Child Development, March/April 2008, Volume 79, Number 2, Pages 444 – 461

Children's Judgments of Disloyal and Immoral Peer Behavior: Subjective Group Dynamics in Minimal Intergroup Contexts

Dominic Abrams and Adam Rutland
University of Kent

Jennifer M. Ferrell
University of Bedfordshire

Joseph Pelletier
University of Kent

The developmental model of subjective group dynamics hypothesizes that peer exclusion during middle childhood involves inferences about group dynamics. To test the generality of this prediction, children judged, within minimal groups, peers whose behavior was loyal versus disloyal (Study 1: $n = 46$, mean age = 113 months) or morally acceptable versus unacceptable (Study 2: $n = 121$, mean age = 90 months). As hypothesized, in Study 1, children used their understanding of loyalty norms as a basis for evaluating peers. In both studies, higher commitment to the in-group increased use of group-based criteria for judging peers. In Study 2, children employed moral- and group-based criteria independently for judging peers. Multiple classification skill was associated with lower intergroup bias and greater use of morality-based judgment.

Children who are rejected by their peer group experience a wide range of negative consequences that affect their psychological development (Asher & Cole, 1990; Graham & Juvonen, 1998; Rubin, Bukowski, & Parker, 1998). Developmental research has focused largely on the individual social deficits of the excluder (e.g., misreading of social cues) or the child being excluded (e.g., being shy, fearful, or wary; Bukowski & Sippola, 2001; Juvonen & Graham, 2001). However, social exclusion may not solely reflect social deficits or psychopathology of individual children. A relatively underinvestigated area in developmental research is the role of group and intergroup dynamics in peer inclusion and exclusion (cf. Abrams, Hogg, & Marques, 2005). Recent developmental research has focused on the role of group membership, social experience, and the intergroup context in peer rejection (Abrams, Rutland, Cameron, & Ferrell, 2007; Jackson, Barth, Powell, & Lochman, 2006; Juvonen, Nishina, & Graham, 2001, 2006; Killen, McGlothlin, & Lee-Kim, 2002). This work suggests that when intergroup relationships are salient, children exclude peers who challenge relevant in-group norms and undermine the value or reputation of the in-group.

The present article reports two studies based on a developmental model of subjective group dynamics (DSGD; Abrams & Rutland, 2008; Abrams, Rutland, & Cameron, 2003; Abrams, Rutland, Cameron, & Marques, 2003; Abrams et al., 2007). These studies examine children's intergroup biases and peer preferences when evaluating individual peer group members that breach group loyalty norms (Study 1) or moral principles (Study 2). For the first time, a minimal intergroup setting is used to test the generality of predictions regarding the relationship between peer and intergroup judgments.

The Developmental Model of Subjective Group Dynamics

In the social psychological literature, the subjective group dynamics (SGD) model (Abrams, Marques, Bown, & Henson, 2000; Marques, Abrams, Pàez, & Martinez-Taboada, 1998; Marques, Abrams, & Serôdio, 2001) proposes a *dynamic* relationship between judgments about groups as a whole and judgments about individuals within a group. First, the model contends that evaluation of group members in intergroup situations reflects the desire to sustain the value and validity of in-group norms. For example, deviant (nonconforming) individuals within the in-group are judged negatively compared to similarly deviant out-group individuals (i.e., the "black sheep

This research was funded by a grant from the Economic and Social Research Council (Grant R000230401).

Correspondence concerning this article should be addressed to Dominic Abrams, Centre for the Study of Group Processes, Department of Psychology, University of Kent, Canterbury, Kent CT2 7NP, United Kingdom. Electronic mail may be sent to d.abrams@kent.ac.uk.

effect''—Marques, Yzerbyt, & Leyens, 1988). This *subjective* phenomenon is akin to what occurs during the dynamics of real-life face-to-face groups, with efforts to differentiate between individuals and constrain deviants in order to reinforce the boundaries of group norms (e.g., Levine, 1989; Schachter, 1951). This differentiation among individuals within groups (termed ''differential evaluation'' of members) is motivated by identification with the in-group (social identity) and the desire for positive in-group distinctiveness (Tajfel & Turner, 1979). The combination of these two processes forms the basis of SGD.

These ideas were extended by Abrams, Rutland, and Cameron (2003) who proposed and empirically tested a DSGD. Explanations of key variables from the DSGD model are set out in Table 1. Across several studies, evidence about judgments of group members who deviate from the norm of loyalty (Abrams & Rutland, 2008; Levine & Moreland, 2002) supports the proposition that during middle childhood, intergroup bias and differential evaluation of peers become more systematically integrated such that evaluations of specific peers reflect the motivation for a positive social identity (cf. Tajfel & Turner, 1979).

A key developmental process implicated in this integration is held to be *differential inclusion*—children's understanding about how peers will judge normative and deviant group members from the in-group and the out-group. Differential inclusion is based on children's understanding that groups value behavior, which upholds their own norms and goals relative to those of opposing or contrasting groups. For example, children showing high levels of differential inclusion appreciate that a disloyal out-group member is simultaneously liable to be relatively unattractive to other out-group peers and relatively attractive to in-group peers, whereas the reverse is true of a disloyal in-group member.

For children to infer that groups engage in differential inclusion involves an appreciation that in-groups and out-groups will have different perspectives on the *same* behavior depending on both the intergroup context and the membership of the person engaging in that behavior. Their understanding of these complexities may require both learning from social experience and also the development of social-cognitive abilities such as perspective taking and multiple classification ability (Abrams & Rutland, 2008; Quintana, 1994, 1998; Ruble, Alvarez, Bachman, Cameron, Fuligni, & Coll, 2004).

It seems likely that social experience with groups may be required for children to be able to infer more general ''ground rules'' of group membership. These ground rules that adults take for granted include things such as the idea that members should be loyal to their groups, that groups will act to enforce their own norms, and that people may be judged not just because of the group they belong to but because of the way their behavior or attitudes relate to differences between their own and other groups (cf. Zdaniuk & Levine, 2001).

DSGD studies conducted in intergroup contexts that used national groups (Abrams, Rutland, & Cameron, 2003) and summer school groups (Abrams, Rutland, Cameron, & Marques, 2003; Abrams et al., 2007) have shown that the relationship between differential inclusion and differential evaluation tends to be reliable after the age of around 7 years. In addition, differential inclusion and differential evaluation are more strongly linked when children are more motivated to support their in-group (i.e., show high intergroup bias or identify more strongly).

Minimal Groups

Previous tests of the DSGD model have all been conducted in the context of intergroup relationships that involved real groups. As a result, it is conceivable that children might have learned specific norms associated with those groups and that the findings do not generalize either to other real groups or to children's understanding or expectations of group members' behavior in general. Consequently, to examine the generality of the developmental processes, it is important to establish whether they arise in intergroup relationships with which children will have had little or no direct experience. Therefore, the present research employs the minimal group paradigm (Tajfel, Billig, Bundy, & Flament, 1971; cf. Tajfel & Turner, 1979) to eliminate the possibility that previous findings reflect behavior that applies only to particular intergroup relationships. Specifically, children were assigned ostensibly randomly to ''star'' and ''diamond'' groups (all were actually in the diamond group) and were asked to evaluate pairs of anonymous normative and deviant members from those groups in a fully factorial within-participants design. These groups meet the criterion of ''minimal,'' in the sense that there is no interaction among members, members are completely anonymous to one another, and there is no direct connection between outcomes for the participants and outcomes for the other members.

There is developmental research that makes use of arbitrary categorizations such as T-shirt color (e.g., Bigler, Brown, & Markell, 2001; Bigler, Jones, & Lobliner, 1997), but this is not altogether minimal because the children are aware of one another's

Table 1
Measures, Derived Variables, and Hypotheses for Studies 1 and 2

Variables and hypotheses	Computation of measures	
Intergroup biases (both studies)	*Evaluation bias*: liking for in-group minus liking for out-group (possible range −4 to +4, higher score = more bias in favor of in-group)	*Allocation bias*: candy allocated to in-group relative to out-group (Twice × 5 Bags). Possible range = 0–10. Score above 5 = more to in-group
	Study 1	Study 2
Differential inclusion	Mean perceived inclusion by peers of normative minus deviant members within their groups and deviant minus normative members of opposing groups. Higher score = larger differences in the acceptability of normative and deviant members to same and opposing groups, respectively	Group-based inclusion: inclusion of both members in the same group minus inclusion of both members in the opposing group. Higher scores = more inclusion of members by their own groups
		Morality-based inclusion: inclusion of both moral members in both groups minus immoral members in both groups. Higher scores = more inclusion of the moral members
Differential evaluation	Mean evaluation of in-group (normative minus deviant) and out-group (deviant minus normative). Higher score = greater favorability toward members within each group that show relatively greater endorsement of the in-group	Group-based evaluation = mean evaluation of in-group members minus out-group members.
		Morality-based evaluation = mean evaluation of moral members minus immoral members
Differential allocation	Mean allocation of book vouchers to in-group (normative minus deviant) and out-group (deviant minus normative). Higher score = more generous allocation (possible range = 0–15 per member)	Group-based allocation = mean allocation to in-group minus out-group members.
		Morality-based allocation = mean allocation to moral minus immoral members
Hypotheses	*Intergroup–intragroup differentiation*: intergroup bias should be positively related to differential evaluation and allocation	*Domain independence*: group- and morality-based judgments should be unrelated to one another
	Inclusion-related judgment: differential inclusion should be positively related to differential evaluation	*Domain specificity*: within each domain (group, moral), inclusion and evaluation judgments should be significantly related to each other. Intergroup bias and social identity should only affect the group domain
	Motivational: the relationship between differential inclusion and differential evaluation should strengthen as a positive function of intergroup bias or identity	

identity and have time to build interpersonal relationships between and within groups. Other studies have created random groups based upon supposed drawing ability (e.g., Nesdale, Durkin, Maass, & Griffiths, 2005) though these are also not completely minimal because the studies typically manipulate the status of the groups and often include real categories such as ethnicity and gender and/or show pictures of individual group members. The present research therefore adds to the relatively scarce evidence of how children in middle childhood behave in a highly minimal intergroup setting (cf. Abrams, 1985; Vaughan, Tajfel, & Williams, 1981).

