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Abstract

Gaining an understanding of intergroup relations and outgroup rejection is an important childhood development. Children learn about rejection by outgroups via their own experiences and external instruction. A comparison of the impact of experience and instruction on first-, third-, and fifth-grade children's evaluations of rejection by outgroups in a minimal-groups paradigm suggests that the relative impact of experience and instruction differs as children age. In Study 1, younger children were more influenced by instruction, and older children were more influenced by what they experienced for themselves. In Study 2, younger children were more influenced by instruction, even when that instruction conflicted with what they experienced; older children were more influenced by their own experiences, even when those experiences contradicted what they were told to expect. These findings suggest that children begin learning about outgroup rejection through instruction but start to rely more on their own experiences as they age.

Keywords

intergroup processes, social exclusion/rejection, development, stigma, education

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Rejection hurts, especially in childhood. Consider, for example, a young boy chosen last for a team in gym class. As he sheepishly joins his teammates, how does he explain this rejection? While one child might attribute his rejection to athletic inadequacy, a second might chalk it up to others noticing his fatigue, a third might not think twice about the episode, and another might attribute the rejection to racial discrimination. Each child's pattern of attributions depends on an infinite number of variables—what one child perceives as a harmless oversight could be another's painful experience of racism. In this article, we explore how children learn about outgroups, specifically, outgroup rejection, both through their own experiences and through what they learn from others. We report on two studies designed to examine how children are influenced by a negative experience with or a negative piece of information about a novel outgroup. We are primarily interested in how children learn about single instances of rejection because these isolated experiences are building blocks in the process of how children learn and develop expectations about stigmatization.

is a complex and relatively understudied process. A rich body of research on a related process, developing stereotypes and prejudice about others (i.e., the perceiver's perspective; e.g., Bigler & Liben, 2006, 2007; Killen, 2007; Killen & Stangor, 2001) suggests that the development of stereotypes and prejudices about various groups is influenced by factors both internal (e.g., various cognitive and affective schemas) and external (e.g., hearing parents' explicit statements about groups) to the child. This research has shown, for example, that between the ages of 3 and 6, children acquire knowledge of and begin to apply stereotypes in a number of domains including race (e.g., Aboud, 1988; Baron & Banaji, 2006; Bigler & Liben, 1993; Doyle & Aboud, 1995), gender (e.g., Eichstedt, Serbin, Poulin-Dubois, & Sen, 2002; Entwistle, Alexander, Pallas, & Cardigan, 1987; Lummis & Stevenson, 1990; Ruble, Martin, & Berenbaum, 2006), and age (Seefeldt, Jantz, Galper, & Serlock, 1977). Between the ages of 6 and 10, children develop an awareness of other

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Developing Stereotypes and Prejudice

Learning about how interactions with and rejection by outgroup members might affect you (i.e., the target's perspective)

people's stereotypes (McKown & Weinstein, 2003). In addition to developing and applying these stereotypes, children develop the understanding that it is wrong to exclude others based on gender or race by the first grade (Killen & Stangor, 2001; Theimer, Killen, & Stangor, 2001).

A powerful explanation of how stereotyping and prejudice develop can be drawn from developmental intergroup theory (DIT; Bigler & Liben, 2006, 2007). According to DIT, three core processes are fundamental to the development of stereotypes and prejudice. DIT explores: (a) how children establish the importance of some dimensions (e.g., skin color) but not others (e.g., attached ear lobes), (b) how these salient dimensions are used to categorize others into groups, and (c) how children come to develop stereotypes and prejudices about these salient groups. Once children have established which attributes are culturally important (e.g., gender), they begin to categorize people according to these dimensions (e.g., Jack is a boy, Jill is a girl). Once categorization has occurred, children begin to attach meaning to the various resulting social groups via beliefs (stereotypes; e.g., "boys smell bad") and affect (prejudice; e.g., "I hate boys").

Learning About Rejection

In much the same way that DIT proposes that the development of stereotyping and prejudice about various groups is influenced by both internal and external factors, we posit that children learn about their devalued social identity through both internal and external means. We propose that stigma-related understanding emerges both internally (e.g., a child's own experiences with group-based rejection) and externally (e.g., instruction about group-based rejection). The studies reported here examine the relative influence of these external (instruction) and internal (experience) processes among younger and older children: How do children use instruction and experience to guide their understanding about rejection and outgroups?

We are not the first to ask this question, and indeed, C. S. Brown and Bigler (2005) have proposed an influential model for understanding children's perceptions of discrimination, focusing on children's perceptions of sexism and racism. The model outlines three components—cognitive, social, and individual—that contribute to a child's ability to perceive discrimination. The first component consists of cognitive factors that must be in place before children can perceive discrimination: an understanding of race and gender, an understanding of others' cognitions, classification skills, use of comparison others, and moral reasoning skills. These cognitive factors are roughly in place by age 6 but increase over the course of childhood. So, although children have the basic cognitive skills necessary to perceive discrimination by age 6, they can do so only if, for example, the discrimination is extremely obvious (e.g., Jack hits Jill and tells her he did so because she is a girl). Perceiving more subtle forms of discrimination requires greater cognitive development—understanding others' cognitions and

perspective-taking skills are especially important here—and perceptions of discrimination only begin to mimic those of adults at age 10.

Another model, the developmental model of subjective group dynamics (DSGD; Abrams, Rutland, Cameron, & Marques, 2003), also highlights the importance of cognitive development, social perspective taking, and social experience. According to Abrams and his colleagues (see Abrams & Rutland, 2010, for a review), social-cognitive development is crucial in scaffolding the movement from childlike to adult-like judgments of individual group members within intergroup contexts. Both of these models help explain previous findings showing that older children are more likely than younger children to make attributions to discrimination (e.g., C. S. Brown & Bigler, 2004; McKown & Weinstein, 2003). For example, when elementary school children heard a story about a teacher with a history of gender-preferential treatment who had evaluated a boy more positively than a girl (or vice versa), 8- to 10-year-olds consistently indicated that the teacher's behavior was sexist, but 5- to 7-year-olds were much less consistent in making these attributions to gender discrimination (C. S. Brown & Bigler, 2004). A related set of findings shows that children's knowledge of stereotypes and the understanding that stereotypes can lead to discrimination increases steadily from age 6 to age 10 (McKown & Weinstein, 2003). For example, although only 30% of 7-year-olds understand that stereotypes can lead to discrimination, this rises to 90% at age 10 (McKown & Weinstein, 2003).

