How Mixed is the Playground: Children's Predictions about In-Group, Out-Group Behaviors

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Abstract

Children generally have strong predictions about how in-group and out-group members will treat each other. We wanted to explore how these predictions play out for groups such as race and gender. We also wanted to test how much children predict that general mixing between groups will occur, and whether these beliefs affect children's predictions about whom a behavior will be directed towards. This study examined 3-to- 8 year olds' (N = 331) predictions. The first part of the study asked children to predict what they thought a playground looked like. They were presented with four options, each containing different amounts of mixing between groups. The next part of the study asked children to make predictions about whether a person would direct a certain behavior (either obviously kind, or obviously mean) to an in-group member or out-group member. Younger children expected more mixing on the playground than older children did, especially between genders. Older children, however, made stronger predictions that nice behaviors would be directed towards in-group members and mean behaviors would be directed toward out-group members.

How Mixed is the Playground: Children's Predictions about In-Group, Out-Group Behaviors

Children do not view people around them blindly. They are aware that every person belongs to some groups and not others. They are also aware of what groups they are a part of and what groups are considered "other" to them. Infants as old as three months have the ability to discriminate between faces of people of their own race and faces of people from other races (Bar-Haim, Ziv, Lamy, & Hodes, 2006). Toddlers preferentially choose people who speak the same language as them to be their friends (Kinzler, Dopoux, & Spelke, 2007). School-age children prefer to be friends with people who have the same religion as they do (Kretschmer & Leszczensky, 2021). The bottom line is that from very early on in life, children recognize groups and associate with their in-group.

Not only are children aware of the differences between their in-group and out-group, they also have different expectations of how people in different groups will act. In research done by Rhodoes and Chalik (2013), 23 preschool age children were introduced to two novel social categories. One group, the Flurps, were distinguishable by blue shirts. The other group, the Zazzes, wore red shirts. Children were told of two scenarios, one where a group member harmed a fellow in-group member and one where a group member harmed an out-group member. Participants were then asked whether they thought the action was okay or not. If they thought it was not okay, they were asked how bad they perceived the action as being. Children were then asked if they thought the action would be okay if there were no rule in the immediate social context saying that the action was prohibited (e.g., "Would it be okay if there was no rule in their school against teasing?"). These questions were asked to test why children perceived the harmful action as wrong: If children thought that the action was wrong despite there being no rule against it, this would suggest that they viewed the harmful action as intrinsically wrong. If

they thought that the action was less wrong when there was no clear rule against it, this would suggest that they only saw the action as wrong based on the context. The researchers found that 4-year-olds consistently reported that it was never okay to harm a fellow in-group member, regardless of the rules, whereas they viewed out-group harm as less bad when there was no rule prohibiting it. The researchers followed up this study with a similar study conducted on children ages 7-9 and found similar results. They concluded that children ages 3-9 expect that people are intrinsically obligated to their in-group members and think it is wrong, under any circumstances, to harm a fellow in-group member, but do not view people as obligated toward out-group members in the same way (Rhodes & Chalik 2013).

The use of novel social groups to understand the inferences that children make about real social groups has been strongly supported by past research. In research done by Rhodes (2012), children were introduced to novel groups in one of three ways: by simply seeing a picture and being told that there are two groups, by being introduced to the groups with a story in which both groups participate in a non-competitive activity, and by being introduced to the groups with a story in which the groups compete against each other. After being introduced to the groups, children answered questions in which they were asked to make predictions about harmful or helpful behaviors between the groups. Children consistently predicted that people would direct harmful behaviors toward out-group members. However, when it came to helpful behaviors, they predicted that these actions would be directed toward in-group and out-group members equally. This was true for the children introduced to the novel groups through both the competition story and the non-competition story, but not for the children who were given minimal context about the groups; since this group of participants had not been given enough context to fully distinguish the groups, they did not show systematic responding for either type of behavior.

Thus, using novel social groups in research can be useful, as long as the groups are introduced to participants in a meaningful way. When participants were introduced to the novel social groups through any kind of story that emphasized some functional cohesion among group members, they were able to understand that the groups were two separate entities, and consequently had different expectations of how people from these groups would treat in-group members versus out-group members. Using novel social groups in research also allows researchers to test children's abstract knowledge about groups *in general*, rather than their prior knowledge or expectations of the groups that they already know about. Because the groups in these studies were arbitrary and meaningless, and children themselves were not members of either group, children could not have identified with either groups and thus could not have formed specifically positive or negative feelings about the people in each group. Children consistently predict that good things will happen to their in-group members more than to their out-group members (Dunham et al., 2011), but the finding of Rhodes (2012) could not have been driven by such affective processes. Children in the Rhodes (2012) study thus predicted that the two novel groups would treat each other in certain ways, but these predictions were not at all based on participants' personal ties to one of the two groups.

