GROUP NORMS AND MORAL DEVELOPMENT: REASONING & COGNITION ACROSS THE LIFESPAN

EDITED BY: Clare Conry-Murray, Luke McGuire, Aline Hitti and Hanna Beißert

PUBLISHED IN: Frontiers in Psychology

frontiers Research Topics

frontiers

ISSN 1664-8714
ISBN 978-2-83250-619-6
DOI 10.3389/978-2-83250-619-6

About Frontiers

Frontiers is more than just an open-access publisher of scholarly articles: it is a pioneering approach to the world of academia, radically improving the way scholarly research is managed. The grand vision of Frontiers is a world where all people have an equal opportunity to seek, share and generate knowledge. Frontiers provides immediate and permanent online open access to all its publications, but this alone is not enough to realize our grand goals.

Frontiers Journal Series

The Frontiers Journal Series is a multi-tier and interdisciplinary set of open-access, online journals, promising a paradigm shift from the current review, selection and dissemination processes in academic publishing. All Frontiers journals are driven by researchers for researchers; therefore, they constitute a service to the scholarly community. At the same time, the Frontiers Journal Series operates on a revolutionary invention, the tiered publishing system, initially addressing specific communities of scholars, and gradually climbing up to broader public understanding, thus serving the interests of the lay society, too.

Dedication to Quality

Each Frontiers article is a landmark of the highest quality, thanks to genuinely collaborative interactions between authors and review editors, who include some of the world's best academicians. Research must be certified by peers before entering a stream of knowledge that may eventually reach the public - and shape society; therefore, Frontiers only applies the most rigorous and unbiased reviews.
Frontiers revolutionizes research publishing by freely delivering the most outstanding research, evaluated with no bias from both the academic and social point of view. By applying the most advanced information technologies, Frontiers is catapulting scholarly publishing into a new generation.

What are Frontiers Research Topics?

Frontiers Research Topics are very popular trademarks of the Frontiers Journals Series: they are collections of at least ten articles, all centered on a particular subject. With their unique mix of varied contributions from Original Research to Review Articles, Frontiers Research Topics unify the most influential researchers, the latest key findings and historical advances in a hot research area! Find out more on how to host your own Frontiers Research Topic or contribute to one as an author by contacting the Frontiers Editorial Office: frontiersin.org/about/contact

GROUP NORMS AND MORAL DEVELOPMENT: REASONING & COGNITION ACROSS THE LIFESPAN

Topic Editors:
Clare Conry-Murray, Saint Joseph's University, United States
Luke McGuire, University of Exeter, United Kingdom
Aline Hitti, University of San Francisco, United States
Hanna Beißert, University of Konstanz, Germany

Citation: Conry-Murray, C., McGuire, L., Hitti, A., Beißert, H., eds. (2022). Group Norms and Moral Development: Reasoning & Cognition Across The Lifespan. Lausanne: Frontiers Media SA. doi: 10.3389/978-2-83250-619-6

Table of Contents

frontiers | Frontiers in Psychology

TYPE Editorial
PUBLISHED 13 October 2022
DOI 10.3389/fpsyg.2022.1035999

OPEN ACCESS

EDITED AND REVIEWED BY
Katharina J. Rohlfing,
University of Paderborn, Germany

*CORRESPONDENCE
Clare Conry-Murray
cconrymu@sju.edu

SPECIALTY SECTION
This article was submitted to Developmental Psychology, a section of the journal Frontiers in Psychology

RECEIVED 03 September 2022
ACCEPTED 12 September 2022
PUBLISHED 13 October 2022

CITATION
Conry-Murray C, McGuire L, Hitti A and Beißert H (2022) Editorial: Group norms and moral development: Reasoning and cognition across the lifespan. *Front. Psychol.* 13:1035999. doi: 10.3389/fpsyg.2022.1035999

Editorial: Group norms and moral development: Reasoning and cognition across the lifespan

Clare Conry-Murray[1]*, Luke McGuire[2], Aline Hitti[3] and Hanna Beißert[4]

[1]Department of Psychology, Saint Joseph's University, Philadelphia, PA, United States, [2]Department of Psychology, University of Exeter, Exeter, United Kingdom, [3]Department of Psychology, University of San Francisco, San Francisco, CA, United States, [4]Department of Education and Human Development, DIPF | Leibniz Institute for Research and Information in Education, University of Konstanz, Konstanz, Germany

KEYWORDS

moral development, group norms, intergroup attitudes, developmental psychology, culture

Editorial on the Research Topic
Group norms and moral development: Reasoning and cognition across the lifespan

As intergroup interactions increase with global migration, it is important to understand how youth consider group interests in relation to justice and equal treatment. The current Research Topic aims to examine the interplay between morality and group processes throughout development as they bear on youths' decisions about inclusion, when to challenge prejudice, and how to distribute valued resources. Extensive research has documented the early emergence of youth's concerns for fairness, equity, and justice (e.g., see work by e.g., Turiel, 2008; Killen and Smetana, 2013), and growing awareness of group memberships and norms (e.g., Aboud, 2003).

The current Research Topic brings together a set of papers, using a broad variety of different methodological approaches, and covering three main themes: (1) To what degree are children's moral judgments affected by social groups across different contexts? (2) How do children and adolescents differ in ways that may provide insight into development? (3) What possible mechanisms explain judgments of groups? We discuss each of these briefly below, citing the literature in this collection where readers can find more evidence and discussion.

Are moral judgments affected by social groups across different contexts?

A central theme that emerges from this Research Topic is the question of whether in-group bias varies across contexts. While one may expect that children show preference for their in-group across contexts (Nesdale and Flesser, 2001; Aboud, 2003), this set of

studies demonstrated the contextual nature of in-group bias, and the role that group norms play in determining when it is acceptable to favor one's in-group.

In early childhood, when preferences are pitted against group membership, Yang and Park found that group membership trumped preferences; thus children allocated more resources to one's in-group member even though an out-group member liked the same thing as they did. These decisions were driven by underlying beliefs about in-group loyalty and obligation to one's group. In other contexts, children showed a more nuanced understanding of group membership by demonstrating a sensitivity to group status. Yee et al. showed that children demonstrated an understanding that high wealth groups may hold more in-group biased norms compared to popular groups. Yet in another context, Yuly-Youngblood et al. showed that children do not use group membership to judge an act of physical aggression, particularly when it is intentional, but show bias when judging other forms of aggression (e.g., relational).

Moral concerns for harm appear to trump in-group membership in terms of judgments, but do they also affect behavior? When allocating resources to different groups, Corbit et al. demonstrated older children come to understand that it is contextually inappropriate to favor one's in-group, instead discarding resources to ensure fairness for both in-group and out-group members.

Developmental differences in reasoning about groups

Many studies have shown that older children and especially adolescents are increasingly able to coordinate multiple factors in their moral judgments (Killen and Smetana, 2013). The current collection of studies shows that adolescents are more likely than children to consider moral consequences in intergroup situations. In particular, Gönültaş et al. found adolescents were more approving of bystanders who challenged exclusion of immigrant peers, even when in-group members espoused exclusive attitudes. Additionally, German adolescents in Beißert and Mulvey showed inclusive orientations toward Syrian refugees despite their expectations that in-groups would be less inclusive.

Additionally, Farooq et al. examined evaluations of peer group members who misinform and breach moral principles of honesty. While both children and adolescents evaluated an in-group misinformer more positively than an out-group misinformer, adolescents, compared to children, understood that a misinformer may have more positive intentions. Coupled with the findings in Yuly-Youngblood et al., these findings show indications of development. In more straightforward contexts (e.g., physical aggression), children are capable of balancing their in-group preference with competing contextual and moral information, whereas in other more complex settings (e.g., misinformation) it is not until adolescence that youth can use their knowledge of the setting to inform their judgments.

Developmental differences were also found in help-seeking behaviors, and these were related to underlying beliefs about trustworthiness and loyalty. For example, Yüksel et al. found that children were more likely to seek help from teachers after witnessing someone being excluded while adolescents were more likely to seek help from peers. Their reasons for this help-seeking behavior differed, highlighting the importance of investigating participants' reasoning.

Mechanisms for group influence on moral judgment

What factors explain judgments about groups' influence on moral judgment? While most agree that moral judgments involve a consideration of the impact of the protagonist's behavior on others (e.g., Piaget, 1932), the current collection also points to cognitive processes such as considering other people's emotions (Stowe et al.), intent (Yuly-Youngblood et al.), and beliefs. For example, Stowe et al. demonstrated that emotional cues are used to make moral judgments when children, as young as 5 years, recognize that someone will feel bad about receiving less stickers they are more likely to judge the distribution as unfair.

Many social situations also require an understanding of others' minds (i.e., Theory of Mind), an ability often acquired with age. For instance, Gönültaş and Mulvey found participants in middle school were more likely to attribute mental states to their in-group members, while high school participants were just as likely to attribute mental states to in-group and out-group members.

Finally, group membership and social norms may play a role by serving as sources of information about intent or emotional response. For example, Farooq et al. found group membership informed attributions of intentions, where children believe that an out-group member was intentionally misinforming others more than an in-group member.

Conclusion

The studies in this collection represent a globally diverse sample of children and adolescents (e.g., China, Germany, Turkey, U.K., U.S.A), and they indicate that across cultures, children consider moral principles, while they are also influenced by group membership. The findings from this collection suggest that concepts of group loyalty, often studied in adolescence, may impact children as well, through their understanding of intentions, beliefs, and emotions.

Author contributions

All authors listed have made a substantial, direct, and intellectual contribution to the work and approved it for publication.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

References

Aboud, F. E. (2003). The formation of in-group favoritism and out-group prejudice in young children: Are they distinct attitudes? *Dev. Psychol.* 39, 48–60. doi: 10.1037/0012-1649.39.1.48

Killen, M., and Smetana, J. G. (2013). *Handbook of Moral Development (2nd ed.).* New York, NY: Psychology Press.

Nesdale, D., and Flesser, D. (2001). Social identity and the development of children's group attitudes. *Child Dev.* 72, 506–517. doi: 10.1111/1467-8624.00293

Piaget, J. (1932). *The Moral Judgment of the Chi1d.* New York: McGraw-Hil1 Book Co.

Turiel, E. (2008). Thought about actions in social domains: morality, social conventions, and social interactions. *Cognitive Dev.* 23, 136–154. doi: 10.1016/j.cogdev.2007.04.001

frontiers in Psychology

ORIGINAL RESEARCH
published: 03 March 2022
doi: 10.3389/fpsyg.2022.815901

Children Consider Procedures, Outcomes, and Emotions When Judging the Fairness of Inequality

Lucy M. Stowe[1], *Rebecca Peretz-Lange*[2] *and Peter R. Blake*[3]*

[1] Department of Cognitive Sciences, University of California, Irvine, Irvine, CA, United States, [2] Department of Psychology, State University of New York, Purchase, NY, United States, [3] Department of Psychological and Brain Sciences, Boston University, Boston, MA, United States

Children tend to view equal resource distributions as more fair than unequal ones, but will sometimes view even unequal distributions as fair. However, less is known about how children form judgments about inequality when different procedures are used. In the present study, we investigated children's consideration of procedures (i.e., resource-distributing processes), outcomes (i.e., the distributions themselves), and emotions (i.e., the emotional reactions of those receiving the resources) when judging the fairness of unequal resource distributions. Participants (N = 130, 3- to 8-year-olds) were introduced to a Fair Coin (different color on each side) and an Unfair Coin (same color on both sides). In two between-subjects conditions, they watched a researcher flip either the Fair or Unfair Coin in order to distribute resources unequally between two child recipients. Participants then rated the fairness of this event, provided verbal justifications for their ratings (coded for references to procedures and/or outcomes), and rated the emotional state of each recipient (from which an Emotion Difference Score was computed). Results revealed that participants rated the event as more fair in the Fair Coin than the Unfair Coin condition. References to the outcome in children's justifications predicted lower fairness ratings, while references to the procedure only predicted lower ratings in the Unfair Coin condition. Greater Emotion Difference Scores predicted lower fairness ratings, and this effect increased with age. Together, these results show that children consider procedures, outcomes, and emotions when judging the fairness of inequality. Moreover, results suggest age-related increases in consideration of recipients' emotions makes inequality seem less fair, even when fair procedures are used. Implications for the development of fairness are discussed.

Keywords: fairness judgments, procedures, distributive justice, emotions, development

OPEN ACCESS

Edited by:
Luke McGuire,
University of Exeter, United Kingdom

Reviewed by:
Alessandra Geraci,
University of Trento, Italy
Francesco Margoni,
University of Oslo, Norway

***Correspondence:**
Peter R. Blake
pblake@bu.edu

Specialty section:
This article was submitted to Developmental Psychology, a section of the journal Frontiers in Psychology

Received: *16 November 2021*
Accepted: *13 January 2022*
Published: *03 March 2022*

Citation:
Stowe LM, Peretz-Lange R and Blake PR (2022) Children Consider Procedures, Outcomes, and Emotions When Judging the Fairness of Inequality. Front. Psychol. 13:815901. doi: 10.3389/fpsyg.2022.815901

INTRODUCTION

> *For everyone agrees that what is just in distribution must be according to worth in some sense. But they do not all mean the same sort of worth: for democrats it is freedom, for supporters of oligarchy it is wealth, for others it is noble birth, and for aristocrats it is virtue.*
>
> *– Aristotle, Nicomachean Ethics*

As Aristotle famously noted in the Nicomachean Ethics, different groups have different moral norms concerning which procedures for distributing resources are considered fair. Children

recognize several possible approaches to distributing resources, as described in classic research on the development of distributive justice (Piaget, 1932; Damon, 1980). Recent studies have expanded this work. Many studies have found that preschool children generally view equal distributions as more fair than unequal ones (Smith et al., 2013; Blake et al., 2014; Rakoczy et al., 2016; McAuliffe et al., 2017). Critically, however, children also believe that even unequal resource distributions can be fair if they are based on merit (Baumard et al., 2012; Rizzo et al., 2020), need (Paulus, 2014; Rizzo et al., 2016), rectifying past inequalities (Rizzo and Killen, 2020), shared group membership (Rhodes et al., 2018), or even a close relationship (Olson and Spelke, 2008; Paulus and Moore, 2014). In all of these cases, children view the resource distributions as fair despite being unequal, demonstrating great flexibility in recognizing different "sorts of worth" in different contexts.

We aimed to build upon this research by investigating how children evaluate the fairness of unequal resource distributions when the procedures used to create them are ostensibly fair or unfair. Recent events have highlighted how unequal distributions are sometimes the output of procedures that might still be considered fair, such as distributing vaccines to high-risk populations before low-risk ones. People's judgments of these scenarios have important consequences, and these judgments have their roots in early childhood. The present study investigates two understudied factors which may contribute to the development of fairness judgments of unequal resource distributions: (1) children's consideration of procedures used to distribute resources vs. the distributions themselves, and (2) children's evaluations of the emotions of the recipients.

Fairness Judgments Based on Procedures vs. Outcomes

Much research has examined how children evaluate distributions (i.e., "outcomes") as fair or unfair. By at least 12 months of age, infants expect agents to create equal outcomes and prefer these agents over ones who create unequal outcomes (Geraci and Surian, 2011; Schmidt and Sommerville, 2011; Sloane et al., 2012; Ziv and Sommerville, 2017; Buyukozer Dawkins et al., 2019). Some studies even suggest that children's experience with resource-based interactions contributes to their expectation of equal outcomes (Ziv and Sommerville, 2017). Infants also show some expectations of procedural fairness: by 20 months of age, infants expect agents to be impartial when helping others (Surian and Margoni, 2020) and by 21 months of age they expect agents to use merit to distribute resources (Sloane et al., 2012).

By the preschool years, children show both preferences and expectations for equal outcomes, judging these to be more fair than unequal outcomes and even protesting unequal outcomes (Smith et al., 2013; Rakoczy et al., 2016; Rizzo and Killen, 2016; McAuliffe et al., 2017). However, to date, less is known about children's judgments of distributional processes (i.e., procedures) as fair or unfair, and the existing evidence of children's commitments to procedural fairness is mixed. On the one hand, children will choose fair over unfair procedures for distributing resources (Shaw and Olson, 2014; Dunham et al., 2018), will spontaneously change a game's unfair rules to be more equitable (Grocke et al., 2015), and will even sacrifice some resources to punish someone who distributes resources unequally (McAuliffe et al., 2015). On the other hand, preschoolers will sometimes accept and perpetrate unfair reasons for inequality (e.g., giving more to whomever started with more, Hussak and Cimpian, 2015; giving more to those who "just want more," Schmidt et al., 2016) and will avoid fair procedures to receive an advantage (Shaw et al., 2014; Dunham et al., 2018). Thus, open questions remain about children's reasoning about procedural fairness. Scenarios in which ostensibly fair procedures produce unequal distributions are particularly useful in revealing children's reasoning, as these scenarios require children to weigh outcomes and procedures against each other directly.

It is important to gain clarity on how children reason about procedural fairness, as this is a major component of mature reasoning about inequality. When children first encounter social inequality in early childhood, they construct an understanding of inequalities which then informs their social attitudes, judgments, and behaviors (Rutland et al., 2010; Killen et al., 2018; Elenbaas et al., 2020). Critically, young children tend to ignore the procedures, systems, and structures that produce social inequalities. Instead, children intuitively assume that inequalities are produced by differences in groups' intrinsic merit or inborn abilities (Hussak and Cimpian, 2015; Dunlea and Heiphetz, 2020, 2021; Peretz-Lange and Muentener, 2021), though this tendency to overlook the structures producing inequality declines over development (Vasilyeva et al., 2018; Peretz-Lange et al., 2021). We build on this research by investigating children's nascent understanding of procedures producing inequalities.

Fairness Judgments Based on Emotions

A second factor that may influence children's fairness judgments is how children understand the emotional impact on the recipients of inequality. Prior work with 3-year-old participants has found that emotional reactions to unfairness may be a developmental precursor to more explicit moral judgments of unfairness (LoBue et al., 2011), and some philosophers have argued that emotions may play a theoretically central role in moral judgment (Prinz, 2006, though other philosophers argue for an alternative, rationalist view of morality, see Peacocke, 2004 and May, 2021 for reviews). Yet, little is known about how children's developing understanding of emotions shapes their fairness judgments.

Several lines of research suggest that children's ideas about recipients' emotions may increasingly shape their moral judgments over development. First, classic work on the "happy victimizer effect" shows that children increasingly consider the emotions of the victims of moral transgressions with age (Nunner-Winkler and Sodian, 1988; Arsenio and Kramer, 1992; Keller et al., 2003). Research has also found that parent–child conversations while watching a television episode involve more perspective-taking and emotion-related language (e.g., "how did that make him feel?") as children grow older, which corresponded with shifts in moral judgments (Cingel and Krcmar, 2019). Finally, recent work by Smetana and Ball (2018, 2019) also shows that children judge some moral violations more harshly

than others (e.g., judging physical harm as worse than unequal resource distributions), and that these judgments corresponded with judgments of victims' negative emotions.

In the present study, we investigated how children use emotions to inform their judgments about inequalities that are produced by either fair or unfair procedures. After children were taught about these inequalities, they were asked to rate the emotional state of the individuals who were advantaged or disadvantaged by the inequality.

The Present Study

In the present study, we showed participants either a fair or unfair procedure producing an unequal outcome, between-subjects. We chose a large inequality (one vs. six stickers) as a strong test of whether children would view a fair procedure as outweighing the outcome. Participants were asked to rate whether this event was good or bad overall. Next, participants provided justifications for their rating, which we coded as referring to the outcome or the procedure. Finally, participants were asked to rate the emotions of the individuals who were advantaged or disadvantaged by the inequality. These diverse measures provided a rich and in-depth picture of children's reasoning.

We predicted that (1) participants would rate the event as worse after viewing an unfair procedure compared to a fair procedure, following past work, (2) that this difference between conditions would increase with age, following evidence that children increasingly attend to the structures producing inequality with age, (3a) that references to the outcomes in the justifications would predict lower ratings of the event overall, (3b) that references to the procedure would predict lower ratings only in the unfair condition, and (4) that participants would rate the disadvantaged child as being less happy than advantaged child, and that larger differences between these two ratings would predict lower fairness ratings.

MATERIALS AND METHODS

Participants

Children between 3 and 8 years of age (N = 130; 75 females; range = 36.6–107.7 months; M = 75.7 months; SD = 17.8) were recruited through a family database at a university lab, at a local museum, and in public parks. By age group, the sample consisted of 31 3–4 years olds (M = 52.7 months, SD = 6.6, 19 females), 53 5–6 years olds (M = 72.2 months, SD = 7.1, 27 females), and 46 7–8 years olds (M = 95.2 months, SD = 7.6, 29 females). An additional seventeen children were excluded from the final sample due to failing comprehension checks (14), a cognitive diagnosis revealed by the parent (2) and ending the task voluntarily (1). Demographic information was obtained on a voluntary basis and only 36% of participants provided any information. Of that subset, however, 79% were White and the average income was in the range of $100,000 to $150,000.

We used the most similar prior research (Shaw and Olson, 2014) to target a sample size of 120 children: N = 20 children per age group (3) per condition (2). We used G*Power to determine that a sample of 120 participants would be able to detect a medium effect size (Cohen's $f^2 = 0.15$; Cohen, 1992) at 95% power for a regression model with three predictors [Age (continuous), Condition and Age × Condition; Hypotheses 1 and 2] with alpha set to 0.05. We continued data collection to N = 130 in an effort to test more 3- to 4-year olds. Data collection ceased due to the pandemic. A *post hoc* power analysis also showed that a sample size of 130 would be sufficient to detect medium to small effects (Cohen's $f^2 = 0.11$) in a regression model with five predictors at a power level of 80%. Parental consent was obtained for all participants, and we also confirmed verbally with children that they wanted to participate. All procedures were approved by the university IRB.

Procedure

The procedure consisted of a familiarization phase and a test phase. In the familiarization phase, participants were introduced to the Fair and Unfair Coins, and their comprehension was confirmed. In the test phase, participants were told about how one coin (either the Fair or Unfair Coin, depending on condition assignment) was used to distribute stickers between two other children. They then provided fairness ratings, justifications for these ratings, and emotion ratings.

Familiarization Phase

Participants were first shown an image of a slide and two characters (gender-matched to the participant). They were told that both characters wanted to go down the slide, but that only one could go down at a time. Participants were then told that they needed to choose a coin to help decide who could go down first and were introduced to a Fair Coin that had blue on one side and white on the other (matching the characters) and an Unfair Coin that had white on both sides. They were shown short videos in which each coin landed twice, with the blue\white coin landing once on white and once on blue and the white coin landing twice on white. They were instructed that the color the coin landed on would determine who was allowed to go down the slide first. As a comprehension check, participants were asked which coin they would like to use, and also which character would get to go down the slide first if the coin landed on blue or white. All participants in the final sample passed both comprehension check questions. Note that 11 additional participants (10 of whom were 3- and 4-year-olds) were excluded from the sample after failing the first comprehension check question, and 3 additional children were excluded after failing the second comprehension check question (2 of whom were 3- and 4-year-olds).

Test Phase

Participants were introduced to a laminated, drawn figure named Maya/Michael (gender-matched to the participant). They were told that Maya/Michael wanted to give stickers to two other children who had recently helped her/him, and were then shown images of these two children (also gender-matched to the participant). The child images were selected from the Child Affective Facial Expression (CAFE) data set (LoBue, 2014; LoBue and Thrasher, 2015). We used the Maya/Michael character as an intermediary who was making the decision as opposed to having the experimenter make the decision so that children would feel

more comfortable saying that the result was bad, knowing that they were not criticizing the experimenter. They were told that Maya/Michael only had two packages of stickers, one package with one sticker and another with six stickers. The stickers were presented in packages so that they could not be re-allocated. Children were told that Maya/Michael would flip a coin to decide who got which package. Participants were told that if the coin landed on the color of the box (red or black) that was underneath the photo of the child, then that child would receive the package of six stickers and the other child would receive the package of one sticker. We used an inequality of 1 vs. 6 because this would be visually impressive even to young children whose number knowledge was limited.

Participants were shown a video showing two coins, a Fair Coin, which was red on one side and black on the other, and an Unfair Coin, which had the same color (either red or black) on both sides. In the video, a hand rotated each coin to show both sides and then flipped it to demonstrate its possible outcomes as in the familiarization phase. A comprehension check confirmed that participants knew how the stickers would be distributed under either outcome; all children passed this check. Participants were then told that Maya/Michael actually only had one coin, either the Fair or Unfair Coin, which represented the condition manipulation. The experimenter then flipped the coin for Maya/Michael, revealing the outcome, and the stickers were distributed accordingly.

Children were shown a visual presentation of the result of the coin flip (**Figure 1**). Participants were then asked to rate the perceived fairness of the event overall. Specifically, the experimenter said, "Maya/Michael used this coin [holding up coin] to give 1 sticker to this girl/boy and 6 stickers to this girl/boy." This particular phrasing was used to remind participants of both the procedure (the coin) and the unequal outcome, to avoid leading participants toward relying on only the procedure or the outcome in making their judgments. The experimenter then asked, "Do you think this was really bad (1), not ok (2), ok (3), or really good (4)," pointing to the appropriate ideograph on a 4-point scale (see **Figure 2A**). Two versions of the scale, with either two thumbs down or up in the left position, were counterbalanced between participants. Participants were then asked why they had selected that point on the scale (e.g., "why was it really bad?"). Their responses were fully written down at the time and later coded as referring to the procedure, outcome, both, or neither.

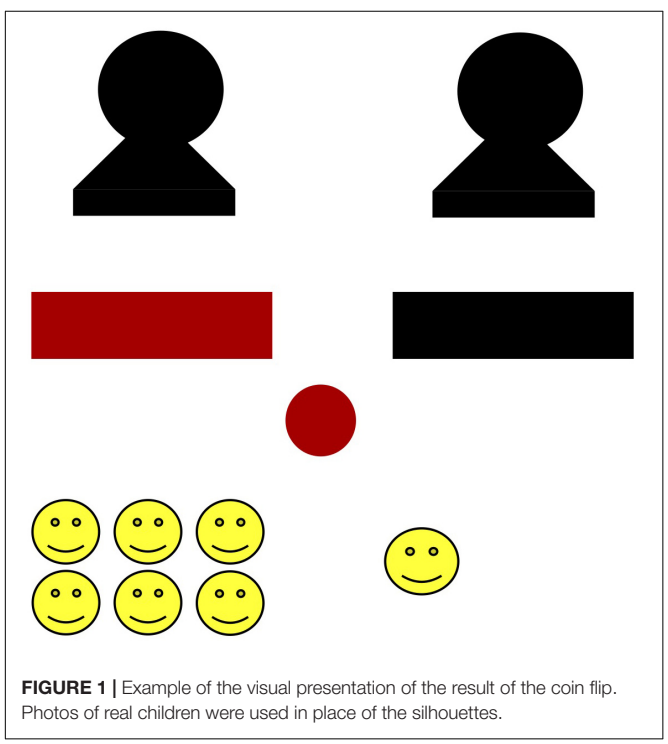

FIGURE 1 | Example of the visual presentation of the result of the coin flip. Photos of real children were used in place of the silhouettes.

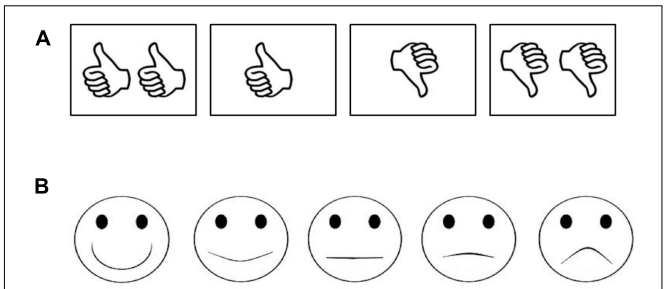

FIGURE 2 | (A) Four-point fairness rating scale. **(B)** Five-point happy-sad scale.

Finally, participants were asked to predict both recipients' emotions on a 5-point face scale (see **Figure 2B**). Two versions of this scale, starting with either really sad or really happy, were counterbalanced between participants. Children were asked, "how do you think this girl/boy will feel about getting 1 (or 6) sticker(s)? Will she/he feel really happy (5), a little bit happy (4), just okay (3), a little bit sad (2), or really sad (1)?" Participants were asked about the child who received more stickers and the child who received fewer, in a counterbalanced order. An Emotion Difference Score was computed as the ratings of the six-sticker child minus the ratings of the one-sticker child.

RESULTS

Analyses focused on evaluating our predictions that (1) participants would rate the event as worse in the Unfair Coin condition compared to the Fair Coin condition, (2) that this difference between conditions would increase with age, (3) that the more participants referred to the unfair procedure in their justifications, the worse they would rate the event, and (4) that participants would rate the child receiving six stickers as happier than the child receiving one sticker, and that larger differences between these emotion ratings would predict lower fairness ratings. All analyses were conducted in R version 4.0.2 (R Core Team, 2020) using the lm function from the lme4 package for linear regression models and the ANOVA function to compare the fit of models. For model selection, we started with a full model for each hypothesis and used the drop1 command to remove

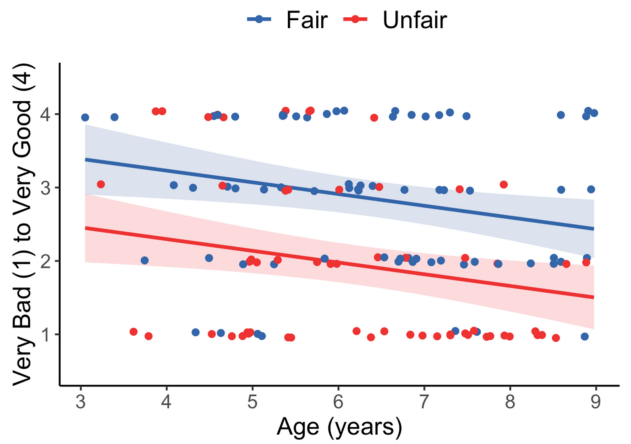

FIGURE 3 | Fairness ratings as a function of Condition and Age. Shaded bands represent 95% CIs.

variables that did not significantly contribute to the model fit (Bolker et al., 2009).

We first investigated whether condition impacted fairness ratings (Hypothesis 1) and whether this changed with age (Hypothesis 2). We first compared an intercept-only model to a model with Age (months), Condition (Fair, Unfair) and the interaction term. The full model significantly improved the fit to the data [$F(3,126) = 11.42$, $p < 0.001$]. To assess the need for the interaction term, we used the drop1 command (test = "F") which suggested dropping the interaction. The main effects only model showed that children rated the task as less fair with age ($B = -0.01$, SE = 0.005, $p < 0.05$) and as less fair in the Unfair Coin condition ($B = -0.93$, SE = 0.18, $p < 0.001$). We next used the ggeffects package to obtain estimates and 95% confidence intervals for the ratings by age for each condition. This allowed us to determine whether the ratings were within the Fair or Unfair range of ratings (midpoint = 2.5). In the Fair condition, children's ratings were in the fair range until about 8 years of age, at which point the 95% CIs included 2.5 ($B = 2.59$, 95% CI [2.28, 2.90]). In the Unfair condition, children ratings were in the fair range until about 5 years of age ($B = 2.14$, 95% CI [1.84, 2.44]). Thus, until 5 years of age, children rated the procedure plus unequal outcome as fair regardless of which coin was used (**Figure 3**).

Next, we investigated whether participants' justifications of their ratings predicted their fairness ratings (Hypothesis 3). Justifications were coded by two research assistants who identified whether the explanations referred to the procedure (e.g., "because he flipped a coin"), the outcome (e.g., "because she got less"), both, or neither. The coders agreed 86.2% of the time, for a kappa of 81.3, representing near-perfect agreement. Discrepancies were resolved by the last author. Out of 123 justifications, 20% referred to only the procedure, 38% referred to only the outcome, 8% referred to both, and 34% referred to neither. Two dummy-coded binary variables were created to respectively represent whether participants did or did not refer to the procedure, and whether they did or did not refer to the outcome.

To determine whether references to the procedure or the outcome impacted children's judgments, we created a regression model that included interactions of Procedure references (yes/no), Outcome references (yes/no) with Age and Condition. We then used the drop1 function to eliminate terms that did not significantly contribute to the model fit. The reduced model included the main effects of Age, Condition, Outcome and Procedure and the interaction of Condition × Procedure. The results showed that references to the unequal outcome predicted lower fairness ratings overall ($B = -0.39$, SE = 0.18, $p < 0.05$) and references to the procedure predicted lower fairness ratings in the Unfair Coin condition ($B = -1.04$, SE = 0.42, $p < 0.05$).

Finally, we analyzed participants' emotion ratings as they related to their fairness ratings (Hypothesis 4). First, we sought to confirm that participants rated the child receiving six stickers as happier than the child receiving one sticker. The descriptive statistics showed the expected pattern with the recipient who received more rated close to very happy on the 5-point scale ($M = 4.7$, SD = 0.82) and the recipient who received less rated close to a little sad ($M = 1.7$, SD = 1.17). These ratings were combined into a difference score: recipient who received more minus recipient who received less. To determine the effect of the emotion difference score on fairness ratings, we created a full model that included the interaction of Emotion Difference with Age and Condition. We then used the drop1 function to eliminate terms that did not significantly contribute to the model fit. The reduced model included the main effects of Age, Condition, Emotion Difference, and the interaction of Age × Emotion Difference. The results showed that, holding Condition and Age constant, Emotion Difference scores were positively associated with fairness ratings overall ($B = 0.61$, SE = 0.28, $p < 0.05$). This effect was qualified by a significant interaction between Emotion Difference scores and Age ($B = -0.01$, SE = 0.001, $p < 0.05$), such that for older children, larger emotion difference scores predicted lower fairness ratings.

To examine this result more closely, we ran separate models replacing the Emotion Difference score with the actual emotion ratings for the child who received less (Emotion Less) and the child who received more (Emotion More). Only the emotion ratings for the child who received less predicted fairness ratings (**Figure 4**). The results showed significant effects for: Age ($B = -0.03$, SE = 0.001, $p < 0.01$), Condition ($B = -0.91$, SE = 0.18, $p < 0.001$), Emotion Less ($B = -0.58$, SE = 0.29, $p < 0.05$), and the interaction of Age × Emotion Less ($B = -0.01$, SE = 0.01, $p < 0.05$). With increasing age, children who rated the child who received less as being more sad also rated the event as being less fair.

We next combined the emotion and justification ratings into a single model in order to determine whether these variables separately predicted fairness ratings. The results showed that the interactions of Condition × Procedure and Age × Emotion Less remained significant, indicating that these terms made independent contributions to children's fairness ratings (**Table 1**). However, reference to Outcomes in children's justifications was no longer significant. This change suggests that the addition of the emotion ratings explained some of the same variation as the references to outcomes in the justifications.

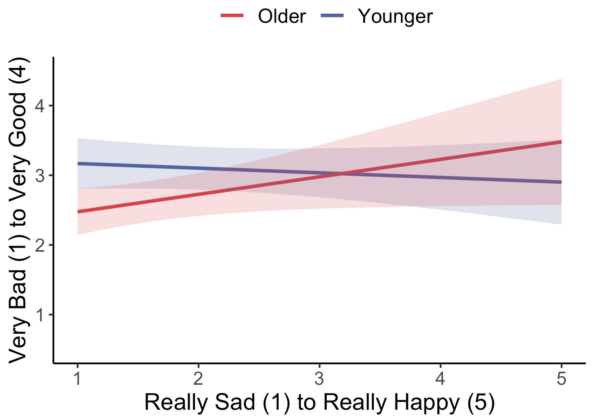

FIGURE 4 | Interaction of Age and Emotion rating for the child who received less. Shaded bands represent 95% CIs.

TABLE 1 | Combined model including justifications and emotion ratings.

	B **(SE)**
Intercept	4.63***
	(0.67)
Age (months)	−0.03**
	(0.01)
Emotion Less	−0.54·
	(0.28)
Condition (Unfair)	−0.64**
	(0.22)
Refer to Procedure	0.72*
	(0.33)
Refer to Outcome	−0.35·
	(0.18)
Age × Emotion Less	0.01*
	(0.00)
Condition × Procedure	−1.07*
	(0.42)
R^2	0.29
Adj. R^2	0.25
Number of Observations	130

$^{***}p < 0.001$; $^{**}p < 0.01$; $^{*}p < 0.05$; $\cdot p < 0.1$.

DISCUSSION

The present study introduced child participants to either a fair or an unfair procedure which was used to distribute stickers unequally (one vs. six stickers to two child recipients). Participants were asked to rate the fairness of the event overall, justify their rating, and predict the respective emotions of the children who received one sticker and six stickers. Several key results emerged, which we discuss below, along with implications and limitations.

First, children at all ages differentiated between the two procedures, rating the event as worse in the Unfair Coin condition compared to the Fair Coin condition. Surprisingly, the fairness ratings for both conditions declined with age. By 5 years of age, children in the Unfair condition rated the event as being clearly unfair and by 8 years of age, children in the Fair condition gave average ratings that included the midpoint of the fairness scale. In fact, 50% of 7- to 8-year olds gave the event a rating of really bad or not ok in the Fair condition. These results suggest that while children attend to procedures from an early age, they place more weight on outcomes with age when evaluating how fair a distribution is. Although this result runs counter to other studies showing that procedures can override unequal outcomes with age (Shaw et al., 2014), it likely reflects children's greater experience and stronger opinions as to how inequalities should be allocated.

Second, participants' justifications also confirmed that attention to the procedure contributed to fairness judgments. In the Fair Coin condition, referring to the procedure predicted rating the event as more fair, but in the Unfair Coin condition, referring to the procedure predicted rating the event as less fair. Referring to the unequal outcome also predicted lower fairness ratings, as expected given the large literature showing that children view unequal outcomes as unfair. These results from participants' justifications mirror findings from their ratings alone, although to some extent children may have been engaging in post hoc rationalization of the ratings they just gave. Future research could explore children's reasoning in more depth by replacing the rating scale with semi-structured questions to determine what aspects of the task drew their attention the most. In sum, children integrate information about the procedure and the outcome in order to make sense of distributions as a whole, with both factors contributing to their fairness judgments.

