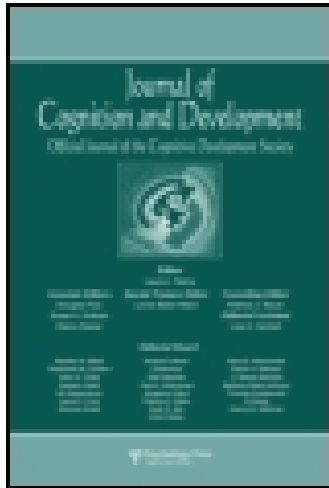


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Representing ‘Us’ and ‘Them’: Building Blocks of Intergroup Cognition

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Three experiments explored whether group membership affects the acquisition of richer information about social groups. Employing a minimal-groups paradigm, 6- to 8-year-olds were randomly assigned to 1 of 2 novel social groups. Experiment 1 demonstrated that immediately following random assignment to a novel group, children were more likely to generalize negative behaviors to outgroup members and positive behaviors to ingroup members and to report a preference for ingroup members. Experiments 2 and 3 showed that this initial ingroup-favoring bias interacts with subsequent learning, thereby attenuating the effect of negative information about the ingroup and enhancing the effect of negative information about the outgroup. These effects were more powerful with respect to preferences than induction: After hearing that some ingroup members behaved badly, children predicted that ingroup members would behave more negatively than outgroup members, but they did not express preferences for the outgroup over the ingroup. Together these data shed light on the construction of social category knowledge as well as the processes underlying the absence of own-group positivity among children from lower-status social groups.

All the people like us are we,
and all the people not like us are they.
(Kipling, *We and They*, 1929)

Kipling is not alone in suggesting that the social world is viewed in terms of *us* and *them*, an *ingroup* and an *outgroup*; students of intergroup relations have also noted the all-too-human tendency to behave in ways that reinforce intragroup bonds and sharpen intergroup boundaries. For example, Turner, Brown, and Tajfel (1979) suggested that the social world is divided up effortlessly and even automatically into ingroups and outgroups, with numerous consequences for intergroup cognition. Most strikingly, research involving the classic minimal-groups paradigm, whereby participants are arbitrarily assigned to novel social groups, demonstrates that merely categorizing a person as an ingroup member leads to positive social evaluation as well as the overextension of positive properties to ingroup members and of negative properties to outgroup members, increased giving to ingroup members, and a range of other social-cognitive biases that appear by age 5 years (Carini, 2000; Dunham, Baron, & Carey, 2011; Gramzow,

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Gaertner, & Sedikides, 2001; Greenwald, Pickrell, & Farnham, 2002; Nesdale & Flesser, 2001; Nesdale, Griffiths, Durkin, & Maass, 2007; Nesdale, Maass, Griffiths, & Durkin, 2003; Patterson & Bigler, 2006; Sherif, Harvey, White, Hood, & Sherif, 1961; Spielman, 2000; Turner et al., 1979).

Research with familiar groups (e.g., those based on race, gender, etc.) also reveals more positive attitudes toward and stereotypes about ingroup members (e.g., Nosek, Banaji, & Greenwald, 2002), as well as enhanced memory for the faces of ingroup members (reviewed in Young, Hugenberg, Bernstein, & Sacco, 2012), their emotions (Gaunt, Leyens, & Demoulin, 2002), and their actions (Gramzow et al., 2001; Rule, Ambady, Adams, & Macrae, 2007). Bias in favor of the ingroup also influences intergroup behavior across a variety of contexts and affects with whom resources are shared, from whom advice is considered, and who is hired for a job (for a review, see Greenwald, Poehlman, Uhlmann, & Banaji, 2009).

The close parallel between findings with minimal and familiar groups suggests that at least a substantial portion of the biases seen with familiar groups might be the result of group membership more generally. This implies that although social learning and personal experience are surely relevant, more general intergroup processes, perhaps arising automatically from intergroup categorization, can explain some of these effects (see Dunham, 2011, and Dunham et al., 2011, for an elaboration of this argument). However, complications arise when we recall that members of some familiar social groups show an attenuated or even a complete absence of ingroup positivity, thereby demonstrating that ingroup preference is not universal (e.g., Jost, Banaji, & Nosek, 2004; Sidanius & Pratto, 1999).

One paradigmatic example of this is race bias in the United States. While more dominant social groups (e.g., Whites) exhibit ingroup positivity, less dominant social groups (e.g., Blacks) show attenuated or even a complete lack of ingroup positivity on both explicit and implicit measures of attitude (Nosek et al., 2002). Moreover, research by Jost et al. (2004) and Lane, Mitchell, and Banaji (2005) has revealed similar patterns of results across numerous instances of high- and low-status groups, suggesting that this is not just a peculiar result with respect to race attitudes, but rather about the relationship between social status and group membership more generally. Comparable findings have been reported in children as young as age 5 years (Baron, 2015; Baron & Banaji, 2009; Dunham et al., 2007; Dunham, Chen, & Banaji, 2013; Dunham, Newheiser, Hoosain, Merrill, & Olson, 2014; Newheiser & Olson, 2012; Olson, Shutts, Kinzler, & Weisman, 2012; Shutts, Kinzler, Katz, Tredoux, & Spelke, 2011), suggesting that children from low-status groups, just like their adult counterparts, do not manifest ingroup bias.

Such findings invite important questions concerning the nature of previously discussed tendencies toward ingroup preferences as revealed through minimal-groups experiments. How does the tendency to initially evaluate the ingroup interact with incoming social information that further characterizes groups? In particular, what happens when such information characterizes one's own group in a potentially negative way (as is assumed to at least sometimes occur for disadvantaged minorities)? Does positivity toward the ingroup play a protective role, attenuating the internalization of such negative information or serving as an initial positive default that must be overcome? Conversely, what happens when such information characterizes an *outgroup* in a potentially negative way (as is assumed to at least sometimes occur for members of advantaged majorities)? Does such information exert a larger influence in an explicitly intergroup context than it might for a disinterested third party—for example, because ingroup-favoring tendencies accentuate the impact of that information? These questions are critical because they speak

directly to the question of how richer representations of groups emerge from the interaction of basic intergroup processes (such as those revealed through the minimal-groups paradigm) and more context-dependent forms of social learning, such as those characterizing children's actual learning environments. The present series of experiments tests these questions.