Just as children have systematic expectations about how novel social groups will interact, they also have expectations about real world social groups that they themselves are a part of. In research done by Sierksma and Bijlstra (2018), children aged 8-13 predicted that an ethnic in-group member felt happier when presented with a positive scenario (like being invited to a birthday party) than an ethnic out-group member felt in the same scenario. They also predicted that an ethnic out-group member would have more negative emotions during a negative event (like losing a card game) than an ethnic in-group member. These results show that children

perceive in-group and out-group emotion differently (Sierksma & Bijlstra 2018). These findings might explain some of the reasoning behind the predictions that children made in the work with novel groups reviewed above. In that work, children consistently predicted that harmful behaviors would be directed toward out-group members. This could be due to the fact that they attribute fewer emotions to out-group members; perhaps they think that the out-group member won't mind harmful behavior as much, or won't feel harmed by the behavior.

Because children believe that group members hold intrinsic obligations toward one another, they predict that people will act differently toward in-group and out-group members. For example, 5-year-olds predict that morally good behavior will be directed towards in-group members and that morally negative behavior will be directed towards out-group members. Children make these predictions even when they are not exactly sure what the behavior in question is, as long as they know what its moral valence is (Chalik & Dunham 2020). Chalik and Rhodes (2018) found that children expected a novel social group member to harm out-group members more than in-group members, and to be friends with in-group members more than out-group members. Additionally, research by Jordan and colleagues (2014) showed that six-year- old children punish out-group members more harshly for selfish behavior than in-group members, and that children are more likely to sacrifice their own resources to punish selfish actions by an out-group member than to punish similar actions by an in-group member. This research shows that children are more forgiving of in-group members, than they are of out-group members (Jordan et al., 2014). Studies like these show that from a young age, children understand social groups and have expectations about how different groups should be treated and will treat each other. This is true both when children are asked about groups that they are not a

part of, as well as when they are asked to make predictions about their own in-groups and out-groups.

Other research on how children perceive their own, real-world in-groups and out-groups was conducted with Israeli children to determine their attitudes about a familiar out-group (Arabs) and an unfamiliar out-group (Scotts) (Nasie & Diesendruck 2022). This research found that by five years old, children already felt more positively about their in-group members than out-group members. Older children in this study had a stronger dislike for the out-group than younger children did (Nasie & Diesendruck 2022). These findings about the way children view real-world social groups are consistent with the predictions that children make about the way novel social group members will act towards others. A negative attitude towards the out-group and a positive attitude towards the in-group is a common theme when children are asked to make predictions about social groups that they both are and are not a part of.

In the United States, two of the most salient social groups that children belong to in the real world are race and gender. Children are aware of both of these group distinctions from early on in life. Research done by Shutts and colleagues (2013) looked at the way that 4-year-olds view race and gender as social categories. Children were shown a picture of either a White girl, a White boy, a Black girl or a Black boy. They were told that the child liked to do an unfamiliar activity, like playing a made-up game. Children were then asked to make predictions about which other kids would also like to play that game. They could choose from pictures of a child who matched the target in terms of either race or gender, and a child who was from the opposing group as the target in terms of race or gender. Overall, children were more sensitive to gender than to racial groups: They predicted that kids of the same gender, but not of the same race, would like the same activity as the target child (Shutts et al., 2013) This finding could suggest

that children have stronger beliefs about gender than race. In most Western cultures, boys and girls are often expected to wear different clothes, play different games, and have different interests, whereas these sorts of distinctions may not be prominent for young children when it comes to race.

Thus, there is evidence that children make certain types of predictions on the basis of the groups that they interact with in the world. Yet, no work has tested whether children use these groups to make the sorts of third-party behavioral predictions that they make based on novel groups (e.g., predicting harmful and helpful behaviors; reviewed above). In the present work, we fill this gap in the literature by directly comparing children's behavioral predictions regarding novel social groups, racial groups, and gender groups. Additionally, we test the degree to which children predict mixing versus segregation between groups, which has not been explored in past research. Past research has evaluated children's predictions about a target child's behaviors, but here ,we additionally test whether these predictions are informed by children's beliefs about how much the groups mix with each other in general.