In their models, both C. S. Brown and Bigler (2005) and Abrams and his colleagues (Abrams et al., 2003) contend that a number of cognitive factors must be in place before children can perceive discrimination. One cognitive factor that we believe is particularly relevant is one of the milestones of cognitive development—the emergence of the ability to apply and extract general rules about the world (Inhelder & Piaget, 1958). Applying general rules to the interpretation of specific instances involves a process of deduction; extracting general rules from one's experiences involves a process of induction (Holyoak & Nisbett, 1988). Although children are capable of both deductive and inductive inference (Galotti, Komatsu, & Voelz, 1997), mastery (Dias & Harris, 1988; Hawkins, Pea, Glick, & Scribner, 1984) and confidence (Galotti et al., 1997; Pillow, 2002; Pillow & Pearson, 2009) in the ability to reason inductively emerge later in development. Indeed, third-grade children are no more confident in inferences made inductively than in guesses (Pillow, 2002). Applying knowledge about children's inductive and deductive reasoning might help in understanding how they learn about rejection.

Deduction and induction represent important strategies for making sense of and predictions about objects, people, and events in the natural world. Deduction can be thought of as a process of hypothesis application (moving from the general to the specific), whereas induction can be thought of as a process of hypothesis generation (moving from the specific

to the general). For example, if Emma sees Jack hit Jill, she might reason inductively and generate a rule: "Jack is mean to girls." Alternatively, if Emma's mother tells her that "Jack is mean to girls," Emma may reason deductively and keep well out of Jack's way. Interestingly, a neuroimaging examination of the adult brain has revealed that these two processes recruit different neural pathways, suggesting unique underlying mechanisms for these two types of reasoning (Goel, Gold, Kapur, & Houle, 1997). Although even preschool-aged children are able to reason both deductively and inductively, ability and confidence in one's ability to reason inductively seems to develop more slowly and shows more marked improvement with age (Galotti et al., 1997; Pillow, 2002; Pillow & Pearson, 2009). In contrast, even 4-year-old children are relatively proficient in reasoning deductively (Dias & Harris, 1988; Hawkins et al., 1984).

Children are required to reason about all sorts of objects, people, behaviors, and events, and the developmental trajectories of inductive and deductive reasoning may shed light on how they go about this daunting task. Because children of all ages seem to be good at reasoning deductively, it follows that they should rely equally on external information about the world. Therefore, 4-year-old Emma should be just as likely as an older girl to predict that it might be a bad idea to show off her brand new shoes to Jack after being told that "Jack is mean to girls." However, given that inductive reasoning skills increase with age, a 10-year-old girl who sees Jack hitting Jill should be more likely than a 4-year-old girl who observes the same thing to predict that another boy or, indeed, Jack in the future, might also be mean to girls.

In the studies reported here, we apply this knowledge about deduction, induction, the developmental model of children's perceptions of discrimination (C. S. Brown & Bigler, 2005), and the DSGD (Abrams et al., 2003) to the way that children learn about rejection. We focus on the impact of and interaction between experiential and instructional information. Based on this knowledge, we predict that younger children will be most influenced by what they learn about rejection from information gained via instruction (i.e., external or deduction), and the influence of information gained via experience (i.e., internal or induction) should increase over time. Unique from most previous studies, we use a cross-sectional approach with three age groups and start early in the developmental trajectory—our youngest age group consists of 6- and 7-year-old children in the first grade.

From Rejection to Stigma

Although single instances of rejection can be thought of as isolated events, most researchers who study rejection are ultimately interested in the accrued effects of multiple experiences of rejection over time. Previous research suggests that rejection experiences foster expectations of further rejection—children who experience rejection become sensitive to future rejection (Downey & Feldman,

1996) and experience a number of negative consequences for their interactions with other children and in their relationships as adults (Dodge & Feldman, 1990; Downey, Khouri, & Feldman, 1997; Hazan & Shaver, 1987; Jones, Abbey, & Cumberland, 1998; Kupersmidt, Coie, & Dodge, 1990). In a retrospective study, experiences of teasing during childhood predicted higher levels of sensitivity to rejection among college students, suggesting that early rejections contribute to hypersensitivity to later rejections (Butler, Doherty, & Potter, 2007). Another study using a longitudinal approach found that sixth-grade students who scored high on measures of rejection sensitivity had higher levels of social anxiety, withdrawal, and loneliness 6 months later (London, Downey, Bonica, & Paltin, 2007). Together, these studies suggest that rejection provides a clue about one's social status. Being rejected, especially repeatedly, indicates that one possesses a devalued or stigmatized social identity and is accompanied by a plethora of negative emotional, psychological, and behavioral consequences (e.g., Aronson & Inzlicht, 2004; Boivin, Poulin, & Vitaro, 1994; R. P. Brown & Lee, 2005; Coie, Dodge, & Kupersmidt, 1990; Downey & Feldman, 1996; French & Waas, 1985; Inzlicht & Kang, 2010; Inzlicht, Tullet, Legault, & Kang, in press; Kang & Inzlicht, 2011; Pinel, 1999).

A few researchers have begun to examine the implications of rejection-related expectancies among children. For fifth-, sixth-, and seventh-grade children who are highly sensitive to rejection, the experience of being rejected by a friend is highly distressing and associated with aggressive and antisocial behavior, increased difficulty with peers and teachers, and declines in academic performance (Downey, Lebolt, Rincón, & Freitas, 1998). In another pair of studies, Schmalz and her colleagues examined the relation between expecting to be rejected and children's participation in sports (Schmalz & Kerstetter, 2006; Schmalz, Kerstetter, & Anderson, 2008). Among 8- to 10-year-old boys, expecting to be rejected is negatively related to participation in "feminine" sports (e.g., gymnastics, ballet, dance) but has no relation to participation in sports that are "masculine" (e.g., football, wrestling) or "neutral" (e.g., swimming, jogging/running, soccer; Schmalz & Kerstetter, 2006). One-on-one interviews with boys in this study revealed that boys who expect and are sensitive to rejection are afraid that their participation in feminine sports will put them at risk of stereotyping. These same concerns do not seem to be important to boys who are less sensitive and less likely to expect rejection. These few studies show that children as young as 8 years old show individual differences in their understanding of rejection and related outcomes. The question that remains unanswered, however, is: where does this understanding of rejection come from? Here, we explore how external and internal factors—deduction and induction—contribute to an understanding of group-based rejection and intergroup attitudes.