The experiments presented here employ a novel groups procedure in which children are assigned to groups labeled with a noun and composed primarily of nonhuman cartoonlike agents (following Baron, Dunham, Banaji, & Carey, 2014). Our goal was to make group membership assigned by the experimenter the only dimension of shared similarity between the participant and the target. In fact, many previous studies within the minimal-group tradition are not strictly "minimal" because they have often manipulated other variables that shape intergroup cognition (e.g., studies that have employed conditions of competition and cooperation; relied on photographs of smiling children, thereby creating the possibility that other forms of similarity such as other shared identities could bolster feelings of positive regard for the group; or provided an opportunity for extensive interaction with group members that may help establish a context in which expectations of intergroup bias will shape intergroup judgments). Here we employ novel groups depicted by cartoonlike illustrations that do not resemble humans, thereby creating perhaps the strongest available test of whether minimal-group biases are an automatic consequence of shared group membership, however abstract. If representations of ingroups and outgroups are automatically activated in response to *any* dimension of shared group membership, then they should be activated by the mere suggestion of group affiliation, even when exemplars do not physically resemble actual people or familiar social affiliations (i.e., cartoon illustrations of geometric blobs with faces, arms, and legs).

In three experiments, 6- to 8-year-olds were randomly assigned to one of two minimal groups. We focused on this age because prior work has suggested that the basic tendency to prefer minimal ingroups increases in generality from ages 3 years to 5 to 6 years old (Dunham & Emory, 2014); we were most interested in testing the interaction of this initial tendency with subsequent learning, so it was important to choose an age at which that tendency was known to be in place. Experiment 1 validates our procedure by confirming that ingroup positivity emerges based solely on abstract shared group membership with a novel social group that does not resemble human collectives. Experiments 2 and 3 ask how the positivity that follows from group membership is affected by direct evidence that group members engaged in negative social behaviors (e.g., not sharing, stealing) directed toward a second group (Experiment 2) or by evidence that group members engaged in an equal number of positive and negative social behaviors (Experiment 3). Thus, these latter two studies begin to explore the extent to which membership in a group affects the subsequent internalization of information that characterizes the group in various ways.

EXPERIMENT 1

Children were randomly assigned to be members of one of two novel social groups. The two groups were depicted by cartoon illustrations that only resembled humans insofar as they were agents with faces, bodies, and limbs; previous research with these stimuli has demonstrated that children are willing to treat them as social collectives when in the role of a third-party observer (Baron et al., 2014). The two groups differed in the group label used to refer to the individuals

(“Lups” or “Nifs”) as well as their skin color (either red or purple). Individual characters differed from one another visually (e.g., hairstyle, shape of facial features, presence of freckles, body shape); however, these variations did not covary with group membership. The only factor linking participants to the group was a sticker that children wore identifying them as a member of a linguistically identified group and depicting one category member with the appropriate red or purple skin color. Thus, ingroup positivity, should it emerge, could not result from other real or perceived dimensions of similarity between participants and the group (e.g., gender, age, occupation, religion, race, language, expectations of cooperation or competition, etc.).

Immediately following the random assignment to a group, children were asked to make predictions about whether different members of these groups would engage in novel positive and negative social behaviors. Thus, children were asked to make category-based inferences about the behavior of members of both groups even though they had no prior knowledge of any members of either group upon which such decisions could be based. Children’s preferences for the two groups were also measured; the central question was whether children were sensitive to these abstract groupings and used them to generate ingroup-favoring preferences and patterns of inference.

Method

Participants

Thirty-six 6- to 8-year olds ($M_{\text{age}} = 7;7$; 20 girls) were recruited. Child participants were tested in a campus lab and at an area science center. A legal guardian provided informed consent for all children.

Procedure

All participants were tested individually and worked one-on-one with an experimenter who read aloud the instructions and who recorded their responses on a computer. Group membership was randomly assigned at the start of the experiment. Participants were handed a sticker to wear that indicated to which group they belonged (either the Lups or the Nifs) and included a picture of an exemplar from that group. Participants were told, “There are two groups of people, the Lups and the Nifs. You are a Lup and here is a sticker that says, ‘I am a Lup,’ and there is a picture of another Lup on the sticker. You can wear this sticker to remind you that you are a Lup.” Participants were then asked to make attributions of positive and negative social behaviors to individuals from these two groups (who were marked by both the group label and skin color). Next, participants were asked to report a preference for members from these groups. Like previous work (Baron et al., 2014), task order was fixed because our preference measure more directly asked participants to explicitly reflect on their preference for one group, and we were concerned that such a task could bias responses on the more indirect measure of inductive generalization.

Attribution task. Participants first began by responding to eight ambiguous situations each involving two actors, one representative from each group (Lups and Nifs). In four of these situations, a negative social behavior occurred (e.g., someone knocked someone else over, someone

caused a car crash). The remaining four questions concerned a positive social behavior (e.g., helping a friend at school, cleaning up spilled milk). See Appendix A for a complete list of all eight questions. For each question, participants saw two illustrations of unique individuals side by side, and each individual was labeled with a noun label (either as a Lup or as a Nif). For example, on a particular trial, a participant would be asked, “Who stole some money? This Lup or this Nif?” and participants responded by pointing to one of the two individuals on the monitor. The experimenter then entered each response into the computer.

Group preference task. Following the Attribution Task, participants were probed for their explicit preference between two individuals each labeled with their appropriate group name. Participants viewed two individuals side-by-side and were asked to indicate which person they liked more (selecting either a Lup or a Nif). There were a total of eight such trials. Again, the experimenter entered each response into the computer.

Results

All participants completed the experiment, and preliminary analyses revealed no effect of participants’ gender or assignment to group; therefore, subsequent analyses collapsed across these factors. Each question involved a choice between a member of the ingroup and a member of the outgroup. The dependent measure was the percentage of times the ingroup was chosen over the outgroup. Three percentages were computed: one for the frequency with which negative behaviors were attributed to the ingroup, one for the frequency with which positive behaviors were attributed to the ingroup, and one for the frequency with which members from the ingroup were reported to be preferred. We analyzed responses to positive and negative behaviors separately because research has shown that these two forms of intergroup judgments appear to unfold differently across development and are frequently not simply inversely related (Aboud, 2003; Baron, 2013; Baron et al., 2014; Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001; Dunham

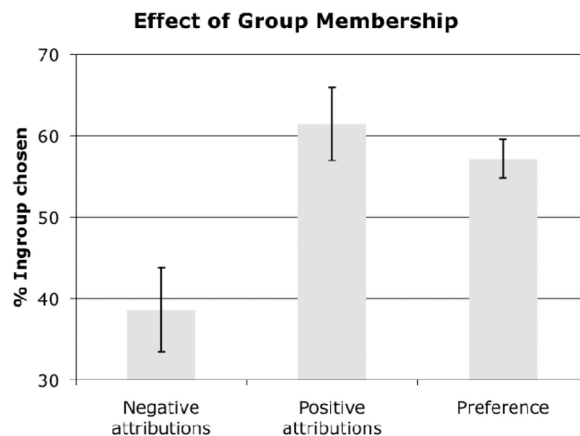


FIGURE 1 Percent ingroup chosen over outgroup (chance = 50%). An ingroup positivity bias is evident across all three dependent measures.

et al., 2011; Pun, Baron, Diesendruck, & Ferera, 2014). These percentages were then compared against chance (50%, corresponding to equal selection among ingroup and outgroup members).