In addition, the present research includes allocation measures of bias that have not been used in previous tests of the DSGD model. Allocation measures are commonly used in adult minimal groups research (Gagnon & Bourhis, 1996), which presents up to 12 ''matrices'' on which participants assign points or money to anonymous pairs of in-group

and out-group members. Although it is not hypothesized that the pattern of results should differ from those on previously used evaluative measures, this has yet to be established within a test of the DSGD model. In addition, by using both types of measure, it is possible to distinguish whether correlations among the bias measures and other variables are attributable to common measurement formats (e.g., smiley face scales) rather than relationships between constructs (e.g., bias and inclusion).

In summary, an important innovation of the present research is that, because the groups are minimal, differential inclusion cannot be based on children's direct experience of loyalty or preexisting norms about behavior toward a specific group. Hence, the present research provides a strong test of the idea that children can apply a subjective ''theory'' or model of group dynamics when they evaluate peers and make intergroup judgments (Abrams & Rutland, 2008).

Study 1 was designed to conduct such a test using the domain of loyalty – disloyalty as used in previous studies involving real groups (e.g., Abrams et al., 2007). Study 2 extends the paradigm to investigate children's judgments of deviance in a new domain—that of moral behavior. Based on social-cognitive domain theory (Turiel, 1998), Study 2 tests the idea that children independently and simultaneously employ morality- and group-based criteria for judgments about the same peers. In addition, Study 2 examines a hypothesis based on cognitive developmental theory (Aboud, 1988, 2003; Bigler & Liben, 2006, 2007). Given that young children tend to focus on simple category distinctions rather than using multiple categorizations in their social perceptions, it should be cognitively challenging for them to engage in both intergroup bias and differential evaluation of members at the same time. Consequently, one might expect multiple categorization ability to be implicated in developmental differences in both the intergroup judgments and the differential evaluations central to SGD.

Study 1: Loyalty

In Study 1, children evaluated normative and deviant peers from both the in-group and the out-group in a minimal group context. Previous DSGD research (e.g., Abrams, Rutland, & Cameron, 2003) has shown that from 7 to 8 years, children begin to use their understanding of differential inclusion within real groups more systematically when they make their own evaluations of normative and deviant peers from those groups (i.e., differential evaluation). The present study focused on children in this age range to examine whether they apply *generic* group loyalty norms that are not specific to groups with an objective history of social relationships.

Study 1 tested the following DSGD hypotheses (Table 1). Children who express stronger intergroup bias should also show stronger differential evaluation in favor of in-group-supporting members of both the in-group and the out-group (*intergroup – intragroup differentiation hypothesis*). Differential inclusion and differential evaluation should be positively related (*inclusion-related judgment hypothesis*). These build to a third hypothesis that the relationship between differential inclusion and differential evaluation should be larger when children's motivation to support the in-group (as reflected by intergroup bias) is stronger (*motivational hypothesis*).

Method

Design and Participants

The design was fully within participants involving two factors, each with two levels. These were the members' group (in-group vs. out-group) and whether members were wholly loyal (normative) versus partially disloyal (deviant).

Participants were 23 females and 23 males (mean age = 9 years 5 months, SD = 18.6 months) attending a summer school program. Participants were all English and similar in race, ethnicity, and socioeconomic status. They were drawn from a district within which 96.6% of the population is classified as *White British* in the UK Census. The locality is ranked 190th of 354 in the English Indices of Multiple Deprivation. Compared with the national average (51%), 68.3% of households were classified as of medium to high socioeconomic status. Thus, the children were predominantly from middle-class backgrounds. They were tested individually by a female experimenter. All participants had consent from their parent or guardian to participate.

Procedure and Materials

Most of the questions required children to tick a face on a 5-point feeling face scale. Some practice questions introduced the scales (Abrams, Rutland, & Cameron, 2003) that presented faces with the mouth in a downward position (= 1) through horizontal (= 3) to a large smile position (= 5). Participants were informed that we were making teams of children who would later compete against each other for prizes. There was a ''diamond team'' and a ''star team,'' and ostensibly, the participant's team would

be determined by which shape he or she happened to pick out of a cloth bag. Laminated pictures of a diamond and a star were used to portray the two minimal groups. In the bag, there were several square laminated cards with only diamond shapes printed on them so that all participants were actually assigned to the diamond team. Participants were told that they could hold on to the diamond picture while they answered the questionnaire. Participants were then asked which team they were on as a memory check. Any participant who responded incorrectly was corrected about which team he or she was a member.

Intergroup measures. The first question was a *group allocation measure*. Participants were asked to allocate bags of candy to the teams by drawing a diamond shape or a star shape under each cartoon drawing of five pictures of candy to represent to which team they wanted to give each bag. Participants were instructed that they could give all the bags of candy to one team or split them out between the teams however they wanted to. The purpose of this measure was to provide a nonevaluative measure of in-group bias that was somewhat comparable to points or money allocation tasks used in the minimal group paradigm with adults and previously with older children (Abrams, 1985; Hogg & Abrams, 1988).

Participants then answered *group evaluation* questions to evaluate the two teams: ''How much do you like the diamond team?'' and ''How much do you like the star team?'' Responses were measured by the ''feeling faces'' scale described previously.

The next question was another group allocation measure identical to the first, except that the pictures showed different bags of candy. The reason for separating the allocation measures was to ensure that there was some independence between the two sets of allocations. Each allocation on its own forced children to favor one group over the other. If children wanted to be fair, they could easily do so by switching preferences in the second allocation task. No children raised questions about the repetition.

Intragroup measures. The following pages included descriptions of four group members. Two were on the same team as the participant (in-group), and two were on the other team (out-group). On each team, there was a loyal (normative) member, who made positive statements about their team, and a ''deviant'' member, who made positive statements about both teams, thereby showing some disloyalty to their own. This procedure followed that used by Abrams et al. (2007) to ensure that deviant members from the in-group and out-group teams were effectively identical to one another.

Group members were referred to by their initials so that they were gender neutral. Participants were told that ''ND'' and ''JR'' were on the diamond team. They were told regarding the in-group normative peer that ''ND said 'I think the diamond team is the best team. I will always support the diamond team and cheer for them.'" The in-group deviant description read ''JR said 'I think the diamond team is a fantastic team. But I will support and cheer for the star team when they do well.'" For the out-group members on the star team, the normative peer was called ''PT'' and made the same statement as the in-group normative peer except about the star team instead of the diamond team. The deviant out-group peer was called ''MS'' and made the same statements as the in-group deviant except about the star team.

Stick drawings of each peer were presented with each description. Throughout the questionnaire, the shape representing the member's team and that member's initial appeared on the body of the stick figure to remind participants of the member's identity and group. Laminated pictures of the members were used on the following pages during the evaluations for each member. The order of in-group or out-group members was counterbalanced, but the normative peer in each group was always presented before the deviant member.

Next, each peer was presented again separately in the order that they were initially presented, and participants were asked questions about each one. After reading the description again, participants were asked to indicate the member's team as a memory check. Feedback was given for any incorrect answers.

Member evaluations were measured by asking ''How do you feel toward [peer member]?'' *Group inclusion* was measured by asking ''How do you think other children on the diamond team would feel towards [peer member]?'' and ''How do you think members of the star team would feel towards [peer member]?''

Participants then completed a *member allocation task*. In this task, participants were instructed, ''We have some book vouchers and want your help deciding how many to give to each person. I'm going to show you two of the people that I told you about before, and I want you to decide how many book vouchers each person should have. Each time I show you two people, you have to use five of the book vouchers. You can use which ever of the book vouchers you want and give them how you want—so you can give them all to one person or split them out.'' Participants were shown two members at a time in all possible combinations, creating six comparisons. Participants allocated vouchers to the members by

placing five of the laminated vouchers on top of the pictures of the members. This task was used to provide a nonevaluative measure of intragroup bias that also permitted direct comparison between each possible pair of members.