The present study focuses on children's (ages 3-7) expectations of how much in-groups and out-groups generally mix with each other, as well as expectations about whether people are more likely to direct behaviors toward in-group members versus out-group members. There were six conditions; in each, children were asked to make inferences about how group members would act toward in-group and out-group members. In the novel conditions, these inferences involved two made up groups, the blue Flurps and the red Zazzes. In conjunction with past research, children in this condition were introduced to the groups through a story that contained two groups completing an activity in a non-competitive way. This way, children were given enough context to understand that the two groups were separate, but no implication that the groups were

competing against each other. In the gender conditions, children made inferences about gender groups (male vs. female), and in the race conditions, they made inferences about racial groups (Black vs. White). Group type was crossed with valence: Half the time, children made inferences about nice behaviors, and half the time, they made inferences about mean behaviors. There were two parts of the study. The first part of the study looked at how much participants expected children to generally mix with or segregate from out-group members. The second part of the study asked participants about their expectations of who children would direct mean or nice behaviors toward, in-group or out-group members.

Methods

Participants

Participants included 331 3- to 8- year old children (*M* age = 5.6 years; range = 2.9-7.9; 51% female, 49% male). Families were invited to participate in the study if they had an account on Lookit, an online platform for developmental research, and had a child within the appropriate age range. Participants were 52% White, 26% Multiethnic, 13% Aisan, 5% Hispanic, 3% Black, and 1% Unreported. 16.9% of participants reported a family income greater than $200,000, 39.2% reported a family income between $100,000 and $190,000, 28.7% of participants reported a family income between $20,000 and $90,000, and 15.1% did not report family income. Children were randomly assigned to one of the six conditions: gender-mean (*n* = 54), gender-nice (*n* = 58), novel-mean (*n* = 62), novel-nice (*n* = 57), race-mean (*n* = 53), or race-nice (*n* = 47). Participants completed the study at home on their computers with their webcam and microphone recording them. Coders watched the recordings to evaluate if any children should be excluded from the study due to distractions or interference from family members while completing the study.

Procedure

Introduction to the clicking the right answer

Participants logged in on their computers at home and after completing the informed consent process, started the study. The entire study unfolded on the computer screen, with audio recordings narrating the procedure. The computer system randomly assigned participants to one of the six conditions. The first set of questions was meant to familiarize participants with the procedure of clicking on the answer they thought was correct. The first question showed a picture of a dog at the top of the screen with two pictures underneath it: one of a dog and one of a cat. Participants were asked to click on the animal that was the same as the top picture. If a participant clicked on the dog picture, the next question was asked. If the participant clicked incorrectly on the cat picture, the question was asked again. The next question had the same format but this time participants were asked to click on the animal that was different from the picture on the top (the top picture was a cow, and the bottom pictures were a cow and a pig). If participants correctly clicked on the pig picture the study continued, and if they clicked on the picture of the cow the question was asked again. The top picture was highlighted with a green box around it while the question was being asked.

Introduction to Novel Groups

Children in both the novel-nice and novel-mean condition were then introduced to the two groups: the Flurps and the Zazzes. The groups were distinguishable by shirt color - the Flurps wore blue shirts and the Zazzes wore red shirts. The children were shown pictures of both groups (hand drawn illustrations) side by side and told a short story about them, in which both groups were working to build tall towers out of blocks. The story contained no interaction between the two groups and no competition between them. This story was meant to familiarize

the children with the novel groups and ensure that the participants recognized them as meaningful groups. After the groups were introduced, a comprehension question was asked in which children had to identify each group. The question was repeated if the child did not click on the right answer. Next, children proceeded to the playground question. Children in the race and gender conditions did not receive the novel groups introduction, and instead immediately proceeded to the playground question after the introductory animal questions were asked.

The Playground Question

Children were shown a picture of a school and playground and were told that at this school, children play on the playground, and some children play on the slide while some children play on the swings. Participants were shown four pictures of the playground, each containing twelve children. In the novel conditions, these pictures were of Flurps and Zazzes, and in the race and gender conditions, these pictures were photographs of actual children varying in race (White-Black) and gender (Male-Female) from the CAFÉ dataset (LoBue & Thrasher, 2015). In every picture, six children appeared near the slide and six children appeared near the swings. The pictures differed in how much the groups were segregated across the two locations. The picture on the top left always contained the most segregation, where all the children by the slide were from one group and all the children by the swings were from the other group (in the novel conditions, one location contained all Flurps and one location contained all Zazzes; in the gender conditions, one location contained all girls and one location contained all boys; in the race conditions, one location contained all White children and one location contained all Black children). The picture on the bottom right always contained the most intergroup mixing, where both the slide and swing contained three members from each group. The two intermediary pictures displayed a 1-5 and a 2-4 mixture. The audio recording explained each picture, saying,

“In this picture, these kids play on the slide and these kids play on the swing.” An arrow pointed to each picture as it was introduced, and children were instructed to click on whichever picture was "a picture of the playground today." The children could take as much time as they wanted to answer this question as the whole study was untimed.