Figure 1 presents the primary results. After random assignment to a novel social group that did not physically resemble real humans, children were less likely to generalize negative behaviors to ingroup members than they were to generalize to those behaviors to outgroup members ($M = 38\%$), $t(35) = -2.22$, $p < .05$, $d = 0.75$. Participants were also more likely to generalize positive behaviors to fellow ingroup members than they were to generalize positive behaviors to outgroup members ($M = 61\%$), $t(35) = 2.54$, $p < .05$, $d = 0.86$. In addition, they reported a stronger preference for their newly represented ingroup over an outgroup ($M = 57\%$), $t(35) = 3.02$, $p < .05$, $d = 1.02$. The magnitude of these effects is in line with what has been observed with similar measures on other minimal-group studies that have employed less abstract stimuli (Bigler, Jones, & Lobliner, 1997; Dunham et al., 2011).

Discussion

Together, these measures converge to show that by age 6 to 8 years old, ingroup positivity emerges rapidly in response to shared group membership carried by a label. It is notable that such a bias emerged even in the absence of intergroup competition, intragroup cooperation, or likely expectations of future interaction or interpersonal similarity, representing perhaps the strictest test yet of the minimal-group effect in children. Thus, an own-group bias, in the form of generalizing antisocial behaviors to the outgroup, prosocial behaviors to the ingroup, and a reported preference for the ingroup, appears to come “for free,” independent of prior knowledge or surrounding expectations. Our demonstration that nonhuman, stripped-down stimuli are sufficient to induce minimal-group preferences in children also suggests that the mechanisms underlying the minimal-group effect are abstract and general, in that they operate over fairly schematic representations of social agents to which the participant is bound only by a common group label and sticker.

EXPERIMENT 2

Experiment 2 examined how these initial ingroup favoring biases might interact with group-diagnostic information—in this case, objective evidence that individuals from one group behaved antisocially. Thus, children were assigned to one of two contrasting groups and then were exposed to information characterizing either the ingroup or the outgroup in a negative way. A third group of children was exposed to the same information but was not assigned to a group, thus serving as an index of the evaluative impact of the information absent any biasing effects of group membership. If group membership attenuates the internalization of negative information about the ingroup, we should observe relatively more positive attitudes toward the negatively portrayed group in children assigned to that group as compared with the control children not assigned to any group. Similarly, if group membership accentuates the internalization of negative information about outgroups, we should observe that attitudes toward the negatively portrayed group are more negative for children who hear that information about an explicitly defined outgroup than for the control children not assigned to any group.

As a secondary matter, Experiment 2 addressed an issue arising from the method employed in Experiment 1, which showed that ingroup bias emerges quickly and automatically in response to identifying oneself with a group of novel social agents. The groups in Experiment 1 were defined by two cues to group membership: the shared noun label used to refer to both the novel characters in the study and to participants (i.e., “Lups” or “Nifs”) and the visual similarity between the sticker children wore and the characters about whom they were asked to make judgments (purple-colored or red-colored). According to some theorists, group bias should be observed based on visual cues alone, even without the functional use of category labels (e.g., Aboud, 1988; Katz, 1983), while other theorists have emphasized the primary role of verbal category labels as particularly strong cues to category membership (e.g., Bigler et al., 1997; Bigler & Liben, 2007; Hirschfeld, 1995). Prior work in a third-party context (Baron et al., 2014) favors the latter view, in that noun labels greatly assisted young children in forming inductively rich social categories as compared with visual cues alone. However, the effects of visual cues and verbal labels have not been disentangled in minimal-group studies with children. Thus, Experiment 2 also addresses whether noun labeling during administration of the dependent measures is necessary for observing a minimal-group bias. To do so, we employ a repeated-measures design whereby participants are assigned to a group using the shared-sticker procedure as in Experiment 1 (where we labeled the group with a noun and pointed out what one individual looks like from that group on their sticker) and are then asked to make attributions and report group preferences for novel exemplars from these groups. In contrast to Experiment 1, we do not use a verbal label to refer to the individual group members during the administration of the pretest measures. Thus, if participants exhibit a minimal-group bias during this pretest, it would be based on their ability to attend to the perceptual similarity between the character on the sticker worn by the participant and the other group members. Because this pretest occurs *before* the informational component of Experiment 2, in which children learn about negative behaviors performed by one group, we were also able to measure the effect of learning as a within-participant comparison, thereby gaining power to detect change because of the new information.

Participants

One hundred thirty-six 6- to 8-year olds ($M_{\text{age}} = 7;7$; 71 girls) participated in Experiment 2. Participants were recruited following the same procedures outlined for Experiment 1.

Procedure

Participants were first randomly assigned to group membership in a similar way to Experiment 1: They received a sticker and were told that they were either a Lup or a Nif. However, the group labels were not used again until they completed the pretest measures; most critically, they were not used during the pretest administration of the dependent measures (see description of Pretest Measures). A third group of participants was not assigned group membership. This third (control) group provides a baseline for describing how children use the information provided in the story to guide their inductive inferences and group preference in the absence of membership in either group.

Pretest Measures

The Attribution Task and Group Preference Task that were used in Experiment 1 were used in Experiment 2. The only difference was that each individual exemplar was not labeled with their

group name. Thus, when asked questions, children were instructed, “Point to the person who did the thing I will tell you about,” or, “Point to the person you like most.”