Results

Prior to further analysis, all dependent variables were examined for differences associated with gender or order of presentation. Consistent with findings from previous DSGD research, none were significant. Therefore, these variables were not examined further.

Intergroup Measures

Overall *evaluations* of each group (Table 2) differed significantly, showing intergroup bias in favor of the in-group ($M_{bias} = 1.20$, $SD = 1.69$), $t(45) = 4.79$, $p < .001$, $\eta^2 = .34$. Similarly, *allocations* to each group differed from the equality point of 5 in favor of the in-group ($M = 6.17$, $SD = 1.34$), $t(45) = 5.95$, $p < .001$, $\eta^2 = .44$. These two intergroup bias measures (i.e., evaluation and allocation) were moderately correlated, $r = .32$, $p < .05$. Because the pattern of other findings associated with these measures did not differ, both scores were standardized and an average of the two was used for later analyses as an overall measure of *intergroup bias*.

Intragroup Measures

Table 2 shows the means for each inclusion measure. As expected, children anticipated that normative members would be included more by their group than deviant members. They also expected that members from opposing groups would be included more if they were deviant than if they were normative. In line with previous research (e.g., Abrams, Rutland, & Cameron, 2003), the raw inclusion scores for each member (Table 2) were combined into a single index of differential inclusion (Table 1). A more positive differential inclusion score reflects that the child believes that each group will prefer its own normative members and the other group's deviant members. The overall differential inclusion mean score differed significantly from the zero point ($M = 1.29$, $SD = 1.62$), $t(45) = 5.42$, $p < .001$, partial $\eta^2 = .40$, showing that children did show significant levels of differential inclusion as expected.

Evaluations and allocations for members showed a similar pattern as shown in Table 2. Specifically, normative out-group members were evaluated significantly less positively and allocated less than all other members. Following the method used by Abrams, Rutland, and Cameron (2003; see also Table 1), the evaluations were combined into a single index of *differential evaluation*. The overall level of differential evaluation was significantly higher than zero ($M = 1.37$, $SD = 2.07$), $t(45) = 4.49$, $p < .001$, $\eta^2 = .31$. Similarly, the allocation scores were combined into a single index of *differential allocation*. The overall level of differential allocation was significantly higher than zero ($M = 2.00$, $SD = 4.47$), $t(45) = 3.04$, $p < .005$, $\eta^2 = .17$. The differential evaluation and allocation scores were significantly correlated, $r = .53$, $p < .001$. Thus overall, children significantly favored members from either group who showed relatively greater preference for the participant's group.

Hypothesis Tests

In line with the intergroup – intragroup differentiation hypothesis, differential evaluation and differential allocation were significantly related to intergroup bias, $r(46) = .54$, $p < .001$ and $r = .30$, $p < .05$, respectively. In line with the inclusion-related judgment hypothesis, differential inclusion was positively related to differential evaluation, $r(46) = .29$, $p < .05$, and differential allocation, $r = .40$, $p < .01$. Differential inclusion was not related to intergroup bias, $r(46) = .16$.

Table 2
Means and Standard Deviations for Inclusion, Evaluation, and Allocation Measures in Study 1

Group	In-group		Out-group	
Member	Normative	Deviant	Normative	Deviant
Inclusion by member's group	3.91_a (1.05)	3.70 (1.23)	3.74_a (1.39)	3.67 (1.19)
Inclusion by other group	2.76_b (1.39)	3.74_a (1.20)	2.57_b (1.19)	3.89_a (1.20)
Evaluation	4.11_a (1.18)	4.02_a (1.22)	2.78_b (1.28)	4.07_a (1.14)
Allocation	8.15_a (2.22)	8.26_a (1.47)	5.70_b (2.10)	7.80_a (1.65)

Note. Means with different subscripts (within columns for inclusion and within rows for all measures) differ significantly by pairwise *t* test (all *p*s $< .001$).

The motivational hypothesis is that the relationship between differential inclusion and differential evaluation should be larger when intergroup bias is high. A similar hypothesis would be advanced when differential allocation is used as the dependent measure. Table 3 and Figures 1a and 1b show the results of multiple regression analyses used to test the interactive effect of intergroup bias and differential inclusion on differential evaluation and differential allocation, respectively. Following procedures for testing interactions with multiple regression (cf. Aiken & West, 1991; Preacher, 2003), all the independent variables were standardized so that each had a mean of zero before computing the interaction term.

When differential evaluation was the dependent variable, there was a significant main effect of intergroup bias, a marginally significant effect of differential inclusion, and a significant interaction between intergroup bias and differential inclusion. Consistent with the motivational hypothesis, simple slopes analyses showed that among children who showed lower levels of intergroup bias, there was no significant relationship between differential inclusion and differential evaluation, $B = -.23$, $t = 0.97$, $p > .33$, whereas among children who showed higher levels of intergroup bias, the relationship between differential inclusion and differential evaluation was significantly positive, $B = .66$, $t = 3.07$, $p < .005$.

When differential allocation was the dependent variable, there was a marginal main effect of intergroup bias, a significant effect of differential inclusion, and a significant interaction between intergroup bias and differential inclusion. Simple slopes analyses showed that among children who showed lower levels of intergroup bias, there was no significant relationship between differential inclusion and differential allocation, $B = -.18$, $t = 0.67$, whereas among children who showed higher levels of intergroup bias, the relationship between differential inclusion and differential allocation was significantly positive, $B = .81$, $t = 3.57$, $p < .001$. Figures 1a and 1b depict the slopes for differential evaluation and differential allocation, respectively, when differential inclusion and intergroup bias are one standard deviation above and below their respective means. For both dependent variables, over 42% of the variance is accounted for by their relationship with intergroup bias and differential inclusion.

Finally, all the analyses were repeated using either intergroup evaluation bias or intergroup allocation bias as independent variables rather than the combined index. The interaction effects with differential inclusion and simple slopes analyses showed the same significant differences in both cases. The analyses were also repeated using a combined (average of standardized) differential evaluation and differential allocation score as the dependent variable. This revealed significant effects of differential inclusion, $\beta = .28$, $t = 2.42$, $p < .05$, intergroup bias, $\beta = .45$, $t = 3.82$, $p < .001$, $R^2 = .34$, $F(2, 43) = 10.85$, $p < .001$, and a significant interaction between intergroup bias and differential inclusion, $\beta = .34$, $t = 2.90$, $p < .01$, $\Delta R^2 = .11$, $F(3, 42) = 11.29$, $p < .001$. Details are available on request from the first author.

Discussion

In line with previous research (Abrams & Rutland, 2008), children showed significant intergroup bias, significant differential inclusion, and significant differential evaluation of (and allocation to) group members. In line with the DSGD model, the children who showed most intergroup bias also showed stronger differential evaluation in favor of both in-group and out-group peers who supported the in-group. Moreover, children who had developed an understanding of differential inclusion also showed stronger differential evaluation between peers. Finally, this significant relationship was stronger when children were motivated to support their in-group (i.e., they showed high intergroup bias).

Table 3
Regression Analyses in Study 1

Dependent variable	Independent variable	β	*t*	ΔR^2	*F*
Differential evaluation	Intergroup bias	.51	4.03***		
	Differential inclusion	.21	1.69†	.34	10.88***
	Intergroup Bias × Differential Inclusion	.28	2.34*	.08	9.83***
Differential allocation	Intergroup bias	.24	1.98†		
	Differential inclusion	.32	2.44*	.35	7.70***
	Intergroup Bias × Differential Inclusion	.32	2.39*	.08	7.84***

†$p < .10$. *$p < .05$. ***$p < .001$.