Overview of Studies

In two studies, we compared the relative influence of two sources of information on how children in Grades 1, 3, and 5 learn about outgroup others. The first source, experience, refers to any information that children gather about outgroups through their own internal experiences or observations (e.g., a White child might learn about Chinese people by playing with Chinese children at school or by observing a Chinese family at the grocery store). The second source, instruction, refers to any information children gather from any external source (e.g., the same White child might also learn about Chinese people from her parents or teachers).

Using a minimal-groups paradigm (MGP; Tajfel, 1970; Tajfel, Billig, Bundy, & Flament, 1971), we measured children's evaluations of lab-created outgroups and ingroups. In an MGP, participants are randomly assigned to arbitrary groups, which then function similarly to groups based on actual attributes (e.g., race, gender, age) and are thus a good proxy for testing group-based research questions. In these studies, we created two such arbitrary groups, the Reds and the Blues, and assigned children to the Red group. We then provided children with the opportunity to learn about the outgroup, the Blues, via experience, instruction, or both. In Study 1, we examined the strength of experiential (internal) and instructional (external) information on outgroup evaluation. In Study 2, we directly compared instructional and experiential information by providing opposing information from these two sources. In the instructional condition, the experimenter told children information about the Blue outgroup. In the experiential condition, children gained information about the Blue outgroup from their own experience during a symbolic interaction. Another way to view our manipulations is in terms of deduction and induction. In the instructional condition, we examined children's ability to reason deductively about outgroups—we provided a general rule about an outgroup and then asked them to make judgments about a specific incident with an outgroup member. In the experiential condition, we examined children's ability to reason inductively—we examined how readily they would generalize from a specific incident with an outgroup member to a general dispositional principle about the whole outgroup.

One hypothesis would predict that both experience and instruction contribute to children's understanding of rejection. It is certainly not the case that children learn only from what they do or see or from what they are told. However, it is still unclear which of these processes plays a larger role and whether each process is more influential at different stages of development. We designed these studies with the goal of dissociating between these two processes to judge their relative influences at different ages. Given the developmental trajectories of the cognitive factors necessary to perceive rejection, we predicted that the impact of instruction would be strongest among the younger children, whereas direct experience would have a greater impact among the older children.

These older children likely no longer rely as heavily on external information to understand their lives; instead, they should be able to rely on their own cognitive resources to help them recognize even subtle instances of rejection (C. S. Brown & Bigler, 2005).

Study 1

Method

Participants. We recruited 161 children from Grades 1 ($N = 56$; 28 girls), 3 ($N = 58$; 29 girls), and 5 ($N = 47$; 25 girls) of an ethnically diverse elementary school in Toronto to participate in Study 1. Children in Grade 1 were 6- and 7-year olds ($M_{\text{age}} = 6.45$ years, $SD = 0.25$), children in Grade 3 were 8- and 9-year olds ($M_{\text{age}} = 8.41$ years, $SD = 0.28$), and children in Grade 5 were 10- and 11-year olds ($M_{\text{age}} = 10.47$ years, $SD = 0.26$). The ethnic composition of our sample reflected the diversity of the Greater Toronto Area: East Asian (33.5%), South Asian (20.5%), White (18.6%), Black (16.8%), and Hispanic (8.8%).

Procedure

Children whose parents had provided informed consent were invited to participate individually in a quiet testing room at the school. Participants were randomly assigned to four information source conditions, resulting in a 3 (age group: Grades 1, 3, 5) \times 4 (information source: control, negative experience, negative instruction, combined negative experience and negative instruction) between-subjects design. Children received a small gift (a novelty pencil and eraser) for participating.

Minimal-groups game. Children were told that they would be playing a game in which there were two groups, the Reds and the Blues. We used a competitive MGP (Spielman, 2000) to assign participants to one of the two groups. Children closed their eyes and drew a colored tile out of a bag to "determine" their group; all participants were assigned to the Red group. The experimenter gave the child a red cup, asked him or her to write "ME" on it, and explained that the cup would represent the participant during the game. Next, the participant was told that he or she was in a group of three Reds along with two other children. The experimenter placed two Red cups next to the child's cup. The experimenter further explained that three other children were in the Blue group; three blue cups represented the Blue group. After ensuring game comprehension, the experimenter told participants that they could give each other child up to 10 prize tokens. To do this, children placed 0 to 10 tokens into the other players' cups. Cups were presented one at a time, alternating between groups, with presentation order counterbalanced between participants.

Experimental conditions. Next, the experimenter told control condition participants that she would put the cups away

for the other children, after which they completed the dependent measures. In the three other conditions, the instruction/experience manipulation came next. The experimenter announced that she would put as many tokens into the participant's cup as one of the Blue children had left for him or her. She pretended to retrieve this information and then, outside of the participant's view, filled the participant's cup with the number of tokens that the Blue child had ostensibly left for him or her.

In the negative experience condition, the participant's cup was left empty. The experimenter said that she had to get something from across the room and asked participants to look in the cup while she was away. The experimenter left the testing space to ensure that children experienced the outcome completely on their own, without any external influence. Upon returning, the experimenter proceeded to the dependent measures without commenting on the empty cup.

In the negative instruction condition, the experimenter delivered a warning about the Blue group: "Kids in the Blue group are really mean to kids in the Red group. . . . You'll really notice how Blues are mean to you." She then proceeded to the dependent measures. Children in this condition completed the dependent measures without looking in their cups.