Story Manipulation

Following the pretest measures, participants were read a story about two novel social groups. Individuals in the story now differed systematically in the noun label used to refer to them (either as a Lup or as a Nif) and in their skin color (either purple or red). Thus, skin color covaried with the group label, similar to Experiment 1, such that all members within each group shared the same color skin while that color differed between the two groups. During the story, participants observed two individuals from one group engaged in antisocial behaviors (e.g., not sharing, stealing a pie, tearing up someone’s artwork). Importantly, these two individuals were always the transgressors, and when there was a known victim, it was a member of the other group. See Appendix B for the full text of the story and see Figure 2 for an example illustration that accompanied the story. Immediately prior to and following the story, participants were reminded of their group membership by the experimenter, with the experimenter saying, “Remember you’re a Lup and the sticker you’re wearing says, ‘I’m a Lup’ because you’re a Lup.” The result of this story manipulation is that one third of participants were assigned to the same group as the transgressors, one third were assigned to the same group as the victims, and one third remained in a third-party situation, assigned to neither group.

Posttest Measures

Next, participants responded to the same Attribution Task and Group Preference Task questions as at pretest; however, this time, each individual was labeled with a noun label (either as a

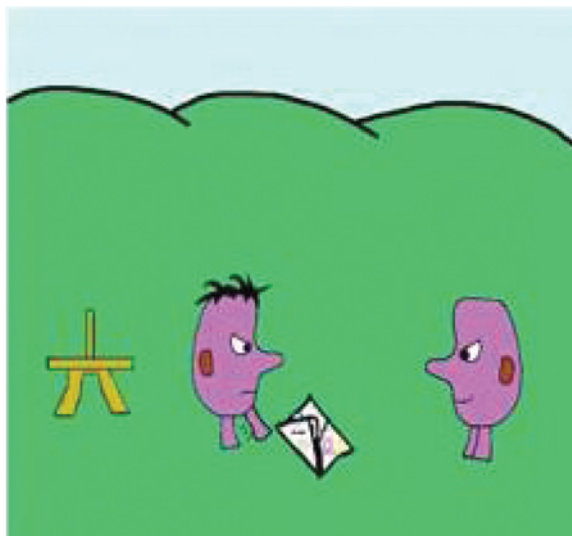


FIGURE 2 Sample illustration that accompanied the story manipulation. Here members from one group are observed intentionally damaging someone’s painting.

Lup or as a Nif) as in Experiment 1. For example, on a particular trial, a participant would be asked, “Who stole some money? This Lup or this Nif?” and participants responded by pointing to one of the two individuals on the monitor. For the Attribution Task, children were asked to make judgments about the likelihood that new members of both groups would engage in behaviors not previously depicted in the story. In this way, the inductive potential of the child’s (or of the story characters’) group membership was measured. The questions within each task appeared in a random order, but task order was fixed (Attribution Task followed by Group Preference Task) as in Experiment 1.

If participants’ patterns of induction and preference are primarily sensitive to group membership and relatively insensitive to social information from the story, then all children assigned to a group (in contrast to the control group) should show an ingroup positivity bias, while the control group would presumably react negatively to the negatively portrayed group. Alternatively, if children are sensitive to socially relevant information about actual members of groups, then we should observe differences across conditions based on whether the negatively portrayed group was the ingroup or the outgroup.

Results

Recall that participants learned about one group engaging in negative social behaviors toward a second group. For ease of data analysis and interpretation, the group that engaged in these negative behaviors will be referred to as *actors* (i.e., the active engagers in antisocial behavior). We refer to the second group, which was notable primarily for being the group upon which the first group directed negative behavior, as the *recipients*. Thus, participants could be assigned to the actors group, the recipients group, or the control group. For all participants, responses will be reported separately in terms of the rates of negative and positive generalization and preferences for the actors group (i.e., the group that engaged in negative behavior).

Pretest: Visual Cue Only Versus Label+ Visual Cue to Group Membership

First, we examined the role of visual cues alone versus visual cues with noun labels by comparing the pretest portion of this experiment to Experiment 1, which was identical except that individual exemplars were labeled with their group membership in Experiment 1 but not during the pretest questions for Experiment 2. For the pretest Attribution Task, two percentages were calculated: one for the frequency with which negative behaviors were attributed to individuals who matched the sticker color of the child and one for the frequency with which positive behaviors were attributed to the same individuals. For the pretest Group Preference Task, one percentage was calculated for the frequency with which these same individuals were selected. As in Experiment 1, responses were compared against chance (50%), representing no bias in favor of one group over the other.

Analysis of the pretest data for Experiment 2 revealed that no groups differed from chance on any measure, suggesting an absence of a minimal-group bias when noun labels identifying each exemplar’s group membership were not used. Performance on each measure was entered into an analysis of variance (ANOVA) with experiment (Experiment 1 and Experiment 2) entered as a between-subjects factor. Only participants who were assigned to a group in Experiment 2 were

entered into this comparison with Experiment 1 (this led to the inclusion of all 36 children comprising Experiment 1 and 90 children from the relevant conditions in Experiment 2). This difference was significant for the generalization of negative behaviors, $F(1, 124) = 6.43, p < .05$, positive behaviors, $F(1, 124) = 6.24, p < .05$, and reported group preference, $F(1, 124) = 7.91, p < .01$. Thus, only when individual exemplars are referred to with a noun label during the test trials (as in Experiment 1) do participants show a positivity bias in favor of the ingroup.

Story Effects: Negative Attributions

To control for individual variation in response bias and to harness the increased power of a repeated-measures design (pretest to posttest), we performed our primary analyses on the *difference scores* representing the change in attribution of preference from pretest (when no information was available and the groups were unlabeled) to posttest (following the story manipulation and when the groups were labeled). This difference score represents the raw effect of the story manipulation on preferences from a baseline in which no information was present. For ease of presentation, we also present raw means at pretest and posttest in Table 1.

Mean change scores for attributions and preferences are presented in Figure 3. An ANOVA with this difference score for negative attributions entered as the dependent variable and group assignment (actors group, recipients group, or control) entered as a between-subjects factor revealed a significant effect of group assignment on children's inductive inferences, $F(2, 134) = 5.48, p < .01, \eta^2 = .08$. Post-hoc comparisons revealed that the story had a smaller effect on the attributions of children assigned to the actors group ($M_{\text{diff}} = 23\%$) than to children assigned to the recipients group ($M_{\text{diff}} = 50\%$), $t(85) = -3.3, p < .01, d = 0.72$; the actors group also differed from the control group ($M_{\text{diff}} = 43\%$), $t(82) = -2.12, p < .05, d = 0.47$. The