Third, participants' consideration of the emotions of the recipients played an increasingly important role in their fairness judgments with age. At all ages, participants rated the child who received one sticker as less happy than the child who received six stickers; however, the difference between these respective ratings increasingly predicted children's fairness judgments with age. Specifically, results indicated that participants' ratings of the child who received fewer resources drove these effects. However, despite this anticipation of distress for the disadvantaged recipient, children do not use this emotion information in their fairness judgments until about 5 years of age. Importantly, although the role of emotion in the generation of fairness judgments increased with age, it was not affected by the procedure used to create the inequality. Put simply, the impact of emotion on fairness judgments was driven by the outcomes.

These findings on the use of emotion information build on a rich research literature showing that infants and toddlers anticipate and respond to distress in others. This sensitivity to victims motivates prosocial actions towards the victim (Brownell et al., 2009; Svetlova et al., 2010; Dunfield, 2014; Vaish and Hepach, 2020), even when the victim does not show overt distress when harm befalls them (Vaish et al., 2009). The expectation of distress can also motivate more than just direct prosocial responses. When infants witness agents being attacked or being treated unfairly, they prefer agents that intervene or punish the offending agent, expect others to prefer them as well, and will reward the defenders as opposed to a bystander that does nothing (Kanakogi et al., 2017; Geraci, 2020; Geraci and Franchin, 2021). By 16 months of age, infants will reward a fair agent who distributes resources equally more often than they will punish this agent, and will reward the fair agent more than an unfair agent

(Ziv et al., 2021). Although the victims in these studies do not express distress, infants and toddlers seem to infer or anticipate their distress which likely motivates them either to act or to expect a particular outcome. The current study adds to this research by demonstrating that young children anticipate the distress of a child who receives less than another and use that knowledge to inform their judgment of the distribution process.

The fact that the impact of emotional evaluations on fairness judgments increased with age aligns with earlier research showing that as children grow older, they increasingly consider the emotions of victims of moral transgressions (Nunner-Winkler and Sodian, 1988; Arsenio and Kramer, 1992; Keller et al., 2003). However, whereas the happy victimizer effect describes how children rate a transgressor as less happy about their transgression, in this case, older children's focus on the "victim" who received less drives the effect on judgments.

One limitation of this study is our inability to determine the direction of causality between Emotion ratings and fairness ratings. Although our results are consistent with the possibility that children use predicted emotions to inform their fairness judgments (i.e., reasoning that it is unfair because the child who receives less will be sad), it is also possible that children use fairness judgments to inform their emotion predictions (i.e., reasoning that the victim will feel sadder because the event was unfair). However, future work should try to determine the direction of causality by directly manipulating participants' beliefs about how recipients feel.

Lastly, our combined analysis showed that consideration of procedures and consideration of emotions independently contributed to children's fairness judgments. Thus, children may integrate diverse kinds of information in order to form judgments of fairness, providing support for theories such as the Social Reasoning Developmental model (Elenbaas et al., 2020). Our combined results suggest that although younger children consider both procedures and outcomes when judging the fairness of resource distributions, older children increasingly integrate their concern for the welfare of the child receiving less into their judgments. Further, what changes with age is not children's recognition that the child who receives less will be more sad, but rather the extent to which this recognition informs fairness judgments.

One potential avenue for future research is to investigate how adults integrate the same information for their fairness judgments. Generally, research on procedural justice has found that adults are more likely to accept unequal outcomes when procedures are considered fair (Lind and Tyler, 1988; Brockner and Wiesenfeld, 1996; Lind, 2019). However, several studies also show that procedures have little impact on fairness judgments when unequal outcomes are made salient (Van den Bos et al., 1997, 1998). Adults also do not accept seemingly fair procedures in all cases. For example, multiple studies in community health have found that adults reject random allocation procedures for scarce medical resources (Biddison et al., 2018; Schoch-Spana et al., 2020). Thus, when faced with large inequalities in outcomes, adults may consider many procedures inappropriate and rate the allocation process as unfair. Adults also feel empathic anger on behalf of those who are unfairly disadvantaged (Batson et al., 2007). If adults consider both the size of the inequality and expect a negative emotional impact on the disadvantaged party, they might judge the process for creating the inequality as unfair, just as the oldest children in the current study do.

CONCLUSION

In sum, while a wide literature suggests that children view equal resource distributions as more fair than unequal ones (Smith et al., 2013; Blake et al., 2014; Rakoczy et al., 2016; McAuliffe et al., 2017), this study highlights that children's judgments of inequalities change with age by integrating information about procedures, outcomes and the emotions of the recipients. Overall, with age children place greater weight on the emotions of the recipients and less weight on fair procedures used to create the unequal outcome. These findings run counter to claims that children view inequalities as fair as long as a fair procedure was used (Shaw and Olson, 2014). Instead, children's fairness judgments are more impacted by a concern for how unequal outcomes will create distress for the disadvantaged. Future research will need to establish a stronger causal connection between emotion evaluations and fairness judgments, and perhaps test addition procedures that children may accept as more appropriate for creating large disparities in outcomes.

DATA AVAILABILITY STATEMENT

All data and code used for the analyses and figures are included as **Supplementary Material**.

ETHICS STATEMENT

This research was approved by Boston University's Institutional Review Board (#3981E). Written informed consent was provided by each child's parent or guardian.

AUTHOR CONTRIBUTIONS

PB conceived of the research, analyzed the data, and co-wrote the manuscript. LS collected the data and wrote a first draft of the study. RP-L analyzed the data and co-wrote the manuscript. All authors contributed to the article and approved the submitted version.

FUNDING

PB and RP-L were funded in part by a grant from the John Templeton Foundation.

SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyg.2022.815901/full#supplementary-material

REFERENCES

Arsenio, W. F., and Kramer, R. (1992). Victimizers and their victims: children's conceptions of the mixed emotional consequences of moral transgressions. *Child Dev.* 63, 915–927. doi: 10.1111/j.1467-8624.1992.tb01671.x

Batson, C. D., Kennedy, C. L., Nord, L. A., Stocks, E. L., Fleming, D. Y. A., Marzette, C. M., et al. (2007). Anger at unfairness: is it moral outrage? *Eur. J. Soc. Psychol.* 37, 1272–1285. doi: 10.3233/WOR-2009-0841

Baumard, N., Mascaro, O., and Chevallier, C. (2012). Preschoolers are able to take merit into account when distributing goods. *Dev. Psychol.* 48:492. doi: 10.1037/a0026598

Biddison, E. L. D., Gwon, H. S., Schoch-Spana, M., Regenberg, A. C., Juliano, C., Faden, R. R., et al. (2018). Scarce resource allocation during disasters: a mixed-method community engagement study. *Chest* 153, 187–195. doi: 10.1016/j.chest.2017.08.001

Blake, P. R., McAuliffe, K., and Warneken, F. (2014). The developmental origins of fairness: the knowledge–behavior gap. *Trends Cogn. Sci.* 18, 559–561. doi: 10.1016/j.tics.2014.08.003

Bolker, B. M., Brooks, M. E., Clark, C. J., Geange, S. W., Poulsen, J. R., Stevens, M. H. H., et al. (2009). Generalized linear mixed models: a practical guide for ecology and evolution. *Trends Ecol. Evol.* 24, 127–135. doi: 10.1016/j.tree.2008.10.008

Brockner, J., and Wiesenfeld, B. M. (1996). An integrative framework for explaining reactions to decisions: interactive effects of outcomes and procedures. *Psychol. Bull.* 120:189. doi: 10.1037/0033-2909.120.2.189

Brownell, C. A., Svetlova, M., and Nichols, S. (2009). To share or not to share: when do toddlers respond to another's needs? *Infancy* 14, 117–130. doi: 10.1080/15250000802569868

Buyukozer Dawkins, M., Sloane, S., and Baillargeon, R. (2019). Do infants in the first year of life expect equal resource allocations? *Front. Psychol.* 10:116. doi: 10.3389/fpsyg.2019.00116

Cingel, D. P., and Krcmar, M. (2019). Prosocial television, preschool children's moral judgments, and moral reasoning: the role of social moral intuitions and perspective-taking. *Commun. Res.* 46, 355–374. doi: 10.1177/0093650217733846

Cohen, J. (1992). A power primer. *Psychol. Bull.* 112, 155–159. doi: 10.1037//0033-2909.112.1.155

Damon, W. (1980). Patterns of change in children's social reasoning: a two-year longitudinal study. *Child Dev.* 51, 1010–1017. doi: 10.2307/1129538

Dunfield, K. A. (2014). A construct divided: prosocial behavior as helping, sharing, and comforting subtypes. *Front. Psychol.* 5:958. doi: 10.3389/fpsyg.2014.00958

Dunham, Y., Durkin, A., and Tyler, T. R. (2018). The development of a preference for procedural justice for self and others. *Sci. Rep.* 8, 1–8. doi: 10.1038/s41598-018-36072-1

Dunlea, J. P., and Heiphetz, L. (2020). Children's and adults' understanding of punishment and the criminal justice system. *J. Exp. Soc. Psychol.* 87:103913. doi: 10.1177/0886260519847777

Dunlea, J. P., and Heiphetz, L. (2021). Children's and adults' views of punishment as a path to redemption. *Child Dev.* 92, e398–e415.

Elenbaas, L., Rizzo, M. T., and Killen, M. (2020). A developmental-science perspective on social inequality. *Curr. Dir. Psychol. Sci.* 29, 610–616. doi: 10.1177/0963721420964147

Geraci, A. (2020). How do toddlers evaluate defensive actions toward third parties? *Infancy* 25, 910–926. doi: 10.1111/infa.12367

Geraci, A., and Franchin, L. (2021). Is defensive behavior a subtype of prosocial behaviors? *Front. Psychol.* 12:678370. doi: 10.3389/fpsyg.2021.678370

Geraci, A., and Surian, L. (2011). The developmental roots of fairness: infants' reactions to equal and unequal distributions of resources. *Dev. Sci.* 14, 1012–1020. doi: 10.1111/j.1467-7687.2011.01048.x

Grocke, P., Rossano, F., and Tomasello, M. (2015). Procedural justice in children: preschoolers accept unequal resource distributions if the procedure provides equal opportunities. *J. Exp. Child Psychol.* 140, 197–210. doi: 10.1016/j.jecp.2015.07.008

Hussak, L. J., and Cimpian, A. (2015). An early-emerging explanatory heuristic promotes support for the status quo. *J. Pers. Soc. Psychol.* 10:739. doi: 10.1037/pspa0000033

Kanakogi, Y., Inoue, Y., Matsuda, G., Butler, D., Hiraki, K., and Myowa-Yamakoshi, M. (2017). Preverbal infants affirm third-party interventions that protect victims from aggressors. *Nat. Hum. Behav.* 1, 1–7.

Keller, M., Lourenço, O., Malti, T., and Saalbach, H. (2003). The multifaceted phenomenon of 'happy victimizers': a cross-cultural comparison of moral emotions. *Br. J. Dev. Psychol.* 21, 1–18. doi: 10.1348/026151003321164582

Killen, M., Elenbaas, L., and Rizzo, M. T. (2018). Young children's ability to recognize and challenge unfair treatment of others in group contexts. *Hum. Dev.* 61, 281–296. doi: 10.1159/000492804

Lind, E. A. (2019). "The study of justice in social psychology and related fields," in *Social Psychology And Justice*, ed. E. Allan Lind (Abingdon: Routledge), 1–20.

Lind, E. A., and Tyler, T. R. (1988). *The Social Psychology Of Procedural Justice*. Berlin: Springer Science & Business Media.

LoBue, V. (2014). The child affective facial expression (CAFE) set. *Databrary*. doi: 10.17910/B7301K

LoBue, V., and Thrasher, C. (2015). The child affective facial expression (CAFE) set: validity and reliability from untrained adults. *Front. Psychol.* 5:1532. doi: 10.3389/fpsyg.2014.01532

LoBue, V., Nishida, T., Chiong, C., DeLoache, J. S., and Haidt, J. (2011). When getting something good is bad: even three-year-olds react to inequality. *Soc. Dev.* 20, 154–170.

May, J. (2021). Moral rationalism on the brain. *Mind Lang.* doi: 10.1111/mila.12394

McAuliffe, K., Blake, P. R., Steinbeis, N., and Warneken, F. (2017). The developmental foundations of human fairness. *Nat. Hum. Behav.* 1, 1–9.

McAuliffe, K., Jordan, J. J., and Warneken, F. (2015). Costly third-party punishment in young children. *Cognition* 134, 1–10. doi: 10.1016/j.cognition.2014.08.013

Nunner-Winkler, G., and Sodian, B. (1988). Children's understanding of moral emotions. *Child Dev.* 59, 1323–1338. doi: 10.1111/j.1467-8624.1988.tb01501.x

Olson, K. R., and Spelke, E. S. (2008). Foundations of cooperation in young children. *Cognition* 108, 222–231. doi: 10.1016/j.cognition.2007.12.003

Paulus, M. (2014). The early origins of human charity: developmental changes in preschoolers' sharing with poor and wealthy individuals. *Front. Psychol.* 5:344. doi: 10.3389/fpsyg.2014.00344

Paulus, M., and Moore, C. (2014). The development of recipient-dependent sharing behavior and sharing expectations in preschool children. *Dev. Psychol.* 50:914. doi: 10.1037/a0034169

Peacocke, C. (2004). *The realm Of Reason*. Oxford: Oxford University Press.

Peretz-Lange, R., and Muentener, P. (2021). Verbally highlighting extrinsic causes of novel social disparities helps children view low-status groups as structurally disadvantaged rather than personally inferior. *Front. Psychol.* 12:716662. doi: 10.3389/fpsyg.2021.716662

Peretz-Lange, R., Perry, J., and Muentener, P. (2021). Developmental shifts toward structural explanations and interventions for social status disparities. *Cogn. Dev.* 58:101042. doi: 10.1016/j.cogdev.2021.101042

Piaget, J. (1932). *The Moral Judgment Of The Child*. Loudon: Routledge & Kegan Paul.

Prinz, J. (2006). The emotional basis of moral judgments. *Philosophic. Explor.* 9, 29–43. doi: 10.1080/13869790500492466

R Core Team (2020). *R: A Language and Environment for Statistical Computing*. Vienna: R Foundation for Statistical Computing. Available online at: https://www.R-project.org/

Rakoczy, H., Kaufmann, M., and Lohse, K. (2016). Young children understand the normative force of standards of equal resource distribution. *J. Exp. Child Psychol.* 150, 396–403. doi: 10.1016/j.jecp.2016.05.015

Rhodes, M., Leslie, S. J., Saunders, K., Dunham, Y., and Cimpian, A. (2018). How does social essentialism affect the development of inter-group relations? *Dev. Sci.* 21:e12509. doi: 10.1111/desc.12509

Rizzo, M. T., and Killen, M. (2016). Children's understanding of equity in the context of inequality. *Br. J. Dev. Psychol.* 34, 569–581. doi: 10.1111/bjdp.12150

Rizzo, M. T., Elenbaas, L., and Vanderbilt, K. E. (2020). Do children distinguish between resource inequalities with individual versus structural origins? *Child Dev.* 91, 439–455. doi: 10.1111/cdev.13181

Rizzo, M. T., Elenbaas, L., Cooley, S., and Killen, M. (2016). Children's recognition of fairness and others' welfare in a resource allocation task: age related changes. *Dev. Psychol.* 52:1307. doi: 10.1037/dev0000134

Rizzo, M. T., and Killen, M. (2020). Children's evaluations of individually-and structurally-based inequalities: the role of status. *Dev. Psychol.* 56, 2223–2235. doi: 10.1037/dev0001118

Rutland, A., Killen, M., and Abrams, D. (2010). A new social-cognitive developmental perspective on prejudice: the interplay between morality and group identity. *Perspect. Psychol. Sci.* 5, 279–291. doi: 10.1177/1745691610369468

Schmidt, M. F., and Sommerville, J. A. (2011). Fairness expectations and altruistic sharing in 15-month-old human infants. *PLoS One* 6:e23223. doi: 10.1371/journal.pone.0023223

Schmidt, M. F., Svetlova, M., Johe, J., and Tomasello, M. (2016). Children's developing understanding of legitimate reasons for allocating resources unequally. *Cogn. Dev.* 37, 42–52. doi: 10.1016/j.cogdev.2015.11.001

Schoch-Spana, M., Brunson, E. K., Gwon, H., Regenberg, A., Toner, E. S., and Daugherty-Biddison, E. L. (2020). Influence of community and culture in the ethical allocation of scarce medical resources in a pandemic situation: deliberative democracy study. *J. Particip. Med.* 12:e18272. doi: 10.2196/18272

Shaw, A., and Olson, K. (2014). Fairness as partiality aversion: the development of procedural justice. *J. Exp. Child Psychol.* 119, 40–53. doi: 10.1016/j.jecp.2013.10.007

Shaw, A., Montinari, N., Piovesan, M., Olson, K. R., Gino, F., and Norton, M. I. (2014). Children develop a veil of fairness. *J. Exp. Psychol. Gen.* 143:363. doi: 10.1037/a0031247

Sloane, S., Baillargeon, R., and Premack, D. (2012). Do infants have a sense of fairness? *Psychol. Sci.* 23, 196–204. doi: 10.1177/0956797611422072

Smetana, J. G., and Ball, C. L. (2018). Young children's moral judgments, justifications, and emotion attributions in peer relationship contexts. *Child Dev.* 89, 2245–2263. doi: 10.1111/cdev.12846

Smetana, J. G., and Ball, C. L. (2019). Heterogeneity in children's developing moral judgments about different types of harm. *Dev. Psychol.* 55:1150. doi: 10.1037/dev0000718

Smith, C. E., Blake, P. R., and Harris, P. L. (2013). I should but I won't: why young children endorse norms of fair sharing but do not follow them. *PLoS One* 8:e59510. doi: 10.1371/journal.pone.0059510

Surian, L., and Margoni, F. (2020). First steps toward an understanding of procedural fairness. *Dev. Sci.* 23:e12939. doi: 10.1111/desc.12939

Svetlova, M., Nichols, S. R., and Brownell, C. A. (2010). Toddlers' prosocial behavior: from instrumental to empathic to altruistic helping. *Child Dev.* 81, 1814–1827. doi: 10.1111/j.1467-8624.2010.01512.x

Vaish, A., and Hepach, R. (2020). The development of prosocial emotions. *Emot. Rev.* 12, 259–273. doi: 10.1177/1754073919885014

Vaish, A., Carpenter, M., and Tomasello, M. (2009). Sympathy through affective perspective taking and its relation to prosocial behavior in toddlers. *Dev. Psychol.* 45:534. doi: 10.1037/a0014322

Van den Bos, K., Vermunt, R., and Wilke, H. A. (1997). Procedural and distributive justice: What is fair depends more on what comes first than on what comes next. *J. Pers. Soc. Psychol.* 72:95. doi: 10.1037/0022-3514.72.1.95

Van den Bos, K., Wilke, H. A., Lind, E. A., and Vermunt, R. (1998). Evaluating outcomes by means of the fair process effect: evidence for different processes in fairness and satisfaction judgments. *J. Pers. Soc. Psychol.* 74:1493. doi: 10.1037/0022-3514.74.6.1493

Vasilyeva, N., Gopnik, A., and Lombrozo, T. (2018). The development of structural thinking about social categories. *Dev. Psychol.* 54:1735. doi: 10.1037/dev0000555

Ziv, T., and Sommerville, J. A. (2017). Developmental differences in infants' fairness expectations from 6 to 15 months of age. *Child Dev.* 88, 1930–1951. doi: 10.1111/cdev.12674

Ziv, T., Whiteman, J. D., and Sommerville, J. A. (2021). Toddlers' interventions toward fair and unfair individuals. *Cognition* 214:104781. doi: 10.1016/j.cognition.2021.104781

Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

frontiers in Psychology

ORIGINAL RESEARCH
published: 16 March 2022
doi: 10.3389/fpsyg.2022.813317

Children's Navigation of Contextual Cues in Peer Transgressions: The Role of Aggression Form, Transgressor Gender, and Transgressor Intention

Andrea C. Yuly-Youngblood, Jessica S. Caporaso, Rachel C. Croce and Janet J. Boseovski*

University of North Carolina at Greensboro, Greensboro, NC, United States

OPEN ACCESS

Edited by:
Hanna Beißert,
University of Konstanz, Germany

Reviewed by:
John Corbit,
Dalhousie University, Canada
Nina Brück,
Johannes Gutenberg University Mainz, Germany

****Correspondence:***
Andrea C. Yuly-Youngblood
acyuly@uncg.edu

Specialty section:
This article was submitted to Developmental Psychology, a section of the journal Frontiers in Psychology

Received: *11 November 2021*
Accepted: *02 February 2022*
Published: *16 March 2022*

Citation:
Yuly-Youngblood AC, Caporaso JS, Croce RC and Boseovski JJ (2022) Children's Navigation of Contextual Cues in Peer Transgressions: The Role of Aggression Form, Transgressor Gender, and Transgressor Intention. Front. Psychol. 13:813317. doi: 10.3389/fpsyg.2022.813317

When faced with transgressions in their peer groups, children must navigate a series of situational cues (e.g., type of transgression, transgressor gender, transgressor intentionality) to evaluate the moral status of transgressions and to inform their subsequent behavior toward the transgressors. There is little research on which cues children prioritize when presented together, how reliance on these cues may be affected by certain biases (e.g., gender norms), or how the prioritization of these cues may change with age. To explore these questions, 138 5- to 7-year-olds (younger children) and 8- to 10-year-olds (older children) evaluated a series of boy and girl characters who partook in physical or relational aggression with ambiguous or purposeful intent. Children were asked to provide sociomoral evaluations (i.e., acceptability, punishment, and intention attribution judgments) and social preferences. Transgressor gender only impacted children's social preferences. Conversely, aggression form and transgressor intent shifted children's sociomoral judgments: they were harsher toward physical transgressors with purposeful intent over those with ambiguous intent but made similar evaluations for relational transgressors regardless of intentionality. The present results suggest that gender is perhaps not uniformly relevant to children across all contexts, as other cues were prioritized for children's sociomoral judgments. Since children likely have less familiarity with relational aggression compared to physical aggression, it follows that intent would only shift judgments about physical transgressors. This research provides insight about how children simultaneously navigate multiple cues in aggression contexts, which is likely reflective of their real-world experiences.

Keywords: physical aggression, relational aggression, moral development, intentionality, gender

INTRODUCTION

As children's social worlds grow in complexity, children experience a variety of peer transgressions, such as aggressive acts, and must evaluate these transgressions as they occur. At the same time, children prefer individuals in their own social categories (e.g., gender; Maccoby, 1988; Martin and Fabes, 2001; Halim, 2016) and learn the social norms of group interaction and cohesion. Gender is a salient and fundamental social category that drives children's social decision-making by preschool age, including their attitudes and predictions about others (e.g., Ruble et al., 2006; Arthur et al., 2008). Accordingly, preschoolers are aware of the normative behaviors and preferences of their gender ingroup (e.g., Ruble et al., 2006; Halim, 2016). In fact, some findings suggest that children attend to gender at an earlier age than they attend to other social categories, such as race, when they reason about other people (e.g., Shutts et al., 2010; Shutts, 2015; Weisman et al., 2015). Therefore, when transgressions occur, children might view these actions through the lens of gender norms as they consider a multitude of other situational cues (e.g., intentionality cues) to evaluate the moral status of an aggressive violation (e.g., Margoni and Surian, 2017; Yoo and Smetana, 2019). Beyond moral judgments, children may also use these situational cues to make decisions about whom they choose to befriend, as they may decide not to affiliate with an individual who is disruptive to group cohesion (Hitti et al., 2014). Importantly, the relevance of these cues and their interactions likely shift with age, thereby altering children's sociomoral judgments and social preferences from early to middle childhood.

The current study examined the role of gender norms on children's moral evaluations and social preferences in aggression contexts. Five- to 10-year-olds were presented with a series of vignettes that included three situational cues—type of aggression (i.e., aggression form), transgressor gender, and transgressor intentionality. Importantly, these cues emulate children's knowledge, experiences, and biases regarding peer conflict and social norms (Grant and Mills, 2011). In fact, type of aggression, transgressor gender, and transgressor intentionality have been individually shown to affect children's sociomoral reasoning (e.g., Giles and Heyman, 2005; Killen et al., 2011; Smetana and Ball, 2018). The relevance of these cues for sociomoral judgments may shift across development, as children's experiences with different forms of aggression (e.g., Alink et al., 2006; Orpinas et al., 2015), their adherence to gender stereotypic beliefs (e.g., Conry-Murray and Turiel, 2012), and their ability to attribute intentionality (e.g., Killen et al., 2011) all change across early and middle childhood.

Few studies have examined these cues in concert, and it is unclear which cues children prioritize when asked to make sociomoral judgments. Certain contextual cues, such as lack of information about transgressor intent, may lead children to rely on other types of cues and leave space for children to use informational processing biases in their judgments (Crick and Dodge, 1996; Heyman, 2001; Boseovski et al., 2013). Other contextual cues, such as transgressor gender, may be particularly salient when the form of aggression violates children's beliefs about gender norms and aggression (e.g., a girl who commits a physically aggressive act; Giles and Heyman, 2005; Ruble et al., 2006). Consequently, it is important to examine how children balance these various situational cues across childhood, especially given that children must manage all of these cues during real-life transgression scenarios.

Aggression Form

To begin, it is critical to establish how children perceive different forms of aggression, regardless of gender or intentionality cues. By early childhood, children differentiate whether a transgression was characterized by sabotage to relationships (i.e., relational aggression) or overt physical harm (i.e., physical aggression; Björkqvist et al., 1992; Crick and Grotpeter, 1995). Generally, 4- to 10-year-olds judge physical aggression to be more serious, more harmful, and more deserving of punishment than relational aggression (Murray-Close et al., 2006; Smetana and Ball, 2018), perhaps because physical harm is construed as serious in most cultures and results in physical, observable distress. Physical and relational aggression also differ in the frequency that they occur in children's everyday contexts, and this frequency changes with age. Physical aggression is more common in preschool and kindergarten than in elementary school, and acts of physical aggression peak at 3.5 years of age for the majority of children (NICHD Early Child Care Research Network, 2004; Alink et al., 2006). The use of physical aggression parallels how preschoolers' friendships center on physical activities and proximity, along with physical descriptions that include sharing toys or holding hands (e.g., Selman et al., 1977).

Although relational aggression is also observed in the preschool classroom (e.g., Perry et al., 2021), it does not reach its peak occurrence until middle school (Orpinas et al., 2015). In addition, the types of relational aggression observed in preschool tend to be much less sophisticated (and possibly less harmful) than the types of relational aggression that occur in middle and late childhood (Ostrov et al., 2018). Also, parents and teachers tend to condemn acts of physical aggression more frequently and harshly than acts of relational aggression in the preschool years (Swit et al., 2018).

Consequently, younger children generally have more experience with physical aggression (as both victims and transgressors) than with relational aggression. This is particularly important because children actively construct moral concepts from the information they receive from their environments and daily experiences (Dahl, 2018; Smetana et al., 2018). Younger children may view acts of physical aggression as more damaging to group harmony than relational aggression, especially since they prioritize the physical dimensions of friendship (e.g., Selman et al., 1977). As children age, their social goals become more relational to enhance peer relationships and maintain group cohesion (Crick and Dodge, 1996). Older children likely have more knowledge regarding relational aggression and may be more sensitive to the harm caused by relational aggression compared to younger children. In fact, older children tend to attribute more negative intent and have more complex explanations for relational transgressions compared to their younger counterparts (Boseovski et al., 2013). An improved understanding of relational harm may

lead older children to harsher evaluations of relational transgressions over physical transgressions (e.g., Yoo and Smetana, 2019), at least in comparison to younger children. Still, a variety of other situational cues are likely evident in aggression contexts, such as transgressor gender and attention to whether a transgressor behaves in line with gender norms.

Transgressor Gender

There are a few noted gender differences in the perpetration of physical and relational aggression. Boys are more likely to engage in physical aggression than girls (e.g., Lansford et al., 2012; Perry et al., 2021). Although there is mixed evidence that girls engage in relational aggression more than boys (for a review, see Card et al., 2008), girls are more likely to engage in relational aggression compared to physical aggression (e.g., Ostrov et al., 2014). As such, children stereotypically categorize physical aggression as a characteristic of boys and relational aggression as a characteristic of girls (e.g., Giles and Heyman, 2005; Ruble et al., 2006; Martin and Ruble, 2010). This follows children's more general stereotypes that regard boys as fighters/hitters who are rough and physically active, but girls as gentle/passive, with relationships that center on intimate, personal experiences (e.g., Maccoby, 1990, 2004; Basu, 1991; Ruble et al., 2006; Miller et al., 2009). Past literature establishes that these gender norms permeate children's judgments about others, including individuals in aggression contexts (e.g., Crick et al., 1996; Giles and Heyman, 2005). As further support for this idea, children are more likely to misremember "mismatched" aggressive situations (i.e., a boy being relationally aggressive or a girl being physically aggressive) than those that are matched (i.e., a boy being physically aggressive or a girl being relationally aggressive; Giles and Heyman, 2005). Given that these characteristics reflect the group norms that children hold for their gender ingroup, they may view individuals less favorably if they behave in ways that go against group norms (Hitti et al., 2014; Mulvey et al., 2014).

Although even preschoolers report that gender norm adherence is a personal choice (Conry-Murray and Turiel, 2012; Conry-Murray et al., 2020), they also report fewer positive judgments toward individuals who behave counter-stereotypically and therefore against social group norms, at least compared to those who behave stereotypically (e.g., Blakemore, 2003). By middle to late childhood, children exhibit increasingly flexible gender attitudes and become more accepting of counter-stereotypic information (Martin, 1989; Ruble et al., 2006; Conry-Murray and Turiel, 2012). One explanation for this flexibility with development is gender essentialism, which is endorsed in early childhood but subsides by about 9 years of age (Taylor et al., 2009). Young children who endorse gender essentialism view gender as fixed and immutable, which allows them to make a variety of predictions about others based merely on gender category information (e.g., Taylor et al., 2009; Meyer and Gelman, 2016) and thus adhere to gender norms. Alternatively, since even young children understand that adhering to gender norms is a personal choice, perhaps this understanding strengthens with development and becomes more uniformly applied across contexts and situations, leading to flexible gender attitudes in middle to late childhood.

In addition, younger children view harm committed by a member of their gender ingroup as worse than harm committed by a member of their gender outgroup, whereas older children only focus on the transgression in their moral judgments (Mulvey, 2016). Nevertheless, this does not suggest that younger children prioritize gender over the moral harm implicated by a transgression. Given younger children's heightened attention to gender as detailed above, one interpretation is that the harm committed by a gender ingroup member was perceived as betrayal and therefore more problematic than the harm committed by a gender outgroup member. Thus, it is possible that 5- to 7-year-olds will use transgressor gender cues more than 8- to 10-year-olds, particularly in situations when the transgressor commits a form of aggression that counters norms for their gender group (e.g., a girl who is physically aggressive; Giles and Heyman, 2005). Still, reliance on gender cues will likely change if the transgressor's intent is unclear vs. purposeful.

Transgressor Intentionality

The use of both aggression form and transgressor gender cues may depend on the extent to which the transgression was committed with clear intent. Intentionality cues affect how children process social situations and their subsequent behaviors toward others, and the influence of intention extends to contexts beyond aggression. For example, children as young as 3 years of age selectively choose to help individuals with helpful versus harmful intentions (Vaish et al., 2010). Further, and compared to 3-year-olds, 5-year-olds choose to distribute fewer resources to an actor with negative intentions and judge how right or wrong a behavior is based on an actor's intentions (Li and Tomasello, 2018). Preschoolers also distribute fewer resources to actors who take resources rather than give away resources (Vogelsang and Tomasello, 2016). In aggression contexts, intention influences children's moral judgements of transgressions (Killen et al., 2011), transgressor trait and emotion attributions (Boseovski et al., 2013), and how children ultimately respond to transgressions (Lansford et al., 2006). By 5 years of age, children are readily able to incorporate intentionality information into their sociomoral judgments (e.g., Zelazo et al., 1996; Killen et al., 2011; Cushman et al., 2013). The ability to weigh intentionality in conjunction with other relevant cues (e.g., foreseeability and trait information) continues to develop through middle childhood (Yuill and Perner, 1988; Heyman and Gelman, 1998; Killen et al., 2011).

The degree to which a behavior is clearly intentional or unintentional impacts children's related judgments (e.g., Zelazo et al., 1996; Heyman and Gelman, 1998; Grant and Mills, 2011; Cushman et al., 2013). Children attribute more negative causal and trait attributions when a transgression is purposeful compared to when intent is ambiguous (Boseovski et al., 2013). In turn, children also judge intentional actions as more morally wrong and believe that they cause more harm than accidental transgressions (Killen et al., 2011). Consequently, no matter what the form of aggression or the gender of the transgressor, children may unilaterally condemn intentional transgressions.

However, there is less consensus on how children judge acts in which intentionality is ambiguous. Children may rely on other situational cues, such as aggression form or transgressor gender, more heavily in these scenarios. Indeed, children tend to rely on gender cues when presented with characters whose intentions are ambiguous (i.e., unclear if the person behaved purposely): children evaluate boys' ambiguous behaviors more negatively than the same ambiguous behavior by girls (Heyman, 2001; Giles and Heyman, 2004). This could result from expectations that boys often engage in rough behavior that could lead to physical aggression. Thus, the current study sought to clarify the role of intent, among other cues, on children's judgments about transgressors.

The Current Study

In the current study, the impact of different contextual cues (aggression form, transgressor gender, and transgressor intentionality) was investigated to gain a better understanding of the relative importance of each cue on children's sociomoral judgments, including age-related changes. We were particularly interested in whether gender norms significantly impacted children's sociomoral evaluations of transgressors and how the relevance of gender shifted for different forms of aggression or as a function of transgressor intentionality. To accomplish this, 5- to 10-year-olds were presented with four transgression stories: a boy perpetrating relational aggression, a girl perpetrating relational aggression, a boy perpetrating physical aggression, and a girl perpetrating physical aggression. All stories depicted intention as either unambiguous (i.e., stories mentioned that the transgressor behaved aggressively on purpose) or ambiguous (i.e., stories mentioned that the transgressor behaved aggressively with no mention of intentionality). Children's reasoning was assessed through acceptability, deserved punishment, and intention attribution ratings. In addition, children were asked a social preference question to gauge how much they would like to befriend each transgressor. The addition of the social preference question provided information about how children view the person who committed the transgression, rather than focusing on the transgression itself. This may have implications for who children would include or exclude from their social groups: a preference for one transgressor over another could suggest which transgressor children would rather include in their group despite aggressive behavior, along with whose exclusion children might regard as more or less acceptable.

Because the goal of the current study was to examine how these cues interact, our primary hypotheses focused on interactions between aggression form, transgressor gender, transgressor intentionality, and age. To begin, we expected an interaction between aggression form, transgressor gender, and transgressor intentionality. We predicted that children would be more attentive to transgressor gender and aggression form cues in the ambiguous condition due to the absence of explicit information about intentionality (e.g., Crick and Dodge, 1996; Heyman, 2001; Giles and Heyman, 2004). That is, we expected that children across both age groups in the unambiguous condition would rate the acts more harshly across all judgment questions without differentiating their judgments based on aggression form and transgressor gender, whereas children in the ambiguous condition would rate the transgressions differently based on aggression form and transgressor gender.

Next, we expected an interaction between age and aggression form: older children were predicted to report harsher judgments toward relational transgressors than younger children. Although both age groups were expected to view physical harm as serious, only older children were expected to perceive relational harm as equally wrong to physical harm because of the damage it could inflict on social group cohesion. This was predicted due to increasingly complex explanations for relational transgressions with age (e.g., Boseovski et al., 2013), along with the increase in experience with relational aggression compared to the decrease in experience with physical aggression (e.g., Alink et al., 2006; Orpinas et al., 2015).

Finally, we predicted an interaction between age, aggression form, and transgressor gender. Because children are generally less favorable toward gender counter-stereotypical behavior (e.g., Blakemore, 2003), we expected that children would make harsher judgments about transgressors who behaved counter to gender norms (i.e., a physically aggressive girl and a relationally aggressive boy). We further expected that children would report less willingness to befriend a transgressor who behaved in a counter-stereotypical way because the counter-stereotypical act would violate group norms (e.g., Hitti et al., 2014). However, these patterns were expected to dampen with age due to increasingly flexible gender attitudes in middle to late childhood (see Ruble et al., 2006 for review).

MATERIALS AND METHODS

Participants

In total, 138 5- to 10-year-olds were tested: 68 younger children (5- to 7-year-olds; 36 girls and 32 boys; M = 6.01, SD = 0.84) and 70 older children (8- to 10-year-olds; 35 girls and 35 boys; M = 9.01, SD = 0.81). Participants were recruited from a developmental laboratory database in a mid-sized city, and the majority were from middle- to upper-class families. Participants' racial backgrounds were reported as follows: 58% White, 15.2% Black, 1.4% Asian, 15.2% identified as mixed race, 2.2% identified as other, and 8% chose not to report their racial background.

Materials

Children were shown cartoon pictures of boys and girls participating in transgressions on a computer screen. Each scenario had three sets of pictures that outlined what occurred with both photos and words. Children were shown photos of children playing board games or cards in a classroom for relational aggression and photos of children playing catch with a basketball or baseball outdoors for physical aggression. In all scenarios, victims displayed a sad affect after the transgression and friends of the transgressor displayed no affect. Transgressors had an angry face when intent was purposeful (unambiguous condition) and transgressors displayed neutral affect when intent was ambiguous (ambiguous condition).