In the combined experience and instruction condition, the experimenter left the "ME" cup empty as in the negative experience condition and delivered the Blue group warning as in the negative instruction condition. The warning was delivered first, followed by the child looking into the empty cup while the experimenter was away. After both the instructional and experiential information was received, the experimenter proceeded to the dependent measures.

Dependent measures. We were interested in evaluations of the Red ingroup and Blue outgroup. To this end, children were asked questions examining evaluations of (four questions; e.g., "How mean/fair/good/bad do you think Blue/Red kids are?"), expectations of (four questions; e.g., "Do you think a kid from the Blue/Red group would be nice to you?"), and willingness to interact with (four questions; e.g., "How much do you want to play with a kid from the Blue/Red group?") children from both groups. Responses were made using an age-appropriate rating scale, with a range of possible scores from 1 (*no or only a little*) to 11 (*yes or a lot*). The scale employed a pictorial version of a Likert scale, with a small star representing 1 and progressively larger stars representing the numbers 2 to 11. Responses could be made verbally, by pointing, or by sliding a marker along the scale to the appropriate star. Ratings on all of the items were highly intercorrelated (all $r_s > .34$, $p_s = .001$), and analyses of each subscale (expectations, evaluations, willingness to interact) yielded an identical pattern of results, so we created composite measures called *outgroup evaluation* ($\alpha = .92$) and *ingroup evaluation* ($\alpha = .90$). Higher values on these composite measures indicate more positive assessments. Because each manipulation involved a piece of negative information about

the outgroup, a more impactful manipulation would result in less outgroup liking. Therefore, the factor with the most influence will result in the lowest outgroup evaluation score. We assessed evaluations of the ingroup to make sure that any observed effects were isolated to the outgroup and not just representative of a generalized negative reaction following our experimental manipulations. We expected children's evaluations of their Red ingroup to be positive (e.g., Aboud, 2003; Allport, 1954; Brewer, 1999; Cameron, Alvarez, Ruble, & Fuligni, 2001) across all conditions.

Results and Discussion

We expected that outgroup evaluations made by younger children would be influenced heavily by the outgroup information we provided instructionally. Specifically, we expected more negative evaluations whenever negative outgroup information was provided via instruction (i.e., in the negative instruction and combined conditions). In contrast, we expected that older children would be relatively more influenced by their own experiences, resulting in more negative evaluations following a negative outgroup experience (i.e., in the negative experience and combined conditions).

We analyzed differences in evaluations using 3 (age group: Grades 1, 3, 5) \times 4 (information source type: control, negative experience, negative instruction, combined) between-group ANCOVAs, with Bonferroni corrections. Effects of gender, ethnicity, and the difference in the mean number of tokens distributed by participants to ingroup versus outgroup children during the minimal-groups game¹ were controlled for by entering these variables as covariates; none of these variables moderated the effects, $F_s < 1$, $p_s > .40$, $\eta_p^2_s < .01$. One-way ANCOVAs were used to test significant interaction effects.

Outgroup evaluation. Overall, results confirmed our hypotheses (see Figure 1). Analyses of outgroup evaluation revealed a significant main effect of condition, $F(3, 146) = 32.43$, $p = .001$, $\eta_p^2 = .40$, qualified by an interaction between grade and condition, $F(6, 146) = 3.89$, $p = .001$, $\eta_p^2 = .14$.

The means (with 95% confidence intervals) and standard deviations in Table 1 indicate that in Grade 1, control participants evaluated the outgroup most positively, followed by negative experience participants, then by negative instruction participants. Those in the combined condition evaluated the Blue outgroup most negatively (all means differed significantly, $p_s < .05$, $d_s > 0.70$). A different pattern of results emerged for third-grade children. For this middle group, control participants still evaluated the outgroup most positively, all $p_s < .01$, $d_s > 1.04$, but evaluations made by those in the three other conditions did not differ, $p_s > .50$, $d_s < 0.25$. Finally, for fifth-grade children, control participants again evaluated the outgroup most positively, all $p_s = .001$, followed by the negative information participants, all $p_s < .05$, $d_s > 1.67$. Evaluations by those in the combined and negative experience conditions were more negative than the other

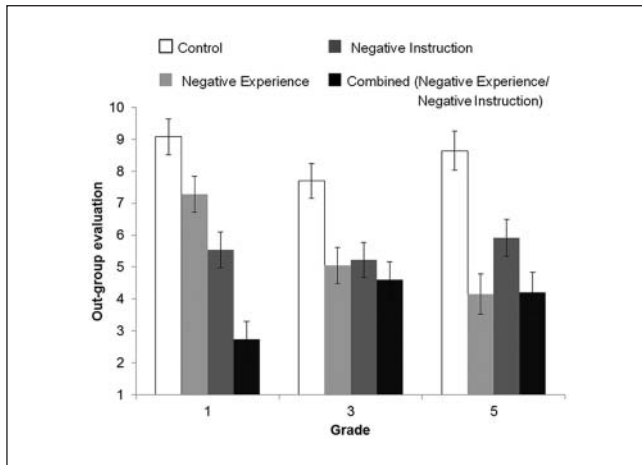


Figure 1. Mean outgroup evaluation for Study 1 by grade and condition

Each manipulation involved a piece of negative information about the outgroup; therefore, a more impactful manipulation would result in less outgroup liking (i.e., a lower outgroup evaluation score).

two conditions but did not differ from each other, $p > .50$, $d = 0.03$.

The pattern of outgroup evaluations confirmed our hypotheses. Children in Grade 1 were more influenced by what they were told—the general rule we gave them about the Blue group—than by what they experienced, especially when that general rule was experientially confirmed as in the combined condition. By Grade 5, children were more influenced by what they experienced than by what they were told, and combining instruction with experience was no more influential than experience alone. This difference appears to emerge sometime between first and fifth grades, as those in third grade show a leveling off of influences, with experience, instruction, and the combination of the two exerting equal influence on outgroup evaluations.