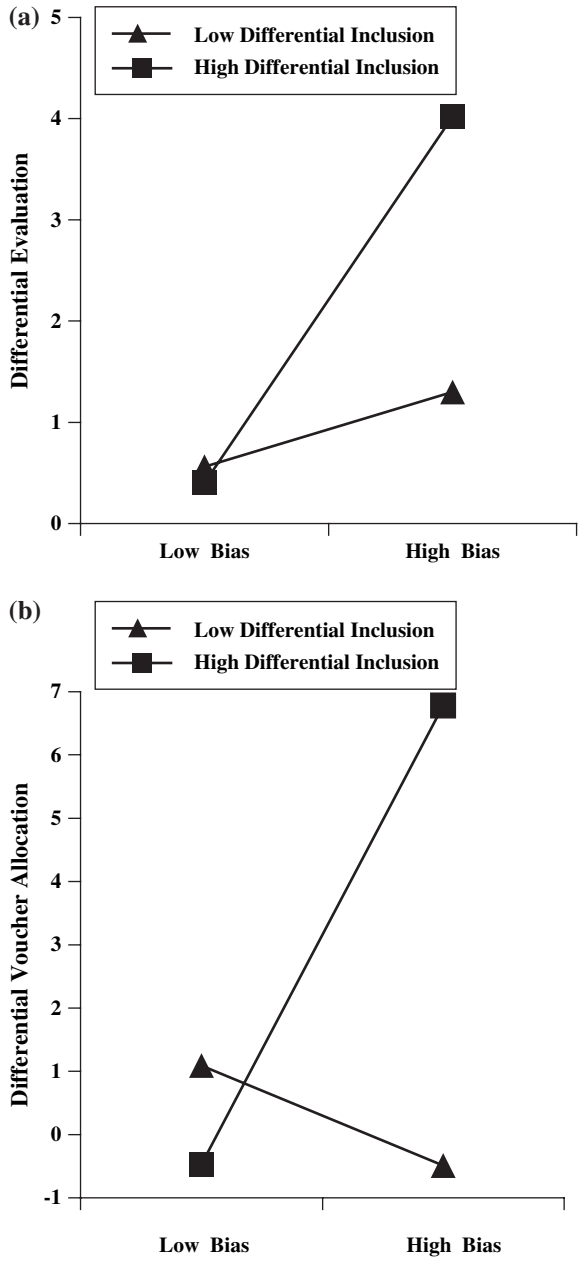

Figure 1. Study 1: Motivational hypothesis. Effects of intergroup bias and differential inclusion on (a) differential evaluation and (b) differential allocations.
Note. Simple slopes are depicted for values of intergroup bias and differential inclusion that are 1 *SD* above (high) and below (low) their respective means.

This is the first time that these effects have been shown within a minimal intergroup setting. It is also the first time they have been shown using a design asking children to judge normative and deviant peers from both an in-group and an out-group. It is important that the level of differential inclusion was significant because it shows that children can infer that group loyalty norms are held by peers even when the groups are conceptual and do not have a history or an objective reality and even when children have not been subjected to or witnessed conformity pressures from other members of the group. This represents a new finding in the developmental intergroup and peer relation literatures and provides clear support for assumptions in the DSGD model.

A further new finding is that children showed significant differential evaluation by choosing to distinguish *out-group* deviants (favorably) from out-group normative members. The fact that children are able to ''reserve'' their less positive evaluations for out-group normative members is consistent with the idea that intergroup biases in later childhood may shift to a focus on out-groups rather than just being positive about the in-group (cf. Aboud, 2003; Nesdale, 2001). The fact that children used differential evaluation in a different way from previous research, but still did so to selectively support the in-group, attests to the DSGD model's assumption that children learn to bolster the in-group by strategically targeting their evaluations of particular group members (cf. Abrams et al., 2007).

The data also supported the intergroup – intragroup differentiation hypothesis. Children who showed more intergroup bias also showed more intragroup differentiation in their evaluations and allocations to group members. Moreover, in support of the inclusion-related judgment hypothesis, these intragroup judgments were reliably associated with children's perceptions of the different ways each group would judge the members (differential inclusion). The present findings also extend previous research by showing that the relationships among intergroup bias and intragroup judgments were similar in form regardless of whether differential evaluations or differential allocations served as the dependent variable.

Finally, the test of the DSGD motivational hypothesis was consistent with the prediction that children use their evaluations and allocations to peer members in a motivated fashion. Specifically, children who showed greater intergroup bias related their judgments of differential inclusion more strongly to their differential evaluations of, and allocations to, group members. This is highly consistent with the DSGD model's expectation that differential evaluation of group members serves social identity and that it occurs in concert with, rather than opposition to, evaluation of groups as a whole. In addition, the fact that the motivational hypothesis was upheld for both evaluation- and allocation-dependent measures shows that it is not an artifact of a particular measurement method.

Study 2: Morality and Domain Specificity

Study 1, and previous research (e.g., Abrams et al., 2007), focused on judgments about peer group members who contravene or conform to group *loyalty* norms (which imply contrasting behavior for members of different groups). Loyalty norms are arguably a particular property of group membership that may be, within cultural limits, necessary for groups to function coherently (Abrams, Ando, & Hinkle, 1998; Levine & Moreland, 2002; van Vugt & Hart, 2004). However, children's inferences or understanding that in-groups and out-groups expect their members to be loyal and vice versa does not preclude the possibility that children will employ other criteria for evaluating individual group members. In particular, research on moral development shows that children understand and use moral principles when forming judgments from an early age (as young and 2.5 years of age; Smetana, 1985).

Children's evaluations of peer behavior in any context may reflect a multitude of factors (Killen, 2007; Turiel, 1998) relating to considerations of the self (e.g., individual autonomy), group (e.g., norms or social conventions), and morality (e.g., fairness or justice). Importantly, studies of social–moral reasoning in children indicate that these concerns do not develop in a hierarchical form; rather, they appear to emerge independently and simultaneously in development (Killen, 2007; Killen & Smetana, 2006). Therefore, Study 2 analyzes how children employ both moral and social-conventional (group-based) criteria such as loyalty when evaluating in-group and out-group peer members who deviate according to moral principles.

The overarching expectation for the present study is that children will differentiate among peers both on the basis of group membership and on the basis of individual morality. Thus, children should favor in-group peers over out-group peers but also favor peers from either group who behave according to moral principles over morally deviant peers from each group. Moreover, because these types of judgments involve different domains of reasoning (Turiel, 1998), group- and morality-based judgments should occur in parallel and be independent of each other.

A domain independence hypothesis and a domain specificity hypothesis are proposed. In order to test these hypotheses, judgments of peers are operationalized according to whether children distinguish among peers based on the group to which the peer belongs and to the morality of the peer's behavior. As in Study 1, measures include intergroup bias and inclusion, evaluation, and allocations of individual group members. The intragroup measures are operationalized in terms of group- and morality-based judgments.

The *domain independence* hypothesis holds that group- and morality-based judgments should be unrelated. Thus, group-based inclusion should be positively related to group-based evaluations and allocations but not to morality-based ones. Similarly, although morality-based inclusion should be positively related to morality-based evaluations and allocations, it should not be related to group-based evaluations.

The *domain specificity* hypothesis holds that SGD effects will arise for group-based judgments but not morality-based judgments. Study 1 set out the intergroup–intragroup differentiation, inclusion-based judgment, and the motivational hypotheses. In Study 2, for group-based judgments, all three hypotheses should be supported because social identity is relevant to these judgments. For morality-based judgments, there should be a relationship between inclusion and evaluation/allocations at the intragroup level. However, these should not be related to intergroup bias and should not be affected by social identity because intergroup bias and social identity are not relevant to the moral dimension. Thus, for morality-based judgments, support is expected only for the inclusion-based judgment hypothesis.

Multiple Classification Ability

The prediction of domain independence is based on prior research in moral development (e.g., Killen & Smetana, 2006). However, it is conceivable that other variables may simultaneously affect children's use of both group- and morality-based sets of criteria. The present research investigates the role of multiple classification ability in this respect.

According to cognitive developmental theory (cf. Aboud, 1988; Bigler & Liben, 1992, 2006, 2007), older children should have better multiple classification skill, which should underpin developmental differences in intergroup bias because it enables children to judge one another not just on the basis of simple social category memberships but by using multiple ways of categorizing. Multiple classification skill may be particularly relevant in cases where children are asked to make nearly simultaneous judgments of individuals who differ both between and within groups. Therefore, Study 2 included a measure of multiple classification skill (Abrams et al., 2007) to investigate its role. Specifically, based on cognitive developmental theory, the *multiple classification hypothesis* is that better multiple classification ability should be associated with reduced intergroup bias. In addition, it could be predicted that multiple classification ability

should be associated with increased within-group differentiation such that children should focus on individual differences (in morality) and not just group membership.

Previous DSGD research (e.g., Abrams, Rutland, & Cameron, 2003) has used age as a proxy for the presence of developmental processes such as multiple classification, but it has not until recently examined those processes directly (e.g., Abrams et al., 2007). The present research investigates the role of multiple classification ability but recognizes that other variables such as social experience and social perspective taking also covary with age (Abrams & Rutland, 2008). Therefore, age-related differences may exist above and beyond effects of multiple classification ability. Morality-based inclusion (Killen & Smetana, 2006) is thought to occur early in childhood, and understanding of group loyalty norms (Abrams, Rutland, & Cameron, 2003) appears to be well established by approximately 7–8 years. Therefore, to allow investigation of the role of multiple classification ability and independent effects associated with age, this study measured multiple classification ability and sampled children from two distinct age-groups, those aged between 5 and 7 years and those between 9 and 11 years.

In summary, the present study asked children to judge peers of a minimal in-group and out-group who adhered to (i.e., normative) or transgressed (i.e., deviant) moral principles. Group identification, intergroup judgments and intragroup inclusion, evaluation, and allocations were measured. To test the domain independence and domain specificity hypotheses, group- and morality-based indices were derived from each intragroup measure.