Design

A mixed design was used with age (5- to 7-year-olds vs. 8- to 10-year-olds) and ambiguity condition (unambiguous: purposeful intent vs. ambiguous: ambiguous intent) as between-subject variables. Aggression form (relational vs. physical) and transgressor gender (girl vs. boy) were within-subject variables. Children in the unambiguous condition were explicitly told that the transgressor acted on purpose, but intent information was left out of the ambiguous condition. All children were shown two instances of relational aggression (one with a boy transgressor, one with a girl transgressor) and two instances of physical aggression (one with a boy transgressor, one with a girl transgressor). Thus, children saw boys and girls who engaged in aggression that aligned with (girls: relational aggression, boys: physical aggression) or countered (girls: physical aggression, boys: relational aggression) gender norms. For each instance of relational aggression, the transgressor and their friends ignored a peer's request to play. For each instance of physical aggression, the transgressor hit someone with a ball. The victims in all stories matched the transgressor's gender (refer to **Figures 1**, **2**).

Procedure

Children with signed parental consent forms were tested in private rooms in their school or a developmental laboratory. Researchers obtained verbal assent from all participants and written assent from participants of 7 years of age and older. Testing took approximately 20 min.

Prior to testing, a researcher introduced herself and told the child she would be telling stories to which there were no right or wrong answers. Following their assent, children were presented with four stories. Ambiguity condition was counterbalanced. The presentation order for aggression form (i.e., physical, relational) was counterbalanced.

For relational aggression, children were presented with two stories. One story included a group of boys and a boy transgressor and the other included a group of girls and a girl transgressor (adapted from Boseovski et al., 2013). Children were shown photos of the transgressor and two friends playing a game as a victim stood nearby. Game type (board game or card game) was randomized. Importantly, children were told, "When [victim] walks up to [transgressor] and [transgressor]'s friends, they do not speak to [victim]. Instead, the boys/girls continue to play as though they do not see [victim]." Children then saw a photo of the victim, sad and alone in the room, and were told, "Then, [transgressor] and his/her friends walk away and leave [victim] standing alone in the room. [Victim]'s feelings are hurt."

For physical aggression, children were presented with two stories. One story included a group of boys and a boy transgressor and the other included a group of girls and a girl transgressor (adapted from Dodge, 1980). Children were shown photos of the transgressor and victim playing catch. Type of activity (basketball or baseball) was randomized. Importantly, children were told, "When [transgressor] gets the ball, he/she throws it and it hits [victim] hard in the back. It hurts [victim]."

In the unambiguous condition, each relational or physical aggression story concluded with the researcher stating the transgressor's actions were committed on purpose. Transgressor

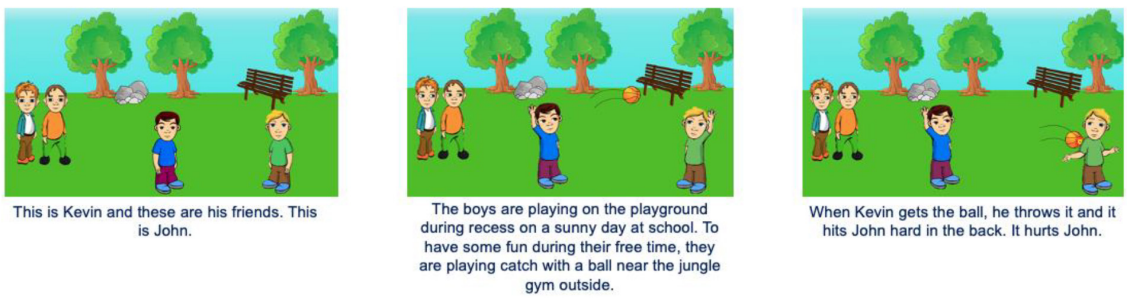

FIGURE 1 | Example story depicting physical aggression in the ambiguous condition. This story is depicted with boy characters.

FIGURE 2 | Example story depicting relational aggression in the unambiguous condition. This story is depicted with girl characters.

intent information was not included in the ambiguous condition. Further, transgressors displayed negative as opposed to neutral affect to emphasize their intent in the unambiguous condition.

Dependent Measures

After each story, children were asked the following questions.

Acceptability

Children evaluated the acceptability of each transgression.[1] For relational aggression, children were asked, "How bad was it for [transgressor] to continue to play as though he/she didn't see [victim], and then leave [victim] alone in the room?" For physical aggression, children were asked "How bad was it for [transgressor] to throw the ball and hit victim hard in the back?" Children used a 5-point visual Likert scale to respond. Answers were scored as follows: 1 = not at all, 2 = a little, 3 = sort of, 4 = a lot, and 5 = a whole lot.

Punishment

Children were asked whether the transgressor should get in trouble. For relational aggression, children were asked, "Should [transgressor] get in trouble for continuing to play as though he/she didn't see [victim] and leaving [victim] alone in the room?" For physical aggression, children were asked "Should [transgressor] get in trouble for throwing the ball and hitting [victim] hard in the back?" Children responded no (scored as 0) or yes (scored as 1).

Intention Attributions

Children were asked how purposefully each transgressor acted, which represented how much intent children attributed to the transgressor, above and beyond the intent manipulation (i.e., inclusion of whether the transgressor behaved on purpose). For relational aggression, children were asked, "How much did [transgressor] try to continue to play as though he/she didn't see [victim], and then leave [victim] alone in the room?" For physical aggression, children were asked "How much did [transgressor] try to throw the ball and hit [victim] hard in the back?" Children used a 5-point visual Likert scale to respond. Answers were scored as follows: 1 = not at all, 2 = a little bit, 3 = sort of, 4 = a lot, and 5 = a whole lot.

Social Preferences

Children were asked how much they wanted to befriend each transgressor (i.e., "How much would you want to be friends with [transgressor]?"). Children used a 5-point visual Likert scale to respond. Answers were scored as follows: 1 = not at all, 2 = a little, 3 = sort of, 4 = a lot, and 5 = a whole lot.

RESULTS

A single 2 (age: 5–7.9 or 8–10 years) × 2 (ambiguity condition: unambiguous or ambiguous) × 2 (aggression form: relational vs. physical) × 2 (transgressor gender: girl vs. boy) × 2 (participant gender: girls vs. boys) mixed ANOVA was conducted for each continuous measure (i.e., acceptability, intention attributions, and social preferences). Generalized estimating equations (GEE) were used to conduct binary repeated measures logistic regression for dichotomous measures (i.e., punishment). For follow-up tests, Holm–Bonferroni corrections were used to minimize the risk of type I error.

A Monte Carlo simulation for factorial experimental designs and follow-up pairwise comparisons (refer to Lakens and Caldwell, 2021) revealed sufficient power for a two-way interaction (90% power), but insufficient power for a three-way interaction (less than 80% power). Thus, any null findings for three-way interactions should be interpreted with caution.

Acceptability

A significant interaction between transgressor gender, aggression form, and ambiguity condition was anticipated, but not supported. Although not expected, there was a significant aggression form × ambiguity interaction, $F(1, 133) = 17.71$, $\eta_p^2 = 0.12$, $p < 0.001$ (refer to **Figure 3**). To interpret the interaction, follow-up tests with Holm–Bonferroni corrections revealed that relational transgressions were evaluated as similarly bad in the unambiguous ($M = 8.84$, $SD = 1.58$) and ambiguous conditions ($M = 8.26$, $SD = 2.53$), $t(136) = 1.61$, $p = 0.11$. Children were more likely than expected by chance to report that the relational transgressions were very bad regardless of ambiguity condition, $ps < 0.001$. Conversely, children reported that physical transgressions in the unambiguous condition ($M = 9.32$, $SD = 1.33$) were significantly worse than physical transgressions in the ambiguous condition ($M = 7.09$, $SD = 2.65$), $t(102) = 6.25$, $p < 0.001$. Still, children were more likely than expected by chance to report that the physical transgressions were very bad regardless of ambiguity condition, $ps \leq 0.001$.

A significant interaction between aggression form and age group was hypothesized, but not found. Although not anticipated, there was a significant main effect of age group,

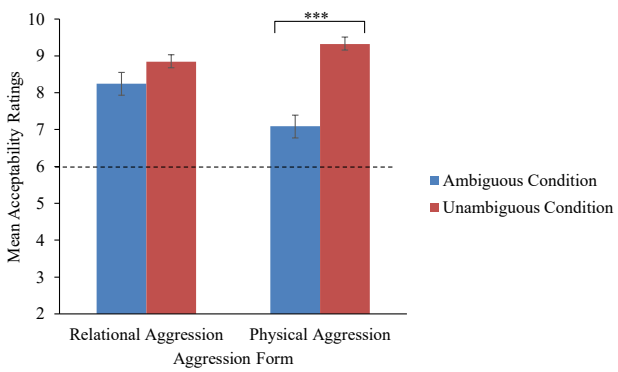

FIGURE 3 | Mean acceptability ratings by aggression form and ambiguity condition across age groups. Error bars represent SEs. Note that acceptability ratings were coded as follows: 1, not at all; 2, a little; 3, sort of; 4, a lot; and 5, a whole lot. Ratings were summed across transgressor gender, resulting in a range of 2–10. *** Indicates a significant difference ($p < 0.001$) between the ambiguous and unambiguous conditions.

[1]Children were also asked to provide justifications for their answers. Because analysis of the justification data supported the presented data and did not add any novel information, we decided not to include it in the final version of the manuscript for the sake of parsimony and clarity.

$F(1, 133) = 7.19$, $\eta_p^2 = 0.05$, $p = 0.008$. Follow-up tests suggested that older children ($M = 17.60$, $SD = 2.79$) evaluated transgressions as significantly worse than younger children ($M = 15.84$, $SD = 4.36$), $t(113) = -2.82$, $p = 0.01$. Overall, both age groups were more likely than expected by chance to rate the transgressions as bad, $ps < 0.001$.

A significant interaction between transgressor gender, aggression form, and age group was expected, but did not emerge, $p > 0.05$.

Punishment

A significant interaction between transgressor gender, aggression form, and ambiguity condition was hypothesized, but not found. Although not hypothesized, there was a significant aggression form × ambiguity interaction, Wald $\chi^2 = 16.63$, OR = 10.77, $p < 0.001$. To interpret the interaction, follow-up tests with Holm-Bonferroni corrections indicated that punishment ratings were similar for relational transgressors in the unambiguous ($M = 1.75$, $SD = 0.56$) and ambiguous ($M = 1.70$, SD = 0.65) conditions, $t(136) = 0.49$, $p = 0.63$. Children were more likely than expected by chance to report that relational transgressors in the unambiguous and ambiguous conditions should be punished, $ps < 0.001$. However, punishment ratings were higher for physical transgressors in the unambiguous condition ($M = 1.88$, $SD = 0.41$) compared to the ambiguous condition ($M = 1.11$, $SD = 0.93$), $t(95) = 6.34$, $p < 0.001$. Children in the unambiguous condition were more likely than expected by chance to report that physical transgressors should be punished, $t(67) = 17.91$, $p < 0.001$, yet children in the ambiguous condition did not systematically report that physical transgressors should be punished, $t(69) = 1.03$, $p = 0.31$ (refer to **Figure 4**).

A significant interaction between aggression form and age group was predicted, but not supported, $p > 0.05$.

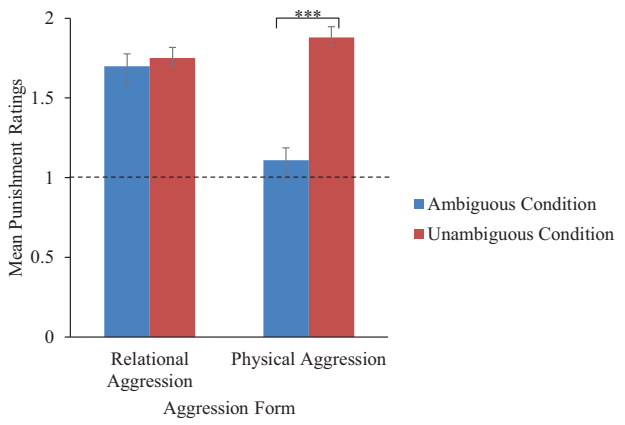

FIGURE 4 | Mean punishment ratings by aggression form and ambiguity condition across age groups. Error bars represent SEs. Note that acceptability ratings were coded as follows: 0, no; 1, yes. Ratings were summed across transgressor gender, resulting in a range of 0–2. *** Indicates a significant difference ($p < 0.001$) between the ambiguous and unambiguous conditions.

A significant interaction between transgressor gender, aggression form, and age group was anticipated, but did not emerge, $p > 0.05$.

Intention Attributions

A significant interaction between transgressor gender, aggression form, and ambiguity condition was hypothesized, but not found, $p > 0.05$.

A significant interaction between aggression form and age group was expected, but not supported. Unexpectedly, there was a significant interaction between age group, aggression form, and ambiguity condition, $F(1, 128) = 6.56$, $\eta_p^2 = 0.05$, $p = 0.01$ (refer to **Figure 5** and **Table 1**). To interpret the interaction, follow-up tests were conducted with Holm–Bonferroni corrections. In the unambiguous condition, there was no significant interaction between aggression form and age group, $F(1, 65) = 0.20$, $\eta_p^2 = 0.00$, $p = 0.65$. In the unambiguous condition, children in each age group reported that the relational and physical transgressors acted purposefully, $ps < 0.001$. However, in the ambiguous condition, there was a significant aggression form by age group interaction, $F(1, 67) = 12.62$, $\eta_p^2 = 0.16$, $p < 0.001$. Compared to younger children ($M = 6.92$, $SD = 2.90$), older children ($M = 9.09$, $SD = 1.36$) reported that relational transgressors acted more purposefully, $t(52) = -4.08$, $p < 0.001$. Younger children's reports did not differ significantly from chance, $t(35) = 1.93$, $p = 0.06$, while older children's ratings were above chance, $t(32) = 13.11$, $p < 0.001$. By contrast, intention attributions for physical transgressors did not differ between younger children ($M = 5.22$, $SD = 2.09$) and older children ($M = 4.64$, $SD = 2.38$), $t(67) = 0.93$, $p = 0.36$. Older children were less likely than expected by chance to report that the physical transgressors behaved purposefully, $t(32) = -3.29$, $p = 0.002$. Younger children did not respond systematically, $t(35) = -1.66$, $p = 0.11$.

A significant interaction between transgressor gender, aggression form, and age group, was predicted, but did not emerge, $p > 0.05$.

Social Preferences

A significant interaction between transgressor gender, aggression form, and ambiguity condition was hypothesized, but not supported. Although not anticipated, there was a significant aggression form × ambiguity interaction, $F(1, 133) = 28.03$, $\eta_p^2 = 0.17$, $p < 0.001$. To interpret the interaction, follow-up tests were conducted with Holm–Bonferroni corrections. Children reported a higher desire to befriend relational transgressors in the ambiguous condition ($M = 3.86$, $SD = 2.29$) compared to the unambiguous condition ($M = 3.07$, $SD = 1.57$), $t(122) = -2.35$, $p = 0.02$. Children in the unambiguous and ambiguous conditions were less likely than expected by chance to report desire to befriend the relational transgressors overall, $ps < 0.001$. Further, children reported a higher desire to befriend physical transgressors in the ambiguous condition ($M = 5.51$, $SD = 2.64$) compared to the unambiguous condition ($M = 2.93$, $SD = 1.36$), $t(104) = -7.27$, $p < 0.001$. Children were less likely than expected by chance to report desire to befriend physical transgressors in the unambiguous condition, $t(67) = -18.58$,

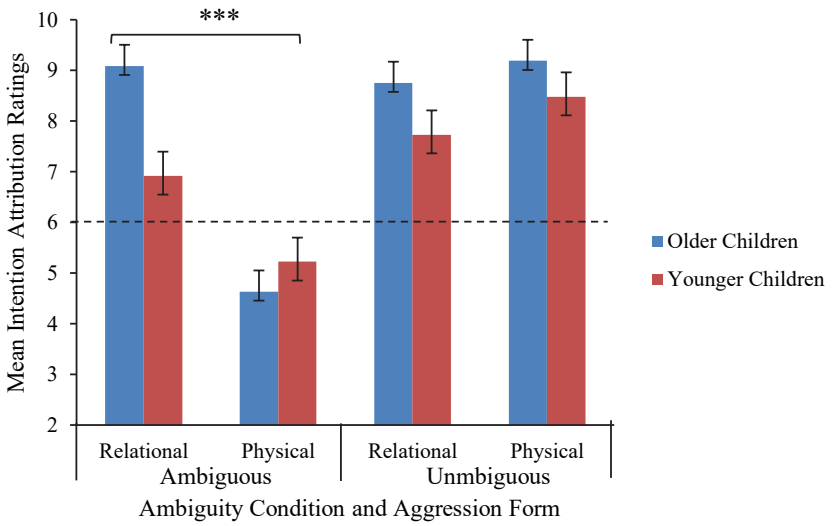

FIGURE 5 | Mean intention attribution ratings by aggression form, ambiguity condition, and age group. Error bars represent SEs. Note that intention attributions were coded as follows: 1, not at all; 2, a little; 3, sort of; 4, a lot; and 5, a whole lot. Ratings were summed across transgressor gender, resulting in a range of 2–10. *** Indicates a significant age × aggression form interaction ($p < 0.001$).

$p < 0.001$. However, children's ratings did not differ significantly from chance in the ambiguous condition, suggesting a relatively neutral desire to befriend physical transgressors, $t(69) = -1.54$, $p = 0.128$.

A significant interaction between aggression form and age group was predicted, but not found. However, and unexpectedly, there was a main effect of age group, $F(134) = 5.64$, $\eta_p^2 = 0.04$, $p = 0.02$. Collapsed across aggression form, transgressor gender, and transgressor intentionality, younger children ($M = 8.54$, $SD = 4.55$) expressed a greater desire to befriend the transgressors than older children ($M = 6.90$, $SD = 2.90$), $t(113) = 2.52$, $p = 0.01$. Still, children from both age groups were less likely than expected by chance to express a strong desire to befriend the transgressors overall, $ps < 0.01$.

A significant interaction between transgressor gender, aggression form, and age group was anticipated, but did not emerge. Unexpectedly, there was a significant aggression form × transgressor gender interaction, $F(1, 133) = 10.20$, $\eta_p^2 = 0.07$, $p = 0.002$. To interpret the interaction, follow-up tests were run with Holm–Bonferroni corrections. Children reported a higher desire to befriend the relational boy transgressor ($M = 1.88$, $SD = 1.23$), compared to the relational girl transgressor ($M = 1.59$, $SD = 1.06$), $t(137) = 2.93$, $p = 0.004$. However, children's desire for friendship did not differ between the physical boy transgressor ($M = 2.04$, $SD = 1.35$) and physical girl transgressor ($M = 2.20$, $SD = 1.33$), $t(137) = -1.70$, $p = 0.09$ did not differ. Children were less likely than expected by chance to report desire to befriend the relational boy or girl transgressors or the physical boy or girl transgressors, $ps < 0.01$.

TABLE 1 | Means and SDs for intention attribution question ["How much did (transgressor) try…?"].

	Unambiguous				Ambiguous			
	Relational		Physical		Relational		Physical	
Age group	*n*	*M* (*SD*)	*n*	*M* (*SD*)	*N*	*M* (*SD*)	*n*	*M* (*SD*)
Younger	30	7.73 (2.61)	31	8.48 (2.06)	37	6.92 (2.90)	36	5.22 (2.81)
Older	37	8.76 (1.94)	37	9.19 (1.10)	33	9.09 (1.35)	33	4.64 (2.38)

Intention attributions were summed across transgressor gender. Range: 2–10.

Additional Findings

The mixed ANOVA for the social preferences measure revealed a participant gender × transgressor gender interaction, $F(133) = 9.92$, $\eta_p^2 = 0.07$, $p = 0.002$. We did not anticipate this interaction, so these results are exploratory and should be interpreted with caution. Follow-up tests with Holm–Bonferroni corrections revealed that boys ($M = 4.37$, $SD = 2.16$) reported a higher desire to befriend the boy transgressors than girls ($M = 3.49$, $SD = 2.06$), $t(134) = 2.45$, $p = 0.02$. Conversely, girls ($M = 3.73$, $SD = 2.10$) and boys ($M = 3.85$, $SD = 1.88$) did not differ in their desire to befriend the girl transgressors, $t(136) = 0.35$, $p = 0.73$. Both boys and girls were less likely than expected by chance to report desire to befriend either boy or girl transgressors, $ps < 0.001$.

DISCUSSION

The present study examined which cues (aggression form, transgressor gender, and transgressor intentionality) children prioritized to guide their sociomoral reasoning about transgressors. We explored whether ambiguous transgressor intent led children to prioritize aggression form and transgressor gender cues to guide their sociomoral judgments, such as

whether behaviors that were misaligned with gender norms and thus violated group cohesion would be judged more harshly than behaviors that aligned with gender norms. We also explored how reliance on these cues differed between 5- to 7-year-olds and 8- to 10-year-olds, as the prevalence of different aggression forms changes across childhood (Alink et al., 2006; Orpinas et al., 2015), along with children's endorsement of gender norms (e.g., Ruble et al., 2006) and perceptions of intentionality (e.g., Killen et al., 2011). Although past literature considered each of these cues (e.g., Crick et al., 1996; Giles and Heyman, 2005; Boseovski et al., 2013), this study was the first to experimentally investigate all three cues concurrently.

Despite our initial hypotheses, aggression form, transgressor gender, and transgressor intentionality did not interact to guide children's sociomoral judgments. Only aggression form and transgressor intentionality guided children's sociomoral decision making (i.e., acceptability, punishment, and intention attribution ratings): children across age groups evaluated physical aggression more harshly when intent was purposeful, but intent did not influence children's relational aggression evaluations. Although transgressor gender did not substantially influence children's sociomoral judgments, it was relevant to children's social preferences: across age groups, children reported a greater desire to befriend the relational boy transgressor than the relational girl transgressor. However, the present study did not measure children's perceptions of gender norms in aggression contexts. Therefore, it is unclear whether the effect of transgressor gender was due to transgressor gender or transgressor gender in conjunction with whether the transgressor partook in gender normative behavior. Regardless, the present results suggest that transgressor gender (whether on its own or together with gender normative behavior) was more relevant to children's *attitudes* about the transgressors (i.e., social preferences) than their sociomoral judgments about the transgressor's *actions*. Lastly, although interactions with age group were limited to intention attributions, sociomoral judgments were harsher among 8- to 10-year-olds than 5- to 7-year-olds, and older children reported less desire to befriend the transgressors. This likely persisted due to older children's better ability to successfully integrate the multitude of cues presented.

Sociomoral Judgments: Which Cues Matter?

Previous research suggests that intent ambiguity could lead children to focus on other contextual cues (e.g., Boseovski et al., 2013), and the present study supplements this idea by illustrating that the absence of intent information does not necessitate the use of *all* other cues provided. We hypothesized that all three cues provided (aggression form, transgressor gender, and transgressor intentionality) in the present study would interact to influence children's sociomoral judgments, but children only relied on aggression form and transgressor intentionality. Critically, this pattern mostly persisted across age groups.

The minimized role of transgressor gender is surprising because gender is a salient and relevant social category that drives children's social decision-making (e.g., Halim and Ruble, 2010), along with the fact that children are attentive to information that facilitates group cohesion (e.g., Hitti et al., 2014; Mulvey et al., 2014). Specifically, physical aggression is more often associated with boys and relational aggression is more often associated with girls (e.g., Giles and Heyman, 2005). However, past findings also reflect that young children view gender norm adherence as a personal choice, whereas partaking in aggression is morally wrong (e.g., Conry-Murray and Turiel, 2012; Smetana et al., 2014). Thus, the general harm implicated by physical and relational aggression potentially led children in the present study to disregard transgressor gender and instead focus on the action committed for their sociomoral judgments. It follows that aggression form and transgressor intentionality would be relevant to children's sociomoral evaluations across age groups. It is possible that the role of transgressor gender, or transgressor gender together with gender normative behavior, would be better captured with a measure related to children's gender normative beliefs in aggression contexts. Still, the role of aggression form and transgressor intentionality holds, regardless of this limitation.

Overall, and consistent with previous literature (e.g., Murray-Close et al., 2006), children across age groups generally made harsher ratings toward physical transgressors with purposeful intent (unambiguous condition) compared to those with ambiguous intent (ambiguous condition). Although this was not explicitly hypothesized, intention cues were likely prioritized for physical aggression due to extensive experience and understanding of physical aggression from a young age, at least compared to relational aggression. Not only is physical aggression more readily observable (i.e., someone is visibly hit or hurt), but physical aggression occurs at higher rates of frequency during early childhood (e.g., Alink et al., 2006), and children are more likely to receive moral messages about physical aggression from parents and teachers compared to relational aggression (Swit et al., 2018). Preschoolers also rate physically aggressive behaviors as wrong regardless of rules, authority, or cultural context (e.g., Ball et al., 2017; Smetana and Ball, 2018). These findings are coupled with the fact that there are pervasive environmental messages that stress the harm associated with physical aggression. It follows that children's sociomoral judgments across age groups were impacted by intentionality and therefore harsher for instances of physical aggression with purposeful intent, rather than ambiguous intent.

Further, children seek to maintain positive perceptions of others (e.g., Boseovski, 2010), which likely compounded with their extensive knowledge about physical aggression to elicit less harsh sociomoral evaluations toward physical transgressors with ambiguous intentions compared to physical transgressors with purposeful intentions. Indeed, research with adults suggests that people are motivated to base their decision-making on their expectations and desires, often in line with their biases (e.g., Kunda, 1990). Since children know that physical aggression can cause serious harm and are likely aware that physical harm is less common by the time that they reach elementary school (NICHD Early Child Care Research Network, 2004; Alink et al., 2006; Ball et al., 2017), they may be less willing to believe that physical harm is a purposeful act in the absence of explicit intent information.

Instead, their general preference for positive information and perceptions may lead to assumptions that the transgression was accidental in the ambiguous condition, and they therefore discounted the seriousness of the physical transgression.

In fact, results from one type of sociomoral evaluation in the present study (intention attributions) suggest that children rated physical aggression as less intentional in the ambiguous condition, but relational aggression as intentional in the ambiguous condition. This was stronger among 8- to 10-year-olds than 5- to 7-year-olds. Importantly, this pattern was not anticipated and should be interpreted with caution. It is possible that this age difference arose due to the increased occurrence and experience with relational aggression as children progress through middle childhood (Orpinas et al., 2015). It may also reflect children's increased abilities to integrate multiple pieces of information to make complex judgments with age. Children make use of intentionality information for their sociomoral judgments by 5 years of age (e.g., Zelazo et al., 1996) and judge intentional behavior as wrong (Killen et al., 2011). This was evident in the present study by the lack of age differences in intention attribution ratings when intent was purposeful (i.e., unambiguous). Conversely, it seems that older children were better able to jointly consider *ambiguous* intent and aggression form with age. Past literature supports this idea by demonstrating that children in middle childhood are increasingly able to consider intention information with other contextual cues (e.g., Heyman and Gelman, 1998).

To further explain the above age differences, it is critical to note that the intention attribution question required children to think about how much each transgressor tried to commit their behavior, in contrast to the other sociomoral evaluations in the present study. Acceptability judgments required children to rate how bad the transgressor's actions were, while punishment judgments required children to decide whether the transgressor should get in trouble. Thus, children only needed to think about their *own* sociomoral beliefs. In turn, acceptability and punishment were perhaps easier for children to comprehend across age, leading to a lack of age-related interactions. Conversely, intention attribution ratings were more complex because children had to simultaneously navigate their *own* beliefs about the transgressor's actions *and* the cues presented in the story (e.g., did the story state whether the transgressor behaved on purpose or on accident?), which was likely difficult to do when intent was ambiguous. Qualitative data (i.e., asking participants to provide a reason for their intention attributions) could verify how the cues provided in each story drove older and younger children's intention attribution ratings.

It is important to note that children's other sociomoral evaluations (acceptability and punishment) were similar for relational transgressors with purposeful intentions and ambiguous intentions across age groups, but this could be due to the plausibility of the act in question. Since relational aggression involves sabotage to personal relationships, rather than the overt physical harm implicated with physical aggression (e.g., Crick and Grotpeter, 1995), it is probable that relational acts in the ambiguous condition were perceived as purposeful. Indeed, the intention attribution findings above further support this idea, as relational aggression was interpreted as intentional in the ambiguous condition, yet this did not occur for physical aggression. Despite these findings and the general reliance on aggression form and transgressor intent cues for children's sociomoral evaluations, children's social preferences reflected a reliance on transgressor gender, suggesting a potential disconnect between social preferences and sociomoral judgments.

Social Preferences: Which Cues Matter?

Across age groups, children expressed a greater desire to befriend relationally aggressive boys over relationally aggressive girls, but these differences did not arise for the physical transgressors. This was unexpected, given that past findings report more positive social judgments toward stereotypic over counter-stereotypic individuals (e.g., Blakemore, 2003; Halim, 2016), perhaps because stereotypic behavior facilitates group cohesion. It is unclear how much gender norms guided children's preference for relationally aggressive boys over girls. If a lack of adherence to gender norms drove the preference for relationally aggressive boys over girls, one would expect a preference for girl transgressors over boy transgressors in physical aggression contexts. Alternatively, perhaps a preference for girls in physical aggression contexts was not found because children prioritized physical harm cues over gender norms.

Further, across age groups, children's social preferences varied by participant gender: boys reported a greater desire than girls to befriend boy transgressors, but both boys and girls reported a low desire to befriend girl transgressors, implying that only boys were more forgiving of a fellow ingroup member committing aggression. This pattern was not hypothesized but likely emerged because boys often show stronger ingroup biases than girls (e.g., Benozio and Diesendruck, 2015). Further, past research suggests that girls make harsher judgments than boys in aggression contexts (e.g., Killen and Stangor, 2001; Goldstein et al., 2002; Murray-Close et al., 2006). Still, gender was not the only relevant cue that drove children's social preferences.

Moreover, and in line with sociomoral judgments in the present study and in past work about purposeful intent (Killen et al., 2011; Boseovski et al., 2013), children were okay with befriending physical transgressors with ambiguous intentions, but they reported a low desire to befriend physical transgressors with purposeful intentions. It follows that children would express a higher desire to befriend physical transgressors with ambiguous intentions over purposeful intentions, as they prioritized intent and aggression form cues for other measures in the present study (as previously mentioned, they interpreted the actions by the physical transgressor with ambiguous intentions as less bad and less punishable, and they provided less harsh intention attributions). Further, because of their familiarity and experience with physical aggression, participants have likely committed accidental physical aggression at least once before or were once victims of accidental physical aggression, which may have facilitated their decisions to befriend the physical transgressor with ambiguous intentions. Although children also reported a higher desire to befriend relational transgressors with ambiguous over purposeful intentions, children did not report a strong desire to befriend either transgressor. Thus, children were forgiving

of physical aggression and not relational aggression, but this only occurred in the absence of explicit intent information (i.e., ambiguous condition).

Limitations and Future Directions

First, the achieved sample size was not enough to detect three-way interactions. It is possible that the hypothesized three-way interactions (e.g., aggression form × transgressor gender × transgressor intentionality) would be detected with a larger sample size, especially if the three-way interactions have small effects. As mentioned earlier, results regarding the three-way interactions should be taken with caution. Despite this limitation, other significant effects and interactions were found in the present study.

Further, participants' judgments of and adherence to gender norms were not measured, which limits interpretations centered on gender normative behavior. Although gender stereotype endorsement diminishes with age (e.g., Halim and Ruble, 2010), and there were few age-based interactions in the present study, the role of gender normative behavior might be better reflected with a measure that captures how much children associate relational and physical aggression with each gender or how much children adhere to gender norms. Perhaps some children were unaware that a gender norm was violated due to low endorsement of gender norms, although this is unlikely given children's abundant knowledge about and experience with gender and aggression. It is also possible that children who endorse gender norms the most strongly were the harshest against transgressors who behaved in contrast to gender norms and potentially violated group cohesion (i.e., relationally aggressive boys and physically aggressive girls).

Additionally, the present study matched transgressor and victim gender but the influence of transgressor gender is perhaps more evident when transgressor and victim gender are mismatched. Nevertheless, this could also introduce ingroup gender biases (e.g., Rutland et al., 2010): children might be harsher toward transgressors of their gender outgroup, especially if the transgression committed was against the ingroup. Future researchers could also investigate whether children perceive that transgressors with ambiguous intentions act more purposefully when aggression is committed toward members of their gender outgroup vs. gender ingroup.

Although the present depictions of relational and physical aggression were based on previous literature, it is unclear if both story types conveyed intentionality information to the same extent. It is possible that physical aggression was more readily perceived as accidental in the ambiguous condition, at least compared to relational aggression (i.e., ignoring someone and walking away from them on purpose vs. with ambiguous intent). Therefore, even though we manipulated intent by the inclusion of "on purpose" (unambiguous condition) or the exclusion of "on purpose" (ambiguous condition), the relational story content could have inadvertently conveyed intent information, above and beyond our intent manipulation.

Most importantly, there are a multitude of other cues that children might also consider, such as race, how frequently the transgressor partakes in aggression, or if the transgressor was acting in retaliation. Future studies should build on the present findings by including these and other relevant cues. It is also critical for future research to include a more diversified sample (e.g., race, ethnicity, socioeconomic status), as beliefs might not be uniform across all groups.

CONCLUSION

The present study investigated how children prioritize and make use of different contextual cues—aggression form, transgressor gender, and transgressor intentionality—in aggression scenarios to guide their sociomoral reasoning, along with consideration for how dependence on these cues changes between 5 to 10 years of age. The present research reveals that not all contextual cues were treated equally. Only aggression form and transgressor intentionality were impactful to children's sociomoral judgments: physical transgressors with unambiguous, purposeful intent were judged more harshly than those with ambiguous intent, yet intentionality did not impact judgments about relational transgressors. Importantly, transgressor gender changed children's social preferences. This implies that children value different contextual cues to guide their moral judgments, which are reflective of behaviors and actions, compared to their social preferences, which are reflective of their attitudes about each transgressor. The findings from this study likely extend to how children navigate issues in their own friendships and subsequently form moral judgments about their peers: aggression form and transgressor intentionality are valued over transgressor gender.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by the Office of Research Integrity – Institutional Review Board at the University of North Carolina at Greensboro. Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin.

AUTHOR CONTRIBUTIONS

AY-Y, RC, and JB contributed to the design of the study. AY-Y and RC contributed to data collection. AY-Y, JC, and RC contributed to statistical analyses and wrote sections of the manuscript. AY-Y, JC, and JB contributed to revisions. All authors read and approved the submitted version.

REFERENCES

Alink, L. R. A., Mesman, J., van Zeijl, J., Stolk, M. N., Juffer, F., Koot, H. M., et al. (2006). The early childhood aggression curve: development of physical aggression in 10- to 50-month-old children. *Child Dev.* 77, 954–966. doi: 10.1111/j.1467-8624.2006.00912.x

Arthur, A. E., Bigler, R. S., Liben, L. S., Gelman, S. A., and Ruble, D. N. (2008). "Gender stereotyping and prejudice in young children," in *Intergroup Attitudes And Relations In Childhood Through Adulthood*, eds S. R. Levy and M. Killen (Oxford: Oxford University Press), 66–86.