TABLE 1
Mean Percent of Actors Chosen Over Recipients for Each Dependent Measure

	<i>Negative Attributions</i>	<i>Positive Attributions</i>	<i>Group Preference</i>
Experiment 1	38% (30%)	61% (27%)	57% (14%)
Experiment 2			
Actors group	Pre: 42% (23%) Post: 65% (37%)	Pre: 50% (23%) Post: 32% (34%)	Pre: 44% (19%) Post: 51% (33%)
Recipients group	Pre: 44% (21%) Post: 94% (24%)	Pre: 57% (23%) Post: 17% (20%)	Pre: 44% (17%) Post: 22% (24%)
Control group	Pre: 44% (26%) Post: 87% (25%)	Pre: 48% (24%) Post: 17% (26%)	Pre: 46% (26%) Post: 29% (31%)
Experiment 3			
Actors group	Pre: 49% (23%) Post: 65% (28%)	Pre: 50% (24%) Post: 48% (30%)	Pre: 46% (19%) Post: 48% (28%)
Recipients group	Pre: 46% (28%) Post: 70% (28%)	Pre: 51% (22%) Post: 37% (31%)	Pre: 52% (16%) Post: 39% (26%)
Control group	Pre: 52% (24%) Post: 65% (34%)	Pre: 51% (26%) Post: 37% (27%)	Pre: 53% (22%) Post: 45% (25%)

Note. Standard deviation in parentheses.

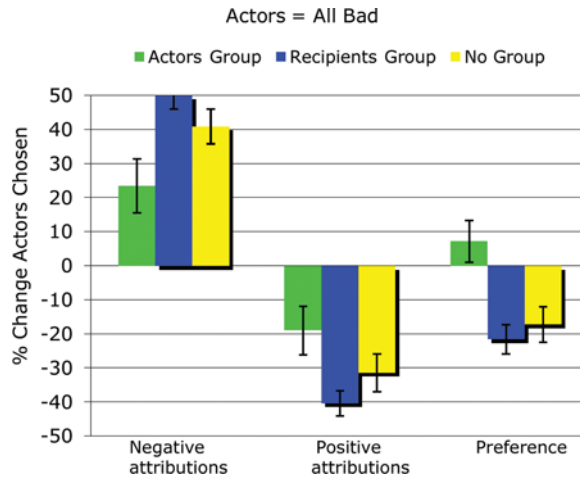


FIGURE 3 Difference score for percent of actors chosen over recipients. Children assigned to the actors group appear more insulated from the negative information about their group.

recipients group and the control group were not significantly different from one another. Thus, after learning that members of the actors group behaved badly, children assigned to that group were less negative in their judgments of people from their group compared with children assigned to the other two conditions. Together, these data suggest that group membership partially protects the self from making negative inductions about the behavior of ingroup members.

Positive Attributions

An ANOVA with the difference score for positive attributions entered as a dependent variable and group assignment (actors group, recipients group, or control group) entered as a between-subjects factor also revealed a significant effect of group assignment on children's inductive inferences, $F(2, 135) = 3.65, p < .05, \eta^2 = .05$. Post-hoc comparisons revealed that children assigned to the actors group showed a smaller decline in positive attributions to the actors group ($M_{\text{diff}} = 18\%$) compared with children assigned to the recipients group ($M_{\text{diff}} = 40\%$), $t(85) = 2.9, p < .01, d = 0.63$. The comparison between the actors group and the control children ($M_{\text{diff}} = 31\%$) was not significant ($p = .17$), although this difference is in the predicted direction. Once again, no significant difference was observed between children assigned to the recipients group and those assigned to the control group ($p > .4$). One-sample t tests showed that positive attributions to the actors group declined following the story manipulation for children in all three conditions ($p < .05$).

Group Preference

Finally, an ANOVA with the difference score for group preference entered as a dependent variable and group assignment (actors group, recipients group, or control group) entered as a between-subjects factor revealed a significant effect of group assignment on children's

intergroup preference, $F(2, 135) = 7.49, p < .01, \eta^2 = .10$. Similar to the previous measures of inductive generalization, post-hoc comparisons revealed that the preferences of children in the actors group were less affected by the story manipulation compared with preferences of children in other conditions. Indeed, children in the actors group exhibited a nonsignificant *increase* in preferences ($M_{\text{diff}} = 7\%$). Overall, the degree of change for the actors group differed from that of the recipients group ($M_{\text{diff}} = -22\%$), $t(85) = 3.91, p < .01, d = 0.85$, as well as that of the control group ($M_{\text{diff}} = -17\%$), $t(82) = 2.98, p < .01, d = 0.66$. Again, no significant difference was observed between children assigned to the recipients group and those assigned to the control group. Once again, belonging to a group exerts a protective effect and leads children to less reliably internalize negative information about their own group. Considered independently, the story manipulation had a significant effect on the recipients group and control group ($p < .05$) but not on the actors group ($p > .6$).

Discussion

If social group preferences and inductive inferences were only influenced by the negative information participants heard, then children in all three groups should have encoded members of the actors group as bad and would have revealed congruent patterns of induction and preference. If these judgments were solely influenced by group membership, then participants assigned to the actors group and to the recipients group would both have revealed a similar pattern of ingroup positivity, essentially ignoring the objective information that characterized the groups, and would have manifested the pattern observed in Experiment 1. Instead, group membership interacted with informational content. Thus, children assigned to the (negatively portrayed) actors group were less likely to make negative judgments and were more likely to make positive judgments about this group than were children assigned to the recipients group and control group. Interestingly, knowledge that the *outgroup* has engaged in negative behaviors does not appear to reinforce ingroup positivity, as children assigned to the recipients group did not differ from children assigned to the control group. However, negative attributions were near their maximum scale value, raising the possibility that a ceiling effect reduced our ability to pick up on additional differences—something future research can address.

One intriguing possibility raised by these data concerns a likely dissociation between inductive generalizations and preferences. Though weaker than children in the other conditions, children assigned to the actors group did make story-consistent generalizations, expecting their own group to behave more negatively in the future. However, unlike children in the other conditions, they did not form a globally negative attitude toward their ingroup. Thus, membership in a minimal group appears to exert a stronger insulating effect on *attitudes* than *generalizations*—an issue to which we return to in the General Discussion.

Finally, we found that children did not show ingroup bias following assignment to a group when verbal labels were not employed as an aid to picking out ingroup and outgroup members. This finding is consistent with results from Baron et al. (2014) in which children of this age do not use visual cues to similarity to support inductive reasoning and reported group preference for novel groups unless the visual cues are also supplemented with a noun label. Even though children were assigned to the groups and so might have been expected to more closely track social affiliations, to activate a minimal-group bias, it may be particularly important to make salient the category labels for each exemplar.