Behavioral Predictions

After the playground question, children were asked a series of six questions. The questions always started out by introducing a target character (e.g, “This is a Zazz”). In the nice conditions, the child was told that the target had performed a prosocial behavior, like sharing, playing with someone, or calling someone a good friend. The child was asked who the behavior was directed toward - someone in the target’s in-group, or someone in the target’s out-group (e.g., "The Zazz hit someone. Who did the Zazz hit? Did the Zazz hit another Zazz? Or did the Zazz hit a Flurp?"). A picture of each option appeared on the screen under the target character. The same procedure took place in the mean conditions except that the behaviors in question were antisocial, like hitting someone, stealing a toy, or breaking someone’s crayons. The group membership of the target character (Flurp vs. Zazz in the novel conditions, White vs. Black in the race conditions, and Male vs. Female in the gender conditions) and the left-right position of the answer choices were counterbalanced across participants. Following the six test questions, children completed another set of the same questions with a target from the opposite group—these questions were intended to ensure that children did not learn from the study that only one group tended to perform nice or mean behaviors, and were not included in any analyses. After these questions the study ended and children were reminded that it is always good for kids to be nice to others. After completion of the study, parents of the participants were emailed a $5 Amazon gift card.

Results

Playground Question

Children were divided into a younger group (ages 3-5 years) and an older group (ages 6-7 years) for analysis. Each of the four playground pictures corresponded to a number from 0-3 with 0 being the picture containing the most segregation and 3 being the picture containing the most mixing between groups. Descriptive statistics for children's choices can be found in Table 1. We ran a linear model on children's responses to the playground question, with group type as a between-subjects factor and age as a continuous predictor, testing for both possible main effects and an interaction. As shown in Figure 1, we found a main effect of group type ($F(2, 325) = 5.105$, $p = .007$). We also found a main effect of age ($F(1, 325) = 7.44$, $p = .007$), suggesting that younger children ($M = 1.27$, $CI = 1.08, 1.46$) expected more intergroup mixing on the playground than older children ($M = .95$, $CI = .76, 1.13$). The interaction between age and group type was not significant ($p = .29$).

To follow up on the main effect of group type, we performed paired contrasts comparing each group type to every other group type with Bonferroni corrections. Children expected more intergroup mixing for gender groups ($M = 1.33$, $CI = 1.10, 1.56$) than for novel groups ($M = .84$, $CI = .63, 1.05$; $p = .005$). Children's expectations for racial groups ($M = 1.18$, $CI = .94, 1.42$) did not differ from either other group type ($p > .12$).