Ball, C. L., Smetana, J. G., and Sturge-Apple, M. L. (2017). Following my head and my heart: integrating preschoolers' empathy, theory of mind, and moral judgments. *Child Dev.* 88, 597–611. doi: 10.1111/cdev.12605

Basu, J. (1991). The influence of gender stereotype on projection of aggression in the Rosenzweig Picture Frustration Study. *Sex Roles* 25, 301–309. doi: 10.1007/bf00289758

Benozio, A., and Diesendruck, G. (2015). Parochialism in preschool boys' resource allocation. *Evol. Hum. Behav.* 36, 256–264. doi: 10.1016/j.evolhumbehav.2014.12.002

Björkqvist, K., Lagerspetz, K. M. J., and Kaukiainen, A. (1992). Do girls manipulate and boys fight? Developmental trends in regard to direct and indirect aggression. *Aggress. Behav.* 18, 117–127. doi: 10.1002/1098-2337

Blakemore, J. E. O. (2003). Children's beliefs about violating gender norms: boys shouldn't look like girls, and girls shouldn't act like boys. *Sex Roles* 48, 411–419. doi: 10.1023/A:1023574427720

Boseovski, J. J. (2010). Evidence for "rose-colored glasses": an examination of the positivity bias in young children's personality judgments. *Child Dev. Perspect.* 4, 212–218. doi: 10.1111/j.1750-8606.2010.00149.x

Boseovski, J. J., Lapan, C., and Bosacki, S. (2013). Children's trait and emotion attributions in socially ambiguous and unambiguous situations. *J. Genet. Psychol.* 174, 366–386. doi: 10.1080/00221325.2012.685991

Card, N. A., Stucky, B. D., Sawalani, G. M., and Little, T. D. (2008). Direct and indirect aggression during childhood and adolescence: a meta-analytic review of gender differences, intercorrelations, and relations to maladjustment. *Child Dev.* 79, 1185–1229. doi: 10.1111/j.1467-8624.2008.01184.x

Conry-Murray, C., and Turiel, E. (2012). Jimmy's baby doll and Jenny's truck: young children's reasoning about gender norms. *Child Dev.* 83, 146–158. doi: 10.1111/j.1467-8624.2011.01696.x

Conry-Murray, C., Kim, J. M., and Turiel, E. (2020). Culture and children's reasoning about preferences and gender norms. *J. Exp. Child Psychol.* 196:104861. doi: 10.1016/j.jecp.2020.104861

Crick, N. R., and Dodge, K. A. (1996). Social information-processing mechanisms in reactive and proactive aggression. *Child Dev.* 67, 993–1002. doi: 10.1111/j.1467-8624.1996.tb01778.x

Crick, N. R., and Grotpeter, J. K. (1995). Relational aggression, gender, and social-psychological adjustment. *Child Dev.* 66, 710–722. doi: 10.1111/j.1467-8624.1995.tb00900.x

Crick, N. R., Bigbee, M. A., and Howes, C. (1996). Gender differences in children's normative beliefs about aggression: how do i hurt thee? Let me count the ways. *Child Dev.* 67, 1003–1014. doi: 10.1111/j.1467-8624.1996.tb01779.x

Cushman, F., Sheketoff, R., Wharton, S., and Carey, S. (2013). The development of intent-based moral judgment. *Cognition* 127, 6–21. doi: 10.1016/j.cognition.2012.11.008

Dahl, A. (2018). New beginnings: an interactionist and constructivist approach to early moral development. *Hum. Dev.* 61, 232–247. doi: 10.1159/000492801

Dodge, K. A. (1980). Social cognition and children's aggressive behavior. *Child Dev.* 51, 162–170. doi: 10.2307/1129603

Giles, J. W., and Heyman, G. D. (2004). When to cry over spilled milk: young children's use of category information to guide inferences about ambiguous behavior. *J. Cogn. Dev.* 5, 359–382. doi: 10.1207/s15327647jcd0503_4

Giles, J. W., and Heyman, G. D. (2005). Young children's beliefs about the relationship between gender and aggressive behavior. *Child Dev.* 76, 107–121. doi: 10.1111/j.1467-8624.2005.00833.x

Goldstein, S. E., Tisak, M. S., and Boxer, P. (2002). Preschoolers' normative and prescriptive judgments about relational and overt aggression. *Early Educ. Dev.* 13, 23–40. doi: 10.1207/s15566935eed1301_2

Grant, M. G., and Mills, C. M. (2011). Children's explanations of the intentions underlying others' behaviour. *Br. J. Dev. Psychol.* 29, 504–523. doi: 10.1348/026151010x521394

Halim, M. L. D. (2016). Princesses and superheroes: social-cognitive influences on early gender rigidity. *Child Dev. Perspect.* 10, 155–160. doi: 10.1111/cdep.12176

Halim, M. L. D., and Ruble, D. (2010). "Gender identity and stereotyping in early and middle childhood," in *Handbook Of Gender Research In Psychology*, eds J. Chrisler and D. McCreary (New York, NY: Springer), 495–525. doi: 10.1007/978-1-4419-1465-1_24

Heyman, G. D. (2001). Children's interpretation of ambiguous behavior: evidence for a 'boys are bad' bias. *Soc. Dev.* 10, 230–247. doi: 10.1111/1467-9507.00161

Heyman, G. D., and Gelman, S. A. (1998). Young children use motive information to make trait inferences. *Dev. Psychol.* 34, 310–321. doi: 10.1037/0012-1649.34.2.310

Hitti, A., Mulvey, K. L., Rutland, A., Abrams, D., and Killen, M. (2014). When is it okay toexclude a member of the ingroup?: Children's and adolescents' social reasoning. *Soc. Dev.t* 23, 451–469. doi: 10.1111/sode.12047

Killen, M., and Stangor, C. (2001). Children's social reasoning about inclusion and exclusion in gender and race peer group contexts. *Child Dev.* 72, 174–186. doi: 10.1111/1467-8624.00272

Killen, M., Mulvey, K. L., Richardson, C., Jampol, N., and Woodward, A. (2011). The accidental transgressor: morally-relevant theory of mind. *Cognition* 119, 197–215. doi: 10.1016/j.cognition.2011.01.006

Kunda, Z. (1990). The case for motivated reasoning. *Psychol. Bull.* 108, 480–498. doi: 10.1037/0033-2909.108.3.480

Lakens, D., and Caldwell, A. R. (2021). Simulation-based power analysis for factorial ANOVA designs. *Adv. Methods Pract. Psychol. Sci.* 4, 1–14. doi: 10.1177/2515245920951503

Lansford, J. E., Malone, P. S., Dodge, K. A., Crozier, J. C., Pettit, G. S., and Bates, J. E. (2006). A12-year prospective study of patterns of social information processing problems and externalizing behaviors. *J. Abnormal Child Psychol.* 34, 715–724. doi: 10.1007/s10802-006-9057-4

Lansford, J. E., Skinner, A. T., Sorbring, E., Di Giunta, L., Deater-Deckard, K., Dodge, K. A., et al. (2012). Boys' and girls' relational and physical aggression in nine countries. *Aggress. Behav.* 38, 298–308. doi: 10.1002/ab.21433

Li, J., and Tomasello, M. (2018). The development of intention-based sociomoral judgment and distribution behavior from a third-party stance. *J. Exp. Child Psychol.* 167, 78–92. doi: 10.1016/j.jecp.2017.09.021

Maccoby, E. E. (1988). Gender as a social category. *Dev. Psychol.* 24, 755–765. doi: 10.1037/0012-1649.24.6.755

Maccoby, E. E. (1990). Gender and relationships: a developmental account. *Am. Psychol.* 45, 513–520. doi: 10.1037/0003-066x.45.4.513

Maccoby, E. E. (2004). "Aggression in the context of gender development," in *Aggression, Antisocial Behavior, And Violence Among Girls*, eds M. Putallaz and K. L. Bierman (New York, NY: The Guilford Press), 3–22.

Margoni, F., and Surian, L. (2017). Children's intention-based moral judgments of helping agents. *Cogn. Dev.* 41, 46–64. doi: 10.1016/j.cogdev.2016.12.001

Martin, C. L. (1989). Children's use of gender-related information in making social judgments. *Dev. Psychol.* 25, 80–88. doi: 10.1037/0012-1649.25.1.80

Martin, C. L., and Fabes, R. A. (2001). The stability and consequences of young children's same-sex peer interactions. *Dev. Psychol.* 37, 431–446. doi: 10.1037/0012-1649.37.3.431

Martin, C. L., and Ruble, D. N. (2010). Patterns of gender development. *Annu. Rev. Psychol.* 61, 353–381. doi: 10.1146/annurev.psych.093008.100511

Meyer, M., and Gelman, S. A. (2016). Gender essentialism in children and parents: implications for the development of gender stereotyping and gender-typed preferences. *Sex Roles* 75, 409–421. doi: 10.1007/s11199-016-0646-6

Miller, C. F., Lurye, L. E., Zosuls, K. M., and Ruble, D. N. (2009). Accessibility of gender stereotype domains: developmental and gender differences in children. *Sex Roles* 60, 870–881. doi: 10.1007/s11199-009-9584-x

Mulvey, K. L. (2016). Evaluations of moral and conventional intergroup transgressions. *Br. J. Dev. Psychol.* 34, 489–501. doi: 10.1111/bjdp.12145

Mulvey, K. L., Hitti, A., Rutland, A., Abrams, D., and Killen, M. (2014). When do children dislikeingroup members?: Resource allocation from individual and group perspectives. *J. Soc. Issues* 70, 28–45. doi: 10.1111/josi.12045

Murray-Close, D., Crick, N. R., and Galotti, K. M. (2006). Children's moral reasoning regarding physical and relational aggression. *Soc. Dev.* 15, 345–372. doi: 10.1111/j.1467-9507.2006.00346.x

NICHD Early Child Care Research Network (2004). Trajectories of physical aggression from toddlerhood to middle childhood: predictors, correlates, and outcomes. *Monogr. Soc. Res. Child Dev.* 69, vii, 1–129.

Orpinas, P., McNicholas, C., and Nahapetyan, L. (2015). Gender differences in trajectories ofrelational aggression perpetration and victimization from middle to high school. *Aggress. Behav.* 41, 401–412. doi: 10.1002/ab.21563

Ostrov, J. M., Kamper, K. E., Hart, E. J., Godleski, S. A., and Blakely-McClure, S. J. (2014). Agender-balanced approach to the study of peer victimization and aggression subtypes in early childhood. *Dev. Psychopathol.* 26, 575–587. doi: 10.1017/S0954579414000248

Ostrov, J. M., Perry, K. J., and Blakely-McClure, S. J. (2018). "Developmental trajectories of aggression subtypes: from early to late childhood," in *Handbook Of Child And Adolescent Aggression*, eds T. Malti and K. H. Rubin (New York, NY: The Guilford Press), 41–61.

Perry, K. J., Ostrov, J. M., Murray-Close, D., Blakely-McClure, S. J., Kiefer, J., DeJesus-Rodriguez, A., et al. (2021). Measurement of aggressive behavior in early childhood: a critical analysis using five informants. *J. Exp. Child Psychol.* 209:105180. doi: 10.1016/j.jecp.2021.105180

Ruble, D. N., Martin, C. L., and Berenbaum, S. A. (2006). "Gender development," in *Handbook Of Child Psychology*, 6th Edn, eds W. Damon, R. M. Lerner, and N. Eisenberg (Hoboken, NJ: John Wiley), 858–932. doi: 10.1002/9780470147658.chpsy0314

Rutland, A., Killen, M., and Abrams, D. (2010). A new social-cognitive developmental perspective on prejudice: the interplay between morality and group identity. *Perspect. Psychol. Sci.* 5, 279–291. doi: 10.1177/1745691610369468

Selman, R. L., Jaquette, D., and Lavin, D. R. (1977). Interpersonal awareness in children: toward an integration of developmental and clinical child psychology. *Am. J. Orthopsychiatry* 47:264. doi: 10.1111/j.1939-0025.1977.tb00981.x

Shutts, K. (2015). Young children's preferences: gender, race, and social status. *Child Dev. Perspect.* 9, 262–266. doi: 10.1111/cdep.12154

Shutts, K., Banaji, M. R., and Spelke, E. S. (2010). Social categories guide young children's preferences for novel objects. *Dev. Sci.* 13, 599–610. doi: 10.1111/j.1467-7687.2009.00913.x

Smetana, J. G., and Ball, C. L. (2018). Young children's moral judgments, justifications, and emotion attributions in peer relationship contexts. *Child Dev.* 89, 2245–2263. doi: 10.1111/cdev.12846

Smetana, J. G., Jambon, M., and Ball, C. (2014). "The social domain approach to children's moral and social judgments," in *Handbook Of Moral Development*, 2nd Edn, eds M. Killen and J. G. Smetana (Hove: Psychology Press), 23–45. doi: 10.4324/9780203581957.ch2

Smetana, J. G., Jambon, M., and Ball, C. (2018). Normative changes and individual differences inearly moral judgments: a constructivist developmental perspective. *Hum. Dev.* 61, 264–280. doi: 10.1159/000492803

Swit, C. S., McMaugh, A. L., and Warburton, W. A. (2018). Teacher and parent perceptions ofrelational and physical aggression during early childhood. *J. Child Fam. Stud.* 27, 118–130. doi: 10.1007/s10826-017-0861-y

Taylor, M. G., Rhodes, M., and Gelman, S. A. (2009). Boys will be boys; cows will be cows: children's essentialist reasoning about gender categories and animal species. *Child Dev.* 80, 461–481. doi: 10.1111/j.1467-8624.2009.01272.x

Vaish, A., Carpenter, M., and Tomasello, M. (2010). Young children selectively avoid helping people with harmful intentions. *Child Dev.* 81, 1661–1669. doi: 10.1111/j.1467-8624.2010.01500.x

Vogelsang, M., and Tomasello, M. (2016). Giving is nicer than taking: preschoolers reciprocate based on the social intentions of the distributor. *PLoS One* 11:e0147539. doi: 10.1371/journal.pone.0147539

Weisman, K., Johnson, M. V., and Shutts, K. (2015). Young children's automatic encoding of social categories. *Dev. Sci.* 18, 1036–1043. doi: 10.1111/desc.12269

Yoo, H. N., and Smetana, J. G. (2019). Children's moral judgments about psychological harm: links among harm salience, victims' vulnerability, and child sympathy. *J. Exp. Child Psychol.* 188:104655. doi: 10.1016/j.jecp.2019.06.008

Yuill, N., and Perner, J. (1988). Intentionality and knowledge in children's judgments of actor's responsibility and recipient's emotional reaction. *Dev. Psychol.* 24, 358–365. doi: 10.1037/0012-1649.24.3.358

Zelazo, P. D., Helwig, C. C., and Lau, A. (1996). Intention, act, and outcome in behavioral prediction and moral judgment. *Child Dev.* 67, 2478–2492. doi: 10.1111/j.1467-8624.1996.tb01869.x

Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

frontiers in Psychology

ORIGINAL RESEARCH
published: 18 March 2022
doi: 10.3389/fpsyg.2022.825987

The Development of Intergroup Cooperation: Children Show Impartial Fairness and Biased Care

John Corbit, Hayley MacDougall, Stef Hartlin and Chris Moore*

Department of Psychology and Neuroscience, Dalhousie University, Halifax, NS, Canada

One of the most remarkable features of human societies is our ability to cooperate with each other. However, the benefits of cooperation are not extended to everyone. Indeed, another hallmark of human societies is a division between us and them. Favoritism toward members of our group can result in a loss of empathy and greater tolerance of harm toward those outside our group. The current study sought to investigate how in-group bias impacts the developmental emergence of concerns for fairness and care. We investigated the impact of in-group bias on decisions related to care and fairness in children (N = 95; ages 4–9). Participants made decisions about how to allocate resources between themselves and a peer who was either an in-group or out-group member. In decisions related to care, participants were given two trial types on which they could decide whether to give or throw away a positive or negative resource. In decisions related to fairness participants and peer partners each received one candy and participants decided whether to allocate or throw away an extra candy. If the extra candy was distributed it would place either the participant or their recipient at a relative advantage, whereas if the extra candy was thrown away the distribution would be equal. We found that on fairness trials children's tendency to allocate resources was similar toward in-group and out-group recipients. Furthermore, children's tendency to allocate resources changed with age such that younger participants were more likely to allocate extra candies to themselves, whereas older participants were more likely to allocate extra candies to their recipient. On trials related to care we did observe evidence of in-group bias. While distribution of positive resources was greater than negative resources for both in-group and out-group recipients, participants distributed negative resources to out-group recipients more often compared to in-group recipients, a tendency that was heightened for young boys. This pattern of results suggests that fairness and care develop along distinct pathways with independent motivational supports.

Keywords: in-group bias, fairness, care, prosocial behavior, cooperation

OPEN ACCESS

Edited by:
Hanna Beißert,
University of Konstanz, Germany

Reviewed by:
Yarrow Dunham,
Yale University, United States
Alessandra Geraci,
University of Trento, Italy

****Correspondence:***
John Corbit
John.Corbit@dal.ca

Specialty section:
This article was submitted to Developmental Psychology, a section of the journal Frontiers in Psychology

Received: *30 November 2021*
Accepted: *25 January 2022*
Published: *18 March 2022*

Citation:
Corbit J, MacDougall H, Hartlin S and Moore C (2022) The Development of Intergroup Cooperation: Children Show Impartial Fairness and Biased Care. Front. Psychol. 13:825987. doi: 10.3389/fpsyg.2022.825987

INTRODUCTION

One of the most striking features of human societies is the propensity to cooperate with others yet, the benefits of cooperation are not extended to everyone. In-group favoritism based on gender, religious, racial, or ethnic group identity can result in a loss of empathy and greater tolerance of harm toward out-group members and has been linked to differential health outcomes and access

to resources (Christie and Allport, 1954; Cikara et al., 2011; Ridgeway, 2011). Indeed, while adults are often motivated to alleviate suffering and help their in-group, they show a strong reduction in care about the suffering of their out-group (for a review Xu et al., 2009; Cikara et al., 2011). Indeed, this loss of empathy toward out-group members even extends into antipathy (Brewer, 1999; Cikara et al., 2014). Beyond a loss of care for out-group members, adults show favoritism toward in-group members in their concern for fairness. For instance, adults allocate more resources to in-group members (Balliet et al., 2014), are more likely to punish inequality that is perpetrated by an out-group member (e.g., Bernhard et al., 2006; Baumgartner et al., 2011; Schiller et al., 2014) and enforce harsher punishments when inequality disadvantages in-group as opposed to out-group members (Bernhard et al., 2006). Together this pattern of findings suggests that in-group bias is a key determinant of moral behaviors in the domains of care and fairness.

Care about the wellbeing of others and fairness as a standard of justice are two concerns that are foundations across many theories of moral psychology (Turiel, 1983; de Waal, 1996; Smetana, 2006; Graham et al., 2011; Tomasello and Vaish, 2013). Care is driven by a desire that the needs of others are met. This concern is manifested behaviorally through prosocial behaviors such as helping, sharing and comforting (Dunfield et al., 2011). Care also has a reciprocal concern for the alleviation of others' suffering, thus taking actions such as comforting to alleviate suffering and avoiding actions that may cause suffering (Graham et al., 2011; Paulus et al., 2020; Geraci et al., 2021). Fairness is a standard of justice through which outcomes between individuals are evaluated; equilibrium is met by balancing the perspectives of all stakeholders and arriving at mutually satisfactory outcomes (Piaget, 1997). Fairness is highly context dependent, but within distributive justice guiding principles include equality, equity, and need (Deutsch, 1975). Behaviors that maintain fairness in the context of distributive justice include allocating resources according to principles of fairness, punishment of fairness violations, and rejecting distributions that are unfair (Fehr and Schmidt, 1999; McAuliffe et al., 2017a).

Like adults, children show in-group favoritism in behaviors related to care and fairness emerging in the preschool years (Over, 2018). Between 3- and 5 years of age, children show greater generosity to race-matched peers (Zinser et al., 1981; Renno and Shutts, 2015) and also share more with gender-matched peers (Dunham et al., 2011, 2016; Renno and Shutts, 2015). Although younger children (5–6 years of age) show a preference for their racial in-group, older children (6–11 years of age) appear to overcome this bias in favor of equity across groups (Olson et al., 2011; Elenbaas and Killen, 2016; Elenbaas et al., 2016; Rizzo et al., 2018), suggesting that principles of equity may overcome in-group bias as children move into middle childhood.

Children's in-group bias also occurs in minimal group contexts, an experimental manipulation in which group status is assigned arbitrarily (often based on T-shirt color), thereby parsing in-group bias from prejudice directed toward specific social categories (Tajfel, 1970). For instance, children aged 3–6 years tend to be more generous toward in-group members (Sparks et al., 2017), a pattern that appears stronger amongst young boys (Benozio and Diesendruck, 2015). Children from Canada and Iran between 5 and 6 years of age are more likely to choose the equal allocations over an advantageous allocation when their recipient was an in-group member compared to an out-group recipient (Keshvari et al., 2021). In the same study when children chose between equal and disadvantageous allocations the rate at which they chose equal allocations was not influenced by recipient group. In studies that have explicitly probed the influence of in-group favoritism on fairness concerns we see a mixed pattern of results. As third party observers, children aged 6–8 years are more likely to punish selfish behavior perpetrated by out-group members, particularly when in-group members are harmed (Jordan et al., 2014). However, when children were themselves the recipients of unequal distributions of resources, they do not appear to show in-group bias in punishment or in rejection of inequality (McAuliffe and Dunham, 2017; Gonzalez et al., 2020).

Much like adults, children's favoritism toward in-group members is coupled with a loss of empathy and greater tolerance of harm toward out-group members (Aboud, 2003; Cikara et al., 2014; Kteily et al., 2016; McLoughlin and Over, 2018). For example, 3- to 6-year-old children who learned about the preferences of their recipients tended to give preferred resources to in-group members, yet boys were also more likely to give items that were disliked to out-group members (Benozio and Diesendruck, 2015). Similarly, 6- to 8-year-old children gave more positive resources to in-group members, while only 8-year-old children gave more negative resources to out-group members, a tendency that was once again stronger for boys than girls (Buttlemann and Böhm, 2014). Other studies have examined the influence of in-group bias on helping, another behavior related to care, showing that children (5–10 years of age) are more willing to provide help to racial in-group members (Katz et al., 1976), a preference that extends to minimal groups amongst 5 years old children (Plötner et al., 2015).

Thus, when examining the development of in-group bias on the moral domains of care and fairness we are met with a complex picture. In contexts related to care children often show favoritism to their group, yet fairness results are mixed. Across these studies, in-group favoritism has been contrasted with either fairness concerns or care, but we are not aware of research where these concerns have been evaluated simultaneously, using a methodology that is able to specifically parse children's concern for fairness and their concern of care. By examining the impact of in-group bias on fairness and care within the same children we could gain important insight into the relative impact of in-group bias on these two domains and examine developmental changes in these preferences.

The current study sought to investigate how in-group bias impacts the emergence of concerns for fairness and care. We assigned children between 4 and 9 years of age to groups using a minimal group technique (Dunham et al., 2011). Participants were then presented with a resource allocation task wherein a hypothetical peer was identified as either an in-group or out-group member who would be the recipient of participant's allocation decisions. The decision that participants were given in the resource allocation task was always whether to give or throw

away a resource. To investigate the influence of in-group bias on Care, participants were given two trial types on which they could decide whether to give or throw away resources that had been identified by the partner as having a positive or negative valence, a preferred animal sticker or an aversive spider sticker (adapted from Buttlemann and Böhm, 2014). Specifically, in this task Care would be exhibited by giving positive resources and throwing away negative resources as it would show a sensitivity to the desires of the recipient. To investigate fairness concerns, participants and their recipients each received one candy and participants had to decide whether to allocate or throw away an extra candy (adapted from Shaw and Olson, 2012). We presented two trial types designed to elicit two forms of inequity aversion; on advantageous trials participants could keep the extra resource or throw it away (a measure of advantageous inequity aversion–AI), on disadvantageous trials they could give it to the recipient or throw it away (disadvantageous inequity aversion–DI). We employed a fully within subject design where participants were presented with each trial type in a resource allocation task across two blocks of 12 trials. In one block the recipient was an in-group peer and in the other an out-group peer.

We hypothesized that in-group bias would be more likely to emerge in the domain of care relative to fairness. Empathy is an important foundation for care but perhaps not fairness (Decety and Cowell, 2015), and empathy has been found to be stronger between in-group members compared to out-group members (Cikara et al., 2011, 2014). Further, based on previous findings we predicted that the in-group bias in care would be stronger for young boys than girls (Buttlemann and Böhm, 2014; Benozio and Diesendruck, 2015). We were not able to make specific predictions on the developmental trends for the effect of in-group bias on care as findings are mixed as to whether in-group bias increases (Buttlemann and Böhm, 2014) or decreases (Olson et al., 2011; Elenbaas et al., 2016; Rizzo et al., 2018) with age in the domain of care. In contrast to care, fairness concerns may override in-group bias. Fairness is hypothesized to depend largely on cooperative norms (Fehr and Fischbacher, 2004) and prominent theories have argued that fairness is founded upon a concern for treating others impartially and with respect (Shaw and Olson, 2014; Engelmann and Tomasello, 2019). Thus, in line with previous work (Gonzalez et al., 2020) we predicted that fairness concerns would be applied impartially, especially amongst older children (7–9 years of age) who tend to show a strong concern for equity-based fairness (Shaw and Olson, 2012; Blake et al., 2015).

MATERIALS AND METHODS

Participants

We sampled 95 participants (n = 52 girls) between the ages of 4 and 9 years (M = 7.12, SD = 1.82). Participants were sampled with the goal of balancing across age and gender (see **Supplementary Table 1**). One participant was excluded due to experimenter error. We chose this sample size based on typical samples in prior work examining the development of in-group bias on resource allocation decisions (Buttlemann and Böhm, 2014; Sparks et al., 2017). Participants were recruited through the participant database of the Early Social Development Lab (ESDL) at Dalhousie University, Halifax, NS, Canada, and our sample was one of convenience. Parental consent was obtained prior to the session and child assent was obtained at the beginning of each session. This research was approved as minimal risk by the Research Ethics Board at Dalhousie University (file #2020-5308).

Materials

Each child was assigned to either a red or green team by picking a red or green coin by chance. Participants were then given team T-shirt that corresponded to the color of the team (green or red) that they were assigned to. Photographs of four children (two boys and two girls) were used to depict the recipients in the sharing task. Children in the photographs appeared to be similar of age to the participants. All four children were depicted in two photographs, once wearing a green uniform and once wearing a red uniform, so that each recipient could be randomly assigned to either the in-group or out-group.

Resource Allocation Task

On Fairness trials we used commonly available candies (Skittles) as the resource. On Care trials children were given 3D stickers that depicted spiders (for harm trials) and animals (for care trials). We used small paper bags for the participant to put resources for themselves and for the recipient and a toy trash can for the resources the participant wanted to throw away.

Procedure

The procedure began with a minimal group induction with the participant randomly assigned to one of two "teams" based on green or red T-shirt color (adapted from Dunham et al., 2011). The induction began as the researcher presented the participant two coins (green and red) corresponding to a green team and a red team. The researcher placed these coins in their hands and hid them behind their back, then asked the participant to point to one of her arms. The coin in the chosen hand determined which T-shirt color the participant was assigned. The researcher gave the participant their T-shirt to wear, then presented the participant with two pictures: one of children wearing green T-shirts and the other of children wearing red T-shirts. A comprehension check was conducted where the researcher asked the participant which picture showed their team to ensure recognition of group membership and all participants identified their group correctly without further prompting.

The researcher introduced participants to a picture of a gender-matched peer recipient, described as a real individual who would "play the game later." This recipient was either an in-group or out-group member, which was assigned randomly prior to testing. The researcher showed participants a paper bag attached to the recipient's picture for any resources they wanted to give the recipient and another paper bag for any resources the participant wanted to give themselves. The researcher also explained that the "trash can" was for any resources the participant wanted to throw away and not give to anyone.

Next, the researcher introduced the resources used in the trials. For fairness trials we used candies, and for care trials we used spider stickers and animal stickers. The researcher told the participant that the recipient liked candy and asked the participant if they also liked candy, recording this response on the coding sheet. Further, the researcher told the participant that the recipient liked animal stickers (positive resource) but did not like spider stickers (negative resource). In this task Care for the recipient would manifest in giving a positive resource and throwing away a negative resource. A comprehension check was done to ensure participants understood what the recipient liked and disliked and all participants answered the questions correctly. Children were then given 12 trials, three each of the four trial types (see **Supplementary Table 2**). The order of trials was randomized. For the second block, researchers switched pictures to a gender-matched peer with the opposite shirt color as the first picture and introduced the participant to the new recipient. The researcher reintroduced the bags, trash can, and resources, stating the same likes and dislikes as for the first recipient. After a second comprehension check on the recipient's preferences, we administered 12 additional trials. Group membership (in-group and out-group) of the first and second recipients was counterbalanced across participants.

Fairness Trials

Two of the four trial types were relevant to fairness and used a method adapted from Shaw et al. (2016). These trials entailed a choice between a fair or unfair distribution and assessed participants' allocation decisions. The participant was presented with a distribution creating advantageous inequity (AI) in one trial type and disadvantageous inequity (DI) in the other. AI trials allowed the participant to choose between distributing an extra resource to themselves or throwing it away to achieve equity. DI trials allowed the participant to choose between distributing an extra resource to the recipient or throwing it away to achieve equity. For these trials, researchers placed one candy in front of the participant and one in front of the recipient's picture, then showed the participant one extra candy. In AI trials, the participant was asked if they wanted to give this extra candy to themselves or throw it away. In DI trials, the participant was asked if they wanted to give this extra candy to the recipient or throw it away. There were three AI and three DI trials for both the in-group and out-group conditions, totaling 12 fairness trials per participant.

Care Trials

Two of the four trial types were relevant to care and used a method adapted from Buttlemann and Böhm (2014). The resources used in these trials either had positive valence or negative valence, as established with the participant prior to the trials. Positive valence resources were animal stickers, which the researcher explained that the recipient liked. Negative valence resources were spider stickers, which the researcher explained that the recipient disliked. The researcher placed one sticker in front of the participant and asked if they would like to distribute this sticker to the recipient or throw it away. There were three trials consisting of positive resource allocation (animal stickers) and three trials consisting of negative resource allocation (spider stickers) for both the in-group and out-group conditions, totaling 12 care trials per participant.

After the experimental trials the researcher asked the participant if they would prefer to play with the recipient on the green team or the red team in order to gain a convergent measure of in-group preference. The researcher also assessed the participant's own preference for spider or animal stickers following experimental trials. Amongst participants who expressed a sticker preference ($n = 78$), the majority of both males ($n = 23$) and females ($n = 30$) preferred animal stickers, while some males ($n = 14$) and females ($n = 11$) expressed a personal preference for the spider stickers.

Data Coding and Analyses

All sessions were videotaped. The primary outcome variable was the number of trials on which children chose to give (coded as 1) or throw away (coded as 0) a resource in the resource allocation task. Children's decisions were recorded live, and reliability checked from video by a video coder who was blind to the study hypotheses. Disagreements between the live and video coding were rare (Cohen's $\kappa = 0.95$) and were resolved by rechecking the trials from video.

In order to investigate whether the likelihood that children choose to give resources was influenced by our test predictors: Age (continuous), Distribution (positive, negative, advantageous, and disadvantageous), Group (in-group or out-group) and their interactions, we used a Generalized Linear Mixed Model (GLMMs; Bolker et al., 2009) with binomial error distribution and logit link function. In preliminary analyses we conducted a test to see if Trial Type (Fairness and Care) was a significant predictor of children's allocation decisions and found that the overall rate of giving was influenced by Trial Type (LRT: $\chi^2 = 75.64$, df = 4, $p < 0.001$). Thus, the analyses of participants' allocation decisions were performed separately for each Trial Type.

Our first step in data analysis was to build full models for both fairness and care trials that included the three-way interaction between Age, Distribution (advantageous and disadvantageous or positive and negative), and Group (in-group and out-group). Participant identity (ID) was fit as a random effect (intercepts) to control for repeated measures and participant gender was included as a control effect. The models were fitted in R using the function "glmer" from the R package "lme4" (Bates et al., 2012). All figures were created in R and were made using the package "ggplot2" (Wickham, 2009). The statistical significance of the full model was determined by comparing its fit with that of the null model comprising only the random effect, using a likelihood ratio test (LRT), available as R function "anova," package "stats." *p*-Values for individual effects were based on LRTs comparing the full models with their respective reduced models (R function "drop1"). The LRT was used for testing the interactions for significance, and non-significant interactions were removed from the model to reliably interpret the lower terms.

Gender has been shown to influence children's in-group bias in resource allocation tasks, with males showing a greater tendency toward in-group bias in the domain of

care (Buttlemann and Böhm, 2014; Benozio and Diesendruck, 2015). Thus, a second step in our data analysis plan was to investigate whether the relation between our test predictors: Age, Distribution, and Group varied by gender. The addition of Gender to the full model resulted in a significantly better fit to the data (LRT: $\chi^2 = 38.48$, df = 8, $p < 0.001$), thus children's behavior on care trials was analyzed separately by gender.

RESULTS

Fairness

The comparison of the full against the null model was significant (LRT: $\chi^2 = 56.91$, df = 7, $p < 0.001$). The three-way interaction between Age × Distribution × Group was not significant (LRT: $\chi^2 = 0.05$, df = 1, $p = 0.82$; **Supplementary Figure 1**). The model was reduced by dropping all non-significant two-way interactions included in the three-way interaction (Group × Age, LRT: $\chi^2 = 0.20$, df = 1, $p = 0.66$; Distribution × Group, LRT: $\chi^2 = 0.15$, df = 1, $p = 0.70$). We further reduced the model by dropping the non-significant main effect of Group (LRT: $\chi^2 = 0.45$, df = 1, $p = 0.50$) and Gender (LRT: $\chi^2 = 0.06$, df = 1, $p = 0.80$). The final model was comprised from the significant two-way interaction between Distribution and Age (LRT: $\chi^2 = 50.57$, df = 1, $p < 0.001$, **Figure 1**). Between 4 and 9 years of age, participants decreased the allocation of candies on advantageous trials (LRT: $\chi^2 = 12.32$, df = 1, $p < 0.001$), yet the tendency to allocate candies remained stable on disadvantageous trials (LRT: $\chi^2 = 1.02$, df = 1, $p = 0.32$). **Figure 1** reveals that younger participants were more likely to allocate extra candies to themselves, whereas older participants were more likely to allocate extra candies to their recipient.

Care

The comparison of the full against the null model was significant (LRT: $\chi^2 = 658.59$, df = 7, $p < 0.001$) for care trials. The three-way interaction between Age × Distribution × Group was not significant (LRT: $\chi^2 = 0.60$, df = 1, $p = 0.44$; **Supplementary Figure 2**). The model was reduced by dropping the non-significant two-way interaction included in the three-way interaction, (Group × Age, LRT: $\chi^2 = 0.24$, df = 1, $p = 0.62$). The final model was comprised of the significant two-way interactions between Distribution and Age (LRT: $\chi^2 = 9.75$, df = 1, $p < 0.01$) and Group and Distribution (LRT: $\chi^2 = 4.95$, df = 1, $p = 0.026$, **Figure 2**) and a significant main effect of Gender (LRT: $\chi^2 = 4.23$, df = 1, $p = 0.040$). *Post hoc* analyses (mvt corrected) revealed that participants were more likely to give negative resources to out-group compared to in-group recipients ($\beta = 2.41$, $p = 0.016$) but no such difference was observed for positive resources ($\beta = 0.75$, $p = 0.45$). **Figure 2** reveals that distribution of positive resources was greater than negative resources for both in-group and out-group recipients, however participants distributed negative resources to out-group recipients more often compared to in-group recipients.

Gender has been shown to influence children's in-group bias in resource allocation tasks, with males showing a greater tendency toward in-group bias in the domain of care (Buttlemann and Böhm, 2014; Benozio and Diesendruck, 2015). Thus, we examined the influence of the three-way interactions between Age × Distribution × Group for females and males separately. For females the three-way interaction was not significant ($p = 0.51$, **Figure 3**), nor were any two-way interactions (all $p > 0.1$). The only significant predictor of female participants' allocations was a main effect of Distribution (LRT: $\chi^2 = 472.12$, df = 1, $p < 0.001$), with significantly more giving of positive resources compared to negative resources ($\beta = 13.07$, $p < 0.001$). In contrast, for males the three-way interaction was marginally significant (LRT: $\chi^2 = 3.37$, df = 3, $p = 0.066$, **Figure 4**). This marginal three-way interaction tentatively suggests that young males allocated positive and negative resources at a similar rate for out-group recipients, whereas older male participants were much more likely to allocate positive resources compared to negative ones. For in-group recipients, participants were more likely to allocate positive resources compared to negative ones across the age range. To further examine this trend, we conducted exploratory analysis where age was coded as a categorical variable (4–6 and 7–9 years of age), in this case the three-way interaction between Age Group × Distribution × Group was statistically significant (LRT: $\chi^2 = 5.79$, df = 1, $p = 0.016$). *Post hoc* analysis revealed that younger males (4–6 years) are more likely to give negative resources to out-group recipients compared to in-group recipients ($\beta = 2.97$, $p = 0.003$; no other contrasts approached the threshold for statistical significance).

Returning to our panned analysis with Age as a continuous variable, dropping the marginally significant three-way interaction from the model resulted in significant two-way interactions between Distribution and Age (LRT: $\chi^2 = 9.01$, df = 1, $p < 0.01$) and Group and Distribution (LRT: $\chi^2 = 6.25$, df = 1, $p = 0.012$). *Post hoc* analyses (mvt corrected) revealed that male participants were more likely to give negative resources to out-group compared to in-group recipients ($\beta = 2.36$, $p = 0.018$), but no such difference was observed for positive trials ($\beta = 1.07$, $p = 0.28$). This pattern suggests that the tendency to give more negative resources to out-group compared to in-group recipients was stronger for males compared to females.

DISCUSSION

Our primary goal in this study was to examine the development of in-group bias in children's resource allocation decisions in the domains of care and fairness. On fairness trials we did not observe evidence of in-group bias on children's allocation decisions, suggesting that fairness behavior was not influenced by in-group bias. Children's decisions on fairness trials allowed us to examine the developmental emergence of their aversion to advantageous and disadvantageous inequity from early to middle childhood. We found that between 4 and 9 years of age children became less likely to give themselves a personal advantage. In contrast their tendency to allow their peer to gain an advantage remained stable across this age range.

In the domain of care, children were increasingly likely to allocate positive resources and less likely to allocate negative resources across age. In line with our hypotheses, we did observe evidence of in-group bias on care trials. Specifically, children

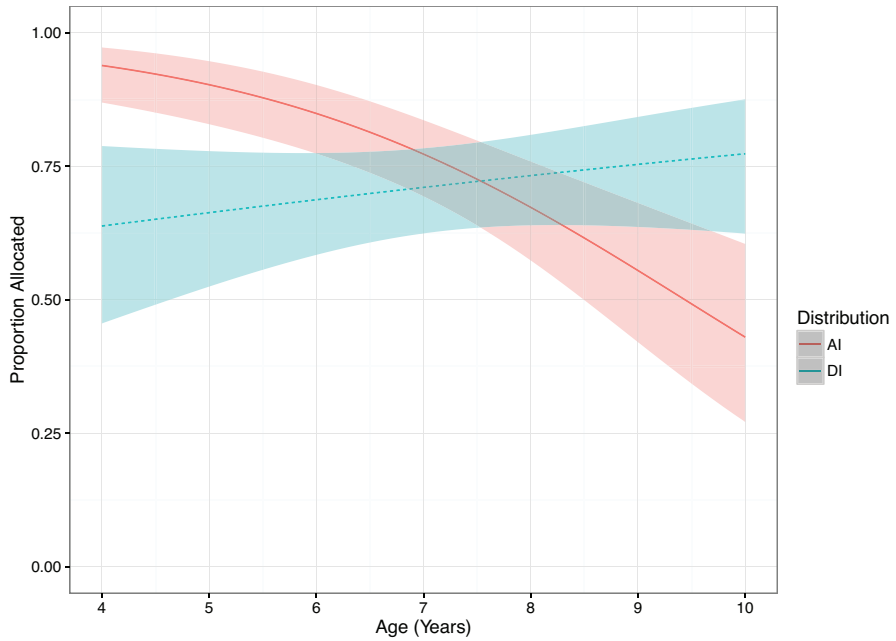

FIGURE 1 | Predicted proportion allocated on Fairness trials by Distribution, plotted over age. Ribbons show 95% confidence intervals.