EXPERIMENT 3

Information about groups in the real world is rarely if ever uniformly positive or negative. Yet children in Experiment 2 learned only negative information about a group. If children assigned to the actors group had been provided with more balanced information, would they have selectively used more positive information to guide their generalizations and preferences? More generally, how do members of the two groups weigh positive and negative information when both are provided? Experiment 3 begins to address this issue by presenting children with both positive and negative examples of behavior associated with either the ingroup or the outgroup. If informational uptake is unbiased in this setting, children's responses should not change from that observed in Experiment 1, in which no information was presented. On the other hand, if positive and negative information about the ingroup and the outgroup is accorded different weight, we might see divergence in the responses of children assigned to the actors group (who engage in both positive and negative behavior) and the recipients group (who are the victim or beneficiary of those behaviors).

Method

Participants

One hundred thirty-four 6-to 8-year-olds ($M_{\text{age}} = 7;1$; 72 girls) participated in Experiment 3. Participants were recruited following the same procedures outlined in Experiment 1.

Procedure

The procedure for Experiment 3 was identical to the procedure outlined for Experiment 2 except for the following two differences: Instead of learning about two members from one group (the actors) engaging in four negative social behaviors, participants learned about two individuals from this group engaging in two negative and two positive social behaviors, which again were directed toward a second group, the recipients. Thus, participants were again assigned to an actors group, a recipients group, or a no-group control condition. See Appendix C for the full-story text.

Results

No participants failed to complete this experiment. As with the two previous experiments, preliminary analyses revealed no main effect or interactions involving gender on any dependent measure, and therefore, subsequent analyses collapsed across this variable. Moreover, groups did not differ on their pretest responses (and none were different from chance). In addition to confirming that there were no pretreatment differences, this finding serves as a conceptual replication of Experiment 2, in which despite the visual similarity between the sticker and the characters, children did not reason differently about the two groups in the absence of labeling group exemplars.

The first question examined by this experiment asked whether the representation of group membership shapes how positive and negative information is used to establish inductive inferences and reported group preference. To examine this question, we analyzed the data in the same way as in Experiment 2.

Negative Attributions

Mean differences from pretest to posttest are presented in Figure 4. A one-way ANOVA with the difference score for negative attributions entered as the dependent variable and group assignment (actors group, recipients group, or control group) entered as the independent variable revealed no effect of group assignment on children's inductive inferences, $F(2, 131) = 0.92$, $p = .40$, $\eta^2 = .02$. Whereas a main effect of group assignment was observed in Experiment 2, no such result was obtained here; when presented with more balanced information about one group's behavior, the child's own group membership did not appear to influence their subsequent generalizations. Collapsing across group membership, we found that children's responses did differ following the story manipulation, with more negative behaviors attributed to the actors group than to the recipients group ($M_{\text{diff}} = 17\%$), $t(133) = -5.49$, $p < .01$, $d = 0.95$. Thus, despite containing an equal number of positive and negative events, the story was interpreted as portraying the actors group in a negative light.

Positive Attributions

As with negative attributions, a one-way ANOVA with the difference score for positive attributions entered as the dependent variable and group assignment (actors group, recipients group, or control group) entered as the independent variable revealed no effect of group assignment on

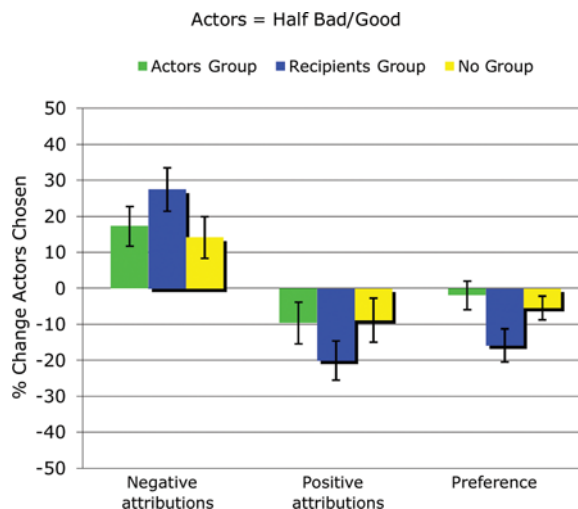


FIGURE 4 Difference score for percent change in actors chosen over recipients following the story manipulation. An effect of group assignment was only observed on the reported group preference.

children's inductive inferences, $F(2, 132) = 1.29, p = .28, \eta^2 = .02$. Consistent with negative attributions, collapsing across group membership revealed that the story reduced positive attributions about the actors group ($M_{\text{diff}} = -10\%$), $t(133) = -3.05, p < .01, d = 0.53$. Once again, even though all participants heard an equal amount of positive and negative examples of behavior, they nonetheless seemed to make a more global inference that members of this group were less likely to behave positively.

Group Preference

A one-way ANOVA with the difference score for reported group preference entered as the dependent variable and group assignment (actors group, recipients group, or control group) entered as the independent variable revealed a significant effect of group assignment, $F(2, 131) = 3.09, p = .049, \eta^2 = .05$. The story manipulation did not affect the preferences of children assigned to the actors group ($M_{\text{actors group}} = 2\%$), but it did lead children assigned to the recipients group to report greater dislike of the actors group ($M_{\text{recipients group}} = -13\%$), and this difference was significant, $t(85) = 2.34, p = .02, d = 0.51$. Children assigned to the control group shifted in the same direction ($M = -8\%$) but were only marginally different from children in the actors group, $t(81) = 1.68, p = .096, d = 0.35$. Children assigned to the recipients group and those assigned to the control group did not differ ($p > .38$). Further, the simple effect of the story manipulation was significant in children in the recipients group and control group ($p < .05$) but not for children in the actors group ($p > .3$).