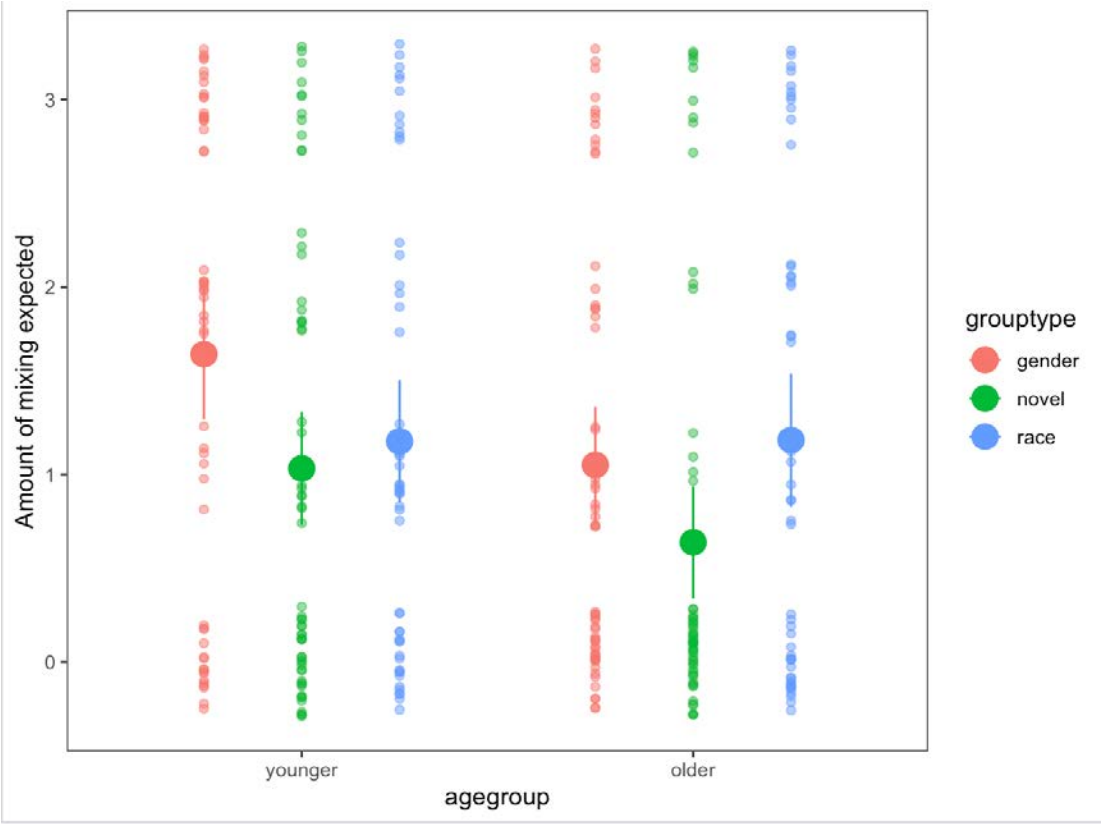
Table 1

Descriptive Statistics for the Playground Question

Group Type	Age Group	Mean	Confidence Interval
Gender	Younger	1.641509	1.29, 1.99
Novel	Younger	1.032787	0.73, 1.34
Race	Younger	1.176471	0.85, 1.50
Gender	Older	1.050847	0.74, 1.36
Novel	Older	0.637931	0.34, 0.94
Race	Older	1.183673	0.83, 1.54

Figure 1

Amount of Mixing Children Predicted on the Playground



Note: Responses closer to 3 indicate more mixing, responses closer to 0 indicate more segregation.

Behavioral Predictions

For each behavioral prediction question, between-group predictions were coded as 0 and within-group predictions were coded as 1. Descriptive statistics for children's responses to these questions can be found in Table 2.

We ran a binomial logistic regression model on children's predictions, with group type and behavior type as between-subjects factors and age as a continuous predictor, testing for all possible main effects and interactions. As shown in Figure 2, we found a main effect of behavior type ($\chi^2(1) = 52.62$, $p < .001$), as well as interactions between group type and behavior type ($\chi^2(2) = 13.10$, $p = .001$), group type and age ($\chi^2(2) = 15.02$, $p < .001$), and behavior type and age ($\chi^2(1) = 40.41$, $p < .001$). The three-way interaction was not significant ($p = .413$). To make sense of these interactions, we split children by group type, behavior type, and age group (younger = 3- to 5-year-olds, older = 6- to 7-year-olds) and tested each group individually against chance.

For gender groups, younger children's predictions did not differ from chance for mean ($p = .210$) or nice ($p = .631$) behaviors. Older children, however, predicted that people would direct mean behaviors toward gender outgroup members (marginally significant: $\chi^2(1) = 3.53$, $p = .06$) and nice behaviors toward ingroup members ($\chi^2(1) = 14.77$, $p < .001$). For novel groups, younger children's predictions did not differ from chance for mean behaviors ($p = 0.65$) but younger children predicted that nice behaviors would be directed toward in-group members ($\chi^2(1) = 10.21$, $p < 0.01$). Older children predicted that nice behaviors would be directed toward in-group members ($\chi^2(1) = 9.79$, $p < 0.01$) and mean behaviors would be directed toward out-group members ($\chi^2(1) = 56.43$, $p < 0.001$). For racial groups, younger children's predictions did not differ from chance for mean ($p > .999$.) or nice ($p = 0.62$) behaviors. Older children, however, predicted that people would direct mean behaviors toward racial out-group members

($\chi^2(1) = 5.70$, $p < 0.01$) and nice behaviors toward racial in-group members ($\chi^2(1) = 5.60$, $p < 0.01$).