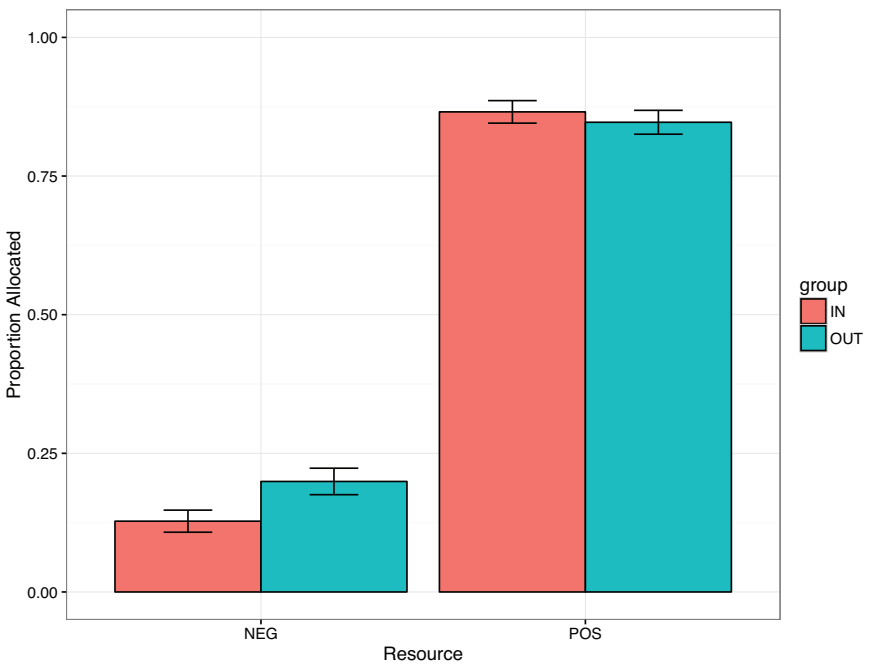

FIGURE 2 | Proportion allocated on Care trials by Distribution and Group. Error bars show binomial confidence intervals.

were more likely to allocate negative resources to out-group than in-group recipients, however, no group effect was observed for positive resources. Finally, this tendency to allocate negative resources to out-group recipients was largely driven by young males, we did not observe evidence of in-group bias amongst older participants or amongst females participants.

On fairness trials we did not observe an effect of in-group bias on children's fairness behavior. This pattern held for allocation decisions that placed the participants at either an advantage or disadvantage relative to their peer. In the current study advantageous trials provided a strong test of fairness, equal outcomes came at a cost to the participant and did not provide

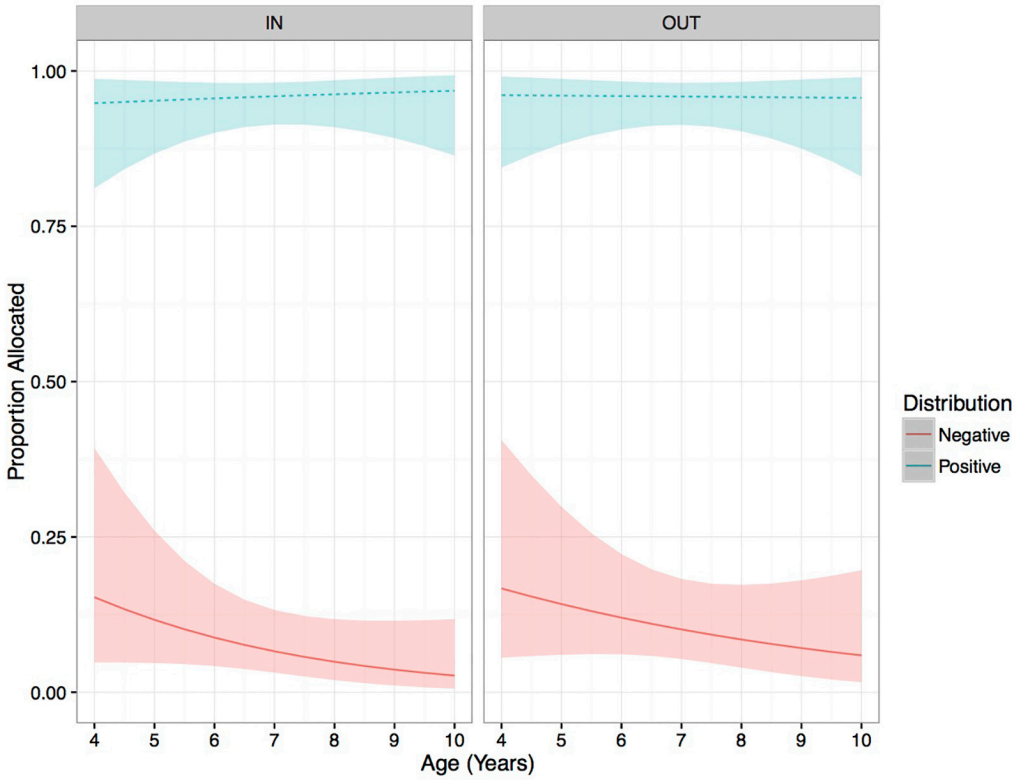

FIGURE 3 | Predicted proportion allocated for females on Care trials, Distribution, facetted by Group, plotted over age. Ribbons show 95% confidence intervals.

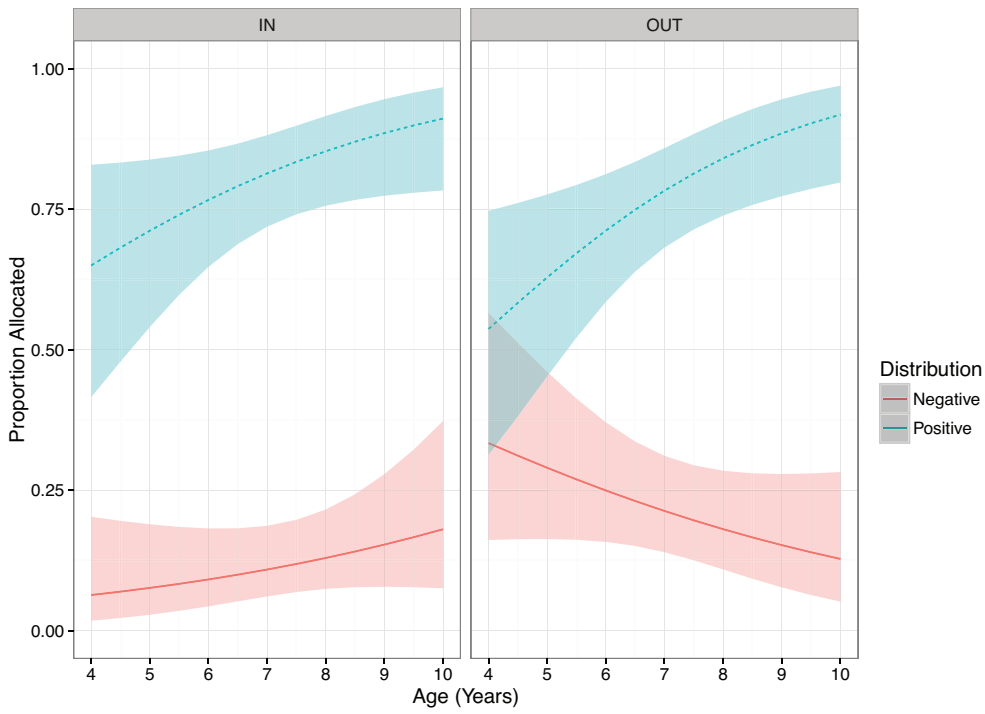

FIGURE 4 | Predicted proportion allocated for males on Care trials, Distribution facetted by Group, plotted over age. Ribbons show 95% confidence intervals.

a material benefit to the recipient. In the case of disadvantageous trials equal outcomes incurred a cost to the recipient, thus may be motivated by spite or envy rather than fairness (Shaw and Olson, 2012; McAuliffe et al., 2014), whereas unequal outcomes provided a material benefit to the recipient and could be motivated by generosity. Several previous studies found that children were more likely to choose equal allocations over advantageous ones when recipients were in-group members (Sparks et al., 2017; Keshvari et al., 2021). In these studies, equal outcomes on advantageous trials provided a material benefit to the recipient, thus may have been motivated by generosity. However, increased generosity to in-group recipients does not account for behavior on disadvantageous trials where children's tendency to provide their recipient with a relative advantage was not influenced by group status. Thus, the weight of the evidence across these studies favors an increased concern for fairness with in-group recipients (Sparks et al., 2017; Keshvari et al., 2021). Another study that examined the impact of in-group bias on children's aversion to advantageous and disadvantageous inequity did not find strong evidence of in-group favoritism on children's aversion to inequity, though the results were inconclusive in the case of advantageous inequity aversion (Gonzalez et al., 2020). In the current study we did not see evidence that in-group bias influenced either generosity or fairness, thus the precise impact that in-group bias has on the development of fairness remain an open question.

In contrast to fairness we did observe in-group bias on care trials. Empathy is purported to be a core process through which in-group bias can influence people's tendency to care for in-group members and tolerate the harm of out-group members (Batson and Ahmad, 2009; Cikara et al., 2011; Kteily et al., 2016). Indeed, increased empathy toward in-group members is found even in a minimal group context (Masten et al., 2010). Importantly, empathy is more likely to influence care relative to fairness decisions (Hoffman, 1984; Eisenberg and Miller, 1987; Decety and Cowell, 2015), and may explain the different impact of group status across these domains. Characteristic of an empathy-based response, behaviors related to care have the signatures of an intrinsic motivation to benefit the wellbeing of others. During infancy, children prefer agents that provide help rather than harm (Hamlin et al., 2007). From 2 years of age toddlers show the physiological manifestations of relief when they see someone receiving help, even when they are not directly involved (Hepach et al., 2012), and an affective benefit of their own generosity (Aknin et al., 2012). Finally, from 3- to 6-years-of-age children's generosity increases with their understanding of the affective benefits of sharing (Paulus and Moore, 2017).

Bolstering the argument that empathy and fairness are distinct processes is evidence showing that children's concern for fairness is heavily influenced by cooperative norms and arises from a desire to signal fair behavior to others. For example, children (6–8 years of age) are less likely to behave fairly if they could appear fair to an adult experimenter but act selfishly (Shaw and Olson, 2014). Similarly, children (6–9 years of age) are more likely to avoid personally advantageous distributions of resources when a recipient is observing their decisions, compared to when their actions are not observed (McAuliffe et al., 2020). Convergent evidence suggests that adherence to cooperative norms is a related determinant of fairness behavior (McAuliffe et al., 2017b; House et al., 2020). Together, these findings reveal that appearing fair and adhering to norms of fairness are important extrinsic motivators related to fairness behavior. Overall, while fairness behaviors have several extrinsic motivators that operate independently of empathic responses, behaviors related to care appear to be dependent on an empathetic response.

Limitations and Future Directions

In this study we sought to investigate the influence of in-group bias in children concerns for care and fairness. In this initial investigation we employed a minimal group paradigm to induce group membership, as we wanted to assess the role of in-group bias independently of social preferences toward specific social categories. Thus, it remains an important open question as to how children's concern for care and fairness may differ toward recipients that vary in terms of social categories such as gender and race. Previous work suggests that young children's resource allocation decisions show a preference for gender and race matched peers (Zinser et al., 1981; Dunham et al., 2011, 2016; Renno and Shutts, 2015), yet by middle childhood children are often willing to rectify group based inequality (Olson et al., 2011; Elenbaas and Killen, 2016; Elenbaas et al., 2016; Rizzo et al., 2018; Corbit et al., 2021). Future research that investigates the influence of social categories such as gender and race on children's concern for both care and fairness will provide important insight into how group-based prejudice can influence cooperative behavior.

CONCLUSION

Overall, our findings indicate that in-group bias differentially impacted children's moral behavior in the domains of care and fairness. In the domain of fairness, decisions were similar for in-group and out-group recipients. In contrast, in the domain of care children were more likely to allocate negative resources to an out-group compared to an in-group peer, revealing a tendency toward out-group harm that was particularly pronounced amongst boys. This pattern of results suggests that fairness and care develop along distinct pathways with independent motivational supports.

DATA AVAILABILITY STATEMENT

The datasets presented in this study can be found in online repositories. The names of the repository/repositories and accession number(s) can be found below: https://osf.io/zyfma/?view_only=51d3375a740d4edfbdcb718ebd27c5b5.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by the Research Ethics Board Dalhousie University.

Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin.

AUTHOR CONTRIBUTIONS

JC and CM developed the study design and concept. HM and SH conducted the testing and data collection. JC analyzed and interpreted the findings. JC drafted the manuscript with CM and HM. SH provided the critical feedback. All authors contributed to the article and approved the submitted version.

FUNDING

JC has been awarded an SSHRC Insight Development Grant (430-2021-00330) which will be used to pay for open access fees. CM would like to acknowledge an SSHRC Insight Grant (#435-2018-0902).

SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyg.2022.825987/full#supplementary-material

REFERENCES

Aboud, F. E. (2003). The formation of in-group favoritism and out-group prejudice in young children: are they distinct attitudes? *Dev. Psychol.* 39:48. doi: 10.1037//0012-1649.39.1.48

Aknin, L. B., Hamlin, J. K., and Dunn, E. W. (2012). Giving leads to happiness in young children. *PLoS One* 7:e39211. doi: 10.1371/journal.pone.0039211

Balliet, D., Wu, J., and De Dreu, C. K. W. (2014). Ingroup favoritism in cooperation: a meta-analysis. *Psychol. Bull.* 140, 1556–1581. doi: 10.1037/a0037737

Bates, D., Mächler, M., and Bolker, B. (2012). *lme4: Linear Mixed-Effects Models Using S4 Classes. R Package Version 0.999375-42*.

Batson, C. D., and Ahmad, N. Y. (2009). Using empathy to improve intergroup attitudes and relations. *Soc. Issues Policy Rev.* 3, 141–177. doi: 10.1111/j.1751-2409.2009.01013.x

Baumgartner, T., Götte, L., Gügler, R., and Fehr, E. (2011). The mentalizing network orchestrates the impact of parochial altruism on social norm enforcement. *Hum. Brain Mapp.* 33, 1452–1469. doi: 10.1002/hbm.21298

Benozio, A., and Diesendruck, G. (2015). Parochialism in preschool boys' resource allocation. *Evol. Hum. Behav.* 36, 256–264. doi: 10.1016/j.evolhumbehav.2014.12.002

Bernhard, H., Fischbacher, U., and Fehr, E. (2006). Parochial altruism in humans. *Nature* 442, 912–915. doi: 10.1038/nature04981

Blake, P. R., McAuliffe, K., Corbit, J., Callaghan, T. C., Barry, O., Bowie, A., et al. (2015). The ontogeny of fairness in seven societies. *Nature* 528, 258–261. doi: 10.1038/nature15703

Bolker, B. M., Brooks, M. E., Clark, C. J., Geange, S. W., Poulsen, J. R., Stevens, M. H. H., et al. (2009). Generalized linear mixed models: a practical guide for ecology and evolution. *Trends Ecol. Evol.* 24, 127–135. doi: 10.1016/j.tree.2008.10.008

Brewer, M. B. (1999). The psychology of prejudice: ingroup love or outgroup hate? *J. Soc. Issues* 55, 429–444.

Buttlemann, D., and Böhm, R. (2014). The ontogeny of the motivation that underlies in-group bias. *Psychol. Sci.* 25, 921–927. doi: 10.1177/0956797613516802

Christie, R., and Allport, G. W. (1954). The nature of prejudice. *Am. J. Psychol.* 67:742. doi: 10.2307/1418507

Cikara, M., Bruneau, E. G., and Saxe, R. R. (2011). Us and them: intergroup failures of empathy. *Curr. Direct. Psychol. Sci.* 20, 149–153. doi: 10.1177/0963721411408713

Cikara, M., Bruneau, E., Van Bavel, J. J., and Saxe, R. (2014). Their pain gives us pleasure: how intergroup dynamics shape empathic failures and counter-empathic responses. *J. Exp. Soc. Psychol.* 55, 110–125. doi: 10.1016/j.jesp.2014.06.007

Corbit, J., Lamirato, K., and McAuliffe, K. (2021). Children in the United States and Peru pay to correct gender-based inequality. *Child Dev.* 92, 1291–1308. doi: 10.1111/cdev.13505

de Waal, F. (1996). *Good Natured: The Origins of Right and Wrong in Humans and Other Animals*. Cambridge, MA: Harvard University Press.

Decety, J., and Cowell, J. M. (2015). Empathy, justice, and moral behavior. *AJOB Neurosci.* 6, 3–14. doi: 10.1080/21507740.2015.1047055

Deutsch, M. (1975). Equity, equality, and need: what determines which value will be used as the basis of distributive justice? *J. Soc. Issues* 31, 137–149.

Dunfield, K., Kuhlmeier, V. A., O'Connell, L., and Kelley, E. (2011). Examining the diversity of prosocial behavior: helping, sharing, and comforting in infancy. *Infancy* 16, 227–247. doi: 10.1111/j.1532-7078.2010.00041.x

Dunham, Y., Baron, A. S., and Banaji, M. R. (2016). The development of implicit gender attitudes. *Dev. Sci.* 19, 781–789.

Dunham, Y., Baron, A. S., and Carey, S. (2011). Consequences of "minimal" group affiliations in children. *Child Dev.* 82, 793–811. doi: 10.1111/j.1467-8624.2011.01577.x

Eisenberg, N., and Miller, P. A. (1987). The relation of empathy to prosocial and related behaviors. *Psychol. Bull.* 101:91.

Elenbaas, L., and Killen, M. (2016). How do young children expect others to address resource inequalities between groups? *J. Exp. Child Psychol.* 150, 72–86. doi: 10.1016/j.jecp.2016.05.002

Elenbaas, L., Rizzo, M. T., Cooley, S., and Killen, M. (2016). Rectifying or perpetuating resource disparities: children's responses to social inequalities based on race. *Cognition* 155, 176–187. doi: 10.1016/j.cognition.2016.07.002

Engelmann, J. M., and Tomasello, M. (2019). Children's sense of fairness as equal respect. *Trends Cogn. Sci.* 23, 454–463.

Fehr, E., and Fischbacher, U. (2004). Third party punishment and social norms. *Evol. Hum. Behav.* 25, 63–87.

Fehr, E., and Schmidt, K. M. (1999). A theory of fairness, competition, and cooperation. *Q. J. Econ.* 114, 817–868. doi: 10.1162/003355399556151

Geraci, A., Rigo, P., Simonelli, A., Di Nuovo, S., and Simion, F. (2021). Preschoolers' evaluations of comforting actions towards third parties in different relationship contexts. *J. Appl. Dev. Psychol.* 76:101315. doi: 10.1016/j.appdev.2021.101315

Gonzalez, G., Blake, P. R., Dunham, Y., and McAuliffe, K. (2020). Ingroup bias does not influence inequity aversion in children. *Dev. Psychol.* 56, 1080–1091. doi: 10.1037/dev0000924

Graham, J., Nosek, B. A., Haidt, J., Iyer, R., Koleva, S., and Ditto, P. H. (2011). Mapping the moral domain. *J. Pers. Soc. Psychol.* 101:366. doi: 10.1037/a0021847

Hamlin, J. K., Wynn, K., and Bloom, P. (2007). Social evaluation by preverbal infants. *Nature* 450, 557–559. doi: 10.1038/nature06288

Hepach, R., Vaish, A., and Tomasello, M. (2012). Young children are intrinsically motivated to see others helped. *Psychol. Sci.* 23, 967–972. doi: 10.1177/0956797612440571

Hoffman, M. L. (1984). "Interaction of affect and cognition in empathy," in *Emotions, Cognition, and Behavior*, eds C. E. Izard, J. Kagan, and R. B. Zajonc (Cambridge: Cambridge University Press), 103–131.

House, B. R., Kanngiesser, P., Barrett, H. C., Broesch, T., Cebioglu, S., Crittenden, A. N., et al. (2020). Universal norm psychology leads to societal diversity in prosocial behaviour and development. *Nat. Hum. Behav.* 4, 36–44. doi: 10.1038/s41562-019-0734-z

Jordan, J. J., McAuliffe, K., and Warneken, F. (2014). Development of in-group favoritism in children's third-party punishment of selfishness. *Proc. Natl. Acad. Sci. U.S.A.* 111, 12710–12715. doi: 10.1073/pnas.1402280111

Katz, P. A., Katz, I., and Cohen, S. (1976). White children's attitudes toward Blacks and the physically handicapped: a developmental study. *J. Educ. Psychol.* 68:20.

Keshvari, F., Hartlin, S., Capozzi-Davis, O., Moore, C., and Corbit, J. (2021). Group over need: convergence in the influence of recipient characteristics on children's sharing in Iran and Canada. *Soc. Dev.* 1–14. doi: 10.1111/sode.12557

Kteily, N., Hodson, G., and Bruneau, E. (2016). They see us as less than human: metadehumanization predicts intergroup conflict via reciprocal dehumanization. *J. Pers. Soc. Psychol.* 110, 343–370. doi: 10.1037/pspa0000044

Masten, C. L., Gillen-O'Neel, C., and Brown, C. S. (2010). Children's intergroup empathic processing: the roles of novel ingroup identification, situational distress, and social anxiety. *J. Exp. Child Psychol.* 106, 115–128. doi: 10.1016/j.jecp.2010.01.002

McAuliffe, K., Blake, P. R., and Warneken, F. (2014). Children reject inequity out of spite. *Biol. Lett.* 10:20140743. doi: 10.1098/rsbl.2014.0743

McAuliffe, K., Blake, P. R., and Warneken, F. (2020). Costly fairness in children is influenced by who is watching. *Dev. Psychol.* 56:773. doi: 10.1037/dev0000888

McAuliffe, K., Blake, P. R., Steinbeis, N., and Warneken, F. (2017a). The developmental foundations of human fairness. *Nat. Hum. Behav.* 1:0042.

McAuliffe, K., and Dunham, Y. (2017). Fairness overrides group bias in children's second-party punishment. *J. Exper. Psychol. Gen.* 146, 485–494. doi: 10.1037/xge0000244

McAuliffe, K., Raihani, N. J., and Dunham, Y. (2017b). Children are sensitive to norms of giving. *Cognition* 167, 151–159. doi: 10.1016/j.cognition.2017.01.006

McLoughlin, N., and Over, H. (2018). The Developmental Origins of Dehumanization. *Adv. Child Dev. Behav.* 54, 153–178. doi: 10.1016/bs.acdb.2017.10.006

Olson, K. R., Dweck, C. S., Spelke, E. S., and Banaji, M. R. (2011). Children's responses to group-based inequalities: perpetuation and rectification. *Soc. Cogn.* 29, 270–287. doi: 10.1521/soco.2011.29.3.270

Over, H. (2018). The influence of group membership on young children's prosocial behavior. *Curr. Opin. Psychol.* 20, 17–20. doi: 10.1016/j.copsyc.2017.08.005

Paulus, M., and Moore, C. (2017). Preschoolers' generosity increases with understanding of the affective benefits of sharing. *Dev. Sci.* 20:e12417. doi: 10.1111/desc.12417

Paulus, M., Wörle, M., and Christner, N. (2020). The emergence of human altruism: preschool children develop a norm for empathy-based comforting. *J. Cogn. Dev.* 21, 104–124. doi: 10.1080/15248372.2019.1693375

Piaget, J. (1997). *The Moral Judgment of the Child*. London: Routledge.

Plötner, M., Over, H., Carpenter, M., and Tomasello, M. (2015). The effects of collaboration and minimal-group membership on children's prosocial behavior, liking, affiliation, and trust. *J. Exp. Child Psychol.* 139, 161–173. doi: 10.1016/j.jecp.2015.05.008

Renno, M. P., and Shutts, K. (2015). Children's social category-based giving and its correlates: expectations and preferences. *Dev. Psychol.* 51, 533–543. doi: 10.1037/a0038819

Ridgeway, C. L. (2011). *Framed by Gender: How Gender Inequality Persists in the Modern World*. Oxford: Oxford University Press.

Rizzo, M. T., Elenbaas, L., and Vanderbilt, K. E. (2018). Do children distinguish between resource inequalities with individual versus structural origins? *Child Dev.* 91, 439–455. doi: 10.1111/cdev.13181

Schiller, B., Baumgartner, T., and Knoch, D. (2014). Intergroup bias in third-party punishment stems from both ingroup favoritism and outgroup discrimination. *Evol. Hum. Behav.* 35, 169–175. doi: 10.1016/j.evolhumbehav.2013.12.006

Shaw, A., and Olson, K. (2014). Fairness as partiality aversion: the development of procedural justice. *J. Exp. Child Psychol.* 119, 40–53. doi: 10.1016/j.jecp.2013.10.007

Shaw, A., and Olson, K. R. (2012). Children discard a resource to avoid inequity. *J. Exp. Psychol. Gen.* 141:382. doi: 10.1037/a0025907

Shaw, A., Choshen-Hillel, S., and Caruso, E. M. (2016). The development of inequity aversion: understanding when (and why) people give others the bigger piece of the pie. *Psychol. Sci.* 27, 1352–1359.

Smetana, J. G. (2006). "Social–cognitive domain theory: consistencies and variations in children's moral and social judgments," in *Handbook of Moral Development*, Vol. 119, eds M. Killen and J. G. Smetana (Hove: Psychology Press).

Sparks, E., Schinkel, M. G., and Moore, C. (2017). Affiliation affects generosity in young children: the roles of minimal group membership and shared interests. *J. Exp. Child Psychol.* 159, 242–262. doi: 10.1016/j.jecp.2017.02.007

Tajfel, H. (1970). Experiments in intergroup discrimination. *Sci. Am.* 223, 96–102. doi: 10.1038/scientificamerican1170-96

Tomasello, M., and Vaish, A. (2013). Origins of human cooperation and morality. *Annu. Rev. Psychol.* 64, 231–255. doi: 10.1146/annurev-psych-113011-143812

Turiel, E. (1983). *The Development of Social Knowledge: Morality and Convention*. Cambridge: Cambridge University Press.

Wickham, H. (2009). Elegant graphics for data analysis. *Media* 35:1007.

Xu, X., Zuo, X., Wang, X., and Han, S. (2009). Do you feel my pain? Racial group membership modulates empathic neural responses. *J. Neurosci.* 29, 8525–8529. doi: 10.1523/JNEUROSCI.2418-09.2009

Zinser, O., Rich, M. C., and Bailey, R. C. (1981). Sharing behavior and racial preference in children. *Motiv. Emot.* 5, 179–187. doi: 10.1007/BF00993896

Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

frontiers in Psychology

ORIGINAL RESEARCH
published: 30 March 2022
doi: 10.3389/fpsyg.2022.815639

Theory of Mind as a Correlate of Bystanders' Reasoning About Intergroup Bullying of Syrian Refugee Youth

Seçil Gönültaş[1] and Kelly Lynn Mulvey[2]*

[1] Department of Psychology, University of Exeter, Exeter, United Kingdom, [2] Department of Psychology, North Carolina State University, Raleigh, NC, United States

The current study examined how ingroup and outgroup Theory of Mind (ToM) predicts children's and adolescents' reasoning for their acceptability judgments of intergroup bullying of Syrian refugee peers and group support of intergroup bullying. Participants included 587 Turkish middle (n = 372, M_{age} = 12.19, SD = 1.01; 208 girls) and high school (n = 215, M_{age} = 14.81, SD = 0.97; 142 girls) students. Participants read a bias-based bullying story with a Syrian refugee peer targeted by an ingroup Turkish peer. Then, participants rated the acceptability of bullying and group support of bullying and were presented with a reasoning question (Why?) after each acceptability question (bullying and group support of bullying). Reasoning codes included Fairness, Refugee Status/War, Prejudice and Discrimination, Harm, Prescriptive Norms, Group Functioning, and Relationship with the Bully. Participants' ingroup and outgroup ToM abilities (measured using the Strange Stories) were evaluated as predictors of reasoning. Results documented that middle school students were more likely to attribute mental states to their ingroup members compared to outgroup members while high school students' ToM performance did not differ across contexts. Further, the more unacceptable participants judged bullying to be, the more they reasoned about the bullying by referencing fairness, refugee status, discrimination, and harm. Results also documented that ingroup and outgroup ToM were positively related to attribution to fairness and participants' usage of multiple reasoning judgments while only outgroup ToM was a significant predictor of reasoning around refugee status/war, discrimination, and prejudice. The findings provide implications for intervention programs that tackle intergroup bullying by examining bystanders' social cognitive skills in a specific context.

Keywords: intergroup bullying, bystander judgments, outgroup theory of mind, ingroup theory of mind, fairness, refugee status, discrimination, group functioning

OPEN ACCESS

Edited by:
Clare Conry-Murray, Saint Joseph's University, United States

Reviewed by:
Peter R. Blake, Boston University, United States
Tuuli Renvik, University of Helsinki, Finland
Eveline Gutzwiller-Helfenfinger, University of Duisburg-Essen, Germany

****Correspondence:***
Seçil Gönültaş
s.gonultas@exeter.ac.uk

Specialty section:
This article was submitted to Developmental Psychology, a section of the journal Frontiers in Psychology

Received: *15 November 2021*
Accepted: *25 February 2022*
Published: *30 March 2022*

Citation:
Gönültaş S and Mulvey KL (2022) Theory of Mind as a Correlate of Bystanders' Reasoning About Intergroup Bullying of Syrian Refugee Youth. Front. Psychol. 13:815639. doi: 10.3389/fpsyg.2022.815639

INTRODUCTION

Recent studies showed that Syrian refugee youth in Turkey are highly prone to experiencing intergroup school bullying rooted in racial discrimination and prejudice (Demir and Özgül, 2019; Çeri et al., 2021). Intergroup bullying refers to repeated aggressive behaviors and attitudes that harm someone within the context of a power imbalance because of a particular group membership (e.g., nationality, immigration/refugee background, religion, gender, sexual orientation, or disability, Palmer and Abbott, 2018). Considering the widespread and long-lasting effects of bullying on

refugee youth (psychological well-being, physical health, educational attainment), it is critically important to identify the ways to promote anti-bullying intervention programs to foster inclusive schools. Although much research has focused on victims and bullies, bystanders, peers who witness bullying, are also central actors to stop bullying (Salmivalli et al., 2011). Thus, it is important to understand bystanders' judgments and reasoning about intergroup bullying. As a critical social-cognitive skill, Theory of Mind (ToM), may be related to bystanders' judgments of intergroup bullying as ToM may enhance one's understanding of the prejudicial roots behind the bullying (Gönültaş and Mulvey, 2021a). However, the possible association between adolescents' reasoning about intergroup bullying and ToM has not been explored yet. In the current study, we examined whether ToM predicts adolescents' reasoning for their acceptability judgments of intergroup bullying of Syrian refugee peers and group support of intergroup bullying.

Bystander Judgments About Intergroup Bullying From Social Reasoning Developmental Perspective

In the current study, we used the Social Reasoning Developmental (SRD) approach informed by the Social Domain Theory (SDT; Turiel, 1983) and Social Identity Development Theory (SIDT, Nesdale, 2004) to examine children's and adolescents' reasoning patterns. SDT posits that individuals reason about social decisions by considering three domains: the moral domain (issues of fairness, justice, and rights), the societal domain (customs, conventions, and traditions), and the psychological domain (related to personal choice and autonomy) (Smetana et al., 2014). Further, SDT suggests that children and adolescents evaluate social transgressions across domains of reasoning that may involve ToM (Smetana, 2006; Killen et al., 2011). We examined both ingroup and outgroup ToM as our hypothetical intergroup bullying scenario involves ingroup and outgroup characters.

SIDT suggests that children and adolescents develop intergroup attitudes toward outgroups in four phases: (1) not having a salient group membership, (2) group membership awareness, (3) ingroup preference, (4) ingroup bias, prejudice, and discrimination (Nesdale, 2004). According to SIDT, children's and adolescents' evaluations of bullying can be influenced by intergroup processes (e.g., group membership, prejudice, discrimination, and threat perception) if the bullying involves ingroup and outgroup members. For example, Ojala and Nesdale (2004) demonstrated that students aged between 10 and 13 evaluated bullying as more okay when the victim was an outgroup member who was perceived threat to ingroup members. Moreover, Jones et al. (2012) documented that Italian children aged 10–13 who were exposed to a cooperative group norm were more likely to feel negative emotions such as anger or regret following intergroup bullying. Thus, children and adolescents evaluate bullying by considering group-related factors and bring their social-cognitive awareness to these evaluations. By bringing SDT and SIDT approaches together, SRD approach proposes that children's and adolescents' judgments and evaluations in the context of intergroup social conflicts depend on both intergroup-related factors (e.g., group membership, prejudice, discrimination, and threat perception) and social cognitive skills (e.g., theory of mind, empathy). SRD approach also contends that children and adolescents often evaluate social conflicts as unacceptable by considering moral concerns but might support social conflicts due to group membership, group wellbeing, and functioning (e.g., Killen and Rutland, 2011; Killen et al., 2013; Hitti et al., 2014).

Group Membership in the Context and Its Relation to Bystanders' Judgments and Reasoning

Previous research drawing on SRD approach to intergroup bullying showed that group membership of the victim (whether the victim is an ingroup member or outgroup member) is related to bystander judgments and responses (Gönültaş and Mulvey, 2021a; Palmer et al., 2022). For example, Gönültaş and Mulvey (2021a) showed that non-immigrant adolescents were more likely to evaluate bullying as unacceptable when the victim was a non-immigrant peer compared to when the victim was an immigrant peer in the United States. Similarly, Palmer et al. (2022) found that Cypriot adolescents showed higher prosocial tendencies toward Cypriot victims than non-Cypriot victims in the context of social exclusion, while no differences were observed in non-Cypriot adolescents' prosocial bystander responses. Relatedly, children and adolescents' reasoning justifications can be dependent on the context and group membership of the victim. For example, Mazzone et al. (2018) documented that participants (aged between 11 and 15 years) differed in their answers when they were asked to think about the possible underlying reasons for the bullying across two scenarios (immigrant and non-immigrant victim). When the victim was an immigrant peer, participants were more likely to think that the reasons for the bullying can be cultural differences, coming from a different country, language, religion and feelings of fear toward immigrants even when the reason for bullying was not explicitly given. However, participants were more likely to think that the bullying could be related to victims' personality characteristics and physical appearance when the victim was a non-immigrant peer (Mazzone et al., 2018).

Theory of Mind in the Context and Its Relation to Bystanders' Judgments and Reasoning

Theory of mind can be described as the ability to attribute and to predict subjective mental states of others including intentions, beliefs, desires, and emotions (ToM; Wellman et al., 2001; White et al., 2009). ToM is related to many social outcomes including prosocial behaviors across childhood and adolescence (Razza and Blair, 2009; Imuta et al., 2016). As an important social cognitive ability, ToM may be one of the factors that helps children and adolescents to understand and reason about underlying motives behind different types of bullying (e.g., intragroup and intergroup). Although ToM has been broadly defined by the successful performance in false-belief tasks around age three,

ToM competence involves a long and nuanced developmental path (Peterson and Wellman, 2019). Wellman and Liu (2004) developed a ToM battery to be able to comprehensively evaluate several aspects of ToM across preschool and childhood, but development of these skills does not cease during childhood. Moving through adolescence, ToM abilities continue to grow across this period including understanding sarcasm, irony, white lies, and deception (Dumontheil et al., 2010; Peterson and Wellman, 2019). The Strange Stories is one of the widely used tasks to measure advanced ToM skills (White et al., 2009). This measure involves several stories tapping into different subdomains of ToM including the understanding of mental states in contexts involving white lies, persuasion, and misunderstanding. Thus, ToM is a complex social-cognitive skill that has been measured with a range of tasks requiring individuals to infer others' mental states. What has not yet been demonstrated, however, is if this social-cognitive competency is related to individuals' reasoning about situations that may rely on mental-state knowledge, such as intergroup bullying situations.

SRD model also argues that social-cognitive skills (e.g., ToM) are related to children's and adolescents' reasoning as these skills help them to recognize the multifaceted nature of social conflicts (Rutland and Killen, 2015). Thus, it is likely that children and adolescents with higher social-cognitive skills can consider different aspects of a social conflict and weigh multiple considerations including the moral domain (issues of welfare, justice, and rights), the societal domain (concerns group functioning and social norms) and the psychological domain (concerns one's choice over private matters) (Turiel, 1983; Rutland and Killen, 2015).

ToM also fosters more complex moral reasoning while evaluating intentional and unintentional social transgressions (Killen et al., 2011; D'Esterre et al., 2019; Baker et al., 2021). Previous research has demonstrated that ToM is related to active bystander challenging behavior in generalized bullying (Gini, 2006; Caravita et al., 2010). ToM predicted higher defending behaviors against intragroup bullying through increased social competence (Metallidou et al., 2018). More recently, studies also examined the possible role of ToM in bystander responses to intergroup bullying of immigrant youth (Gönültaş and Mulvey, 2021a,b). Accordingly, adolescents' ToM abilities predicted a higher likelihood of bystander active responses to both bullying and following retaliatory acts in intergroup contexts (e.g., when an immigrant peer is victimized or seeks retaliation, Gönültaş and Mulvey, 2021a,b).

In all these studies, ToM was evaluated as a generalized ability. However, more recently, studies showed that children and adolescents can be selective while using their efforts to attribute mental states to their ingroup and outgroup members (McLoughlin and Over, 2017; McLoughlin et al., 2018; Gönültaş et al., 2020). For example, across two studies children attributed less humanness and fewer mental states (e.g., believing, pretending, and deciding) to agents from different groups (geographically based groups and gender-based groups) and they were more likely to use their ToM skills for their ingroup members than for outgroup members (McLoughlin and Over, 2017; McLoughlin et al., 2018). Overall, these studies suggest that children's ingroup ToM and outgroup ToM performance differ.

Two studies have been examined outgroup ToM in Turkish adolescents (Gönültaş et al., 2020) and young adults (Ekerim-Akbulut et al., 2020) to examine their mental state attribution to Syrian refugee individuals. Gönültaş et al. (2020) demonstrated that Turkish adolescents were more likely to attribute mental states to Turkish story characters (ingroup ToM) compared to Syrian refugee characters (outgroup ToM) in a study using the Strange Stories task. They also found that discrimination and threat perception toward refuges were negatively related to adolescents' outgroup ToM performance. Similarly, Ekerim-Akbulut et al. (2020) also showed that Turkish college students' ToM abilities differ based on participants' perceived similarity with the refugees by using the Strange Stories task. More specifically, participants who reported lower perceived similarity with the targeted outgroups (refugees) showed worse performance in attributing mental states to Syrian refugee individuals compared to Turkish individuals.