Ingroup evaluation. To confirm that the observed differences were specific to the outgroup, we looked to ingroup evaluations. Analyses revealed a significant main effect of grade, $F(2, 143) = 19.93$, $p = .001$, $\eta_p^2 = .22$. Children in Grade 1 ($M = 10.06$, $SD = 1.22$) and Grade 3 ($M = 9.47$, $SD = 1.64$) evaluated the ingroup more positively than children in Grade 5 ($M = 8.25$, $SD = 1.35$), all $ps = .001$, $ds > 1.41$. No other effects or interactions were significant, $F_s < 1.70$, $ps > .17$, indicating that the negative reactions following the condition manipulations were specific to the outgroup. Although there were no significant condition effects, the ingroup evaluation means by grade and condition can be found in Table 1 for comparison purposes.

Condition effects across the grades. To more fully understand the trajectory of outgroup evaluation differences, we examined differences across the three grades within each condition. Analyses revealed no differences in outgroup evaluation across Grades 1, 3, and 5 for the control and negative

information conditions, all $F_s < 2.18$, $ps > .12$, η_p^2 s $< .10$. We did, however, find differences for the negative experience condition, $F(2, 33) = 4.90$, $p = .01$, $\eta_p^2 = .23$. Grade 1 students evaluated the outgroup more positively than did those in either Grade 3 or 5, $ps < .05$, $ds > 0.90$. Evaluations made by those in Grades 3 and 5 did not differ, $p > .50$, $d = 0.44$, suggesting that it is not the influence of instruction that changes over time but rather the influence of experience. By Grade 3, children seem to be able to use experience as a source for understanding and making inferences about the outgroup. Surprisingly, for the combined condition, $F(2, 33) = 4.59$, $p < .03$, $\eta_p^2 = .22$, participants in Grade 3 evaluated the outgroup more positively than did those in Grade 1, $p = .03$, $d = 0.97$. The mean for those in Grade 5 fell between the other two grades but did not differ from either, $ps > .15$, $ds < 0.22$.

The results from Study 1 reveal that the relative influence of experience with and instruction about outgroups differs for younger and older children. For younger children, instruction is more impactful than experience. This is not to say that experience plays no role in learning about the outgroup—first-grade children who experienced rejection without instruction still evaluated the outgroup more negatively than did those in the control condition. Relatively speaking, however, external instruction seems to be particularly impactful for children in the younger group. Experience combined with instruction led to the most negative evaluations, suggesting that instruction helped these children interpret their negative experience. In contrast, experience was most impactful for fifth-grade children; combining experience with instruction led to no more negative evaluation of the outgroup than experience alone.

Next, we tested the limits of these effects by including conditions where experiential and instructional information were in direct opposition. In real life, experiences with and instruction about outgroups can often be inconsistent. As a result, children may receive mixed messages in terms of how they should expect to be treated by members of various groups. In this second study, we more fully explored the impact of experience and instruction by examining what happens when these two sources of information contradict.

Study 2

In Study 2, we investigated the relative impact of conflicting internal and external information. We retained the negative experience and negative instruction conditions from Study 1, but we also added two combined but conflicting conditions: one with negative instruction and positive experience, and one with positive instruction and negative experience. We used contradicting mixed conditions to directly compare the effects of instruction and experience. We hypothesized that instruction would have a greater impact than experience among first graders, and expected the opposite among fifth graders.

Table 1. Study 1 Outgroup and Ingroup Evaluation Means by Grade and Condition

	Condition											
	Control			Negative experience			Negative instruction			Combined (negative experience/negative instruction)		
	M	95% CI	SD	M	95% CI	SD	M	95% CI	SD	M	95% CI	SD
Outgroup evaluation												
Grade 1	9.08	[7.97, 10.19]	2.31	7.28 _{b,1}	[6.16, 8.39]	2.68	5.53 _c	[4.42, 6.63]	2.27	2.74 _{d,2}	[1.63, 3.84]	1.72
Grade 3	7.70 _a	[6.62, 8.77]	1.94	5.05 _{b,2}	[3.94, 6.15]	2.24	5.22 _b	[4.16, 6.31]	2.76	4.60 _{b,1}	[3.50, 5.72]	2.08
Grade 5	8.64 _a	[7.43, 9.83]	1.48	4.15 _{c,2}	[2.91, 5.40]	1.79	5.91 _b	[4.76, 7.06]	1.77	4.20 _c	[2.95, 5.46]	1.52
Ingroup evaluation												
Grade 1	10.20	[9.40, 10.88]	1.12	10.52	[9.73, 11.28]	0.81	10.39	[9.66, 11.14]	0.84	9.18	[8.44, 9.92]	1.55
Grade 3	9.87	[9.22, 10.65]	1.47	9.31	[8.59, 10.07]	1.29	9.42	[8.60, 10.09]	1.34	9.25	[8.49, 9.97]	1.42
Grade 5	8.52	[7.81, 9.42]	1.59	8.28	[7.35, 9.10]	1.63	8.10	[7.32, 8.86]	1.31	8.11	[7.33, 9.00]	1.78

Ratings for both outgroup and ingroup evaluation were made on an 11-point scale. Each manipulation involved a piece of negative information about the outgroup, therefore, a more impactful manipulation would result in less outgroup liking (i.e., a lower outgroup evaluation score). Alphabetical subscripts represent analyses between conditions within each grade; numerical subscripts represent analyses between grades within each condition. Means with different subscripts are significantly different.

Method

Participants. We recruited a new sample of 148 children from Grades 1 ($N = 52$; 31 girls; $M_{\text{age}} = 6.84$ years, $SD = 0.27$), 3 ($N = 48$; 21 girls; $M_{\text{age}} = 8.83$ years, $SD = 0.25$), and 5 ($N = 48$; 33 girls; $M_{\text{age}} = 10.91$ years, $SD = 0.26$) of the same elementary school as Study 1. Our sample was once again relatively diverse: East Asian (41.2%), South Asian (22.3%), White (14.9%), Black (12.8%), and Hispanic (8.8%).

Procedure

The procedure for Study 2 was identical to Study 1 except for two of the condition manipulations. In Study 2, participants were randomly assigned to four information source conditions, resulting in a 3 (age group: Grades 1, 3, 5) \times 4 (information source type: negative experience, negative instruction, negative instruction/positive experience, positive instruction/negative experience) between-subjects design. The negative experience and negative instruction conditions were identical to Study 1.

