies of gendered behaviors in dyadic social interactions. The present findings provide evidence for group interactions in support of their postulation.

By treating gender as a social context, the present approach to gender also differs from previous gender investigations of peer relations that focused more on person-level attributes and processes in relation to gender. This attribute approach to gender has led to variable findings, and gender is often viewed as a nuisance variable, the effect of which may be present in one study but absent in another. By considering gender as a social context subsumed in other social contexts, the present approach and findings provide a direction in developing more unified explanations of the otherwise variable gender-related findings. The extent to which gendered behaviors occur depends on the saliency of the gender context relative to other social contexts within which gender is subsumed. This explanation may account for the potential variable gender findings. The present social context model of gender is also a parsimonious one that may generalize to wide-ranging situations.

One limitation of the present study lies in the lack of an alternative type of group context in which to test the social context model. Classrooms are “forced” contexts into which individuals are arbitrarily assigned rather than self-selected. Previous research suggests that group processes may differ between self-selected groups and groups formed involuntarily (e.g., Ennett & Bauman, 1994). Both within and across classes, children form cliques and crowds of various sizes (Brown, 1990; Brown, Mory, & Kinney, 1994; Chen, Chang, & He, 2003; Kinderman, 1993). In these smaller self-selected groups, the behavior of one or two influential individuals may also have an exceptionally strong influence on group norms. How the psychological mechanism of the proposed social context model operates on these more cohesive self-selected groups remains an interesting question for future research. Studying these self-selected peer groups, which are often gender-demarcated (Kinderman, 1993), will also provide additional perspectives on the role of gender in the contextualizing of social behaviors. However, the need to study additional social contexts does not undermine the importance of the classroom, which, for reasons stated earlier, remains one of the most relevant social contexts in which to study children’s interactions. A future study that examines individual–group interactions involving both classrooms and self-selected peer groups as two distinct social contexts would make an important addition to the literature.

Another limitation pertains to the potential concern about the causal relation between behaviors and the peer status associated with the behaviors. Like much peer relations research, the present social context model is flexible with respect to causal directions. Like most existing studies, however, the analytical framework in which the model was tested in the present study implies that behaviors, which were the predictor variables in the study, “caused” peer acceptance of the behaviors differentially depending on the classroom norms of the behaviors. However, it is also plausible to predict behaviors from peer status. For example, in high-aggression classes where aggression was found to be more acceptable, unpopular and aggressive children could become more aggressive, whereas, in low-aggression classes where aggression was less acceptable, unpopular and aggressive children might learn to be less aggressive. The cross-sectional data of the present study and the lack of a statistical method to test reciprocal effects in multilevel analysis set limitations that have precluded the test of this and other alternative hypotheses.

Finally, the present findings may need to be replicated with additional samples, especially given that the family social and

economic backgrounds of the participating students were not obtained in the present study. Replications of the present findings may also be necessary with Western and other cultural samples. The relatively large size of the classes sampled is especially uncharacteristic of North American and many other secondary schools. The social dynamics of smaller classes may be different from those of large classes and may render different class norm effects. There may also be idiosyncrasies in the organization of classes across regions and across schools. In most middle schools in China, students take almost all their lessons within their classes. As an organizational unit, a Chinese class may thus exert a stronger norm influence than classes in schools where students take lessons or conduct most activities across classes. Future studies may examine these structural and organizational differences of the classroom context both across and within cultures and regions.

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(Appendix follows)

Appendix

Computing Geometric Means Based on Limited Class Nominations

With limited nominations (e.g., "name three kids who fight"), the class mean is always the number of the fixed nomination independent of the actual class distribution of the concerning behavior that is being nominated for. Let K be the fixed number of nominations for an item. Let N be the number of students in the class. The class total number of nominations for the item is KN . Let Y_i be the number of times the i^{th} student is nominated for the item. The class total number of nominations for the item is

$$\sum_{i=1}^N Y_i.$$

Clearly,

$$\sum_{i=1}^N Y_i = KN,$$

or to use the class mean,

$$\frac{1}{N} \sum_{i=1}^N Y_i = K,$$

independent of class size or the actual distribution of the students having the behavior that is nominated for.

The class median is also problematic. Because often more than half of the students in a class receive zero nominations for an item, the class median is zero, independent of the distribution of the nominated students. This was the case with the present data. Computing the composite score out of multiple items first and then computing the class median on the composite score helps reduce the number of zero scores. However, the same characteristic of the nomination data holds in that the composite median represents primarily the lower end of the distribution, close to the point where students stop receiving zero nominations, but not the higher end of

the distribution or the extent to which a person is nominated by the class. In short, a large concentration of zero scores makes the median less representative of the distribution of class nominations; in addition, there are the intrinsic limitations of the median, which is not a sufficient statistic and is also less consistent or effective than the mean.

Given the above limitations of the arithmetic mean and the median, the following statistic was defined to represent the central tendency of limited class nomination data:

$$\begin{aligned} M_g &= (1 - p_0) \cdot \sqrt[k]{p_1 \cdot 2p_2 \cdot 3p_3 \cdots (N-1)p_{N-1}} \\ &= (1 - p_0) \cdot \sqrt[k]{\prod_{\substack{i=1 \\ p_i \neq 0}}^{N-1} i \cdot p_i}, \end{aligned}$$

where p_0 is the proportion of students receiving 0 nominations, i is the number of times a student is nominated ($i = 1, 2, \dots, N-1$), p_i is the proportion of students receiving i^{th} nominations ($p_i \neq 0$), and k is the number of nonzero nominations or the number of p_i s.

In words, M_g is a weighted geometric mean. It is weighted by $(1 - p_0)$ to account for the fact that there are a large number of students receiving zero nominations. It is also weighted by the multiples of p_i to account for the differences in the frequency by which each nonzero nomination is made. Instead of using the power of p_i , the multiples of p_i are used to reduce the weight so as to better achieve a balance between the number of students receiving nominations and the extent to which each student is nominated. Both are factored into the class mean, M_g . Especially relevant with percentage scores and skewed data, M_g will not be a constant, unlike the arithmetic mean, and uses more information and is thus more representative than the median.

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