Based on previous studies, it is likely that the group membership of the target might matter for both children's and adolescents' reasoning/judgments and their ToM performance in intergroup contexts. Further, ingroup and outgroup ToM might shape children's and adolescents' reasoning about intergroup social conflicts, which involve ingroup and outgroup members. Although separate research lines on bystanders' judgments and reasoning in intergroup bullying and ToM in intergroup context are gaining attention, still little is known about how the intersection of these lines of research might help us to have a more context-sensitive understanding of the relationship between ToM and reasoning in an intergroup context.

High-Tension Intergroup Context: Intergroup Bullying of Syrian Refugees in Turkey

The refugee crisis is a global issue that impacts many societies across the world. Turkey, as one of those countries, has received more than three million seven hundred thousand refugees from the start of the crisis in Syria in 2011 through 2021 (United Nations High Commissioner for Refugees [UNHCR], 2021). Syrian children and adolescents constitute a great percentage of the Syrian refugee population in Turkey (United Nations High Commissioner for Refugees [UNHCR], 2021). Thus, it is highly likely that non-refugee children and adolescents can have opportunities for contact with Syrian peers. Relatedly, the intergroup interactions between Turkish and Syrian adolescents are high, especially in public schools (Gönültaş et al., 2020; Içduygu and Nimer, 2020). Turkey also has a quite high prevalence rate of bullying (24%) in schools (Programme for International Student Assessment, 2018). Although these reports do not provide information about the ethnic background of victims or the reason for the bullying, recent studies showed that Syrian refugee youth are highly prone to experiencing intergroup school bullying rooted in racial discrimination and prejudice. For example, Karaman (2021) examined the rates of bullying among Syrian and Turkish students and found that

Syrian students reported higher rates of bullying victimization compared to their Turkish peers. A qualitative study by Demir and Özgül (2019) also demonstrated that Syrian refugee students were at an increased risk of being bullied due to discrimination, language barriers, and cultural differences. One way to reduce intergroup bullying is promoting active upstanding behavior of non-refugee peers who witness the intergroup bullying of their refugee peers. Bystander peers can serve as central actors to offset both the occurrence and effects of bullying (Salmivalli et al., 2011) when they show defending behaviors (e.g., challenging the bully and supporting the victim). However, to date, little research has focused on how non-refugee adolescents evaluate intergroup bullying of their refugee peers and how ToM abilities for ingroup and outgroup members might be related to their reasoning.

Present Study

This study is a part of a larger project that investigated the bystander judgments and bystander responses to generalized and intergroup bullying and inclusivity judgments (Gönültaş et al., 2021). The purpose of the present study was to examine how ingroup and outgroup ToM can be related to bystanders' judgments and reasoning to intergroup bullying of refugee peers. Examining how children and adolescents evaluate and reason about the intergroup bullying of refugees provides novel information regarding the contexts in which they challenge it and seek to stop it from occurring in the future. Further, it is also important to identify factors involved in children's and adolescents' reasoning to inform intervention programs. However, our knowledge is limited in terms of how social-cognitive factors can be related to adolescents' judgments and reasoning as bystanders when they are evaluating intergroup bullying. To address this, we examined to what extent adolescents' bystander judgments and reasoning might be related to their ingroup and outgroup ToM abilities.

We conducted our research with middle and high school students as previous studies showed some age-related patterns. For example, middle school students were less likely to see bullying as acceptable and were less likely to show active responses compared to high school students (e.g., Mulvey et al., 2019). Further, the SRD approach also contends that children's decisions, judgments, and reasoning about social conflicts increasingly involve intergroup-related factors with age (Killen and Rutland, 2011).

Hypotheses related to differences in ingroup–outgroup ToM and acceptability judgments based on gender and age:

1. Based on earlier studies (McLoughlin and Over, 2017; McLoughlin et al., 2018; Gönültaş et al., 2020), we expected that participants would be more likely to attribute mental states to their ingroup members compared to their outgroup members.
2. Previous studies showed that females and younger adolescents were more likely to evaluate bullying as unacceptable and were more likely to show active bystander responses to bullying (Mulvey et al., 2019). Thus, based on the previous studies we hypothesized that middle school students and female students would be likely to evaluate intergroup bullying and group support as less acceptable compared to high school and male students.

Main Hypotheses related to the relationship between ingroup and outgroup ToM, acceptability judgments, and reasoning:

3. Participants' ingroup and outgroup ToM would positively predict participants' attribution to "fairness," "welfare," "prejudice and discrimination, refugee status" in their acceptability judgments about the intergroup bullying and group support of intergroup bullying. The categories were considered under the moral domain based on the previous studies (e.g., Ruck et al., 2015). We also expected that participants' outgroup ToM would more strongly predict the reasoning related to "fairness," "welfare," "prejudice and discrimination, refugee status" compared to ingroup ToM as outgroup ToM involves the understanding mental states of outgroup members.
4. We expected that the more unacceptable participants judged bullying and group support to be, the more they would reason about the bullying by referencing "fairness," "welfare," "prejudice and discrimination, refugee status." Further, as participants evaluate intergroup bullying and group support as more acceptable, they would be more likely to attribute to "prescriptive norms," "group functioning," and "relationship with the bully."
5. Participants with higher ingroup and outgroup ToM would be more likely to attribute more than one justification in their reasoning than those with lower ToM.

MATERIALS AND METHODS

Participants

Data was collected from 587 Turkish adolescents in high (n = 215, M_{age} = 14.81, SD = 0.97; 142 girls) and middle (n = 372, M_{age} = 12.19, SD = 1.01; 208 girls) school in Istanbul, Turkey. Istanbul hosts more than half a million Syrian refugees (Directorate-General for Migration Management, 2021). We collected data from eight schools in four different districts: two districts with relatively a higher number of Syrian refugees and two districts with a relatively lower number of Syrian refugees. Syrian youth were not recruited as there were measures related to attitudes toward Syrian refugees in Turkey. A power analysis using G*Power showed that a sample size of at least 382 participants would be needed with the desired statistical power at 0.95, and an alpha of 0.05 (Faul et al., 2009) for the logistic regression analyses.

Procedure

Ethical approvals were obtained from two universities (in the United States and in Turkey). Students were recruited by sending invitation letters and consent forms to parents through their schools. All students with parental consent who assented to participate were included in the study. Participants completed the survey in a paper-based format in their schools. All measures were presented in Turkish. We collected the data between

December 9, 2019, and January 10, 2020. Students were given small gifts (pencils, etc.) as compensation for their participation.

Measures

Intergroup Bullying Scenario and Acceptability Judgments

Participants read the following hypothetical scenario in which a Syrian refugee peer is bullied because of his/her refugee status (intergroup bullying). The story was created based on earlier research (Gönültaş and Mulvey, 2019; Mulvey et al., 2019) and was adapted and translated for this study using forward-translation and back-translation methods. Common Turkish and Syrian names were used in the story and the story was gender-matched to participants.

"Your group enjoys telling each other jokes about lots of things, including about different groups of people. Now, imagine that the school day has not yet started, and you are hanging out with your group of friends in the hallway. There are no teachers around yet. Barış (ingroup bully), who is one of the kids in your group of friends, shouts out rude words against Syrian people. Meanwhile, Joram (outgroup victim) appears. Joram is originally from Syria but now lives in Turkey. When Barış realizes Joram is around, he purposely shouts out a rude word at Joram because Joram is from Syria as he did in the previous days."

Acceptability Judgment for the Intergroup Bullying

Participants rated their acceptability judgment for the intergroup bullying with the following question "How okay or not okay is it that Barış acts this way?" on a six-point Likert scale ranging from 1 (*really not okay*) to 6 (*really okay*).

Acceptability Judgment for the Group Support of the Intergroup Bullying

Then participants were presented with the following scenario indicating group support for the bully *"Because your group enjoys telling jokes about lots of things, including about different groups of people, your group finds what Barış did funny and starts to laugh to support him."* Then, they were asked to rate the acceptability of group support with the following questions "How okay or not okay is your group for agreeing that shouting rude words to someone from a different country is funny?" on a six-point Likert scale ranging from 1 (*really not okay*) to 6 (*really okay*). The explanations for the character names in parentheses ("ingroup bully and outgroup victim") were not provided in the actual surveys.

Reasoning for the Acceptability Judgments

After participants completed their acceptability judgments for the intergroup bullying and their group support for intergroup bullying, they were presented with a reasoning question ("Why?") and they provided open-ended responses. Participants' responses were coded based on a coding system developed from the previous literature on individuals' conceptions of moral judgments and SDT theory (Killen et al., 2013). The coding framework based on SDT has been also used in Turkish (Gönül and Acar, 2018) with similar concepts including fairness, harm, etc.

For the analyses, we only used the codes that frequency percentages were more than 10%. To achieve 10%, we merged "Refugee Status/War" and "Prejudice and Discrimination" categories as a single category ("Discrimination, Prejudice, Refugee Status and War") for both outcomes. For the reasoning of the acceptability of intergroup bullying analyses four codes have emerged: (1) Fairness, (2) Discrimination, Prejudice, Refugee Status and War, (3) Harm and (4) Prescriptive Norms (please see **Table 1** for frequencies and examples for each code). For the reasoning of the acceptability of group support to the intergroup bullying four codes have emerged: (1) Discrimination, Prejudice, Refugee Status and War, (2) Harm, (3) Group Functioning and (4) Relationship with the Bully (please see **Table 1** for frequencies and examples for each code). Interrater reliability between coders was assessed based on about 25% of the interviews, with very good reliability, Cohen's $\kappa = 0.89$. Further, we also wanted to examine whether participants' ToM abilities were related to their attribution to multiple categories. Thus, participants were given "Yes/1" for the categories that they referred to and "No/0" for the categories that they did not attribute. When participants referred to multiple categories, they were given "Yes/1" for each code used (up to three codes per response were recorded).

Theory of Mind

Participants' ToM for the targeted outgroup and ingroup was measured using a modification of the Strange Stories measure (White et al., 2009; Devine and Hughes, 2016; Gönültaş et al., 2020). We adapted two mind-reading stories (white lie and persuasion) by referencing Syrian individuals and the other two mind-reading stories (white lie and misunderstanding) by referencing Turkish individuals. All participants were presented with both ingroup and outgroup ToM (within-subject effect). Thus, different stories were used to avoid practice effects. After each story, participants were asked to answer a question that requires understanding the mental state of the characters in the story. Participants' answers were coded by using the following criteria *2 = correct answer with mental state attribution; 1 = correct information without attributing mental states and 0 = false answer*. Interrater reliability (based on 25% of responses) was Cohen's $\kappa = 0.96$. Participants' performance was calculated by summing scores from two stories (ranged between 0 and 4) for both ingroup ToM and outgroup ToM. The Turkish version of this measure has been previously used by earlier studies (Ekerim-Akbulut et al., 2020; Gönültaş et al., 2020).

Data Analysis Plan

First, bivariate correlation analyses were conducted to examine the possible correlation between gender, age, ingroup ToM, outgroup ToM, acceptability judgments to intergroup bullying, and group support. Second, to examine differences between ingroup and outgroup ToM based on gender (female/male) and school (middle/high) a mixed ANOVA was conducted. Then, an ANCOVA was conducted to compare participants' acceptability judgments for intergroup bullying with their judgments of the acceptability for group support by school and gender controlling for ToM. Lastly, to examine the relationship between participants' reasoning for acceptability judgments for intergroup

TABLE 1 | Examples and percentages of reasoning for acceptability judgments.

Judgment	Reasoning (percentages)	Example
Acceptability judgments to intergroup bullying	Fairness (12.1%)	It is not fair to bully anyone for any reason
	Discrimination, Prejudice, Refugee Status and War (50.2%)	We shouldn't treat like this her just because she is a refugee from Syrian/It's racist and discriminatory
	Harm (20.4%)	It will hurt his feelings
	Prescriptive Norms (13.3%)	Because you are not supposed to bully
Acceptability judgments for group support of intergroup bullying	Discrimination, Prejudice, Refugee Status and War (14.3%)	The situation can be worse if the group supports and everyone in the school may hate from Syrian refugees.
	Harm (21.2%)	The girl is already sad. And if they laugh too, she can get more upset.
	Group Functioning (13.5%)	I don't want to ruin the unity of the group over a little joke.
	Relationship with the Bully (13.1%)	I and my friends support Barış because he is our friend. I don't want to lose my friend because of a person that I do not know.

Example responses were translated from Turkish to English.

bullying and group support and their ingroup and outgroup ToM abilities (continuous), separate Logistic Regressions were conducted. Age, gender, and participants' acceptability judgments were also added to the analyses as possible predictors.

RESULTS

Preliminary Analyses

Correlations

Bivariate Pearson correlations showed that there was a statistically significant positive correlation between ingroup and outgroup ToM (r = 0.33, p < 0.001). Further, ingroup ToM was negatively associated to acceptability judgments of intergroup bullying (r = −0.11, p = 0.012) and group support (r = −0.11, p = 0.011) while outgroup ToM was only negatively correlated with acceptability of group support (r = −0.10, p = 0.021) (please see **Table 2** for correlations).

Differences Among Ingroup and Outgroup Theory of Mind

A 2 (ToM: ingroup and outgroup) × 2 (gender: male and female) × school (high school and middle school) repeated measures ANOVA was conducted, with ToM as within-subject and gender and school as between-subject factors to test H1. Results documented a main effect of ToM indicating that participants' ingroup ToM was higher compared to their outgroup ToM [F(1,534) = 7.36, p = 0.007, η_p^2 = 0.014]. Further, a significant two-way interaction between ToM and school was observed [F(1,534) = 9.13, p = 0.003, η_p^2 = 0.017]. Pairwise comparison (with Bonferroni corrections) showed that middle school students were more likely to attribute mental states to their ingroup members compared to outgroup members [F(1,534) = 23.99, p < 0.001, η_p^2 = 0.043]. However, high school students' ToM performance did not differ between ingroup and outgroup members [F(1,534) = 0.04, p = 0.449, η_p^2 = 0.000]. Further, high school students' outgroup ToM was higher compared to middle school students' outgroup ToM [F(1,534) = 8.12, p = 0.005, η_p^2 = 0.015] while ingroup ToM did not differ between middle and high school students [F(1,534) = 0.30, p = 0.587, η_p^2 = 0.001] (see **Figure 1**). Lastly, results showed a significant interaction between ToM and gender [F(1,534) = 8.78, p = 0.003, η_p^2 = 0.016]. Accordingly, male participants were more likely to attribute mental states to their ingroup members compared to outgroup members [F(1,534) = 18.43, p = 0.001, η_p^2 = 0.033], however, females' ingroup and outgroup ToM did not differ [F(1,534) = 1.19, p = 0.276, η_p^2 = 0.002] (see **Figure 2**).

TABLE 2 | Correlations among study variables.

	1	2	3	4	5
Gender (0 = female, 1 = male)	–				
Age (0 = middle, 1 = high)	−0.10*	–			
Ingroup ToM	−0.04	−0.02	–		
Outgroup ToM	−0.21***	0.16***	0.33***	–	
Acceptability of intergroup bullying	0.08*	0.06	−0.11*	−0.07	–
Acceptability of group support of intergroup bullying	0.08*	0.04	−0.11*	−0.10*	0.62***

*p < 0.05, ***p < 0.001.

Acceptability Judgments for Intergroup Bullying and Group Support

A 2 (acceptability of intergroup bullying and acceptability of group support to intergroup bullying) × 2 (gender: male and female) × school (high school and middle school) repeated measures ANCOVA was conducted, with acceptability judgments as within-subject and gender and school as between-subject factors (to test H2). Ingroup and outgroup ToM were included as covariates in the analysis as they were significantly correlated with the acceptability judgments. Results did not document a main effect of acceptability judgments indicating that participant did not differ in their judgments between acceptability of intergroup bullying (M = 1.64, SD = 0.05) and group support of bullying (M = 1.63, SD = 0.05), F (1, 527) = 0.73, p = 0.787, η_p^2 = 0.000.

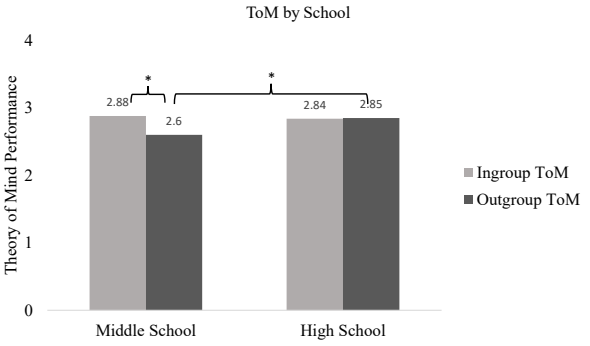

FIGURE 1 | Participants' ingroup and outgroup ToM by school. *$p < 0.05$.

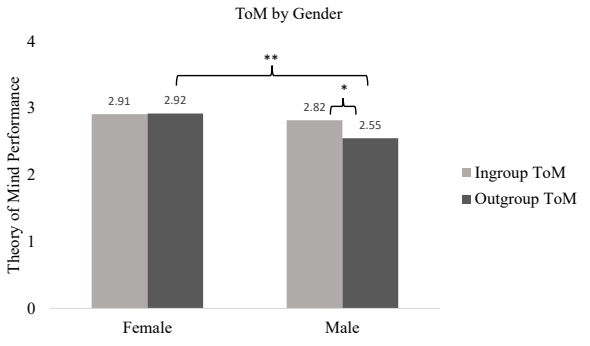

FIGURE 2 | Participants' ingroup and outgroup ToM by gender. *$p < 0.05$, **$p < 0.01$.

Only the main effect of gender was significant [$F(1,527) = 4.76$, $p = 0.030$, $\eta_p^2 = 0.009$]. Overall (across intergroup bullying and group support), females' acceptability judgments ($M = 1.53$, $SD = 0.06$) were lower compared to males ($M = 1.74$, $SD = 0.07$). None of two way or three-way interactions were significant. In general, participants judged bullying and group support for bullying as unacceptable (all the means below midpoint 3).

Main Analyses

Initial frequencies demonstrated that different categories have emerged for the acceptability of intergroup bullying. Thus, for the reasoning about the acceptability of intergroup bullying analyses, we conducted four logistic regression analyses by using the following categories as our outcome variables: (1) Fairness, (2) Discrimination, Prejudice, Refugee Status and War, (3) Harm, and (4) Prescriptive Norms. For the reasoning about the acceptability of group support of intergroup bullying analyses, we conducted four logistic regression analyses by using the following categories as our outcome variables: (1) Discrimination, Prejudice, Refugee Status and War, (2) Harm, (3) Group Functioning, and (4) Relationship with the Bully. Lastly, we conducted two additional logistic regression analyses to see whether participants' ToM abilities (ingroup and outgroup) were related to their reference to multiple categories in their reasoning for their acceptability judgments for intergroup bullying and group support to intergroup bullying. Overall, five separate regressions were conducted for each outcome variable.

Reasoning Analyses for Acceptability Judgments for Intergroup Bullying

With regard to fairness reasoning, the overall model indicates a significant fit [$\chi^2(4, N = 463) = 35.68$, Nagelkerke $R^2 = 0.10$, $p < 0.001$] and the variables included made significant contributions to the model (H3 and H4). Results showed that the more unacceptable participants judged bullying to be, the greater the odds that they reasoned about the bullying by referencing fairness [$\beta = -0.29$, $\chi^2(1) = 8.53$, $p = 0.003$, *Exp(B)* = 0.768, 95% CI [0.61, 0.91]]. Similarly, participants' ingroup ToM [$\beta = 0.34$, $\chi^2(1) = 6.73$, $p = 0.009$, *Exp(B)* = 1.41, 95% CI [1.08, 1.83]] and outgroup ToM abilities [$\beta = 0.32$, $\chi^2(1) = 7.32$, $p = 0.007$, *Exp(B)* = 1.37, 95% CI [1.09, 1.72]] were positively related to participants' fairness justifications. School and gender were not significant predictors of participants' fairness justifications (see **Table 3**).

For discrimination, prejudice and refugee status/war, the null model significantly improved with all the predictors in the model (age, gender, acceptability judgments, ToM), $\chi^2(4, N = 463) = 50.66$, Nagelkerke $R^2 = 0.14$, $p < 0.001$ (H3 and H4). Accordingly, the effect of gender was significant, documenting that female participants were more likely to refer to refugee status/war than were male participants [$\beta = -0.47$, $\chi^2(1) = 5.28$, $p = 0.022$, *Exp(B)* = 0.62, 95% CI [0.42, 0.95]]. Results also documented that the more participants evaluated intergroup bullying as acceptable, the less likely they were to refer to refugee status/war [$\beta = -0.45$, $\chi^2(1) = 14.47$, $p < 0.001$, *Exp(B)* = 0.64, 95% CI [0.50, 0.80]]. Further, participants' higher outgroup ToM score was a significant positive predictor of participants' attribution to refugee status/war reasoning justification for their evaluation of intergroup bullying [$\beta = 0.35$, $\chi^2(1) = 8.30$, $p = 0.004$, *Exp(B)* = 1.42, 95% CI [1.12, 1.81]]. Neither school nor ingroup ToM were significant correlates of participants' reference to refugee status/war (see **Table 3**).

The overall model for harm reasoning was also significant [$\chi^2(4, N = 463) = 14.34$, Nagelkerke $R^2 = 0.05$, $p = 0.014$]. Neither gender, school nor ToM were found as significant predictors (H3 and H4). The only significant predictor was acceptability judgments indicating that the more unacceptable participants judged bullying to be, the greater the odds that they reasoned about the bullying by referencing harm [$\beta = -0.34$, $\chi^2(1) = 11.10$, $p = 0.001$, *Exp(B)* = 0.711, 95% CI [0.58, 0.86]] (see **Table 3**).

The overall model for prescriptive norm reasoning was also significant [$\chi^2(4, N = 463) = 13.93$, Nagelkerke $R^2 = 0.05$, $p = 0.016$] (H3 and H4). The only significant predictor was acceptability judgments. More specifically, increasing acceptability was associated with a decreased likelihood of attributing prescriptive norms [$\beta = -0.60$, $\chi^2(1) = 6.23$, $p = 0.013$, *Exp(B)* = 0.549, 95% CI [0.34, 0.87]]. Neither gender, school outgroup ToM nor ingroup ToM were found as significant predictors (see **Table 4**).

Lastly, our logistic regression to understand predictors of participants' likelihood of using multiple types of reasoning

for the acceptability judgments of intergroup bullying showed that both outgroup ToM [β = 0.25, $\chi^2(1) = 4.61$, $p = 0.032$, *Exp(B)* = 1.29, 95% CI [1.02, 1.62]] and ingroup ToM [β = 0.30, $\chi^2(1) = 4.680$, $p = 0.029$, *Exp(B)* = 1.35, 95% CI [1.03, 1.76]] positively predict the usage of multiple categories in participants' reasoning (H5). Neither gender, age, acceptability judgment nor ingroup ToM were found as significant predictors (see **Table 4**).

Reasoning Analyses for Group Support of Intergroup Bullying

The logistic regression model for prejudice, discrimination and refugee status/war reasoning justification was not statistically significant [$\chi^2(5, N = 463) = 10.75$, Nagelkerke $R^2 = 0.04$, $p = 0.057$]. None of the predictors were significant (see **Table 5**) (H3 and H4).

With regard to harm reasoning about the acceptability of group support for intergroup bullying, the overall model was significant [$\chi^2(5, N = 463) = 11.25$, Nagelkerke $R^2 = 0.04$, $p = 0.047$] (H3, H5 and H6). According to the last step in the model, male participants [β = 0.46, $\chi^2(1) = 3.84$, $p = 0.049$, *Exp(B)* = 1.58, 95% CI [1.00, 2.51]] and participants who evaluated group support of intergroup bullying as more acceptable [β = −0.32, $\chi^2(1) = 4.99$, $p = 0.025$, *Exp(B)* = 0.729, 95% CI [0.55, 0.96]] were less likely to attribute harm. Ingroup and outgroup ToM abilities were not significant predictors of participants' harm reasoning to acceptability judgments for group support to intergroup bullying (see **Table 5**).

The overall model for group functioning was not significant [$\chi^2(5, N = 463) = 4.36$, Nagelkerke $R^2 = 0.02$, $p = 0.498$] (H3 and H4). None of the predictors were significant (see **Table 5**).

Similarly, model yields non-significant results for the reasoning about the relationship with the bully [$\chi^2(5, N = 463) = 5.32$, Nagelkerke $R^2 = 0.02$, $p = 0.378$] (see **Table 6**) (H3 and H4).

Lastly, our logistic regression to understand predictors of participants' likelihood of using multiple categories (yes/no) for the acceptability judgments for group support to intergroup bullying showed that the overall model fit was not significant [$\chi^2(5, N = 463) = 10.83$, Nagelkerke $R^2 = 0.04$, $p = 0.055$] (H5). However, the results documented that high school students were more likely to refer to more than one domain compared to middle school students [β = 0.18, $\chi^2(1) = 6.53$, $p = 0.011$, *Exp(B)* = 1.19, 95% CI [1.04, 1.38]]. None of the other predictors were significant (see **Table 6**).

DISCUSSION

The extant body of research demonstrates the possible role of ToM in bystander judgments and reasoning; however, this relationship has not been explored by evaluating both ToM and bystander responses in intergroup contexts in concert. The current study examined how participants' ingroup and outgroup ToM relate to their different types of reasoning when evaluating intergroup bullying and group support to intergroup bullying. The novel findings of our study demonstrated that ingroup and

TABLE 3 | Binary logistic regression analyses for reasoning of acceptability judgments to intergroup bullying.

	Fairness					Discrimination, Prejudice, Refugee Status and War					Harm				
	B	*SE*	*Wald*	*p*	*Exp(B)*	*B*	*SE*	*Wald*	*p*	*Exp(B)*	*B*	*SE*	*Wald*	*p*	*Exp(B)*
School	−0.06	0.06	0.96	0.327	0.94	−0.09	0.06	2.07	0.150	0.91	0.00	0.06	0.00	0.980	1.00
Gender	−0.10	0.20	0.25	0.616	0.90	−0.47	0.21	5.28	0.022	0.62	0.20	0.20	1.02	0.313	1.22
Acceptability	−0.29	0.10	8.53	0.003	0.75	−0.45	0.12	14.47	0.000	0.64	−0.34	0.10	11.09	0.001	0.71
Outgroup ToM	0.32	0.12	7.32	0.007	1.37	0.35	0.12	8.30	0.004	1.42	0.00	0.11	0.00	0.983	1.00
Ingroup ToM	0.35	0.13	6.74	0.009	1.41	0.25	0.14	3.51	0.061	1.29	0.02	0.12	0.04	0.846	1.02
Chi square			35.68					50.66					14.34		
Model sig.			<0.001					<0.001					0.014		
Nagelkerke R^2			0.10					0.14					0.04		

TABLE 4 | Binary logistic regression analyses for reasoning of acceptability judgments to intergroup bullying.

	Prescriptive Norms					Multiple Reasoning Attribution				
	B	*SE*	*Wald*	*p*	*Exp(B)*	*B*	*SE*	*Wald*	*p*	*Exp(B)*
School	0.07	0.08	0.75	0.388	1.08	−0.01	0.07	0.05	0.824	0.99
Gender	−0.29	0.29	1.00	0.318	0.75	−0.19	0.21	0.78	0.377	0.83
Group support	−0.60	0.24	6.23	0.013	0.55	−0.07	0.11	0.36	0.547	0.94
Outgroup ToM	−0.17	0.15	1.16	0.281	0.85	0.25	0.12	4.61	0.032	1.29
Ingroup ToM	0.22	0.18	1.44	0.230	1.24	0.30	0.14	4.78	0.029	1.35
Chi square			13.93					16.32		
Model sig.			0.016					0.006		
Nagelkerke R^2			0.05					0.05		

outgroup ToM were related to participants' reasoning about their evaluation of intergroup bullying but not associated with their reasoning about group support to intergroup bullying. Further, only outgroup ToM predicted participants' references to intergroup-related themes (e.g., discrimination, prejudice, refugee status/war).

In line with previous studies (Gönültaş et al., 2020), our study also showed that middle school students were more likely to attribute mental states to their ingroup members (Turkish story characters) compared to outgroup members (Syrian refugee story characters). However, high school students' ingroup ToM and outgroup ToM performance did not differ from each other (H1 was partially supported). Earlier research examined this phenomenon in early childhood (McLoughlin and Over, 2017; McLoughlin et al., 2018), middle childhood (Gönültaş et al., 2020), and young adulthood (Perez-Zapata et al., 2016; Ekerim-Akbulut et al., 2020). It is likely that adolescents may have more opportunities for contact with Syrian refugees in their school environments compared to children and adults which may lead to an increase in perceived similarity. Further, it might be also that high school students have more knowledge about different social groups in the society compared to middle school students (Levy and Killen, 2010), leading to improved abilities to infer mental states about outgroup peers. Further, Gönültaş et al. (2020) found that perceived threat perception toward Syrian refugees was negatively related to middle school students' outgroup ToM performance. It is likely that middle school students have a relatively higher threat perception toward Syrian refugees compared to high school students leading them to differentiate in their ToM performance across ingroup and outgroup members. The possible factors that might be related to the non-significant differences between ingroup and outgroup ToM in older adolescents should be examined further by using different ToM tasks as well.

Contrary to our hypothesis, we did not find any school (middle/high) or gender-related differences in participants' acceptability judgments to intergroup bullying and group support (H2 was not supported). Thus far, similar age and gender-related patterns in bystanders' judgments and responses were observed in generalized bullying that does not involve any intergroup-related processes (Mulvey et al., 2019; Gönültaş et al., 2019). However, there are mixed results about bystander responses in intergroup context documenting either no difference or reverse patterns (e.g., Yüksel et al., 2021). Thus, there is a need for further understanding of how different factors might be related to different age and gender patterns in bystander responses to different types of bullying.

Our novel findings suggested that ingroup ToM (ToM in a generalized context) positively predicted participants' attribution to fairness in judging the acceptability of intergroup bullying. This is in line with previous studies documenting the relationship between generalized ToM and moral judgments in intergroup context (e.g., Burkholder et al., 2019; Gönültaş and Mulvey, 2021a). Considering earlier studies on the role of ToM for social relationships, it is plausible to conclude that this relation is mostly studied in a generalized context and less attention is paid to outgroup ToM. To our knowledge, for the first time, we have examined outgroup ToM and

TABLE 5 | Binary logistic regression analyses for reasoning of group support to intergroup bullying.

	Discrimination, Prejudice, Refugee Status and War					Harm					Group Functioning				
	B	*SE*	*Wald*	*p*	*Exp(B)*	*B*	*SE*	*Wald*	*p*	*Exp(B)*	*B*	*SE*	*Wald*	*p*	*Exp(B)*
School	0.03	0.08	0.13	0.717	1.03	0.04	0.07	0.38	0.539	1.05	−0.09	0.09	1.00	0.317	0.92
Gender	−0.52	0.30	3.00	0.083	0.59	0.46	0.23	3.85	0.050	1.58	−0.35	0.29	1.43	0.231	0.71
Group support	−0.23	0.17	1.86	0.173	0.80	−0.32	0.14	4.99	0.025	0.73	0.16	0.12	1.77	0.183	1.17
Outgroup ToM	0.30	0.17	2.94	0.086	1.35	0.09	0.13	0.43	0.510	1.09	−0.11	0.15	0.56	0.456	0.89
Ingroup ToM	−0.06	0.18	0.10	0.749	0.94	0.16	0.15	1.10	0.294	1.17	0.05	0.17	0.08	0.780	1.05
Chi square			10.75					11.25					4.37		
Model sig.			0.057					0.047					0.498		
Nagelkerke R^2			0.04					0.04					0.02		

TABLE 6 | Binary logistic regression analyses for reasoning of group support to intergroup bullying.

	Relationship with the Bully					Multiple Reasoning Attribution				
	B	*SE*	*Wald*	*p*	*Exp(B)*	*B*	*SE*	*Wald*	*p*	*Exp(B)*
School	−0.11	0.09	1.53	0.216	0.90	0.18	0.07	6.53	0.011	1.20
Gender	0.29	0.28	1.11	0.293	1.34	−0.11	0.22	0.28	0.599	0.89
Acceptability	−0.23	0.16	2.01	0.156	0.80	−0.14	0.13	1.12	0.291	0.87
Outgroup ToM	−0.01	0.15	0.00	0.960	0.99	0.07	0.12	0.39	0.533	1.08
Ingroup ToM	0.03	0.17	0.03	0.862	1.03	0.21	0.14	2.29	0.130	1.23
Chi square			5.32					10.83		
Model sig.			0.378					0.055		
Nagelkerke R^2			0.02					0.04		

its relationship with the participants' reasoning in addition to ingroup ToM. Our findings showed that only outgroup ToM predicted participants' attribution about intergroup-related factors including discrimination, prejudice, and refugee status/war. This suggests that participants who were better at understanding their refugee peers were more likely to understand the underlying reasons of the intergroup bullying and were more likely to consider these reasons while evaluating the bullying act (H3 was partially supported). Investigating outgroup ToM while examining judgments and reasoning in intergroup social conflicts is important as mental state understanding does not take place automatically and one might need motivation to engage in cognitive resources to understand the mental states of individuals (Carpenter et al., 2016). In other words, contextual factors, including the characteristics of individuals (e.g., being an ingroup or outgroup member) can act as a trigger with which individuals would be willing to use their cognitive resources to understand how others think. However, most of the ToM tasks do not account for the characteristics of the target. Thus, considering the context in designing ToM tasks is especially important when investigating the relation between ToM and intergroup relations.

Furthermore, this study underlines the point that both ingroup and outgroup advanced ToM contribute to participants' attribution to multiple considerations in their reasoning about the acceptability of intergroup bullying (H5 was supported). Extensive research evidence drawing from the SRD approach demonstrates that socio-cognitive abilities (e.g., ToM) and group processes (e.g., group membership, loyalty to the group, etc.) simultaneously influence the reasoning about social conflicts in intergroup context (Rutland and Killen, 2015). In intergroup contexts, individuals may be drawn to consider group distinctions as they make evaluations, drawing on our cognitive tendency to promote our ingroup and to identify with others who share our racial/ethnic and national ingroup identity (Sani and Bennett, 2004; Davoodi et al., 2020; Feeney et al., 2020). Such complex social situations might lead children and adolescents to weigh multiple considerations in their reasoning, attending to both their identity as well as their moral principles, for instance. Our results provide novel insight by documenting that the more ToM (both ingroup and outgroup) the more likelihood of participants' referencing more than one category in their reasoning judgments This indicates the possible relationship between ToM and sophisticated reasoning.

Consistent with our prediction, participants' acceptability judgments were related to their reasoning. More specifically, the lower the participants' acceptability judgments, the more likely it was that they reasoned about the bullying by referencing fairness, refugee status, discrimination, and harm. For example, participants who evaluated intergroup bullying as less acceptable were more likely to justify these evaluations by giving explanations like "We shouldn't treat her like this just because she is a refugee from Syrian; It's racist and discriminatory; It is not fair to bully anyone for any reason." However, participants' acceptability judgments were not found to be related to their attribution to social-conventional domain reasoning (prescriptive norms, group functioning) (H4 was partially supported).

Our hypothesis regarding the association between ToM and reasoning about the acceptability of group support to intergroup bullying was not supported. Neither ingroup nor outgroup ToM was significantly related to participants' reasoning about group support of intergroup bullying of refugee peers. This might be related to the nature of ToM task that we used. More specifically, although we contextualized Strange Stories in terms of our targeted ingroup and outgroup, the stories require participants to attribute mental states to individual characters (either Turkish or Syrian individuals). However, the ToM stories did not involve any group-related process. It is likely that understanding group perspective and group dynamics can be different from the understanding of single-person perspective. Although to our knowledge no ToM task has been developed to evaluate the ability to understand group perspective, previously The Developmental Subjective Group Dynamics (DSGD) model has addressed the importance of recognizing possible differences in groups' perceptions of the same person (Abrams et al., 2003, 2008). This model has proposed the concept of "theory of social mind (ToSM)" that is particularly related to the ability to differentiate between someone's own evaluations from peers' reaction to deviant members of the group. A further interesting avenue for future research could be adapting or developing such measures to understand group perspectives to social conflicts in intergroup contexts. This can help us to understand better how social-cognitive factors might play a role in making judgments about group behavior and awareness of different perspectives in group settings. With regard to the association between participants' acceptability judgments of group support and reasoning, our results documented that the more participants evaluated group support of intergroup bullying as unacceptable, the more they reasoned about harm. For example, they were more likely to use justifications like "The girl (*Syrian peer*) is already sad. And if they (*group members*) laugh too, she can get more upset."