Method

Participants

There were 121 participants, including 74 females and 47 males from two age groups: 5–7 years ($n = 61$, $M = 6$ years 2 months, $SD = 4$ months, mode = 6) and 10–11 years ($n = 60$, $M = 10$ years 2 months, $SD = 3.7$ months, mode = 10). Participants were tested at their school, which was based in the same local education authority, and had the same demographic profile as participants in Study 1. All children were White British and from predominantly middle-class backgrounds. All participants had consent from their parent or guardian to participate.

Procedure and Materials

The procedure closely followed that of Study 1. Participants were assigned, ostensibly randomly, to the diamond team and then answered questions to evaluate the two teams and two peer members from each team. To measure how much participants identified with their team, three questions were asked: "How do you feel about being a member of the diamond team?" "How much do you think you would like to be a member of the star team" (reverse scored), and "How much would you like to change teams and be on the star team instead of the diamond team?" (reverse scored). All the responses were measured by the previously described feeling faces scale.

The next question was a group allocation measure. Participants were asked to allocate six bags of candy to the teams by drawing a diamond shape or a star shape under each cartoon drawing of six pictures. In this study, the candy measure was only presented once. Intergroup evaluation was measured in the same way as Study 1.

The four peer members were described using the same method of presentation as Study 1. However, the descriptions varied in terms of how morally the children behaved in their social interactions. Specifically, one moral peer member was described thus, "[member] always takes turns and does not mind if other people go ahead in the queue. [Member] is careful not to hurt the feelings of other team players during games." The other moral peer member was described thus, "[member] always shares with other people. [Member] is also very helpful to other team members if they are having a problem." These two descriptions were counterbalanced for in-group and out-group members.

In contrast, one immoral peer member was described thus, "[member] doesn't take turns and pushes people to get ahead in the queue. [Member] tries to be better than other people on the team even if it makes them feel bad." The other was described thus, "[member] sometimes is very selfish with toys and games. [Member] will not help other people on the team, even if they are having problems." Again, these descriptions were counterbalanced across in-group and out-group peer members. The choice of descriptions was determined by the need to use behaviors that the younger as well as older children would understand to contravene moral principles. Descriptions were based on examples and operationalizations from previous research (e.g., Killen, Margie, & Sinno, 2006). The aim was to tap into the judgment that the person was unequivocally either morally "good" or "bad," rather than the loyal–disloyal distinction in Study 1 or any other group-related attributes. The order of presentation of in-group or out-group members was also counterbalanced.

Group inclusion of, evaluations of, and allocation to peer members were assessed in the same way as Study 1.

Participants then completed a measure of *multiple classification* ability from previous research (Abrams et al., 2007). Participants were asked to group red and green triangles and crosses into a 2 × 2 grid using as many or few squares in the grid as they pleased. If participants sorted the objects by both shape and color, they were given a score of 2. If they sorted the objects only on one dimension, such as just shape or just color, they were given a score of 1. If there was no pattern of sorting the objects, they were given a score of 0.

Demographic information about each participant was also collected including the participant's age, birthday, gender, and ethnicity.

Results

The design was 2 (age: 5–6 years vs. 10–11 years) Between Participants × 2 (group: in-group vs. out-group) Within Participants × 2 (member: moral vs. immoral) Within Participants. However, unless mentioned later, there were no significant effects of participants' gender, order of measures, or age group. Therefore, these variables were not included in the analyses reported below.

Intergroup Measures

Evaluations of the in-group and out-group differed, showing significant bias in favor of the in-group ($M = 1.68$, $SD = 1.81$), $t(119) = 10.21$, $p < .001$, $\eta^2 = .47$. Intergroup allocation also significantly favored the in-group ($M = 3.45$, $SD = 1.18$), $t(120) = 4.25$, $p < .001$, $\eta^2 = .13$. The two intergroup bias measures were moderately correlated, $r = .27$, $p < .005$. As in Study 1, both scores were standardized and the mean of these served as an overall measure of intergroup bias.

Intragroup Measures

Table 4 shows the means and pairwise differences for each inclusion measure, the evaluation and allocation measures, and the typicality measure. Children included moral members more than immoral members within both groups. They also expected that in-group moral members would be included more by the in-group than by the out-group. Children favored moral over immoral members. However, they also favored moral in-group members over moral out-group members and, on allocations, also favored immoral in-group members over immoral out-group members.

Domain Independence of Group- and Morality-Based Responses

For each of the inclusion, evaluation, allocation, and typicality measures, two simple indices were composed, reflecting either *group-* or *morality-based* responses. *Group-based inclusion* is the mean of inclusion judgments about same group members (i.e., in-group inclusion of in-group members and out-group inclusion of out-group members) minus the mean of expected judgments about opposite group members (i.e., in-group inclusion of out-group members and out-group inclusion of in-group members). The difference score showed that inclusion was higher within than between groups ($M = 0.24$, $SD = 0.72$), indicating a significant level of group-based inclusion, $t(120) = 3.72$, $p < .001$, $\eta^2 = .10$. *Morality-based inclusion* is the mean of inclusion judgments about moral in-group and out-group members minus the mean of inclusion judgments about both immoral members. The difference score showed that inclusion was significantly higher for moral members ($M = 2.06$, $SD = 1.20$), $t(120) = 18.84$, $p < .001$, $\eta^2 = .75$. Comparison revealed that levels of morality- and group-based inclusion scores differed significantly, $t(120) = 14.25$, $p < .001$, $\eta^2 = .63$. Thus, although both morality- and group-based inclusion were significant in children's judgments, the effect size for morality-based inclusion was significantly more substantial, $Z = 7.508$, $p < .001$. Consistent with the domain independence hypothesis and importantly for subsequent analyses, the two indices were uncorrelated, $r(121) = -.001$.

On a similar basis as for inclusion, an index of *group-based differential evaluation* was computed by subtracting the evaluations of both out-group members from the evaluations of both in-group members. The difference between these scores was significant, $t(120) = 2.89$, $p < .005$, $\eta^2 = .07$, demonstrating in-group favoring group-based differential evaluation ($M = 0.42$, $SD = 1.58$). *Morality-based evaluation* was computed by subtracting the evaluations of both immoral members from evaluations of both moral members. The significant difference between these scores ($M = 6.00$, $SD = 2.28$), $t(120) = 28.83$, $p < .001$, $\eta^2 = .88$, indicates favoritism toward moral members. Group- and morality-based differential evaluation scores differed significantly, $t(120) = 20.70$, $p < .001$, $\eta^2 = .78$. As with the inclusion measures, participants showed much stronger differentiation in morality-based than group-based evaluations. In line with the domain independence hypothesis, the two forms of evaluation were not significantly related, $r = -.15$, $p > .10$.

Table 4
Means and Standard Deviations for Inclusion, Evaluation, and Allocation Measures in Study 2

Group	In-group		Out-group	
Member	Moral	Immoral	Moral	Immoral
Inclusion by member's group	4.29_a (1.10)	1.63_c (1.05)	3.92_a (1.24)	1.84_c (1.18)
Inclusion by other group	3.56_b (1.45)	1.98_c (1.25)	4.13_{ab} (1.19)	1.92_c (1.15)
Evaluation	4.70_a (0.75)	1.63_c (1.05)	4.41_b* (0.95)	1.49_c (1.01)
Allocation	10.32_a (2.20)	5.91_c (2.26)	8.76_b (2.13)	4.92_d (2.16)

Note. Means with different subscripts (within columns for inclusion and within rows for all measures) differ significantly by pairwise t test (all ps $< .001$ except $^*p < .01$).

Similar analyses for *group-based allocation* ($M = 8.26$, $SD = 6.54$) and *morality-based allocation* ($M = 2.55$, $SD = 4.90$) showed significant in-group favoritism and significant moral favoritism, respectively, $t(120) = 5.67$, $p < .001$, $\eta^2 = .22$, and $t(120) = 13.78$, $p < .001$, $\eta^2 = .62$. These scores differed significantly, $t(120) = 7.60$, $p < .001$, $\eta^2 = .33$, and were uncorrelated, $r = -.01$.

In summary, across the intragroup measures, levels of morality- and group-based differentiation were both significant. Consistent with the domain independence hypothesis, there was no significant relationship between morality- and group-based responses, demonstrating that they are used as *independent* criteria in children's judgments.

To facilitate analysis of the relationships among the different types of intergroup and intragroup responses, all variables were standardized. The standardized intragroup allocation and evaluation measures were averaged to provide a single index of intragroup bias comparable to the intergroup bias measure (findings remain consistent when the measures are not aggregated). Table 5 presents the correlations among these measures.

Domain Specificity

Table 5 shows that intergroup bias is significantly positively related to group-based bias but not to morality-based bias. Thus, the intergroup–intragroup differentiation hypothesis is upheld in the group-based but not the morality-based domain, supporting the domain specificity hypothesis. Note that intergroup bias is also significantly *negatively* associated with morality-based inclusion but marginally significantly *positively* associated with group-based inclusion even though the two inclusion measures are themselves unrelated.