In the negative instruction/positive experience condition, the experimenter placed the full 10 tokens into the “ME” cup out of sight of the child, covered the cup, and placed it on the table in front of the child. Next, she delivered the Blue group warning as in the negative instruction condition, then instructed the participant to look in the cup while she obtained something from across the room. After both types of information were received, the experimenter proceeded to the dependent measures.

In the positive instruction/negative experience condition, the experimenter left the “ME” cup empty, covered it, and placed it on the desk. She then delivered a positive Blue group

message: “Kids in the Blue group are really nice to kids in the Red group. . . . You’ll really notice how Blues are nice to you.” The child was then instructed to look in the cup while she was away. The experimenter proceeded to the dependent measures after both types of information were received.

We used the same questions as in Study 1 to assess ingroup and outgroup evaluations. Responses to these questions were intercorrelated (all $r_s > .25$, $p_s = .001$) and analyses of each subscale yielded an identical pattern of results, so items were again combined to create reliable measures of *outgroup evaluation* ($\alpha = .88$) and *ingroup evaluation* ($\alpha = .83$). As in Study 1, each manipulation included a piece of negative information about the outgroup; in addition, we added a condition with a positive piece of information (e.g., the positive instruction/negative experience condition). When the information is negative, a more impactful manipulation would result in less outgroup liking (e.g., lower outgroup evaluations following negative instruction). In contrast, when the information is positive, a more impactful manipulation will result in more outgroup liking (e.g., higher outgroup evaluations following positive instruction).

Results and Discussion

We hypothesized that instruction would be a more powerful source of information for younger children, whereas experience would become more useful to older children. More specifically, we expected that the valence of younger children’s outgroup evaluations would be driven by the valence of instructional information they received (i.e., more negative ratings in the negative instruction and negative instruction/positive experience conditions, more positive ratings in the positive instruction/negative experience condition). In contrast,

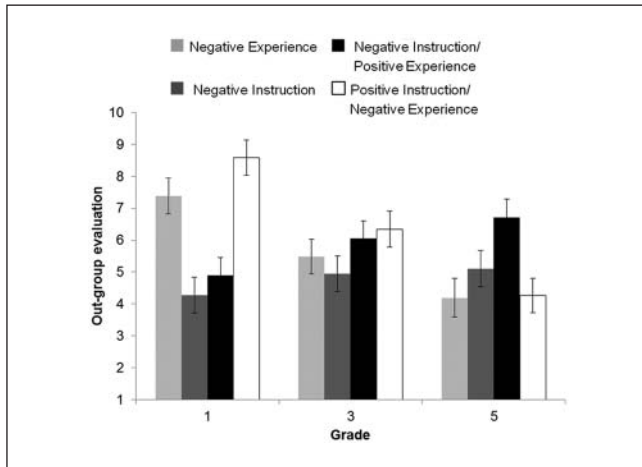


Figure 2. Mean outgroup evaluation for Study 2 by grade and condition

Each manipulation involved a piece of negative information about the outgroup; the positive instruction/negative experience manipulation also included a piece of positive information. When the information is negative, a more impactful manipulation would result in less outgroup liking (i.e., lower outgroup evaluation scores). When the information is positive, a more impactful manipulation would result in more outgroup liking (i.e., higher outgroup evaluation scores).

we expected that older children's outgroup evaluations would be driven by the valence of their experience (i.e., more negative ratings in the negative experience and positive instruction/negative experience conditions, more positive ratings in the negative instruction/positive experience condition).

Outgroup and ingroup evaluations were analyzed using 3 (age group: Grades 1, 3, 5) \times 4 (information source type: negative experience, negative instruction, negative instruction/positive experience, positive instruction/negative experience) between-group ANCOVAs with Bonferroni corrections. As in Study 1, effects of gender, ethnicity, and the difference in the mean number of tokens distributed by participants to ingroup versus outgroup children during the minimal-groups games² were controlled for by entering these variables as covariates; none of these variables moderated the effects, $F_s < 1.96, p_s > .16, \eta_p^2 < .01$. As in Study 1, one-way ANCOVAs were used to test significant interaction effects.

Outgroup evaluation. Analyses revealed significant main effects of condition, $F(3, 133) = 3.98, p = .01, \eta_p^2 = .08$, and grade, $F(2, 133) = 5.13, p = .01, \eta_p^2 = .07$, which were qualified by an interaction between grade and condition, $F(6, 133) = 6.65, p = .001, \eta_p^2 = .23$ (see Figure 2; means, 95% confidence intervals, and standard deviations are displayed in Table 2). Among our Grade 1 sample, evaluations by those in the negative instruction/positive experience and negative instruction conditions were lower than the other two conditions, $p_s < .03, d_s > 0.48$, but did not differ from each other, $p > .50, d = 0.34$. For Grade 5, negative

instruction/positive experience participants evaluated the outgroup more positively than did those in either the positive instruction/negative experience or negative experience conditions, $p_s < .01, d_s > 1.48$. Evaluations made by negative instruction participants fell between those in the two combined conditions but did not differ significantly from any of the other three conditions, $p_s > .07, d_s < 0.88$. Similar to Study 1, there were no differences among conditions for third-grade children, all $p_s > .30, d_s < 0.58$.

The pattern of results in Study 2 confirmed our hypotheses that when outgroup-related instruction and experience conflict, younger children rely more on instruction than on experience, whereas the opposite is true for older children. As in Study 1, first graders were more influenced by what they were told, even when what they were told conflicted with what they actually experienced. Conversely, fifth graders were more influenced by what they experienced for themselves.

Ingroup evaluation. As in Study 1, analyses revealed a significant main effect of grade, $F(2, 133) = 7.45, p = .001, \eta_p^2 = .10$. Children in Grade 1 ($M = 10.15, SD = 1.34$) and Grade 3 ($M = 9.65, SD = 1.57$) evaluated the ingroup more positively than did children in Grade 5 ($M = 8.93, SD = 1.55$), all $p_s < .05, d_s > 0.34$. No other effects or interactions were significant, $F_s < 2.20, p_s > .10$, once again indicating that negative reactions were outgroup specific. Although there were no significant condition effects, the ingroup evaluation means by grade and condition can be found in Table 2 for comparison purposes.