Limitations and Future Directions

Our results should be considered in light of some limitations. First, this study exclusively investigated how adolescents evaluated and reasoned about acts of intergroup bullying of refugee peers and group support of bullying of refugee peers through hypothetical scenarios. Further, we only measured participants' evaluations and reasoning about one type of bullying (shouting rude words). However, different types of bullying (physical, social exclusion, name-calling) might elicit different evaluations and reasoning. We also did not measure participants' own experiences as bystanders, bullies, and victims in the context of intergroup bullying. Thus, future research can test whether the current findings can be observed in actual behavior and whether their own experiences in different roles can be related to their evaluations and reasoning. For instance, it may be that observational data collection can clarify exactly what types of contact Turkish and Syrian peers have and whether that intergroup contact is high quality and positive or not. Second, although text-based assessments (e.g., the Strange Stories) provide evidence for ecological validity, it is still likely

that real social interactions involve more complex situations that require understanding the perspective of the characters in context. For example, we used the school context to ensure it would make sense to the participants in terms of a common intergroup bullying context, but our ToM measure did not involve such social conflicts scenarios in the school context. Recently, online ToM (e.g., VAMA) tasks have been created to measure advanced mental state understanding that can be applied to different social settings to provide a more naturalistic environment which in turn leads to an increase in ecological validity (Canty et al., 2017; Grainger et al., 2020). Such tasks would be useful to measure ToM abilities in intergroup contexts that involve social conflicts. Further, as discussed earlier, such tasks can be also helpful to measure children's and adolescents' simultaneous recognition of possible differences between group perspective and single-person perspective. Further, multi-item larger batteries that capture different domains of ToM can be helpful to understand the relationship between adolescents' mental state understanding and their reasoning about different types of bullying and social conflicts (Wellman, 2018). Third, extant literature provides evidence for several other factors that can be related to both ToM and bystanders' reasoning including executive functions (Doenyas et al., 2018; Jenkins et al., 2018; Hoyo et al., 2019; Baker et al., 2021) and empathy (Barchia and Bussey, 2011; Gönültaş et al., 2019). For example, studies showed that executive functions might help individuals to show advanced social reasoning skills, such as those necessary for complex interactions involving moral issues (Doenyas et al., 2018; Baker et al., 2021). Thus, future studies should consider examining other possible factors that might help to understand possible mechanisms between ToM and bystanders' judgments and reasoning. Fourth, we used different stories to measure ingroup and outgroup ToM considering within-subject design. However, we did not counterbalance the stories across outgroup and ingroup ToM. Although previous studies did not show mean differences in participants' performance across stories in generalized contexts (Gönültaş et al., 2020), it would be more comparative and informative to counterbalance stories while using them in the context of intergroup. Fifth, the extant literature provides evidence for several other intergroup factors (e.g., prejudice, discrimination, threat perception) that may be related to both bystander judgments and responses (e.g., Gönültaş and Mulvey, 2021a) and Theory of Mind (Gönültaş et al., 2020). However, in the current study, we have only focused on the possible role of group membership (refugee/non-refugee). Future studies should examine how intergroup attitudes, threat perception, social identity, perceived similarity with the targeted outgroup might be related to their reasoning both directly and indirectly (through ToM). Lastly, peer group norms about bullying and Syrian refugee peers can be also related to participants' reasoning about intergroup bullying (Jones et al., 2012; Gönültaş and Mulvey, 2021a). For example, if adolescents are more likely to be surrounded by peers who do not support bullying and do not have negative attitudes toward Syrian refugees, they might be more likely to evaluate bullying as unacceptable and more likely to detect the discriminatory and prejudicial nature of the intergroup bullying.

CONCLUSION

Overall, the findings extend earlier research by examining both ingroup and outgroup ToM in relation to participants' reasoning to acceptability judgments of intergroup bullying and group support. Understanding the perspective of others who are involved in bullying can be an effective tool to recognize the complex nature of bullying and the underlying reasons behind it especially when it is rooted in prejudice and discrimination. Thus, understanding the perspective of children and adolescents who observe bullying and how they reason about bullying in an intergroup context is an important first step in identifying the mechanism to promote prosocial bystander reactions. Thus, the findings of the current study provide implications for understanding how ingroup and outgroup ToM skills might be related to reasoning about intergroup bullying. This is especially important for intervention programs that tackle intergroup bullying by promoting bystanders' social cognitive skills.

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/**Supplementary Material**, further inquiries can be directed to the corresponding author. The data can be shared by the corresponding author, upon reasonable request.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by North Carolina State University. Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin.

AUTHOR CONTRIBUTIONS

SG made substantial contributions to the design of the project, acquisition of data, analysis, and interpretation of data, and drafting of the manuscript. KM made substantial contributions to the design of the project, analysis, and interpretation of data and revising the manuscript critically for important intellectual content. Both authors contributed to the article and approved the submitted version.

SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyg.2022.815639/full#supplementary-material

REFERENCES

Abrams, D., Rutland, A., and Cameron, L. (2003). The development of subjective group dynamics: children's judgments of normative and deviant in-group and outgroup individuals. *Child Dev.* 74, 1840–1856. doi: 10.1046/j.1467-8624.2003.00641.x

Abrams, D., Rutland, A., Ferrell, J. M., and Pelletier, J. (2008). Children's judgments of disloyal and immoral peer behavior: subjective group dynamics in minimal intergroup contexts. *Child Dev.* 79, 444–461. doi: 10.1111/j.1467-8624.2007.01135.x

Baker, E. R., D'Esterre, A. P., and Weaver, J. P. (2021). Executive function and theory of mind in explaining young children's moral reasoning: a test of the hierarchical competing systems model. *Cogn. Dev.* 58:101035. doi: 10.1016/j.cogdev.2021.101035

Barchia, K., and Bussey, K. (2011). Predictors of student defenders of peer aggression victims: empathy and social cognitive factors. *Int. J. Behav. Dev.* 35, 289–297. doi: 10.1177/0165025410396746

Burkholder, A. R., D'Esterre, A. P., and Killen, M. (2019). "Intergroup relationships, context, and prejudice in childhood," in *Handbook of Children and Prejudice*, eds H. E. Fitzgerald, D. J. Johnson, D. B. Quin, F. A. Villarruel, and J. Norder (Berlin: Springer), 115–130. doi: 10.1007/978-3-030-12228-7_6

Canty, A. L., Neumann, D. L., Fleming, J., and Shum, D. H. K. (2017). Evaluation of a newly developed measure of theory of mind: the virtual assessment of mentalizing ability. *Neuropsychol. Rehabil.* 27, 834–870. doi: 10.1080/09602011.2015.1052820

Caravita, S. C., Di Blasio, P., and Salmivalli, C. (2010). Early adolescents' participation in bullying: Is ToM involved? *J. Early Adolesc.* 30, 138–170. doi: 10.1177/0272431609342983

Carpenter, J. M., Green, M. C., and Vacharkulksemsuk, T. (2016). Beyond perspective-taking: mind-reading motivation. *Motiv. Emot.* 40, 358–374. doi: 10.1007/s11031-016-9544-z

Çeri, V., Ak, F., Fındık, O. T. P., Arman, A., Fiş, N. P., Beser, C., et al. (2021). Syrian refugee children face more peer victimization in schools what leads to poor mental health: a brief report. *Eur. Child Adolesc. Psychiatry* 30, 1475–1477. doi: 10.1007/s00787-021-01787-6

Davoodi, T., Soley, G., Harris, P. L., and Blake, P. R. (2020). Essentialization of social categories across development in two cultures. *Child Dev.* 91, 289–306. doi: 10.1111/cdev.13209

Demir, S. B., and Özgül, V. (2019). Syrian refugees minors in Turkey. Why and how are they discriminated against and ostracized? *Child Indic. Res.* 12, 1989–2011. doi: 10.1007/s12187-019-9622-3

D'Esterre, A. P., Rizzo, M. T., and Killen, M. (2019). Unintentional and intentional falsehoods: the role of morally relevant theory of mind. *J. Exp. Child Psychol.* 177, 53–69. doi: 10.1016/j.jecp.2018.07.013

Devine, R. T., and Hughes, C. (2016). Measuring theory of mind across middle childhood: reliability and validity of the Silent Films and Strange Stories tasks. *J. Exp. Child Psychol.* 143, 23–40. doi: 10.1016/j.jecp.2015.07.011

Directorate-General for Migration Management (2021). Available online at: https://asylumineurope.org/reports/country/turkey/statistics/ (accessed October 18, 2021).

Doenyas, C., Yavuz, H. M., and Selcuk, B. (2018). Not just a sum of its parts: How tasks of the theory of mind scale relate to executive function across time. *J. Exp. Child Psychol.* 166, 485–501. doi: 10.1016/j.jecp.2017.09.014

Dumontheil, I., Apperly, I. A., and Blakemore, S. J. (2010). Online usage of theory of mind continues to develop in late adolescence. *Dev. Sci.* 13, 331–338. doi: 10.1111/j.1467-7687.2009.00888.x

Ekerim-Akbulut, M., Selçuk, B., Slaughter, V., Hunter, J. A., and Ruffman, T. (2020). In Two Minds: similarity, threat, and prejudice contribute to worse mindreading of outgroups compared with an ingroup. *J. Cross Cult. Psychol.* 51, 25–48. doi: 10.1177/0022022119883699

Faul, F., Erdfelder, E., Buchner, A., and Lang, A. G. (2009). Statistical power analyses using G* Power 3.1: tests for correlation and regression analyses. *Behav. Res. Methods* 41, 1149–1160. doi: 10.3758/BRM.41.4.1149

Feeney, A., Dautel, J., Phillips, K., Leffers, J., and Coley, J. D. (2020). The development of essentialist, ethnic, and civic intuitions about national categories. *Adv. Child Dev. Behav.* 59, 95–131. doi: 10.1016/bs.acdb.2020.05.004

Gini, G. (2006). Social cognition and moral cognition in bullying: What's wrong? *Aggress. Behav.* 32, 528–539. doi: 10.1002/ab.20153

Gönül, B., and Acar, B. Ş. (2018). Çocukların toplumsal cinsiyet bağlaminda sosyal dâhil etme yargilari (children's social inclusion judgments in the context of gender). *Turk. J. Psychol.* 33, 67–80. doi: 10.31828/tpd.13004433.2018.82.02.05

Gönültaş, S., and Mulvey, K. L. (2019). Social-developmental perspective on intergroup attitudes towards immigrants and refugees in childhood and adolescence: a roadmap from theory to practice for an inclusive society. *Hum. Dev.* 63, 90–111. doi: 10.1159/000503173

Gönültaş, S., and Mulvey, K. L. (2021a). The role of immigration background intergroup processes, and social-cognitive skills in bystanders' responses to bias-based bullying towards immigrants during adolescence. *Child Dev.* 92, e296–e316. doi: 10.1111/cdev.13476

Gönültaş, S., and Mulvey, K. L. (2021b). Bystander responses to bias-based bullying and retaliation: Is retaliation perceived as more acceptable than bias-based bullying? *Br. J. Dev. Psychol.* 39, 442–461. doi: 10.1111/bjdp.12371

Gönültaş, S., Mulvey, K. L., Irdam, G., Irvin, M. J., Carlson, R. G., and DiStefano, C. (2019). The role of social-emotional factors in bystanders' judgments and responses to initial peer aggression and retaliation in adolescence. *J. Emot. Behav. Disord.* 28:106342661987049. doi: 10.1177/1063426619870492

Gönültaş, S., Selçuk, B., Slaughter, V., Hunter, J. A., and Ruffman, T. (2020). The capricious nature of theory of mind: Does mental state understanding depend on the characteristics of the target? *Child Dev.* 91, e280–e298. doi: 10.1111/cdev.13223

Gönültaş, S., Yavuz, H. M., and Mulvey, K. L. (2021). Should I invite them? Bystanders' inclusivity judgements towards outgroup victims and ingroup bullies in intergroup bullying. *J. Commun. Appl. Soc. Psychol.* doi: 10.1002/casp.2567

Grainger, S. A., Rakunathan, V., Adams, A. G., Canty, A. L., and Henry, J. D. (2020). An assessment of age differences in theory of mind using the virtual assessment of mentalizing ability. *Aging Neuropsychol. Cogn.* 28, 97–107. doi: 10.1080/13825585.2020.1713290

Hitti, A., Mulvey, Rutland, A., Abrams, D., and Killen, M. (2014). When is it okay to exclude a member of the ingroup?: Children's and adolescents' social reasoning. *Soc. Dev.* 23, 451–459. doi: 10.1111/sode.12047

Hoyo, Á., Rueda, M. R., and Rodríguez-Bailón, R. (2019). children's individual differences in executive function and theory of mind in relation to prejudice toward social minorities. *Front. Psychol.* 10:2293. doi: 10.3389/fpsyg.2019.02293

Içduygu, A., and Nimer, M. (2020). The politics of return: exploring the future of Syrian refugees in Jordan. Lebanon and Turkey. *Third World Q.* 41, 415–433. doi: 10.1080/01436597.2019.1675503

Imuta, K., Henry, J. D., Slaughter, V., Selcuk, B., and Ruffman, T. (2016). Theory of mind and prosocial behavior in childhood: a meta-analytic review. *Dev. Psychol.* 52, 1192–1205. doi: 10.1037/dev0000140

Jenkins, L. N., Tennant, J. E., and Demaray, M. K. (2018). Executive functioning and bullying participant roles: differences for boys and girls. *J. Sch. Violence* 17, 521–537. doi: 10.1080/15388220.2018.1453822

Jones, S. E., Bombieri, L., Livingstone, A. G., and Manstead, A. S. R. (2012). The influence of norms and social identities on children's responses to bullying. *Br. J. Educ. Psychol.* 82, 241–256. doi: 10.1111/j.2044-8279.2011.02023.x

Karaman, M. A. (2021). Comparison of levels of bullying, achievement motivation, and resilience among Syrian refugee students and Turkish students. *J. Psychol. Couns. Sch.* 1–16. doi: 10.1017/jgc.2021.22

Killen, M., Mulvey, K. L., Richardson, C., Jampol, N., and Woodward, A. (2011). The accidental transgressor: morally-relevant theory of mind. *Cognition* 119, 197–215. doi: 10.1016/j.cognition.2011.01.006

Killen, M., and Rutland, A. (2011). *Children and Social Exclusion: Morality, Prejudice and Group Identity*. Hoboken, NJ: Wiley-Blackwell.

Killen, M., Rutland, A., Abrams, D., Mulvey, K. L., and Hitti, A. (2013). Development of intra- and intergroup judgments in the context of moral and social-conventional norms. *Child Dev.* 84, 1063–1080. doi: 10.1111/cdev.12011

Levy, S. R., and Killen, M. eds (2010). *Intergroup Attitudes and Relations in Childhood Through Adulthood*. Oxford: Oxford University Press.

Mazzone, A., Thornberg, R., Stefanelli, S., Cadei, L., and Caravita, S. C. (2018). Judging by the cover: a grounded theory study of bullying towards same-country and immigrant peers. *Child. Youth Serv. Rev.* 91, 403–412. doi: 10.1016/j.childyouth.2018.06.029

McLoughlin, N., and Over, H. (2017). Young children are more likely to spontaneously attribute mental states to members of their own group. *Psychol. Sci.* 10, 1503–1509. doi: 10.1177/0956797617710724

McLoughlin, N., Tipper, S. P., and Over, H. (2018). Young children perceive less humanness in outgroup faces. *Dev. Sci.* 21:e12539. doi: 10.1111/desc.12539

Metallidou, P., Baxevani, M., and Kiosseoglou, G. (2018). Bystanders in bullying: Do ToM and social competence skills play a role? *J. Educ. Dev. Psychol.* 8, 174–186. doi: 10.5539/jedp.v8n2p174

Mulvey, K. L., Gönültaş, S., Goff, E., Irdam, G., Carlson, R., DiStefano, C., et al. (2019). School and family factors predicting adolescent cognition regarding bystander intervention in response to bullying and victim retaliation. *J. Youth Adolesc.* 48, 581–596. doi: 10.1007/s10964-018-0941-3

Nesdale, D. (2004). "Social identity processes and children's ethnic prejudice," in *The Development of the Social Self*, eds M. Bennett and F. S. Sani (Hove: Psychology Press), 219–245.

Ojala, K., and Nesdale, D. (2004). Bullying and social identity: the effects of group norms and distinctiveness threat on attitudes towards bullying. *Br. J. Dev. Psychol.* 22, 19–35. doi: 10.1348/026151004772901096

Palmer, S. B., and Abbott, N. (2018). Bystander responses to bias-based bullying in schools: a developmental intergroup approach. *Child Dev. Perspect.* 12, 39–44. doi: 10.1111/cdep.12253

Palmer, S. B., Filippou, A., Argyri, E. K., and Rutland, A. (2022). Minority- and majority-status bystander reactions to, and reasoning about, intergroup social exclusion. *J. Exp. Child Psychol.* 214:105290. doi: 10.1016/j.jecp.2021.105290

Perez-Zapata, D., Slaughter, V., and Henry, J. D. (2016). Cultural effects on mindreading. *Cognition* 146, 410–414. doi: 10.1016/j.cognition.2015.10.018

Peterson, C. C., and Wellman, H. M. (2019). Longitudinal theory of mind (ToM) development from preschool to adolescence with and without ToM delay. *Child Dev.* 90, 1917–1934. doi: 10.1111/cdev.13064

Programme for International Student Assessment (2018). *Turkey - Country Note - PISA 2018 Results*. Available online at: https://www.oecd.org/pisa/publications/PISA2018_CN_TUR.pdf (accessed October 18, 2021).

Razza, R. A., and Blair, C. (2009). Associations among false-belief understanding, executive function, and social competence: a longitudinal analysis. *J. Appl. Dev. Psychol.* 30, 332–343. doi: 10.1016/j.appdev.2008.12.020

Ruck, M. D., Park, H., Crystal, D. S., and Killen, M. (2015). Intergroup contact is related to evaluations of interracial peer exclusion in African American students. *J. Youth Adolesc.* 44, 1226–1240. doi: 10.1007/s10964-014-0227-3

Rutland, A., and Killen, M. (2015). A developmental science approach to reducing prejudice and social exclusion: intergroup processes, social-cognitive development and moral reasoning: a developmental science approach to reducing prejudice and social exclusion. *Soc. Issues Policy Rev.* 9, 121–154.

Salmivalli, C., Voeten, M., and Poskiparta, E. (2011). Bystanders matter: associations between reinforcing, defending, and the frequency of bullying behavior in classrooms. *J. Clin. Child Adolesc. Psychol.* 40, 668–676. doi: 10.1080/15374416.2011.597090

Sani, F., and Bennett, M. (2004). "Developmental aspects of social identity," in *The Development of the Social Self*, eds M. Bennett and F. Sani (Hove: Psychology Press), 77–100. doi: 10.4324/9780203391099_chapter_3

Smetana, J. (2006). "Social cognitive domain theory: consistencies and variations in children's moral and social judgments," in *Handbook of Moral Development*, eds M. Killen and J. Smetana (Mahwah, NJ: Lawrence Erlbaum), 119–155.

Smetana, J. G., Jambon, M., and Ball, C. (2014). "The social domain approach to children's moral and social judgments," in *Handbook of Moral Development*, 2nd Edn, eds M. Killen and J. G. Smetana (Hove: Psychology Press), 23–45.

Turiel, E. (1983). *The Development of Social Knowledge: Morality and Convention*. Cambridge: Cambridge University Press.

United Nations High Commissioner for Refugees [UNHCR] (2021). *Turkey Operational Update September*. Available online at: https://data2.unhcr.org/en/situations/syria/location/113 (accessed October 18, 2021).

Wellman, H. A., Cross, D., and Watson, J. (2001). Meta-analysis of theory of mind development: the truth about false belief. *Child Dev.* 72, 655–684. doi: 10.1111/1467-8624.00304

Wellman, H. M. (2018). Theory of mind across the lifespan? *Z. Psychol.* 226, 136–138.

Wellman, H. M., and Liu, D. (2004). Scaling of theory-of-mind tasks. *Child Dev.* 75, 523–541. doi: 10.1111/j.1467-8624.2004.00691.x

White, S., Hill, E., Happé, F., and Frith, U. (2009). Revisiting the strange stories: revealing mentalizing impairments in autism. *Child Dev.* 80, 1097–1117. doi: 10.1111/j.1467-8624.2009.01319.x

Yüksel, A. Ş., Palmer, S. B., and Rutland, A. (2021). Developmental differences in bystander behavior toward intergroup and intragroup exclusion. *Dev. Psychol.* 57, 1342–1349. doi: 10.1037/dev0001202

Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's Note: All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

frontiers | Frontiers in Psychology

ORIGINAL RESEARCH
published: 08 April 2022
doi: 10.3389/fpsyg.2022.855171

Inclusion of Refugee Peers – Differences Between Own Preferences and Expectations of the Peer Group

Hanna Beißert[1]* *and Kelly Lynn Mulvey*[2]

[1] *Department for Education and Human Development, DIPF | Leibniz Institute for Research and Information in Education, Frankfurt am Main, Germany,* [2] *Department of Psychology, North Carolina State University, Raleigh, NC, United States*

Given the high numbers of refugees from Syria entering Germany in the recent years, the social integration of refugee youth has become an increasingly important issue in Germany. Thus, the current study examines adolescents' decisions and reasoning around the inclusion of Syrian peers in Germany. Using a hypothetical scenario, we assessed adolescents' (N = 100, M = 13.65 years, SD = 1.93, 51 females, 49 males) peer inclusion decisions and reasoning with attention to comparing inclusion of a Syrian refugee peer and a German peer. Given the importance of group norms for adolescents, we assessed not only adolescents' own inclusion decisions, but also what they would expect their peer group to decide and what they think their peer group *should* do. Moreover, adolescents' underlying reasoning was assessed. The analyses revealed that adolescents thought they would be more inclusive of a Syrian peer than a German peer and that their peer group should be more inclusive of a Syrian peer than a German peer. These tendencies toward including refugees were justified with references to morality as well as social-conventions. In contrast to their own decisions and to what they think their peer group *should*, participants expected their group would be more inclusive toward a German peer than a Syrian peer. This was mainly justified by referencing aspects of group functioning and psychological information about the peers, whereas moral and prosocial reasoning was very rarely used for the expected group decision. In sum, these findings document that adolescents in Germany wish to be inclusive regarding refugee peers and that they balance attention to morality and other domains of social reasoning when thinking about inclusion decisions while they expect that their peers will not consider morally relevant information when making these decisions. These findings have important practical implications as they indicate the importance of interventions that focus on promoting inclusive peer group norms.

Keywords: refugees, social inclusion, inclusion decisions, adolescents, reasoning

OPEN ACCESS

Edited by:
Naomi Sweller, Macquarie University, Australia

Reviewed by:
Alessandra Geraci, University of Trento, Italy
Rebecca Peretz-Lange, SUNY Purchase, United States

***Correspondence:**
Hanna Beißert
beissert@dipf.de

Specialty section:
This article was submitted to Developmental Psychology, a section of the journal Frontiers in Psychology

Received: *14 January 2022*
Accepted: *16 February 2022*
Published: *08 April 2022*

Citation:
Beißert H and Mulvey KL (2022) Inclusion of Refugee Peers – Differences Between Own Preferences and Expectations of the Peer Group. Front. Psychol. 13:855171. doi: 10.3389/fpsyg.2022.855171

INTRODUCTION

In the recent years, refugee migration has increased tremendously all over Europe. Since the beginning of the Syrian civil war in the year 2011 almost 7 million people have fled to Europe (UNHCR, 2021), among them many children and adolescents (Eurostat, 2021). Moreover, estimates indicate that over one half of Syrian refugees in Germany are youth under age 18 (Eurostat, 2021). Consequently, in many European countries, the integration of refugees has become an increasingly important issue. However, integration is not a unidirectional process that can be accomplished by the refugees alone. Integration is a reciprocal process of mutual accommodation between the incoming refugees and the members of the host society (Berry et al., 2006). The members of the host society need to be open to integration and welcoming toward the refugees (Berry, 2011). Thus, the attitudes of the members of the host society toward refugees are crucial for integration. This does not only hold for formal aspects of integration such as educational or occupational opportunities, but also in terms of the social integration of refugees. The current study focuses on the openness of adolescents in Germany to include refugee peers from Syria into their peer activities. Additionally, the current study examines not only adolescents' perceptions, but also their expectations for their peers' inclusivity, given that adolescents may be influenced by their perceptions of their peers' attitudes (Mulvey et al., 2014b). Finally, the current study examines not just evaluations, but also reasoning in order to explore underlying motivations that may drive inclusive practices toward refugees.

The Need to Belong

Being included in peer activities is central for youth because the need for relatedness and social belonging are fundamental for human beings (Baumeister and Leary, 1995; Deci and Ryan, 2000) and fulfilling this need is considered essential for healthy development. For instance, feeling included or connected to others is associated with better health outcomes (Walton and Cohen, 2011), subjective well-being (King, 2015; Schmidt et al., 2020) and life-satisfaction (Rodríguez-Meirinhos et al., 2020). Additionally, belonging in class affects academic outcomes such as motivation (Walton et al., 2012), engagement (Furrer and Skinner, 2003; King, 2015), and achievement (Buhs and Ladd, 2001; Martin and Dowson, 2009) and additionally can buffer the negative effects of being bullied at school (Marksteiner et al., 2020). Being excluded in contrast, can have severe consequences for an individual's health and well-being (Mulvey et al., 2017).

While a desire for connection with others is present even during infancy, as demonstrated by the research on the importance of secure attachments (Ainsworth, 1978), during adolescence, when peer relations become increasingly important, the need to belong and to be accepted by others is particularly strong (Jose et al., 2012; Lamblin et al., 2017). While adolescents in this phase strive for independence from parents, the peer group and reliable relationships with peers become increasingly important (Masten et al., 2009; Morningstar et al., 2019). Moreover, during adolescence, youth may feel pressure to conform to their peers' expectations, behaviors, and attitudes in order to "fit in" (Brown et al., 1986; Miyajima and Naito, 2008; Choukas-Bradley et al., 2015; Mulvey and Killen, 2016b). Thus, examining adolescents' tendencies toward inclusion, as well as how their own inclusivity might or might not align with their expectations of their peers' inclusivity may provide particular insight into how to best support adolescents as they seek to belong and to build social connections with others. In fact, prior research demonstrates that even though adolescents do not always believe their peer group will be inclusive, they often place a high priority on preventing harm to others and assert that they, individually, will include others even if their group would not (Mulvey et al., 2014b; Mulvey and Killen, 2016b).

The Special Situation of Refugee Youth

For youth from refugee families, social contacts are particularly important: refugee youth in Germany note challenges with friendships as a concern, but also highlight social support (for instance from friends and family) as central to coping with challenges they face (Alhaddad et al., 2021). Children and adolescents from refugee families experience high levels of trauma, and upheaval, with reports indicating that more than one third of asylum seeking youth in Germany meet the criteria for Post-Traumatic Stress Syndrome and 30% experience clinically significant bouts of depression (Müller et al., 2019). They had to leave their homes and their country and many of them have experienced traumatic events or other psychological stressors (Lustig et al., 2004; Ruf et al., 2010).

In such a precarious situation, stable social relationships are of particular importance (Alhaddad et al., 2021) and supporting a feeling of relatedness in early resettlement is essential for young refugees' well-being (Correa-Velez et al., 2010). Thus, relatedness might be particularly important for adolescents from refugee families; and it is conceivable that social exclusion might have an even greater impact on them than on other groups. In line with this, research indicates that social exclusion during the acculturation process is a significant acculturative stressor, making integration more difficult (Verkuyten and Thijs, 2002; Ward et al., 2020) and that being included (i.e., having friends at school) can serve as a key coping mechanism during the acculturation process (Alhaddad et al., 2021).

However, research has shown, that many refugees face social exclusion and marginalization when coming to a new country (Beirens et al., 2007; Kocak et al., 2021). This tendency to exclude refugees may be rooted in children's essentialist thinking about national identity (Feeney et al., 2020). Children begin to think of national identity as immutable quite early and this essentialist thinking about nationality is quite strong, having been documented in many different countries (Hussak and Cimpian, 2019; Davoodi et al., 2020; Feeney et al., 2020; Siddiqui et al., 2020). Thus, to improve the situation of refugee youth, one aim should be to support them and provide opportunities to build friendships with local peers in order to foster positive connections and develop relationships in their host society, especially at school (Marshall et al., 2016), especially given that they may not be seen as part of the host society. As mentioned above, integration is a reciprocal process and the openness of the

members of the host society is very important for this (Berry et al., 2006; Berry, 2011). Thus, one key step in ensuring that refugee youth have ample opportunities to build relationships and connections in the new country is to focus on understanding the attitudes and reasoning of youth from the host society around inclusion of refugee peers.

Examining this question in Germany, in particular, is important given the high number of refugee youth in Germany (Eurostat, 2021). Further, prior research on German adolescents' attitudes toward refugees documents that more German adolescents perceived that they learned about the cultural history and traditions of both Germans and refugees and the similar German adolescents saw themselves and refugees, the more prosocial they intended to be toward refugees (Aral et al., 2021). Additionally, prior research demonstrates that German adolescents were more likely to include Syrian refugees who had good German language skills, suggesting the importance of cultural integration for inclusivity (Beißert et al., 2020). While some prior research demonstrates that German youth may wish to be inclusive of refugees, and act in prosocial ways, much less is known about the underlying reasons youth use when making inclusion decisions.

Theoretical Framework: Social Reasoning Development Perspective

Given our interest in understanding youth attitudes and reasoning, we framed this study using the Social Reasoning Development perspective (SRD; Rutland et al., 2010; Rutland and Killen, 2015). This perspective, which draws on social domain theory (Turiel, 1983; Smetana et al., 2014) and social identity theory (Tajfel and Turner, 1976, 1986), posits that individuals' social decisions are often made as they balance information about group loyalty and group priorities with information about what is morally right and just (Rutland et al., 2010; Rutland and Killen, 2015). In fact, even very young children and infants demonstrate support for their ingroup (Jin and Baillargeon, 2017; Pun et al., 2018). Prior research has shown that many adolescents in Germany have an open attitude regarding refugees in Germany (Albert et al., 2019) with more open attitudes the younger they are (Kober and Kösemen, 2019). Additionally, children and adolescents in Germany are generally quite open to include refugees in their peer activities (Beißert et al., 2020; Andresen et al., 2021). However, prior research from a SRD perspective documents that when youth must make decisions between inclusion of an in-group or an out-group member (for instance, a German peer or a Syrian peer), at times they do prioritize inclusion of in-group members and justify these choices by referencing group functioning and group loyalty (Mulvey et al., 2014a). Research also demonstrates, however, that moral principles do play a role in adolescents' inclusion decisions, with findings suggesting that children and adolescents will reason about fairness, and harm when making inclusion decisions (Killen et al., 2013). As noted, at times there is also a disconnect between one's own expectations of inclusion and their expectations of their group's inclusivity (Mulvey et al., 2018). Findings also suggest that peers do often expect their ingroup to be less inclusive, and factors such as stereotypes can shape these expectations (Hitti and Killen, 2015b). Recent scholarship on intergroup attitudes toward refugees documents that children and adolescents struggle to take the perspective of refugees and immigrants and highlights how factors such as peer expectations can shape intergroup relations between native and refugee youth (Gönültaş and Mulvey, 2019). In fact, research suggests that even toddlers differentiate depending on context when evaluating situations involving helping others who are dissimilar to one's self (Geraci and Franchin, 2021). Thus, the aim of the current study was to more comprehensively understand adolescents' inclusive tendencies in a salient context: Germany, which hosts over a million refugees as of 2021 (UNHCR, 2021).

Current Study

What is still unknown, however, is how adolescents make inclusion decisions for refugee peers and what underlying reasons they will use when making inclusion decisions. Further, much prior research on inclusion has used a forced choice paradigm where you must select between two peers (Hitti et al., 2014; Mulvey et al., 2014b; Hitti and Killen, 2015a). In the current study, participants were asked to indicate likelihood of inclusion for both a native and refugee peer and to provide reasoning for these evaluations in order to have a more complete picture of their reasoning and decisions.

Moreover, as demonstrated by prior research (Mulvey et al., 2014b, 2018), it is not only important to ask adolescents what they personally would decide. Decisions and behavior are not only based on one's personal norms, attitudes, or values, but group norms are very important as well and can influence adolescents' decisions and behavior (Killen et al., 2017; Mulvey and Killen, 2017; McGuire et al., 2018). Children and adolescents may struggle with social decisions when group norms conflict with individual norms or values (Mulvey et al., 2013). Thus, we are not only interested in what adolescents, themselves, would decide. We are also interested in what they think what their peer group would decide, given the very powerful influence that the norms and decisions of the peer group can have on one's behaviors and intentions. Therefore, we examined adolescents' own decisions and compared them with what they expect their group to do and what they think their group should do. With these measures, we can assess individual decisions, expected group decisions and prescriptions about what adolescents believe is the right thing to do.

Our aim was to also explore the reasoning or justifications that underlie these decisions. The social domain model identifies three domains of social reasoning, the moral domain (justice and welfare), the social-conventional domain (conventions, traditions, and group norms), and the psychological domain (personal choice, psychological knowledge, and autonomy) (Turiel, 1983; Smetana et al., 2014). In the current research, all three domains play important roles: adolescents may consider the moral domain (e.g., feeling empathy or showing prosocial behavior), the social-conventional domain (e.g., aspects of group functioning or perceiving the pressure to show loyalty to the

group and maintain the group norms) and the psychological domain (e.g., applying psychological knowledge or referring to personal choices or autonomy).

Thus, using a hypothetical scenario, we asked German adolescents to make judgments about their own inclusion of German and Syrian peers, as well as their expectations of their group's inclusion and their sense of who should be included. We also asked them to provide reasoning for each assessment. We expected that:

1) Adolescents would expect that their group would be less inclusive of the Syrian peer than they would and then they thought their group should.
2) Adolescents who were more inclusive of the Syrian peer than the German peer would use more references to the moral domain, recognizing the importance of inclusion and prevention of harm of the Syrian refugees.
3) Adolescents would reason about the group decision using more references to social-conventions and group functioning and would reason about their own decision and their prescriptive decision for their group using more moral reasoning.
4) Adolescents would use less reasoning about the psychological domain (for instance autonomy) for the prescriptive group decision than their own decision or their expected group decision.

MATERIALS AND METHODS

Participants

The study included 100 adolescents (M = 13.65 years, SD = 1.93) attending grades 5–10 of a high school (Gymnasium) in Northern Germany. The sample was approximately evenly divided by gender (51 female, 49 male) and 39% of the participants had a migration history in the family (i.e., at least one parent born in a country other than Germany). Three participants were excluded from the analyses as their families were from Syria, and thus, the in-group-out-group manipulation would not have worked for them as we used Syrian refugees as the focal out-group.

Design and Procedures

Participants completed paper-pencil questionnaires in class under the guidance of a trained research assistant. Participation was voluntary and informed consent was obtained from all participants and their parents. Additionally, before handing out the questionnaires, the research assistant reminded participants about the voluntariness and anonymity of the participation and that there were no disadvantages if they decided not to participate or leave the study early without completing it. After the participants had completed the surveys, they were debriefed about the background of the study. They had the possibility to ask questions and talk with the research assistant about the aims and the background study.

Materials and Measures

The survey included demographic questions (age, grade, migration history in the family) and a hypothetical scenario, in which the participants had to decide which of two peers they would like to include in a leisure time activity. They were told that they can invite only one more person. But there are two additional peers who would like to join the group. Both are new in class; one moved here from another German town and the other one came here with his family as refugee from Syria.

The exact wording of the vignette was as follows:

> *Imagine you have a group of friends at school. You usually spend recess and much of your free time together. The following situation refers to this group.*
> *Imagine you and your group are planning to play video games, this afternoon. You can only invite one other person. There are two boys/girls, who would like to join your group: Lukas/Laura and Rami/Shata. Both are new at your school. Lukas/Laura moved here from Frankfurt, he/she is German. Rami/Shata came to Germany with his/her family as a refugee from Syria.*

To avoid intergroup effects based on gender, the names of the protagonists in the scenario matched the gender of the participant.

After reading the scenario, the participants had to answer the following three questions for each protagonist separately: (1) How likely is it that you would choose xxx? (own decision) (2) What do you think, how likely is it that your group would choose xxx? (expected group decision) (3) Do you think, your group *should* choose xxx? (prescriptive group decision). Each of these three measures was presented on a separate page including the questions regarding both protagonists. The order of questions was the same for all participants. First, they responded to the question about the German peer, followed by the question about the Syrian peer. Participants answered all questions with a six-point Likert-type scale. For the questions (1) and (2), this scale ranged from 1 = very unlikely to 6 = very likely. For question (3), the scale ranged from 1 = not at all to 6 = definitely. For each measure, participants were also asked to provide reasoning about their choice (why?).

As participants assessed both inclusion of the German and Syrian peer, this manipulation was within subjects.

Coding of Reasoning

To code participants' answers to the open-ended questions (i.e., the reasoning about their decisions), a coding system was established drawing on prior research (Beißert et al., 2020) that was extended by adding categories inductively developed from the surveys themselves (see **Table 1** overview and examples).

Coders coded up to three relevant justifications for each statement. If the participant used only one code, this was assigned a value of 1.0. If they used two codes, each was given a value of 0.5. If three codes were used, each was given a value of 0.33. Coding was completed by two independent coders. Based on 25% of the interviews, interrater reliability was high, with Cohen's kappa = 0.83.

TABLE 1 | Coding system and frequencies of usage.

	Own decision		Expected group decision		Prescriptive group decision		Total
	German	Syrian	German	Syrian	German	Syrian	
MORAL DOMAIN							
Moral							
"because there should be fairness"	15	17	2	4	18	25	81
Prosocial							
"because I want to help her find friends"	14	26	3	6	6	19	74
SOCIAL-CONVENTIONAL DOMAIN							
Group functioning							
"it's easier to play with someone who knows our culture"	25	18	31	25	12	13	124
Origin							
"I'd choose him because he is German"	3	4	6	7	8	6	34
PERSONAL DOMAIN							
Autonomy							
"because I want to get to know her"	7	11	2	3	5	3	31
Psychological information about skills/characteristics							
"if she is nice and friendly why should I not choose her"	30	27	14	12	10	8	101
Xenophobia and stereotypes							
"Black people don't belong here"	4	5	11	10	1	6	37
Other							
Useful, but single statements	17	10	7	12	7	3	56

RESULTS

Data were analyzed using repeated measures ANOVAs. As preliminary analyses revealed that there were no effects based on the participants' own migration history (for inclusion decisions) and migration history, age and gender (for reasoning), these variables were not included in the respective analyses. Age was included as a covariate for the inclusion decisions just to confirm effects above and beyond age.

Inclusion Decisions

To test for differences in inclusion decisions for the two protagonists and across the three questions, a 2 (gender: male, female) × 2 (protagonist: German, Syrian) × 3 (measure: own inclusion decision, expected group decision, prescriptive group decision) ANOVA was conducted with repeated measures on the last two factors with age as a covariate. There was a significant main effect of participant gender, $F(1,89) = 5.920$, $p = 0.017$, $\eta_p^2 = 0.06$, revealing that girls were slightly more inclusive than boys. Further, results revealed a significant interaction of protagonist and measure, $F(1.42,125.96) = 12.70$, $p < 0.001$, $\eta_p^2 = 0.12$. The Greenhouse–Geisser adjustment was used to correct violations of sphericity. Pairwise comparisons revealed that for the own decision and the prescriptive group decision, participants were more inclusive of the Syrian protagonist than the German protagonist. For the expected group decision in contrast, participants expected their group would be more inclusive to the German protagonist than the Syrian one. See **Figure 1** for these results and **Table 2** for the respective pairwise comparisons.