The inclusion-based judgment hypothesis (Study 1) was supported separately in each domain. Morality-based inclusion is most strongly and positively related to morality-based bias, whereas group-based inclusion is most strongly and positively related to group-based bias. This shows that morality-based

Table 5
Means, Standard Deviations, and Intercorrelations Among Variables in Study 2

	M	*SD*	1	2	3	4	5	6	7
1. Age (months)	98.40	24.46							
2. In-group identification	3.59		.12						
3. Intergroup bias (standardized)	0.00	.80	−.10	.58***					
4. Morality-based inclusion	2.06	1.20	.15	−.01	−.22*				
5. Group-based inclusion	.24	.72	.16†	.10	.17†	−.01			
6. Morality-based bias (standardized)	0.00	.79	−.05	−.03	−.11	.44***	−.12		
7. Group-based bias (standardized)	0.00	.70	−.18†	.22*	.37***	−.21*	.38***	−.11	
8. MCS	1.52	.73	.35***	−.05	−.30***	.18*	.07	.16†	−.12
9. MCS with age partialed				−.10	−.29***	.14	.01	.19*	−.06
10. Age with MCS partialed				.14	.01	.09	.14	−.12	−.15

Note. $N = 121$. MCS = multiple classification score.
†$p < .10$. *$p < .05$. ***$p < .001$.

judgments and group-based judgments are generally distinct not just within types of measure but also between measures.

The three identification items were factor analyzed and found to load on a single factor, accounting for 59% of the variance (all loadings > .63). These were combined to provide an index of group identification. The mean score was 3.59 on a scale from 1 to 5 (SD = 1.01). Consistent with the domain specificity hypothesis, Table 5 shows that group identification is significantly related to intergroup bias and group-based bias but is unrelated to morality-based bias or any measures of inclusion.

The independence of identification from the inclusion measures allows a test of the motivational hypothesis (Study 1) by examining how identification might moderate the relationship between inclusion and bias measures. Moreover, the present study enabled us to test the domain specificity of the motivational hypothesis. This assumes that group-based inclusion should be more strongly related to group-related bias when identification is higher. However, levels of identification should not moderate the relationships between morality-based inclusion and morality-based bias or morality-based inclusion and group-based bias.

The identification measure, the group-based inclusion measure, and the morality-based inclusion measure were standardized. Interaction terms between identification and the relevant inclusion measure were computed. Group-based bias or morality-based bias was a dependent variable in multiple regression analyses to test the hypothesized interaction effects.

Group-based bias. When identification and morality-based inclusion were used as independent variables, there was a significant effect of identification, $\beta = .22$, $t = 2.50$, $p < .05$; a significant negative effect of morality-based inclusion, $\beta = -.21$, $t = 2.35$, $p < .05$; and no interaction, $\beta = -.06$, $t = 0.70$, $R^2 = .10$, $F(3, 117) = 4.08$, $p < .01$. In contrast, the analysis involving identification and group-based inclusion revealed a significant effect of identification, $\beta = .19$, $t = 2.20$, $p < .05$; a significant effect of group-based inclusion, $\beta = .36$, $t = 4.31$, $p < .001$; and a significant interaction, $\beta = .20$, $t = 2.43$, $p < .05$, $R^2 = .22$, $F(3, 117) = 10.83$, $p < .001$. As shown in Figure 2, analysis of simple slopes showed that the relationship between inclusion and bias was only marginally significant when identification was low, $B = .14$, $t = 1.94$, $p < .06$, but larger and highly significant when identification was high, $B = .37$, $t = 5.22$, $p < .001$.

Morality-based bias. When identification and morality-based inclusion were used as independent variables, there was no effect of identification, $\beta = -.03$, $t = -.35$; a significant effect of morality-based inclusion, $\beta = .44$, $t = 5.27$, $p < .001$; and no interaction, $\beta = .09$, $t = 1.02$, $R^2 = .20$, $F(3, 117) = 9.66$, $p < .001$. The comparable analysis involving identification and group-based inclusion as independent variables revealed no significant effects ($0 > \beta > -.12$ for all effects), $R^2 = .02$, $F(3, 117) = 0.78$. Thus, children who believed that their peers would more strongly favor moral over immoral members made similar judgments themselves, but their judgments were not affected by how strongly they identified with the group or their beliefs about how peers judge in-group and out-group members.

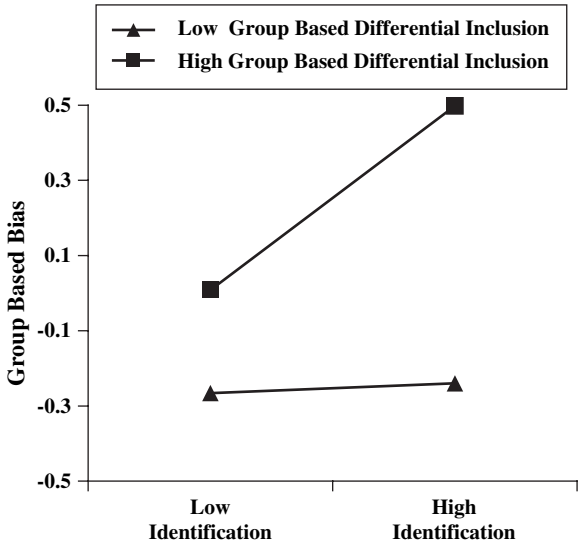

Figure 2. Study 2: Simple slopes showing the relationship between differential inclusion and group-based evaluations as a function of identification with the in-group.
Note. Simple slopes are depicted for values of group identification and differential inclusion that are 1 *SD* above (high) and below (low) their respective means.

In summary, children's relative bias for in-group individuals over out-group individuals was associated with stronger identification with the group, a lower belief that peers would use morality as a basis for judging members and a stronger belief that peers would use group membership as a basis for judging members. Moreover, the more strongly children identified with the in-group, the more closely related were their judgments of group-based inclusion and their own group-based differential bias toward members. These findings are consistent with domain specificity.

Multiple Classification and Age

Table 5 shows that multiple classification skill was significantly positively correlated with age, $r = .35$, $p < .001$. More importantly, consistent with the

multiple classification hypothesis, it was associated with lower intergroup bias, $r = -.30$, $p < .001$. To unconfound age and multiple classification skill, their partial correlations with other measures were examined (Table 5). When multiple classification score was partialed out, age was unrelated to any bias measures. In contrast, when age was partialed out, multiple classification score remained significantly associated with lower intergroup bias, $pr = -.25$, $p < .01$ and was significantly associated with higher morality-based bias, $pr = .19$, $p < .05$. These findings support the idea that multiple classification ability is likely to play a role in both intergroup and individual peer judgments in a minimal group context. Children with better multiple classification skills tended to focus less on groups and more on individual morality when forming their peer judgments.

Discussion

Study 2 revealed that when children judged in-group and out-group peer members whose behavior was moral and immoral, they differentiated more in terms of morality than group membership. However, they continued to show significant levels of intergroup bias and group-based bias. Moreover, there was a systematic relationship among the measures. Consistent with the domain independence hypothesis, the group- and morality-based forms of each measure were unrelated to one another. Children who showed more morality-based inclusion showed more morality-based bias but not more group-based bias. Children who showed more group-based inclusion showed more group-based bias but not morality-based bias. Moreover, consistent with domain specificity, children who identified more with their group showed more intergroup bias and group-based bias but not morality-based bias. Finally, children who identified more with their group related their group-based inclusion more strongly to their group-based bias, whereas identification did not alter the association between morality-based inclusion and bias.

The results are particularly interesting as they shed light on how children approach morality in intergroup situations. It does not appear that children's responses to in-group and out-group peers require a trade-off between favoring people because of their group membership versus favoring them because of their morality. Instead, the present study shows that when moral breaches are objectively uncorrelated with group membership, children use both morality and group membership as independent bases of judgment. In this respect, the results of Study 2 are also broadly in line with one of the few studies of adults that systematically varied likability and group membership as entirely within-participants factors (Bown & Abrams, 2003).

Finally, consistent with cognitive developmental theory (Aboud, 1988; Bigler & Liben, 1992), older children showed better multiple classification skill, but independently of age, multiple classification skill was associated with lowered intergroup bias. Although multiple classification skill was unrelated to group-based bias toward members, it was related to increased morality-based bias. Thus, children with better multiple classification skills focused less on intergroup category differences and more on individual morality differences within the categories. In addition, note a negative correlation between morality-based inclusion and both intergroup bias and group-based bias, which may indicate that multiple classification may be involved in a more complex way that connects their variables. Thus, there is some evidence that multiple classification does influence both intergroup and intragroup judgments, though not necessarily in a way that makes the two sets of judgments interdependent.