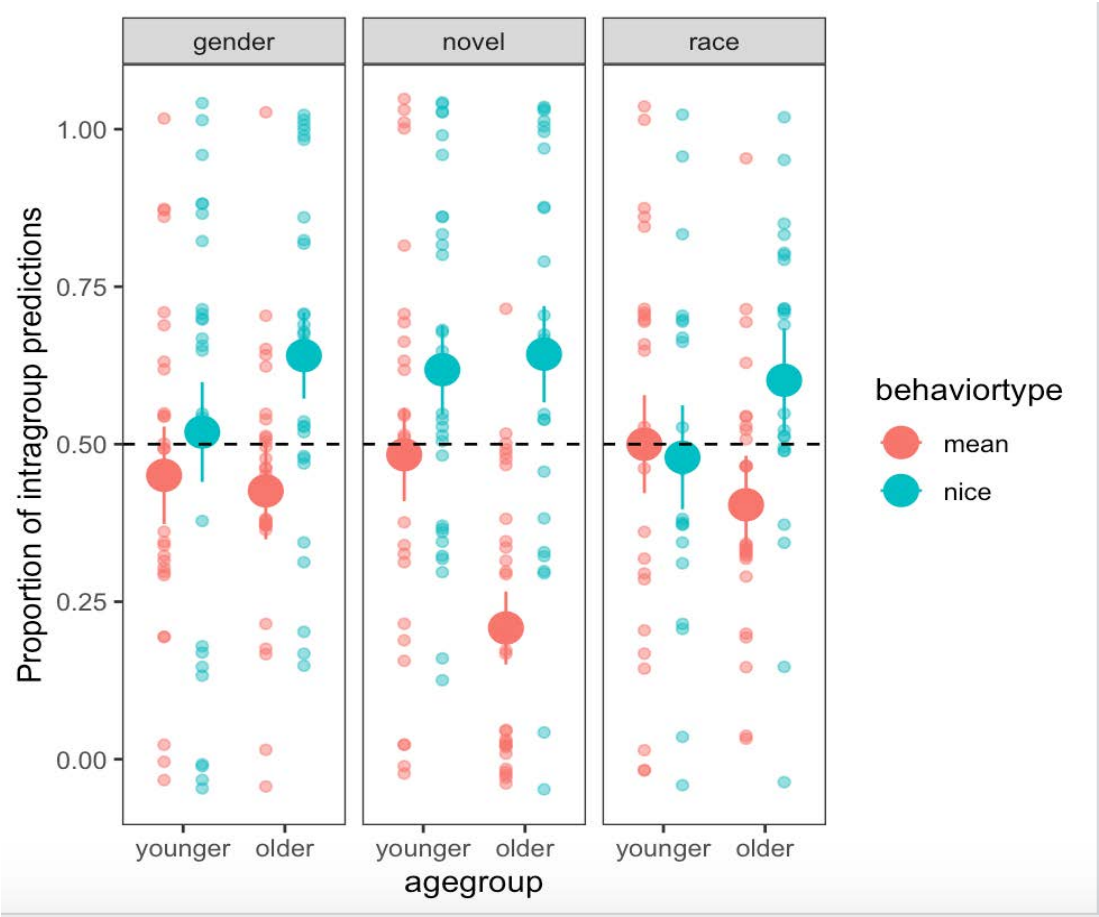
Table 2

Descriptive Statistics for behavioral predictions

Behavior Type	Age	Group	Mean	Confidence Interval
Mean	Younger	Gender	0.4506173	0.37, 0.53
Nice	Younger	Gender	0.5192308	0.44, 0.60
Mean	Older	Gender	0.4259259	0.35, 0.50
Nice	Older	Gender	0.640625	0.57, 0.71
Mean	Younger	Novel	0.4833333	0.41, 0.56
Nice	Younger	Novel	0.6182796	0.54, 0.69
Mean	Older	Novel	0.2083333	0.15, 0.27
Nice	Older	Novel	0.6428571	0.57, 0.72
Mean	Younger	Race	0.5	0.42, 0.58
Nice	Younger	Race	0.4791667	0.40, 0.56
Mean	Older	Race	0.4038462	0.32, 0.48
Nice	Older	Race	0.6014493	0.52, 0.68

Figure 2

Distribution of Predictions Based on Age, Behavior Type and Group Type for Older and Younger Children.



To test whether children's predictions depended on their general expectations of intergroup mixing, we added responses to the playground question to the above analysis as a continuous predictor, testing for all possible main effects and interactions. We found a number of main effects and interactions that were subsumed under a 4-way interaction between the playground question, group type, behavior type, and age ($\chi^2(2) = 9.06$, $p = .01$). To follow up on this interaction, we split children by age group, group type, and behavior type, and tested for an effect of the playground question in each group.