Condition effects across the grades. Next, we examined differences within each condition across the grades. As in Study 1, no differences in outgroup evaluation across the three grades were found for the negative instruction condition, $F(2, 34) < 1, p > .50, \eta_p^2 < .05$. We did, however, find significant results with actual experience in the negative experience condition, $F(2, 34) = 5.82, p < .01, \eta_p^2 = .26$: Participants in Grade 1 evaluated the outgroup more positively than did those in either Grade 3 or 5, $p_s = .05, d_s > 0.77$. Evaluations made by third and fifth graders did not differ, $p = .20, d = 0.60$, again suggesting that it is not the influence of instruction that changes over time but rather the influence of one's experiences. By Grade 3, children are more able to rely on their own experiences as a source for understanding and making inferences.

Looking to our combined conditions, in the negative instruction/positive experience condition, $F(2, 34) = 3.12, p < .05, \eta_p^2 = .16$, Grade 1 participants evaluated the outgroup more negatively than did those in either Grade 3 or Grade 5, $p_s < .04, d_s > 0.54$. Evaluations made by those in Grades 3 and 5 did not differ, $p > .50, d = 0.32$. In contrast, in the positive instruction/negative experience condition, $F(2, 34) = 12.77, p < .01, \eta_p^2 = .43$, participants in Grade 1 evaluated the outgroup more positively than did those in either Grade 3 or Grade 5, $p_s < .04, d_s > 0.92$, which did not differ from each other, $p = .07, d = 1.01$.

Table 2. Study 2 Outgroup and Ingroup Evaluation Means by Grade and Condition

	Condition											
	Negative experience			Negative instruction			Negative instruction/ positive experience			Positive instruction/ negative experience		
	M	95% CI	SD	M	95% CI	SD	M	95% CI	SD	M	95% CI	SD
Outgroup evaluation												
Grade 1	7.38 _{a,1}	[6.25, 8.51]	2.71	4.27 _b	[3.14, 5.41]	1.66	4.90 _{b,2}	[3.77, 6.03]	2.04	8.58 _{a,1}	[7.45, 9.71]	2.28
Grade 3	5.48 _z	[4.30, 6.66]	2.23	4.94 _b	[3.77, 6.12]	2.27	6.05 ₁	[4.87, 7.22]	2.24	6.34 ₂	[5.17, 7.52]	2.58
Grade 5	4.19 _{b,2}	[3.02, 5.37]	2.03	5.11	[3.93, 6.29]	1.71	6.71 _{a,1}	[5.53, 7.89]	1.93	4.27 _{b,2}	[3.10, 5.45]	1.31
Ingroup evaluation												
Grade 1	10.46	[9.65, 11.30]	0.84	9.74	[8.93, 10.55]	1.29	10.49	[9.63, 11.23]	0.93	9.92	[9.10, 10.67]	1.99
Grade 3	9.00	[8.18, 9.87]	2.16	10.36	[9.52, 11.22]	1.05	10.03	[9.19, 10.87]	1.00	9.22	[8.38, 10.07]	1.55
Grade 5	8.81	[7.97, 9.64]	1.79	8.69	[8.05, 9.74]	1.91	9.67	[8.84, 10.51]	1.00	8.58	[7.73, 9.43]	1.26

Ratings for both outgroup and ingroup evaluation were made on an 11-point scale. Each manipulation involved a piece of negative information about the outgroup; the positive instruction/negative experience manipulation also included a piece of positive information. When the information is negative, a more impactful manipulation would result in less outgroup liking (i.e., lower outgroup evaluation scores). When the information is positive, a more impactful manipulation would result in more outgroup liking (i.e., higher outgroup evaluation scores). Alphabetical subscripts represent analyses between conditions within each grade; numerical subscripts represent analyses between grades within each condition. Means with different subscripts are significantly different.

Study 2 confirms that first graders were more influenced by instruction than by experience, whereas fifth graders were more influenced by their own experiences. Instruction had such an impact on the youngest children that it overrode information gained experientially. When positive instruction about the outgroup was given, first-grade children evaluated the outgroup positively, even when they had a negative outgroup experience. Likewise, when negative instruction was given, negative evaluations and expectations emerged, regardless of a positive experience. Among fifth-grade children, we saw more reliance on experience than instruction; for these older children, the valence of experiential information drove evaluations and expectations, even when paired with contradictory instructional information.

General Discussion

In this research, we dissociated instructional and experiential influences that shape a child's knowledge and expectations about outgroups and rejection by outgroup members. Across two studies, we found that external instruction is a potent educational force among younger children (cf. Castelli, De Dea, & Nesdale, 2008), whereas experience becomes relatively more important as children age. For 6- and 7-year-old children, the impact of instruction was powerful enough to undermine contradictory experiential information, whereas the opposite was true for 10- and 11-year-old children. These older children placed more stock in their own experiences, relying more on what they learned for themselves than on what they learned from an external source.

Although this pattern is certainly not specific to how children learn about outgroups, it raises interesting questions for the methods used to teach children about stigma. The

developmental trajectory found here is an overreliance on external instruction in early childhood followed by an increasing reliance on one's own outgroup experiences in developing a sense of how one feels about and expects to be treated by that outgroup in the future. Among younger children, then, great care must be taken to provide adequate instruction to ensure that children can recognize and react appropriately to discrimination when it occurs, but not so much or so strong of instruction that children shut themselves off from possible cross-group friendships and other intergroup opportunities (Barrett & Swim, 1998; Mendoza-Denton, Downey, Purdie, Davis, & Pietrzak, 2002). This balance is crucial, given that stereotyping, stigma consciousness (Piel, 1999), and experience with discrimination have negative academic (Good & Aronson, 2007; Inzlicht & Good, 2006; see also Ambady, Shih, Kim, & Pittinsky, 2001), vocational (Bigler, Averhart, & Liben, 2003; Liben, Bigler, & Krogh, 2001), and health-related (Coker et al., 2009) consequences for children. Educating young children about outgroups and rejection should, therefore, be done carefully, as these accrued experiences with rejection shape how individuals come to conceptualize of higher order phenomena such as stigmatization (e.g., Bigler, 1999; Weisgram & Bigler, 2007).