General Discussion

The two studies in this article represent the first tests of the DSGD model using a minimal intergroup setting and the first to use a fully within-participants design. The findings provide three new lines of evidence for the model. First, even when children directly compare normative and deviant in-group and out-group peers and even when the groups are completely novel and minimal (both previously untested contexts), children still show motivated biases and make use of their expectations of group-based inclusion. Second, these effects are specific to group-based judgments and do not occur in morality-based judgments. Third, multiple classification ability is implicated in both the level of intergroup bias and the use of morality-based judgments of peers within groups. Taken together, this evidence extends the generalizability of the DSGD model by demonstrating that intergroup bias and evaluations of peers are systematically related and that evaluations are positively correlated with perceptions of peer group inclusion, and this relationship is motivated by social identity.

Study 1 showed that when peer members of minimal in-groups and out-groups deviate in terms of group loyalty, children reserve their least positive responses for normative out-group members. In support of the intergroup–intragroup differentiation hypothesis, children who are more biased in favor

of their in-group as a whole differentiate more strongly within the group. In support of the inclusion-related judgment and motivational hypotheses, those who are most biased at the intergroup level use their understanding of differential inclusion more systematically as a basis for their allocations to and evaluations of group members. The fact that these findings have been obtained in an intergroup relationship that is extremely minimal is important because it shows that children are able to generate representations of group processes without having to experience group norms specifically or directly within a particular intergroup setting. This suggests that children may be generalizing from their social experiences to make assumptions about group functioning, particularly in terms of loyalty norms.

Previous research has shown that children use both moral and social-conventional or psychological reasoning to explain decision making about inclusion and exclusion within peer groups (Killen et al., 2002, 2006). Social-cognitive domain theory (Killen et al., 2002; Nucci & Turiel, 1978; Smetana, 1995; Turiel, 1983) contends that reasoning about morality and social differentiation among peers reflect two distinct domains of knowledge, the moral (e.g., issues of fairness) and social-conventional (e.g., conformity to group norms and customs). This theory contrasts with global stage approaches to social–moral development (Kohlberg, 1984; Piaget, 1932) because it acknowledges that these different domains of knowledge can inform both reasoning and judgments in ontological development (Turiel, 1983). The present research supports social-cognitive domain theory by showing that morality- and group-based judgments are not opposites. Rather, children employ both when engaging in social exclusion and peer rejection.

Children in Study 2 related their identification with a group selectively to group-based judgments. This suggests a motivational explanation for why, though children develop an understanding of fairness early between 2 and 3 years (Nucci & Turiel, 1978), they also heed social-conventional criteria (i.e., group membership) when evaluating peers. The DSGD model's hypotheses for inclusion-based judgment and motivation were clearly supported but only for group-based judgments. Group-based reasoning about and responses to peers are most likely to be employed when children strongly identify with their in-group within a salient intergroup context.

Study 2 also demonstrated that although minimal intergroup bias is lower among children with better multiple classification skill, this does not appear to be because they make greater use of morality-based judgments or lesser use of judgments based on group membership. Indeed, multiple classification skill is associated with greater morality-based bias. This is consistent with the idea that greater multiple classification skill may equip children with more flexibility in the way they perceive group members. Future research is certainly needed to see whether it also means that they always employ universalistic (e.g., moral) dimensions rather than relativistic (e.g., group-based) dimensions for evaluating group members.

Future Directions and Conclusions

The present research constructed a highly minimal intergroup context, but it also establishes some level of competitiveness between the groups. Thus, to some extent, children may have applied the informal rules of competition when making their judgments. Although competition does boost SGD (cf. Abrams, Rutland, & Cameron, 2003; Marques et al., 2001), it is not necessary for SGD to occur. Moreover, given that children had no idea who the group members were or who else belonged to their own group, the situation was still substantially more minimal than has been used in previous research. However, future research should investigate whether DSGD effects arise in situations where the groups are completely independent or are actually cooperating to see whether children follow different norms (e.g., characters who would be deemed "disloyal" in competition might be deemed "noble" in cooperative situations).

It could be argued that immoral behavior overlaps with general "niceness." However, research with adults shows that if the specific dimension of likability is manipulated, the black sheep effect occurs (Marques et al., 1988). Thus, if the morality manipulation in the present research had only tapped likability, we would not have predicted or obtained distinct effects. More importantly, niceness is a personality attribute that could vary as a function of the perceiver as well as the target (e.g., people might view others as unlikable simply because they belong to a different group or have a different appearance). In contrast, research on moral development has shown that children in a wide range of cultures believe that moral principles (i.e., equality, justice, and fairness) universally apply to all individuals (Killen & Smetana, 2006). Consistent with these findings, the present research shows that children do apply these moral criteria to both in-group and out-group peer behavior but that they simultaneously apply group-based criteria for evaluating these peers.

Abrams et al. (2005) and Marques et al. (2001) used the term "generic norm" to refer to a norm that is

shared across all groups (e.g., to be successful). Future research in both the adult and developmental literatures is needed to see how and when people bring generic norms into play when judging group members. It is likely that some generic norms are nonmoral but are more like social conventions that are used to enhance groups competitively (e.g., valuing attractiveness, skillfulness). But other generic norms, perhaps those that are embedded more in moral principles, may be ones that people advocate for all members of all groups (e.g., that everyone should be fair).

In addition, it is possible that some group norms may become so entrenched that they acquire the status of principles (e.g., rules prescribed in some religions) that have the subjective status of morals. This may provide a basis for people to try to make *other* groups adopt them (e.g., religious crusades). Note that these different types of norm imply different goals at the intergroup level. When social-conventional generic norms are salient, people want their group to be different from out-groups (e.g., better). When a norm becomes subjectively defined as ''moral,'' people should want to convert out-groups to adopt these norms (e.g., justifying military, political, or religious domination). Although these issues are beyond the scope of the present research, future research should investigate children's understanding of and reactions to deviation from different types of in-group, out-group, and generic norms.

Future research should also investigate variables that affect the relative weight children place on moral and social-conventional criteria in different intergroup relationships. For example, perceived out-group threat may encourage children to base their exclusion judgments more on group membership factors than morality (Nesdale, Durkin, et al., 2005; Nesdale, Maass, Durkin, & Griffiths, 2005), and exclusion social norms (Jackson et al., 2006; Ojala & Nesdale, 2004; Rutland, Cameron, Milne, & McGeorge, 2005) may also facilitate the use of social-conventional reasoning over morality when children differentiate within the peer group.

In conclusion, the present research supports the principal predictions from the DSGD model within a minimal group context. Moreover, Study 2 extended the model by demonstrating the independent contribution of morality-based and group membership–based responses that affect children's social exclusion within the peer group. In middle childhood, children infer group loyalty norms and consider both the moral and the social-conventional domains of knowledge when differentiating among peers. Significantly, children with more advanced multiple classification skill show reduced intergroup bias and increased use of morality as a basis for judging peers. However, with increasing social identification, children differentiate among their peers more based upon group membership but not necessarily morality. These findings begin to provide an explanation for why, despite their strong sense of morality, children still show marked intergroup bias and peer social exclusion during middle childhood. We suggest that, to provide a comprehensive account of peer exclusion, developmental research on peer relations should consider children's understanding of group-based social relationships and not just the psychopathology of individual children (Jackson et al., 2006; Juvonen et al., 2006; Killen et al., 2002, 2006).

References

Aboud, F. (1988). *Children and prejudice*. Oxford, UK: Blackwell.

Aboud, F. E. (2003). The formation of in-group favoritism and out-group prejudice in young children: Are they distinct attitudes? *Developmental Psychology, 39*, 48–60.

Abrams, D. (1985). Focus of attention in minimal intergroup discrimination. *British Journal of Social Psychology, 24*, 65–74.

Abrams, D., Ando, K., & Hinkle, S. (1998). Psychological attachment to the group: Cross-cultural differences in organizational identification and subjective norms as predictors or workers' turnover intentions. *Personality and Social Psychology Bulletin, 24*, 1027–1039.

Abrams, D., Hogg, M. A., & Marques, J. M. (2005). *The social psychology of inclusion and exclusion*. New York: Psychology Press.

Abrams, D., Marques, J. M., Bown, N. J., & Henson, M. (2000). Pro-norm and anti-norm deviance within in-groups and out-groups. *Journal of Personality and Social Psychology, 78*, 906–912.

Abrams, D., & Rutland, A. (2008). The development of subjective group dynamics. In S. R. Levy & M. Killen (Eds.), *Intergroup relations: An integrative developmental and social psychological perspective* (pp. 47–65). Oxford, UK: Oxford University Press.

Abrams, D., Rutland, A., & Cameron, L. (2003). The development of subjective group dynamics: Children's judgments of normative and deviant in-group and out-group individuals. *Child Development, 74*, 1840–1856.

Abrams, D., Rutland, A., Cameron, L., & Ferrell, J. (2007). Older but wilier: Ingroup accountability and the development of subjective group dynamics. *Developmental Psychology, 43*, 134–148.

Abrams, D., Rutland, A., Cameron, L., & Marques, J. M. (2003). The development of subjective group dynamics: When ingroup bias gets specific. *British Journal of Developmental Psychology, 21*, 155–176.

Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.

Asher, S. R., & Cole, D. (1990). *Peer rejection in childhood*. New York: Cambridge University Press.

Bigler, R. S., Brown, C. S., & Markell, M. (2001). When groups are not created equal: Effects of group status on the formation of intergroup attitudes in children. *Child Development*, *72*, 1151–1162.

Bigler, R. S., Jones, L. C., & Lobliner, D. B. (1997). Social categorization and the formation of inter-group attitudes in children. *Child Development*, *68*, 530–543.

Bigler, R. S., & Liben, L. S. (1992). Cognitive mechanisms in children's gender stereotyping: Theoretical and educational implications of a cognitive-based intervention. *Child Development*, *63*, 1351–1363.

Bigler, R. S., & Liben, L. S. (2006). A developmental intergroup theory of social stereotypes and prejudice. In R. V. Kail (Ed.), *Advances in child development and behavior* (Vol. 34, pp. 39–89). San Diego, CA: Elsevier.

Bigler, R. S., & Liben, L. S. (2007). Developmental intergroup theory: Explaining and reducing children's social stereotyping and prejudice. *Current Directions in Psychological Science*, *16*, 162–166.

Bown, N. J., & Abrams, D. (2003). Despicability in the workplace: Effects of behavioral deviance and unlikeability on the evaluation of group members. *Journal of Applied Social Psychology, 33*, 2413–2426.

Bukowski, W., & Sippola, L. (2001). Groups, individuals, and victimization: A view of the peer system. In J. Juvonen & S. Graham (Eds.), *Peer harassment in school. The plight of the vulnerable and victimized* (pp. 355–377). New York: Guilford Press.

Gagnon, A., & Bourhis, R. Y. (1996). Discrimination in the minimal group paradigm: Social identity or self-interest? *Personality and Social Psychology Bulletin*, *22*, 1289–1301.

Graham, S., & Juvonen, J. (1998). Self-blame and peer victimization in middle school: An attributional bias. *Developmental Psychology, 34*, 587–599.

Hogg, M. A., & Abrams, D. (1988). *Social identifications: A social psychology of intergroup relations and group processes*. London: Routledge.

Jackson, M. F., Barth, J. M., Powell, N., & Lochman, J. E. (2006). Classroom contextual effects of race on children's peer nominations. *Child Development*, *77*, 1325–1337.

Juvonen, J., & Graham, S. (2001). *Peer harassment in school. The plight of the vulnerable and victimized*. New York: Guilford Press.

Juvonen, J., Nishina, A., & Graham, S. (2001). Self views versus peer perceptions of victims' status among early adolescents. In J. Juvonen & S. Graham (Eds.), *Peer harassment in school: The plight of the vulnerable and victimized* (pp. 105–124). New York: Guilford Press.

Juvonen, J., Nishina, A., & Graham, S. (2006). Ethnic diversity and perceptions of safety in urban middle schools. *Psychological Science*, *17*, 393–400.

Killen, M. (2007). Children's social and moral reasoning about exclusion. *Current Directions in Psychological Science*, *16*, 32–36.

Killen, M., Margie, N. G., & Sinno, S. (2006). Morality in the context of intergroup relationships. In M. Killen & J. Smetana (Eds.), *Handbook of moral development* (pp. 155–184). Mahwah, NJ: Erlbaum.

Killen, M., McGlothlin, H., & Lee-Kim, J. (2002). Between individuals and culture: Individuals' evaluations of exclusion from social groups. In H. Keller, Y. Poortinga, & A. Schoelmerich (Eds.), *Between biology and culture: Perspectives on ontogenetic development* (pp. 159–190). Cambridge, UK: Cambridge University Press.

Killen, M., & Smetana, J. G. (Eds.). (2006). *Handbook of moral development*. Mahwah, NJ: Erlbaum.

Kohlberg, L. (1984). *Essays on moral development, Vol. II: The psychology of moral development*. San Francisco: Harper & Row.

Levine, J. M. (1989). Reaction to opinion deviance in small groups. In P. B. Paulus (Ed.), *Psychology of group influence* (2nd ed., pp. 187–231). Hillsdale, NJ: Erlbaum.

Levine, J. M., & Moreland, R. L. (2002). Group reactions to loyalty and deviance. *Group Cohesion, Trust and Solidarity, 19*, 203–228.

Marques, J. M., Abrams, D., Pàez, D., & Martinez-Taboada, C. (1998). The role of categorization and in-group norms in judgments of groups and their members. *Journal of Personality and Social Psychology, 75*, 976–988.

Marques, J. M., Abrams, D., & Serôdio, R. (2001). Being better by being right: Subjective group dynamics and derogation of in-group deviants when generic norms are undermined. *Journal of Personality and Social Psychology, 81*, 436–447.

Marques, J. M., Yzerbyt, V. Y., & Leyens, J.-Ph. (1988). The black sheep effect: Judgmental extremity towards ingroup members as a function of ingroup identification. *European Journal of Social Psychology, 18*, 1–16.

Nesdale, D. (2001). Development of prejudice in children. In M. Augoustinos & K. J. Reynolds (Eds.), *Understanding prejudice, racism and social conflict* (pp. 57–72). London: Sage.

Nesdale, D., Durkin, K., Maass, A., & Griffiths, J. (2005). Threat, group identification, and children's ethnic prejudice. *Social Development*, *14*, 189–205.

Nesdale, D., Maass, A., Durkin, K., & Griffiths, J. (2005). Group norms, threat and children's racial prejudice. *Child Development*, *76*, 652–663.

Nucci, L. P., & Turiel, E. (1978). Social interactions and the development of social concepts in preschool children. *Child Development*, *49*, 400–407.

Ojala, K., & Nesdale, D. (2004). Bullying and social identity: The effects of group norms and distinctiveness threat on attitudes towards bullying. *British Journal of Developmental Psychology, 22*, 19–35.

Piaget, J. (1932). *The moral judgment of the child*. London: Routledge & Kegan Paul.

Preacher, K. J. (2003). *A primer on interaction effects in multiple linear regression*. Retrieved November 15, 2006, from the University of Kansas, Psychology Department Web site: http://www.psych.ku.edu/preacher/interact/interactions.htm

Quintana, S. M. (1994). A model of ethnic perspective taking ability applied to Mexican-American children

and youth. *International Journal of Intercultural Relations*, *18*, 419–448.

Quintana, S. M. (1998). Children's developmental understanding of ethnicity and race. *Applied and Preventative Psychology, 7*, 27–45.

Rubin, K. H., Bukowski, W., & Parker, J. G. (1998). Peer interactions, relationships, and groups. In W. Damon (Series Ed.) & N. Eisenberg (Vol. Ed.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (5th ed., pp. 619–700). New York: Wiley.

Ruble, D. N., Alvarez, J., Bachman, M., Cameron, J., Fuligni, A., & Coll, C. G. (2004). The development of a sense of ''we'': The emergence and implications of children's collective identity. In M. Bennett & F. Sani (Eds.), *The development of the social self*. East Sussex, UK: Psychology Press.

Rutland, A., Cameron, L., Milne, A., & McGeorge, P. (2005). Social norms and self-presentation: Children's implicit and explicit intergroup attitudes. *Child Development*, *76*, 451–466.

Schachter, S. (1951). Deviation, rejection and communication. *Journal of Abnormal and Social Psychology, 46*, 190–207.

Smetana, J. (1985). Preschool children's conceptions of transgressions: Effects of varying moral and conventional domain-related attributes. *Developmental Psychology, 21*, 18–29.

Smetana, J. G. (1995). Morality in context: Abstractions, ambiguities, and applications. In R. Vasta (Ed.), *Annals of child development* (Vol. 10, pp. 83–130). London: Jessica Kinglsey.

Tajfel, H., Billig, M. G., Bundy, R. P., & Flament, C. (1971). Social categorization and intergroup behaviour. *European Journal of Social Psychology, 1*, 149–178.

Tajfel, H., & Turner, J. (1979). An integrative theory of intergroup conflict. In W. Austin & S. Wochel, (Eds.), *The social psychology of intergroup relations* (pp. 33–47). Monterey, CA: Brooks/Cole.

Turiel, E. (1983). *The development of social knowledge: Morality and convention*. Cambridge, UK: Cambridge University Press.

Turiel, E. (1998). *The development of morality. Handbook of child psychology* (5th ed., Vol. 3, pp. 863–932). New York: Wiley.

van Vugt, M., & Hart, C. M. (2004). Social identity as social glue: The origins of group loyalty. *Journal of Personality and Social Psychology, 86*, 585–598.

Vaughan, G., Tajfel, H., & Williams, J. A. (1981). Bias in reward allocation in an intergroup and interpersonal context. *Social Psychology Quarterly, 44*, 37–42.

Zdaniuk, B., & Levine, J. M. (2001). Group loyalty: Impact of members' identification and contributions. *Journal of Experimental Social Psychology, 37*, 502–509.