For gender, the playground question did not inform younger children's responses for mean behavior ($p = 0.781$), but it did inform their responses for nice behaviors ($\chi^2(1) = 17.22$, p

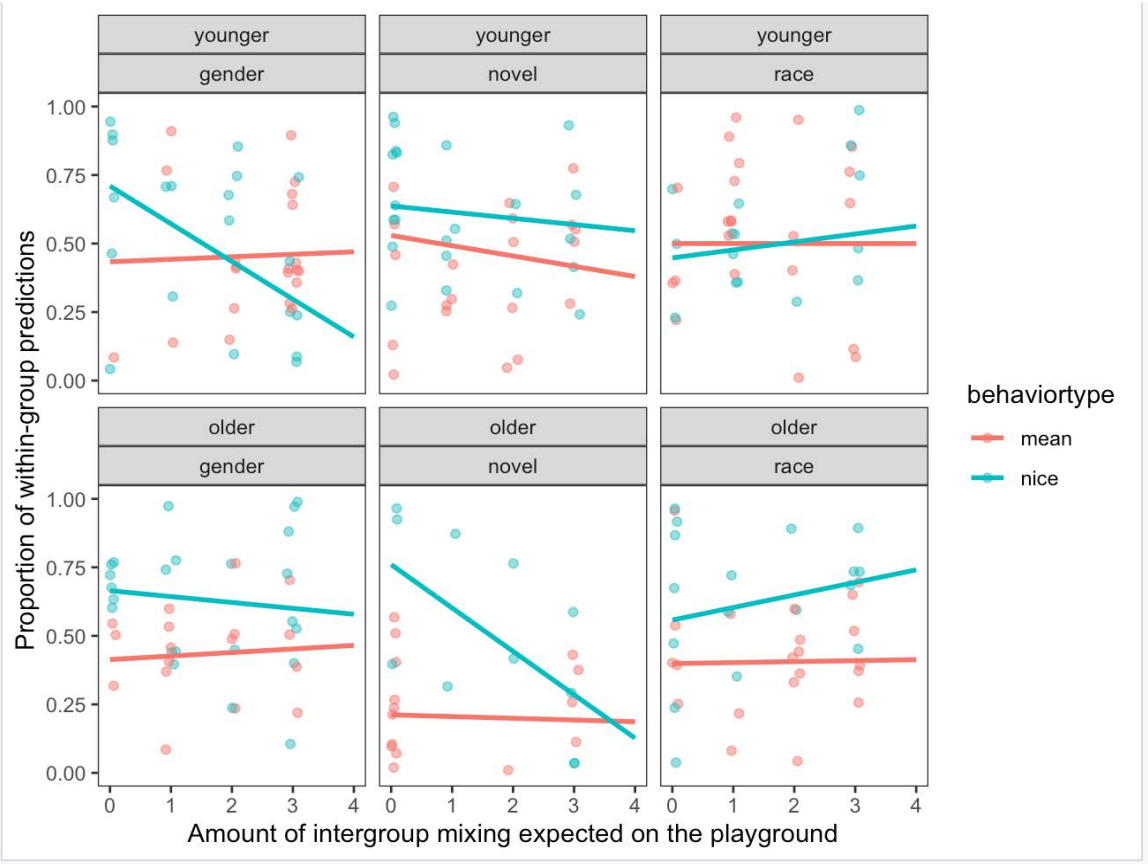
< .001), suggesting that the more mixing among genders that younger children expected on the playground, the more likely they were to predict that nice behaviors would occur between members of different groups. The playground question did not inform older children's responses for mean behaviors ($p = 0.71$) or their responses for nice behaviors ($p = 0.44$).

For novel groups, the playground question did not inform younger children's responses for mean ($p = 0.24$) or nice ($p = 0.47$) behaviors, or older children's responses for mean behaviors ($p = 0.81$). It did, however, inform older children's responses for nice behaviors ($\chi^2(1) = 17.98$, $p < 0.001$), suggesting that the more mixing they predicted between groups, the more they predicted that nice behaviors would occur between groups.

For race, the playground question did not inform younger children's responses for mean ($p > .999$) or nice behavior ($p = 0.39$). This was also true for older children's responses for mean ($p = 0.92$) and nice behavior ($p = 0.18$).

Figure 3

The Interaction Between Intergroup Mixing Expected on the Playground and Proportion of Within-Group Predictions.



Discussion

The present study looked at children's predictions about inter-group mixing, as well as their expectations about whether people are more likely to direct behaviors toward in-group or out-group members. The present study shows that younger children expect more mixing between groups than older children and that children predict more mixing will occur between gender groups than novel social groups.

As expected, we replicated the finding that children expect negative behaviors to be directed towards out-group members but that only older children systematically predict that positive behaviors will be directed towards in-group members. This is consistent with past research by Rhodes (2012) and Chalik & Dunham (2020). This finding has been attributed to the

fact that children's beliefs about negative behavior form first, and then their beliefs about positive behaviors are less specific and are likely subject to cultural influence (Chalik 2015).