We should also note that the powerful effect of instruction among young children, even in the face of a contradictory experience, came after a one-time message from a previously unknown experimenter. Imagine then the power commanded by a parent, sibling, or teacher who has a much closer relationship with and repeated opportunities to convey messages about outgroups to the children in their lives. On a positive note, this finding adds support to the growing consensus that talking to children about group differences such as race leads to much better outcomes than simply ignoring these

differences (e.g., Aboud & Doyle, 1996; Mendoza-Denton, 2011). Indeed, talking to children about race and race relations—even about more negative historical events such as slavery and the civil rights movement—is associated with increased ingroup liking and identification among African American children (Branch & Newcombe, 1986; Hughes & Johnson, 2001; Marshall, 1995; Spencer, 1982).

Although our results point to the importance of instruction for younger children, we are not suggesting that experience is not a useful source of information for these children. Indeed, in Study 1, we saw the most powerful effects among young children when they received both negative instructional *and* experiential information. This suggests that negative experience can be a powerful source of information for younger children, but only if they have adequate instructional information to integrate information they gain via experience into their conceptualization of ingroup–outgroup relationships.

One limitation of this work is that it is not longitudinal. Future longitudinal examinations might ascertain how early instruction or experience influences reactions to and expectations about stigma in later life. Additionally, it would be interesting to see how children are influenced by multiple instances of stigma-related experience or instruction, especially given that older children rely most on their own experiences when provided with several pieces of evidence rather than just one or a few (e.g., Rhodes, Gelman, & Brickman, 2008). Future research can further our knowledge on this important topic.

A second limitation of this work was our decision to not counterbalance the presentation of instructional and experiential information. In all of our mixed conditions, we chose to present the instructional information first to create an ecologically valid scenario of interest to us. We wanted to mimic real-life situations in which parents pass along information about other groups before children have a chance to interact with those groups themselves. We were interested to see whether children who received a warning about the outgroup paid more attention to behavior of outgroup members than did children who were not prewarned, and whether this effect would differ by age. Without counterbalancing, we have not controlled for possible order effects in this study; however, it is this specific order effect that we were interested in. Future examinations could advance our understanding of these effects by counterbalancing the presentation of these two types of information.

Another avenue for future research would be to examine how children respond to varying types of rejection during actual interactions with novel groups. In this study, children had to infer rejection based on finding an empty cup, ostensibly based on the outgroup member's decision not to leave any tokens. It would be interesting to see how children react when the rejecting act is more actively negative (e.g., pushing, teasing). With more severe forms of rejection, personal

experience would very likely become more salient, even among younger children. Additionally, the rejection incident in this study is not direct, in that children have no actual interaction with the offending outgroup child. Again, more attention may be paid, even by younger children, to personal experience during actual *in vivo* interactions. Indeed, a limitation of the current work is that we focus on a very specific, relatively benign, and unexplained form of indirect rejection. To broaden our understanding of these processes, we would need to investigate children's reactions to actual instances of various forms of rejection based on a number of different characteristics, both personal and group based. For example, children and adults alike expect others to display some level of ingroup preference (e.g., Aboud, 2003; Brewer, 1999). However, because we did not provide children with an explanation of the negative instruction they received or experience they had, our design does not allow us to dissociate between children's reactions to rejection based on perceived ingroup preference, which is expected to some degree, and more egregious outgroup prejudice. These types of attributional dynamics could be tested in future studies within the framework of instruction versus experience that we have designed in these studies.

Finally, it will be important for future studies to examine the individual and situational factors influencing the processes underlying the findings reported here. A good starting point would be to test predictions related to the situational and individual components of the developmental model of children's perception of discrimination (C. S. Brown & Bigler, 2005). For example, in terms of situational variables, the model suggests that attributions to discrimination should be more likely when the target of discrimination is not the self or when discrimination is particularly relevant to a specific stereotype. In terms of individual variables, the model suggests that attributions to discrimination should be more common among children who are strongly identified with their group or who hold egalitarian group attitudes (e.g., C. S. Brown & Bigler, 2004). Each of these predictions can be tested experimentally or correlationally within an MGP paradigm or with actual groups. Higher levels of these proposed moderating variables could lead to a greater influence of experience even among younger children.

For now, we can conclude that children are influenced by information about outgroups and rejection differently as they age. Younger children are more affected by general rules about outgroups acquired from external sources—even in the face of contradictory experience with outgroup members—whereas older children become better at extracting general rules for themselves through experience. Relationships between groups are complex and often difficult to understand; it is no surprise that young children would turn to external sources for help. In essence, young children are information hungry—they are eagerly searching for general rules to help in mapping out their social worlds. Because these externally

imposed rules can overpower what is actually experienced, we must be particularly attentive to what these voracious youngsters are eating up.

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Notes

1. We included this difference as a covariate because analyses revealed some ingroup favoritism during the premanipulation token distribution. Specifically, children gave more tokens on average when a Red ingroup cup was presented ($M = 4.88$, $SD = 2.32$) than when a Blue outgroup cup was presented ($M = 4.31$, $SD = 2.13$), $t(160) = -4.02$, $p = .001$, $d = 0.26$. A 2 (ingroup vs. outgroup) \times 3 (age group: Grades 1, 3, 5) repeated measures ANOVA revealed that this tendency did not differ across grades, $F(2, 158) = 1.47$, $p > .20$, $\eta_p^2 = .02$.
2. As in Study 1, this difference is included as a covariate because children gave more tokens on average when a Red ingroup cup was presented ($M = 4.53$, $SD = 2.33$) than when a Blue outgroup cup was presented ($M = 4.06$, $SD = 2.16$), $t(147) = -3.96$, $p = .001$, $d = 0.21$. Once again, this tendency did not differ across grades, $F(2, 145) = 1.40$, $p > .20$, $\eta_p^2 = .02$.

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