Effect of Story Type

We next sought to examine whether children's judgments were influenced by the story type (hearing all negative information about the actors group vs. an equal mix of positive and negative information). To address this, we compared the results of Experiment 2 and Experiment 3 in a 3 (group assignment: actors group, recipients group, or control group) \times 2 (story type: all negative behaviors or equal positive and negative behaviors) ANOVA with the difference score for negative attributions, positive attributes, and group preference entered as dependent variables. This analysis revealed a main effect of group assignment for negative attributions, $F(2, 244) = 5.57, p < .01, \eta^2 = .04$, a main effect of story type for negative attributions, $F(1, 244) = 15.97, p < .01, \eta^2 = .06$, and a nonsignificant interaction between group assignment and story type, $F(2, 243) = 2.05, p = .13$. A main effect of group assignment, $F(2, 244) = 4.91, p < .01, \eta^2 = .04$, and of story type, $F(2, 244) = 10.17, p < .01, \eta^2 = .04$, was also observed for positive attributions. The interaction term was again nonsignificant, $F(2, 243) = 1.40, p = .25$. By contrast, a main effect of group assignment, $F(2, 244) = 10.29, p < .01, \eta^2 = .08$, but not of story type ($p = .73$) was observed for reported group preference; thus, informational content (all negative vs. mixed positive and negative) did not affect preferences; the interaction term was also not significant ($p = .34$). These data again suggest that in contrast to the generalization tasks, intergroup preferences are more stable in the face of information that differentially characterizes the groups. That is, while generalizations flexibly shifted in response to differences in the consistency of story information, preferences were less sensitive to the difference in informational content.

Discussion

Like Experiment 2, Experiment 3 demonstrated that attitudes are affected by group membership, with members of the actors group showing no clear preference while children in other conditions preferred the recipients group. However, unlike Experiment 2, Experiment 3 did not show an effect of group assignment on generalization. Although the raw means are suggestive of the same effect we observed previously (with members of the actors group somewhat less likely to make negative generalizations about their own group than the other group), this trend did not reach significance. A prosaic possibility is that, with less negative information to attenuate, the same bias in information uptake exhibited by members of the actors group did not reach an observable magnitude. It is also possible that the information was simply more complex and therefore more difficult to track and internalize.

Experiments 2 and 3 differed primarily in the nature of the behaviors undertaken by the actors group in the learning phase of the study. In Experiment 2, these behaviors were all negative, while in Experiment 3, they were both negative and positive, in equal numbers. Children were sensitive to this difference, as stronger generalizations appeared in Experiment 2 than in Experiment 3. However, despite the “balance” between positive and negative behaviors in Experiment 3, children in this experiment also tended to judge the actors negatively overall, predicting more future bad behavior from this group and more future good behavior from the recipients group. This is, in and of itself, interesting, as it suggests that negative behaviors were more powerful than positive behaviors in establishing preferences and generalizations. It is not possible in the present instance to determine whether this is a general point about behavior or something specific to the behaviors we chose; however, there is independent reason to think the former is true given abundant evidence that negative behaviors are rarer, are considered more diagnostic, and are more influential in impression formation (for a review, see Baumeister et al., 2001). When negative events are intrinsically weightier than positive events, two minus two is less than zero.

From the perspective of ingroup bias, it may seem puzzling that in both Experiments 2 and 3, children from the actors group actually came to form a negative stereotype about their group. However, from a broader learning perspective, this finding is perfectly sensible. Ingroup bias is adaptive by virtue of its ability to smooth intragroup functioning—for example, to stabilize norms of reciprocity (Yamagishi & Kiyonari, 2000) or to unify the group in the face of intergroup conflict (Choi & Bowles, 2007). But such a learning bias would be maladaptive if it prevented the learner from recognizing pervasive patterns of bad behavior in those around her, as those patterns of behavior could well affect her directly.

Put differently, Experiments 2 and 3 revealed a dissociation between patterns of generalization and patterns of attitudes, with group membership having a bigger effect on the latter than the former. In the absence of direct information characterizing the groups (as in Experiment 1), predictions are generated on the basis of the attitude. But when such information is available, generalizations and attitudes diverge, with generalizations remaining at least generally sensitive to the veridical information.

GENERAL DISCUSSION

The experiments presented here point to the existence of a basic tendency to favor ingroups that affects subsequent learning. That children in Experiment 1 so readily exhibited ingroup bias

following a brief manipulation of assignment to a group that resembled nothing like real people (in this case, cartoon illustrations of geometric blobs with facelike features) further suggests that representations of ingroups and outgroups are highly abstract and can be activated by quite minimal cues to shared similarity between the self and other agents described with the same noun label. In this way, our data go beyond previous demonstrations of a minimal-groups bias among children of this age where representations of group members were either peers sharing their classroom (e.g., Bigler et al., 1997) or pictures of real children (e.g., Dunham et al., 2011). These findings suggest that the psychological mechanisms underlying the formation of intergroup preferences and stereotypes appear to operate similarly for groups that lack a rich causal and personal history (e.g., minimal groups) and for groups that are highly familiar (e.g., race and gender).

Experiments 2 and 3 allow us to begin to characterize how this initial tendency to favor the ingroup interacts with learning and remind us that any cognitive system that ignores the actual behavior of group members or is incapable of updating intergroup representations based on evidence would surely be doomed. Experiments 2 and 3 demonstrate this updating by showing that children are willing to make predominantly negative predictions about their own group if they have observed negative actions by ingroup members. It is certainly possible that different mixes of positive and negative information about the behavior of group members might yield different patterns of results. To this end, it will be impossible to mirror in a laboratory with a minimal-groups design the precise experience of members of natural groups (e.g., race and gender) because of the complex mix of positive and negative reinforcement that can vary dramatically across group members. However, the insights from this study reveal that children have a tendency to favor their ingroup and their initial representation of their group membership begins to interact with available information about that group.

A crucial aspect of our findings is that intergroup preferences were less affected by factual information concerning the prior behavior of group members than were the inductive generalizations just described. In both Experiments 2 and 3, members of the actors group did not form a negative attitude toward their own group, and indeed, the more negative content of the story in Experiment 2 did not yield more negative attitudes than the more balanced story in Experiment 3. By contrast, these same participants readily made negative *generalizations* about their ingroup, suggesting a psychological dissociation between attitudes and more specific inferences. This possibility is consistent with social psychological research revealing that attitudes and stereotypes may reflect entirely different cognitive and neural processes (Amodio & Devine, 2006), with attitudes associated with affective memory systems and stereotypes associated with semantic memory systems.

If intergroup attitudes are relatively protected from negative input whereas stereotypes are not, it suggests that the scope of the minimal-group effect is most closely focused on evaluation (i.e., the establishment of ingroup positivity and/or the protection against the formation of ingroup negativity). If this is right, it would further suggest that the cascade of other effects, such as greater helping, positive stereotyping, memory bias for evaluative behaviors, and resource allocation among ingroup members, are the downstream consequences of this initial positivity. Such a possibility could be revealed, as in the present case, if those additional effects were reversed in the face of counterevidence while preferences remained more stable.