Younger children in this study predicted more between-gender niceness, when they had also predicted more between-gender mixing during the playground question. This indicates that when younger children predict a higher degree of mixing between genders, they also think that the children mixing will be nice towards each other. Older children who predicted more between group mixing of the novel groups, also predicted more between-group niceness. This indicates that when children predict mixing between the novel groups, they predict the interactions between the two groups are prosocial. This finding suggests that children assume that two groups will only mix if they will interact with each other nicely. Future research should examine this finding closer to test how likely children are to predict that between group mixing and between group meanness will occur together.

Perhaps older children predict less mixing than younger children, especially between gender groups, because they have more of an awareness that boys and girls like to play with people of their same gender (Martin et al., 2014). This also supports the research done by Martin and colleagues (2014) that boys and girls will choose to play separately even when the activity is not specific to one gender. In the present study, older children predict less mixing between the genders even though playing on the slide and playing on the swing, the two activities presented, are equally culturally appropriate for boys and girls

In this study, children predicted that there would be more mixing between genders than between novel groups. This may be due to the fact that the story which introduced the two novel groups, contained no implication that the two groups ever mix. The way that novel social groups are introduced to children in research is crucial, as children must perceive the novel groups the

same way that they perceive real-world social groups. In research by Nasie & Diesendruck (2013), eight-year-old children showed more of an interest in receiving categorical information about out-groups than in-groups. However, they showed more of an interest in receiving individual information about an in-group member than an out-group member. These findings are important to keep in mind when thinking about the way novel social groups are typically introduced to children in research. Often when children are introduced to novel social groups in studies, they are told broad categorical information about each group, like what color they wear. This research, in tandem with research mentioned above by Rhodes (2012), can instruct current research methods for introducing children to novel social groups. The information given about the novel social groups must be broad enough that children will not make automatic inferences about how the groups will treat each other, yet interesting enough to capture the children's attention and ensure that children perceive the novel social groups in the same way they would real-life social groups. The current study presented the children with categorical information about each group, but did not provide any individual information about the groups. In future studies, researchers may choose to include one fun fact about each group (e.g., "Zazzs like to play hopscotch and Flurps like to play jump rope") to the introduction of the novel groups. This could make the groups more interesting to the children, as well as encourage them to think of these two groups as equivalent to any other real-world groups.

Interestingly, children did not hold significant expectations about the degree to which racial groups would mix. Many parents and caretakers today are influenced by "Cancel Culture" where it is looked down upon to separate between Blacks and Whites at all. Children are also being influenced by this culture and tend to have a very inclusive mindset when it comes to race. Follow up studies might ask parents to report their political stance and see if there is a difference

in the mixing predictions that children make when they come from Republican swayed homes versus Democrat swayed homes. In this study, a little more than half of the participants reported being White, and more than half of the participants reported a yearly salary above $100,000. Since the participant population mainly came from the upper to middle class, it is impossible to know if the same results would be true of children from lower classes, especially those living below the poverty line.

One reason for this skew in participants' demographics is that this study was conducted entirely online. Due to the COVID19 Pandemic, most research of this sort was moved to an online platform. Doing research this way limits participants to only those with a computer and wifi connection in their homes, as well as to those who have parents that understand enough English to access the study. As the pandemic ends and it becomes safe to recruit participants from places like museums, schools and parks, it is important to replicate this study with an in-person group of participants. This way, researchers can ensure a more diverse group of participants, and can also be sure that children choose their answers based on their own opinions, and not because their parent is sitting next to them, sometimes even helping them click their answer. However, the benefit of conducting this study online is not to be underscored. Throughout the pandemic, developmental research was able to continue and participants were able to choose to do the study at a convenient time that worked for them. Children may have felt less rushed or pressured during the study because they were in the comfort of their own homes.

Another limitation of this study is that the four pictures presented during the playground question, each containing different amounts of between group mixing, were very small. Coders noted that while participating in the study, children often had to lean in close to their computers so that they could properly note the difference between the four playgrounds presented. Many

times children noted: “All the playgrounds look the same”. In order to ensure that children can easily differentiate between the options presented to them, future research should replicate this study using larger pictures with the two groups more obviously mixing or segregated.

Despite these limitations, the current research significantly contributes to the understanding of how children predict different groups will mix and interact with each other. Society is becoming more and more inclusive, and the idea that all groups can, and should mix with each other is something that children today grow up knowing. The present study revealed that children predict that when there is between-group mixing, there will also be between-group niceness.

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