Interestingly, negative information about the ingroup was sufficient to eliminate but not reverse ingroup positivity, even when the information was overwhelmingly negative, as in

Experiment 2. This result is strikingly similar to findings with nondominant racial and ethnic groups (e.g., African Americans, Latino Americans) around the same age, who also show no mean-level preference for their ingroups, at least when tested with implicit measures (Baron, 2015; Baron & Banaji, 2009; Dunham et al., 2013, 2014; Newheiser & Olson, 2012; Nosek et al., 2002). These results, and findings with adults, have sometimes been interpreted in light of system justification theory, in which individuals from culturally lower-status groups shift their preferences as part of a motivation to see the prevailing sociopolitical system as just (Jost et al., 2004). The present finding of a very similar pattern of attenuated ingroup preference among a group associated with negative behaviors but absent obvious sociopolitical implications suggests that system-justifying beliefs may not be the only route to achieving a weakened ingroup preference (for a similar argument, see Baron & Banaji, 2009). Specifically, these data suggest that the absence of ingroup bias can also result from a resistance to internalizing negative information about the ingroup as part of a more general self-protective process. In this regard, it is interesting that children in the actors group exhibited similar patterns of generalization and group preferences in Experiments 2 and 3, despite the differing amount of negativity associated with the ingroup. It is possible that rather than representing the varying amounts of negative information about one's group, children were simply tagging their group as either high or low in social status relative to the other group. Perhaps once one's group is identified as lower in status (in this case, by learning about the antisocial behaviors of some group members), children come to adopt an attenuated ingroup preference that is insensitive to the different amounts of negative information received about the group. This possibility may help to explain conceptually similar findings among real social groups where members of culturally lower-status groups exhibit an absence of own-group positivity implicitly (e.g., African Americans; Baron & Banaji, 2009; Dunham et al., 2014; Newheiser & Olson, 2012), despite individuals from this group having presumably much more positive experience with own-group members via family and peer support networks coupled still with negative cultural stereotypes about their group. However, as pointed out by a helpful reviewer, linking the present findings to the internalization of cultural disadvantage with respect to real groups is complex. In particular, the actions depicted in our story were in some senses dominant, in that they involved directing hostile behavior at others and not facing any reprisals, which one might have thought would be associated with higher, not lower, status. However, the fact that the behaviors were clear exemplars of antisocial and moral condemnable behavior may well be a signal of marginality and thus lower status; after all, some marginalized groups (such as African American men) are portrayed as dominant in some of these very ways, and when a dominant group engages in structurally similar behavior, it is frequently narrated quite differently ("collateral damage" instead of murder, "civil forfeiture" instead of theft, and so on). Clarifying this issue will require further study.

The experiments presented here demonstrate that representations of group membership and knowledge about the past behavior of group members independently influence the enrichment of social category concepts and shape patterns of induction and group preference. Moreover, these experiments raise the possibility that the representation of group membership and knowledge about the behavior of group members may interact with one another but be conceptually distinct, potentially serving to protect the self from negatively evaluating the ingroup while preserving the ability to make accurate predictions. This dissociation between preference and inductive generalization seems specific to the social domain and suggests that some aspects of social

categorization involve domain-specific processes that engage representations of group membership in unique and self-relevant ways.

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APPENDIX A

Generalization Questions (Experiments 1–3)

Whole stole some money?

Who was naughty in school?

Who made cookies for all their friends?

Who helped their friend with their schoolwork?

Who caused the car crash? (Or, who will help the people in the car crash?)

Who spilled milk? (Or, who will help clean up the milk?)

Who wrote on the wall? (Or, who will help clean the wall?)

Who knocked the person over? (Or, who will help the person up?)

APPENDIX B

Story Text (Experiment 2)

Today I am going to tell you a story about the Lups and the Nifs. The Lups and Nifs live on an island in the middle of the ocean. Here is a Lup having dinner. And here is a Nif cleaning clothes.

One day, two Lups were walking through the forest on their way into town when they came upon a teddy bear lying on the ground. At the same time, two Nifs noticed the same teddy bear. Everyone likes teddy bears and so the Nifs suggested that they all play together. But the Lups did not want to share. Instead, they pushed down the Nifs and took the teddy bear for themselves.

The Lups then continued to walk toward the town. On their way into town, they passed by a house. Inside the house, a Nif had finished baking a pie and placed it by the window to let it cool. As the Lups walked by, they noticed the pie by the window, and feeling hungry, one of them snuck up to the window and stole the pie and ran off to eat it.

After finishing the pie, the two Lups continued toward the town. After walking a short while, they came upon a Nif who was painting. The Lups watched the Nif paint for several hours from a distance. When the Nif decided to take a short break, this Lup came by and tore up the painting, and the two Lups then ran away even though they knew how hard the Nif had been working on the painting.

Later, they decided to head back to their home and meet up with some of their friends. When they got home they decided to play their music loudly. However, next door, there were some Nifs sleeping—they were very tired. When one of the Nifs next door came by to politely ask them to turn down the music, the Lups refused and instead turned up their music so it would play even louder. As a result, all the Nifs next door could not sleep, but the Lups just kept playing their music. Eventually as the Lups got tired, they turned down their music and went to sleep, looking forward to tomorrow.

APPENDIX C

Story Text (Experiment 3)

Today I am going to tell you a story about the Lups and the Nifs.

The Lups and Nifs live on an island in the middle of the ocean. Here is a Lup having dinner. And here is a Nif cleaning some clothes. First, let me tell you about the Lups.

One day, two Lups noticed some Nifs playing in the woods with a teddy bear. The Lups really wanted to play with the teddy bear, but instead of asking politely, the Lups pushed down the Nifs and took the teddy bear for themselves.

The Lups then continued to walk toward the town. On their way into town, they passed by a house. Inside the house, someone had finished baking a pie and placed it by the window to let it cool. As the Lups walked by, they noticed the pie by the window, and feeling hungry, one of the Lups snuck up to the window, stole the pie, and ran off to eat it.

After finishing the pie, the two Lups continued toward the town. After walking a short while, they came upon a Nif painting. They watched the person paint for several hours from a distance. When the Nif decided to take a short break, the Lups offered to watch over the painting to keep it safe. The Lups knew how hard the Nif had been working on the painting and they wanted to make sure it was safe.

Later, the Lups headed home. When they got home they decided to play their music. However, next door, there were some people sleeping—they were very tired. When one of the people from next door came by to politely ask them to turn down the music, the Lups quickly agreed and turned down their music so their neighbors could sleep comfortably.

Eventually, as the Lups got tired, they went to sleep, looking forward to tomorrow.