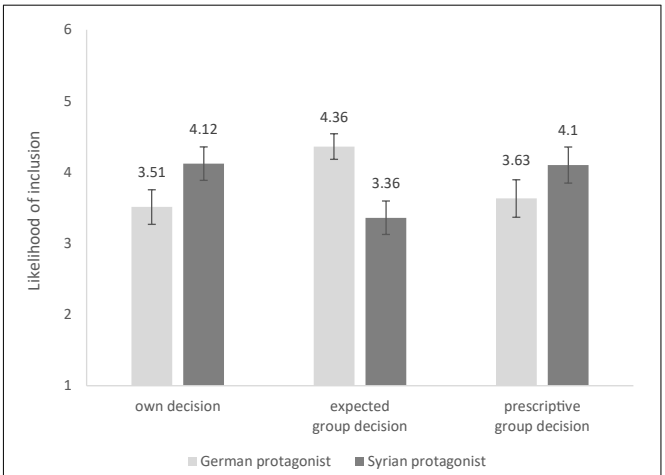

FIGURE 1 | Inclusions decisions for both protagonists and all three measures. High values indicate a high likelihood include the respective protagonist.

Reasoning Analyses

Reasoning analyses were conducted on the proportional use of the four most used reasoning codes. These categories were "moral," "prosocial," "group functioning," and "psychological information." In order to test for differences in reasoning between the two protagonists and the three measures, a 2 (protagonist: German, Syrian) × 3 (measure: own inclusion decision, expected group decision, prescriptive group decision) × 4 (category: moral, prosocial, group functioning, and psychological information) ANOVA was run for proportional use of each code.

TABLE 2 | Means and Standard Deviations of all three measures for each protagonist.

Measure	M_{German} (SD)			M_{Syrian} (SD)		
	Female	Male	Total	Female	Male	Total
Own decision	3.54 (1.64)	3.48 (1.72)	3.51[a,e] (1.19)	4.42 (1.59)	3.81 (1.17)	4.12[c,e] (1.15)
Expected group decision	4.38 (1.22)	4.34 (1.27)	4.36[a,b,f] (0.88)	3.48 (1.63)	3.25 (1.70)	3.36[c,d,f] (1.15)
Prescriptive group decision	3.65 (1.79)	3.61 (1.87)	3.63[b,g] (1.29)	4.40 (1.72)	3.79 (1.80)	4.10[d,g] (1.24)

[a,b,c,d,f] $p < 0.001$, [e] $p = 0.003$, [g] $p = 0.016$.

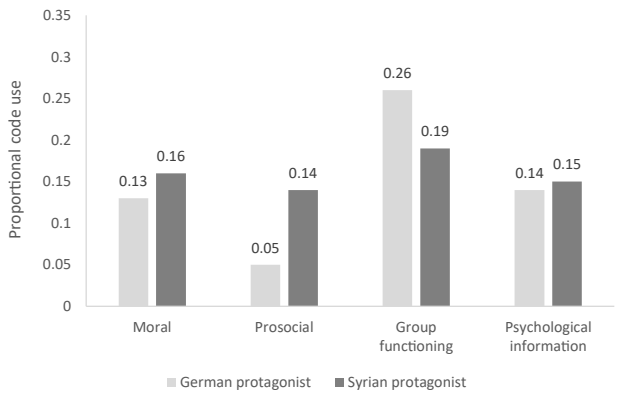

FIGURE 2 | Category use for both protagonists across all three measures.

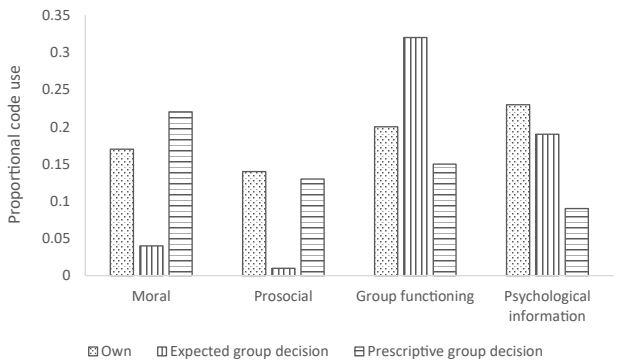

FIGURE 3 | Category use for all three measures across both protagonists.

The analysis revealed a significant interaction between category and protagonist, $F(2.45,178.59) = 6.47$, $p < 0.001$, $\eta_p^2 = 0.08$, and a significant interaction of category and measure, $F(5.17,377.52) = 8.26$, $p < 0.001$, $\eta_p^2 = 0.10$. The Huynh–Feldt adjustment was used to correct violations of sphericity. The respective comparisons will be presented in the following two sections.

Differences in Category Use Based on the Two Different Protagonists

Pairwise comparisons revealed that justifications from the category "prosocial" were used more often when justifying the inclusion decision of the Syrian protagonist than when justifying the inclusion decision regarding the German protagonist, $p < 0.001$. Further, reasons related to group functioning were referenced more frequently when reasoning about the inclusion of the German protagonist compared to the Syrian protagonist, $p = 0.007$. See **Figure 2** for means.

Differences in Category Use Based on the Three Different Measures

In terms of the interaction between measure and category, pairwise comparisons revealed that the categories "moral" and "prosocial" were used more often, when justifying the own decision and the prescriptive group decision than when reasoning about the expected group decision, $ps \leq 0.001$. In contrast, justifications related to group functioning were used much more frequently in reasoning about the expected group decision than in reasoning about the own decision or the prescriptive group decision, $ps < 0.05$. Further, participants used the category "psychological information" more often when justifying their own decision compared to the expected group decision and or the prescriptive group decision, $ps < 0.01$. See **Figure 3** for means.

DISCUSSION

The current study was conducted in Germany and examined adolescents' peer inclusion decisions and reasoning with attention to comparing inclusion of a Syrian refugee peer and a German peer. Moreover, we assessed not only adolescents' own inclusion decisions, but also what they would expect their peer group to decide and what they think their peer group *should* do. Additionally, we were interested in adolescents' underlying reasoning. Our novel findings document that adolescents thought they would be more inclusive of a Syrian peer than a German peer and that one should be more inclusive of a Syrian peer than a German peer. These tendencies toward including refugees were justified with references to morality as well as social-conventions. On the other hand, participants expected their group would be more inclusive toward a German peer than a Syrian peer and justified these decisions primarily by referencing group functioning and psychological information about the peers. These findings document the important ways in which adolescents recognize the value of including refugees, but also acknowledge that the norms of their peer group may not support such inclusion.

On a positive note, we found that adolescents' own decisions largely correspond with their prescriptive group decision, i.e.,

what they thought the group *should* do. However, while they thought one should and that they would include a Syrian refugee peer, they also believed that their group would be less likely to include a Syrian peer. Interestingly, the means for all responses, including the group decision, were near or above the mid-point, suggesting that participants generally had high expectations for their own inclusivity and their peers' inclusive, even though they were significantly less likely to expect their group to include the Syrian peer. This is an important extension of prior research, which has often employed a forced choice inclusion paradigm (Hitti et al., 2014; Hitti and Killen, 2015a; Mulvey et al., 2018), and these findings indicate that, if possible, adolescents generally would like to include peers regardless of their background. This is important, given the findings that suggest how central inclusion is for adolescents' well-being (Schmidt et al., 2020). However, although prior research does document that youth's inclusion intentions do often align with their behaviors (Mulvey et al., 2018), findings also reveal that experiences of social exclusion are quite common (Killen and Rutland, 2011). For example, more than 25% of youth in the United States report experiencing repeated social exclusion (Wang et al., 2010). Thus, it may be that there is still a disconnect between adolescents' desires to be inclusive and their actual behaviors. Our findings, then, are consistent with prior developmental theories, in particular the SRD perspective, that highlights the tension children and adolescents may feel between their moral principles that encourage inclusion and a desire to maintain connection to their group (Rutland et al., 2010; Rutland and Killen, 2015). Research on refugee youth in Germany notes that difficulties with friendships and social connections are a key challenge they face (Alhaddad et al., 2021), highlighting the importance of continued attention to fostering inclusive tendencies.

It may be that expectations of peer norms that promote including ingroup members over outgroup members may explain why social exclusion is still so prevalent. In the current study we do find that adolescents rate their peers' inclusion of Syrian peers to be significantly lower than their own inclusion desires. Moreover, perceptions of exclusive peer group norms can be very powerful, even leading to greater exclusion when school norms promote inclusion (McGuire et al., 2015). Our findings align with prior research which demonstrates that expectations for one's group and one's own expected inclusion are often misaligned (Mulvey et al., 2014b, 2018; Mulvey and Killen, 2016a). Taken together, these findings indicate that interventions that encourage the general inclusive tendencies of adolescents and promote norms of inclusivity may be effective. It is also important to note that our findings document a gender difference, with female participants generally reporting more inclusive tendencies than male participants, consistent with prior research (Killen, 2007; Beißert et al., 2020). Thus, interventions might also work to ensure that both boys and girls receive encouragement for inclusive behavior.

In terms of reasoning about inclusion decisions, our findings document nuances in adolescents' reasoning, consistent with prior findings (Mulvey, 2015). Specifically, when reasoning about choosing to include a Syrian peer, adolescents used more moral and prosocial reasons, highlighting their recognition of the importance of fair treatment and helping refugee peers to connect with others. However, even when evaluating inclusion of a Syrian peer, adolescents referencing psychological information about that peer and even group functioning. Thus, they really did think about inclusion decisions of refugees in multifaceted ways. For example, an 11-year-old girl said "We should choose Shata because she might be nice and I want to get to know her. We can help her to get along in this new country. However, on the other side, we might have less fun playing with her because we need to explain and translate things all the time." Interestingly, prosocial reasoning really only emerged when considering including the Syrian peer and not the German peer, suggesting that adolescents may recognize the challenges that Syrian refugees are facing (Marshall et al., 2016; Gönültaş and Mulvey, 2019; Alhaddad et al., 2021). This becomes apparent in statements like "Because he is a refugee and has not had such an easy life so far" (12-year-old boy) or "She fled from another country and now is sad because she probably had to leave many friends there" (11-year-old girl).

While adolescents reasoned about their own decision and what they should one should do, they used a range of different reasons, noting moral, prosocial, group functioning and psychological concerns. However, when considering how inclusive their peer group might be, adolescents tended to rely more on social-conventional and psychological reasoning. They asserted that their group might be concerned with how the group would operate if a Syrian peer was included, for instance. In fact, moral and prosocial reasoning was very rarely used for the expected group decision. This suggests that adolescents' own decision-making balances attention to morality and other domains of social reasoning, while they expect their peers will not consider morally relevant information when making decisions. This suggests that interventions might focus on reasoning and giving adolescents opportunities to talk together about why it might be valuable to include others, with attention to issues around equity, fairness, and harm.

In concert, these findings suggest that adolescents do wish to be inclusive, and consider inclusion from a variety of standpoints. However, they also expect that their peers will be less inclusive than they individually would or than they should. These findings have implications for programs to promote inclusion, generally, as well as inclusion of refugee peers, in particular. Specifically, the results highlight the importance of encouraging adolescents to talk with each other about their desires to be inclusive, promoting norms of inclusion and helping each other to see the many benefits of being inclusive.

Strengths and Limitations

The current study does provide important and novel findings. Namely, this study's strengths include the rich assessment of adolescents' reasoning and careful approach to asking participants to evaluate both their own and their group's expected behaviors. Importantly, we document German adolescents' inclusivity tendencies: they were generally quite inclusive and thought they would be more inclusive of a Syrian peer than a German peer and that one should be more inclusive of a

Syrian peer than a German peer, highlighting their attunement to the challenges faced by refugee peers. While we extended prior literature by asking participants to provide separate evaluations and reasoning for each potential peer whom they might include, participants did, at times, mention both protagonists in their reasoning. This may suggest that they were still focused on the fact that there was only space for one peer and made their evaluations considering the relative likelihood of including one peer over another. This consideration of both peers may have participants to provide reasoning considering both inclusion of one and exclusion of the other. Without this blending of their evaluations, it is possible that the differences in reasoning would be more pronounced.

As noted, participants generally reported high rates of inclusion. This indicates that there may be a social-desirability effect at play. However, prior research showed that participants' responses in hypothetical scenarios correspond with their authentic decisions in behavioral experiments (Mulvey et al., 2018), which provides support for the use of hypothetical scenarios in this context. This research explored adolescents' reasoning, but we were not able to deeply examine developmental changes in adolescents' evaluations. However, prior research in China documents that adolescents are often more exclusive than are young adults when considering inclusion of language out-group members (Zheng et al., 2021). We were also unable to examine the impact of intergroup contact with refugees, although prior research does demonstrate the importance of positive intergroup contact (Gönültaş and Mulvey, 2019). Thus, future research should aim to explore age-related patterns and the role of intergroup contact in shaping inclusivity toward refugees. Additionally, this research focused on participants from one school in Germany. Future research should aim to test the generalizability of these findings in different settings and contexts. Finally, this study only assessed inclusion in a leisure-time activity. However, refugees may also struggle with inclusion in other settings, for instance, in academic contexts. Future research should continue to explore inclusive tendencies in a range of contexts and settings.

CONCLUSION

The current study documents adolescents' decisions and reasoning around inclusion of German and Syrian peers, revealing the important ways in which adolescents' own expectations differ from their expectations of their peer group's inclusivity. Moreover, the findings reveal complexity in adolescents' social reasoning. Adolescents generally expected their peers would focus more on group functioning when making inclusion decisions, but they recognized the importance of morality, prosociality, group functioning and even considered the psychological traits of the peers who they might include. In sum, the findings provide evidence that highlights the importance of interventions which work to promote inclusive peer group norms.

DATA AVAILABILITY STATEMENT

The datasets presented in this article are not readily available because the confirmed consent of the parents of the participants did not include that we share the data with other researchers. Requests to access the datasets should be directed to HB, beissert@dipf.de.

ETHICS STATEMENT

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin.

AUTHOR CONTRIBUTIONS

Both authors contributed substantially to the conception and design of the study and the manuscript. Both authors were involved in the planning of the analyses and interpretation of data. Both authors approve the final version to be published and agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

FUNDING

This research was funded by the DIPF | Leibniz Institute of Research and Information in Education.

ACKNOWLEDGMENTS

We would like to thank Dominique Drees for collecting the data as well as Sabrina Benz and Lea Markhoff for preparing the dataset. Furthermore, we would like to thank all the students and teachers, who supported the study.

REFERENCES

Ainsworth, M. D. S. (1978). The bowlby-ainsworth attachment theory. *Behav. Brain Sci.* 1, 436–438. doi: 10.1037//0022-3514.52.3.511

Albert, M., Hurrelmann, K., and Quenzel, G. (2019). *Jugend 2019-18. Shell Jugendstudie: eine Generation Meldet sich zu wort.* Weinheim: Beltz.

Alhaddad, L., Goodwin, R., and Kanngiesser, P. (2021). Challenges and coping: Perspectives of syrian and iraqi refugee youth in germany. *J. Adolescent Res.* doi: 10.1177/07435584211056069 [Epub ahead of print].

Andresen, S., Neumann, S., and Schneekloth, U. (2021). How children in germany experience refugees: A contribution from childhood studies. *Child Indicat. Res.* 14, 2045–2064. doi: 10.1007/s12187-021-09828-x

Aral, T., Schachner, M. K., Juang, L., and Schwarzenthal, M. (2021). Cultural diversity approaches in schools and adolescents' willingness to support refugee youth. *Br. J. Educ. Psychol.*[Epub Online ahead of print]. e12458. doi: 10.1111/bjep.12458

Baumeister, R. F., and Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychol. Bull.* 117, 497–529. doi: 10.1037//0033-2909.117.3.497

Beirens, H., Hughes, N., Hek, R., and Spicer, N. (2007). Preventing social exclusion of refugee and asylum seeking children: Building new networks. *Soc. Policy Soc.* 6, 219–229.

Beißert, H., Gönültaş, S., and Mulvey, K. L. (2020). Social inclusion of refugee and native peers among adolescents: It is the language that matters! Journal of Research on Adolescence. 30, 219–233. doi: 10.1111/jora.12518

Berry, J. W. (2011). Integration and multiculturalism: Ways towards social solidarity. *Papers Soc. Repres.* 20, 2.1–2.21.

Berry, J. W., Phinney, J. S., Sam, D. L., and Vedder, P. (2006). *Immigrant Youth in Cultural Transition: Acculturation, Identity, and Adaptation Across National Contexts*.Mahwah NJ: Lawrence Erlbaum Associates Publishers.

Brown, B. B., Clasen, D., and Eicher, S. (1986). Perceptions of peer pressure, peer conformity dispositions, and self-reported behavior among adolescents. *Devel. Psychol.* 22, 521–530. doi: 10.1037/0012-1649.22.4.521

Buhs, E. S., and Ladd, G. W. (2001). Peer rejection as antecedent of young children's school adjustment: An examination of mediating processes. *Devel. Psychol.* 37, 550–560.

Choukas-Bradley, S., Giletta, M., Cohen, G. L., and Prinstein, M. J. (2015). Peer influence, peer status, and prosocial behavior: An experimental investigation of peer socialization of adolescents' intentions to volunteer. *J. Youth Adolesc.* 44, 2197–2210. doi: 10.1007/s10964-015-0373-2

Correa-Velez, I., Gifford, S. M., and Barnett, A. G. (2010). Longing to belong: Social inclusion and wellbeing among youth with refugee backgrounds in the first three years in melbourne, australia. *Soc. Sci. Med.* 71, 1399–1408. doi: 10.1016/j.socscimed.2010.07.018

Davoodi, T., Soley, G., Harris, P. L., and Blake, P. R. (2020). Essentialization of social categories across development in two cultures. *Child Devel.* 91, 289–306. doi: 10.1111/cdev.13209

Deci, E. L., and Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychol.Inquiry* 11, 227–268. doi: 10.1207/s15327965pli1104_01

Eurostat. (2021). *First Instance Decisions on Applications by Citizenship, Age and Sex - Annual Aggregated Data (Rounded)*. Available online at: https://ec.europa.eu/eurostat/databrowser/view/MIGR_ASYDCFSTA__custom_1497203/bookmark/table?lang=en&bookmarkId=062d9510-98db-4fc8-9e30-e07b3d30ae79 (accessed December 15, 2021).

Feeney, A., Dautel, J., Phillips, K., Leffers, J., and Coley, J. D. (2020). The development of essentialist, ethnic, and civic intuitions about national categories. *Adv. Child Devel. Behav.* 59, 95–131. doi: 10.1016/bs.acdb.2020.05.004

Furrer, C., and Skinner, E. (2003). Sense of relatedness as a factor in children's academic engagement and performance. *J. Educ. Psychol.* 95, 148–162. doi: 10.1037/0022-0663.95.1.148

Geraci, A., and Franchin, L. (2021). Do toddlers prefer that agents help similar or dissimilar needy agents? *Infant Child Devel.* 30:e2247.

Gönültaş, S., and Mulvey, K. L. (2019). Social-developmental perspective on intergroup attitudes towards immigrants and refugees in childhood and adolescence: A roadmap from theory to practice for an inclusive society. *Hum. Devel.* 63, 90–111. doi: 10.1159/000503173

Hitti, A., and Killen, M. (2015a). Expectations about ethnic peer group inclusivity: The role of shared interests, group norms, and stereotypes. *Child Devel.* 86, 1522–1537.

Hitti, A., and Killen, M. (2015b). Expectations about ethnic peer group inclusivity: The role of shared interests, group norms, and stereotypes. *Child Devel.* 86, 1522–1537. doi: 10.1111/cdev.12393

Hitti, A., Mulvey, K. L., Rutland, A., Abrams, D., and Killen, M. (2014). When is it okay to exclude a member of the ingroup? Children's and adolescents' social reasoning. *Soc. Devel.* 23, 451–469. doi: 10.1111/sode.12047

Hussak, L. J., and Cimpian, A. (2019). "It feels like it's in your body": How children in the united states think about nationality. *J. Exper. Psychol.* 148:1153. doi: 10.1037/xge0000567

Jin, K. S., and Baillargeon, R. (2017). Infants possess an abstract expectation of ingroup support. *Proc. Natl. Acad. Sci.* 114, 8199–8204. doi: 10.1073/pnas.1706286114

Jose, P. E., Ryan, N., and Pryor, J. (2012). Does social connectedness promote a greater sense of well-being in adolescence over time? *J. Res. Adolesc.* 22, 235–251. doi: 10.1111/j.1532-7795.2012.00783.x

Killen, M. (2007). Children's social and moral reasoning about exclusion. *Curr. Dir. Psychol. Sci.* 16, 32–36. doi: 10.1111/j.1467-8721.2007.00470.x

Killen, M., Elenbaas, L., Rizzo, M. T., and Rutland, A. (2017). "The role of group processes in social exclusion and resource allocation decisions," in *The Wiley Handbook of Group Processes in Children and Adolescents*, eds A. Rutland, D. Nesdale, and C. S. Brown (New York: Wiley), 124–143. doi: 10.1002/9781118773123.ch5

Killen, M., and Rutland, A. (2011). *Children and social exclusion: Morality, prejudice, and group identity*. New York: Wiley.

Killen, M., Rutland, A., Abrams, D., Mulvey, K. L., and Hitti, A. (2013). Development of intra- and intergroup judgments in the context of moral and social-conventional norms. *Child Devel.* 84, 1063–1080. doi: 10.1111/cdev.12011

King, R. B. (2015). Sense of relatedness boosts engagement, achievement, and well-being: A latent growth model study. *Contemp. Educ. Psychol.* 42, 26–38. doi: 10.1016/j.cedpsych.2015.04.002

Kober, U., and Kösemen, O. (2019). *Welcome culture between skepticism and pragmatism – germany after the refugee crisis*. Gütersloh: Bertelsmann Stiftung.

Kocak, O., Arifoglu, A. T., and Younis, M. Z. (2021). Determination of social exclusion among young syrian refugees living in turkey. *Eur. J. Environ. Public Health* 5:em0076 doi: 10.21601/ejeph/10908

Lamblin, M., Murawski, C., Whittle, S., and Fornito, A. (2017). Social connectedness, mental health and the adolescent brain. *Neurosci. Biobehav. Rev.* 80, 57–68. doi: 10.1016/j.neubiorev.2017.05.010

Lustig, S. L., Kia-Keating, M., Knight, W. G., Geltman, P., Ellis, H., Kinzie, J. D., et al. (2004). Review of child and adolescent refugee mental health. *J. Am. Acad. Child Adoles. Psychiatry* 43, 24–36. doi: 10.1097/00004583-200401000-00012

Marksteiner, T., Janson, M. P., and Beißert, H. (2020). Belonging as compensator. *Zeitschrift für Entwicklungspsychologie und Pädagogische Psychologie* 52, 116–126. doi: 10.1026/0049-8637/a000221

Marshall, E. A., Butler, K., Roche, T., Cumming, J., and Taknint, J. T. (2016). Refugee youth: A review of mental health counselling issues and practices. *Can. Psychol.Psychol. Can.* 57:308.

Martin, A. J., and Dowson, M. (2009). Interpersonal relationships, motivation, engagement, and achievement: Yields for theory, current issues, and educational practice. *Rev. Educ. Res.* 79, 327–365. doi: 10.3102/0034654308325583

Masten, C. L., Juvonen, J., and Spatzier, A. (2009). Relative importance of parents and peers: Differences in academic and social behaviors at three grade levels spanning late childhood and early adolescence. *J. Early Adolesc.* 29, 773–799. doi: 10.1177/0272431608325504

McGuire, L., Rizzo, M. T., Killen, M., and Rutland, A. (2018). The development of intergroup resource allocation: The role of cooperative and competitive in-group norms. *Devel. Psychol.* 54, 1499–1506. doi: 10.1037/dev0000535

McGuire, L., Rutland, A., and Nesdale, D. (2015). Peer group norms and accountability moderate the effect of school norms on children's intergroup attitudes. *Child Devel.* 86, 1290–1297. doi: 10.1111/cdev.12388

Miyajima, T., and Naito, M. (2008). Conformity under indirect group pressure in junior high school students: Effects of normative and informational social influences and task importance. *Jap. J. Devel. Psychol.* 19, 364–374.

Morningstar, M., Grannis, C., Mattson, W. I., and Nelson, E. E. (2019). Associations between adolescents' social re-orientation toward peers over caregivers and neural response to teenage faces. *Front. Behav. Neurosci.* 13, doi: 10.3389/fnbeh.2019.00108

Müller, L. R. F., Büter, K. P., Rosner, R., and Unterhitzenberger, J. (2019). Mental health and associated stress factors in accompanied and unaccompanied refugee minors resettled in germany: A cross-sectional study. *Child Adolesc. Psychiatry Mental Health* 13:8. doi: 10.1186/s13034-019-0268-1

Mulvey, K. L. (2015). Children's reasoning about social exclusion: Balancing many factors. *Child Development Perspectives* 10(1), n/a-n/a doi: 10.1111/cdep.12157

Mulvey, K. L., Boswell, C., and Niehaus, K. (2018). You don't need to talk to throw a ball! Children's inclusion of language-outgroup members in behavioral and hypothetical scenarios. *Devel. Psychol.* 54, 1372–1380. doi: 10.1037/dev0000531

Mulvey, K. L., Boswell, C., and Zheng, J. (2017). Causes and consequences of social exclusion and peer rejection among children and adolescents. *Rep. Emot. Behav. Dis. youth* 17, 71–75.

Mulvey, K. L., Hitti, A., and Killen, M. (2013). "Intentionality, morality, and exclusion: How children navigate the social world," in *Navigating the Social World: what Infants, Children and Other Species Can Teach Us*, eds M. Banaji and S. Gelman (Oxford University Press), 377–384.

Mulvey, K. L., Hitti, A., Rutland, A., Abrams, D., and Killen, M. (2014a). Context differences in children's ingroup preferences. *Devel. Psychol.* 50, 1507–1519. doi: 10.1037/a0035593

Mulvey, K. L., Hitti, A., Rutland, A., Abrams, D., and Killen, M. (2014b). When do children dislike ingroup members?: Resource allocation from individual and group perspectives. *J. Soc. Issues* 70, 29-46. doi: 10.1111/josi

Mulvey, K. L., and Killen, M. (2016a). Keeping quiet just wouldn't be right: Children's and adolescents' evaluations of challenges to peer relational and physical aggression. *J. Youth Adolesc.* 45, 1824–1835.

Mulvey, K. L., and Killen, M. (2016b). Keeping quiet just wouldn't be right: Children's and adolescents' evaluations of challenges to peer relational and physical aggression. *J. Youth Adolesc.* 45, 1824-35. doi: 10.1007/s10964-016-0437-y

Mulvey, K. L., and Killen, M. (2017). Children's and adolescents' expectations about challenging unfair group norms. *J. Youth Adolesc.* doi: 10.1007/s10964-017-0671-y

Pun, A., Ferera, M., Diesendruck, G., Kiley Hamlin, J., and Baron, A. S. (2018). Foundations of infants' social group evaluations. *Devel. Sci.* 21:e12586. doi: 10.1111/desc.12586

Rodríguez-Meirinhos, A., Antolín-Suárez, L., Brenning, K., Vansteenkiste, M., and Oliva, A. (2020). A bright and a dark path to adolescents' functioning: The role of need satisfaction and need frustration across gender, age, and socioeconomic status. *J. Happiness Studies* 21, 95–116. doi: 10.1007/s10902-018-00072-9

Ruf, M., Schauer, M., Neuner, F., Catani, C., Schauer, E., and Elbert, T. (2010). Narrative exposure therapy for 7- to 16-year-olds: A randomized controlled trial with traumatized refugee children. *J. Trauma Stress* 23, 437–445. doi: 10.1002/jts.20548

Rutland, A., and Killen, M. (2015). A developmental science approach to reducing prejudice and social exclusion: Intergroup processes, social-cognitive development, and moral reasoning. *Soc. Issues Policy Rev.* 9, 121-154. doi: 10.1111/sipr

Rutland, A., Killen, M., and Abrams, D. (2010). A new social-cognitive developmental perspective on prejudice: The interplay between morality and group identity. *Perspect. Psychol. Sci.* 5, 279–291. doi: 10.1177/1745691610369468

Schmidt, A., Dirk, J., and Schmiedek, F. (2020). The power of everyday peer relatedness in predicting subjective well-being after school transition. *Zeitschrift für Entwicklungspsychologie und Pädagogische Psychologie* 52, 64–74. doi: 10.1026/0049-8637/a000220

Siddiqui, H., Cimpian, A., and Rutherford, M. (2020). Canadian children's concepts of national groups: A comparison with children from the United States. *Devel. Psychol.* 56:2102. doi: 10.1037/dev0001103

Smetana, J. G., Jambon, M., and Ball, C. (2014). "The social domain approach to children's moral and social judgments," in *Handbook of Moral Development*, 2nd Edn, eds M. Killen and J. G. Smetana (Hove: Psychology Press), 23–45.

Tajfel, H., and Turner, J. C. (1976). "The social identity theory of intergroup behaviour," in *The Social Psychology of Intergroup Relations*, eds W. G. Austin and S. Worchel (Pacific Grove, CA: Brooks-Cole), 33–47.

Tajfel, H., and Turner, J. C. (1986). "The social identity theory of inter-group behavior," in *Psychology of Intergroup Relations*, eds S. Worchel and W. Austin (Nelson Hall), 7–24.

Turiel, E. (1983). *The Development of Social Knowledge: Morality and Convention*. Cambridge: Cambridge University Press.

UNHCR. (2021). *Global trends: Forced displacement in 2020*. Available online at: https://www.unhcr.org/refugee-statistic (accessed December 15, 2021).

Verkuyten, M., and Thijs, J. (2002). Racist victimization among children in the netherlands: The effect of ethnic group and school. *Ethnic Racial Stud.* 25, 310–331.

Walton, G. M., and Cohen, G. L. (2011). A brief social-belonging intervention improves academic and health outcomes of minority students. *Science* 331, 1447–1451. doi: 10.1126/science.1198364

Walton, G. M., Cohen, G. L., Cwir, D., and Spencer, S. J. (2012). Mere belonging: The power of social connections. *J. Personal. Soc. Psychol.* 102, 513–532. doi: 10.1037/a0025731

Wang, J., Iannotti, R. J., Luk, J. W., and Nansel, T. R. (2010). Co-occurrence of victimization from five subtypes of bullying: Physical, verbal, social exclusion, spreading rumors, and cyber. *J. Pediatric Psychol.* 35, 1103–1112. doi: 10.1093/jpepsy/jsq048

Ward, C., Bochner, S., and Furnham, A. (2020). *The psychology of culture shock*. Milton Park: Routledge.

Zheng, J., Jiang, N., and Mulvey, K. L. (2021). Adolescents' and emerging adults' judgments and justifications for social inclusion or exclusion of language-outgroup members: Language is just part of the story. *Group Process. Intergroup Relat.* doi: 10.1177/13684302211005845 [Epub ahead of print].

Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

frontiers | Frontiers in Psychology

ORIGINAL RESEARCH
published: 15 April 2022
doi: 10.3389/fpsyg.2022.835695

Children and Adolescents' Ingroup Biases and Developmental Differences in Evaluations of Peers Who Misinform

Aqsa Farooq, Eirini Ketzitzidou Argyri, Anna Adlam and Adam Rutland*

Department of Psychology, University of Exeter, Exeter, United Kingdom

Previous developmental research shows that young children display a preference for ingroup members when it comes to who they accept information from – even when that information is false. However, it is not clear how this ingroup bias develops into adolescence, and how it affects responses about peers who misinform in intergroup contexts, which is important to explore with growing numbers of young people on online platforms. Given that the developmental span from childhood to adolescence is when social groups and group norms are particularly important, the present study took a Social Reasoning Developmental Approach. This study explored whether children and adolescents respond differently to a misinformer spreading false claims about a peer breaking COVID-19 rules, depending on (a) the group membership of the misinformer and their target and (b) whether the ingroup had a "critical" norm that values questioning information before believing it. 354 United Kingdom-based children (8–11 years old) and adolescents (12–16 years old) read about an intergroup scenario in which a peer spreads misinformation on WhatsApp about a competitor. Participants first made moral evaluations, which asked them to judge and decide whether or not to include the misinformer, with follow-up "Why?" questions to capture their reasoning. This was followed by asking them to attribute intentions to the misinformer. Results showed that ingroup preferences emerged both when participants morally evaluated the misinformer, and when they justified those responses. Participants were more likely to evaluate an ingroup compared to an outgroup misinformer positively, and more likely to accuse an outgroup misinformer of dishonesty. Adolescents attributed more positive intentions to the misinformer compared with children, with children more likely to believe an outgroup misinformer was deliberately misinforming. The critical norm condition resulted in children making more positive intentionality attributions toward an ingroup misinformer, but not an outgroup misinformer. This study's findings highlight the importance of shared group identity with a misinformer when morally evaluating and reasoning about their actions, and the key role age plays in intentionality attributions surrounding a misinformer when their intentions are ambiguous.

Keywords: misinformation, moral development, children, adolescents, intergroup, intentionality attribution

OPEN ACCESS

Edited by:
Aline Hitti,
University of San Francisco, United States

Reviewed by:
Bethany Corbett,
Queen's University Belfast, United Kingdom
Meagan Patterson,
University of Kansas, United States

****Correspondence:***
Aqsa Farooq
af560@exeter.ac.uk

Specialty section:
This article was submitted to Developmental Psychology, a section of the journal Frontiers in Psychology

Received: *14 December 2021*
Accepted: *23 March 2022*
Published: *15 April 2022*

Citation:
Farooq A, Ketzitzidou Argyri E, Adlam A and Rutland A (2022) Children and Adolescents' Ingroup Biases and Developmental Differences in Evaluations of Peers Who Misinform. Front. Psychol. 13:835695. doi: 10.3389/fpsyg.2022.835695

INTRODUCTION

Misinformation is false information which circulates as the truth and has been regarded as one of modern society's biggest threats (Lewandowsky et al., 2017), and yet on certain popular social media platforms, it is more widespread than real news (Shin et al., 2018). This is a particular concern given that reports show that 55% of 12–15 years old get their news from social media (Office of Communications, 2020). According to the adult literature, one of the leading causes of belief in and spreading of misinformation is the desire to sustain and propagate the views held by one's social (e.g., political) group, regardless of accuracy, often to maintain the acceptance within that group (Levy et al., 2021). Understanding whether a similar dynamic occurs in childhood, and when, may inform ways to tackle the spread of misinformation when it originates from identification with and loyalty toward the source (i.e., social group), rather than accuracy. The present study aimed to investigate for the first time, development differences in how individuals spreading misinformation (misinformers) are evaluated depending on the group peership of the misinformer and their target, as well as the children's or adolescents' group norms.

Social Reasoning Developmental Approach

Spreading misinformation can be perceived as a moral transgression, yet we know it often emerges to serve the concerns of social groups (i.e., sustain their beliefs). This suggests both the development of morality and intergroup processes are key to understanding if and when children and adolescents accept misinformers. The present study, therefore, took a Social Reasoning Developmental (SRD; Rutland et al., 2010) approach to children's evaluations of misinformers in intergroup contexts, since this theory emphasizes both the role of moral and intergroup process (e.g., group identity and group norms) in children's social and moral decision making. The SRD approach draws from Social Identity Theory (SIT; Tajfel and Turner, 1986) and Social Domain Theory (SDT: Turiel, 1998; Smetana, 2013). SIT contends that individuals value social groups they share identities with (e.g., gender and age) and as a result, are motivated to favor peers who are ingroup peers. It is therefore expected that children's ingroup favoritism will also be evident in evaluations of individuals who misinform about ingroup or outgroup peers. Research drawing from the SDT approach shows there are three different domains of knowledge from which children draw from when evaluating social and moral events: the moral domain (i.e., concerns about welfare, fairness and deception), the social-conventional domain (i.e., concerns about group functioning, group norms and group identity) and the psychological domain (i.e., an individual's mental states, preferences, traits and autonomy).

Previous research using the SRD approach has documented that when it comes to evaluating peers who commit acts with moral and social implications, such as group-based exclusion, children tend to focus on concerns about morality, e.g., whether it is right or wrong to do so (Killen et al., 2013). However, as children get older and enter adolescence they begin also to pay attention to social-conventional matters, e.g., what does it mean for their group (Rutland et al., 2015). From late childhood into adolescence we typically see reasoning drawing from a wider range of domains, including the social-conventional or even the psychological domain, e.g., whether it is their personal choice or perspective (Killen and Rutland, 2011). It was therefore expected, in the present study, that children will mostly refer to moral concerns, whereas adolescents will also cite other domains, such as social-conventional or psychological, when evaluating a misinformer in an intergroup context. To our knowledge there has not been any research using the SRD approach to investigating how children and adolescents evaluate a misinformer.

Children's Acceptance of Information

A big part of living in our current digital society involves being presented with information from various sources and with varying levels of accuracy. It is, therefore, vital to understand how young, developing minds determine who to accept information from, and when the information source, or who the information is about, matters more than its accuracy. Past research shows that young children up to the age of 7 years old prefer new information that comes from ingroup peers rather than outgroup peers (Chen et al., 2013) and their acceptance of information about an outgroup peer is higher when the source of the information is an ingroup peer (Aldan and Soley, 2019). Alarmingly, this ingroup bias persists even if the information is false. In children as young as 4 years old, inaccurate testimonies about the placement of a toy are accepted when it comes from an ingroup peer over an outgroup peer (McDonald and Ma, 2016). What remains unclear is how this ingroup bias, which arguably makes children more susceptible to believing false information, impacts their moral judgments about the source of the false information. This is particularly important to know from a moral development perspective, as the act of giving out false information, if done with the intention to deceive, can be regarded as having moral implications (Evans and Lee, 2013).

Children's Judgments of Morality and Intentionality

Traditionally, children's moral evaluations have been measured through their assignment of punishment and decisions about whether to include or exclude someone (Killen and Rutland, 2011) and typically, children strive for fairness and equal treatment. However, when evaluating morally dubious behavior such as not sharing resources equally, ingroup biases become prevalent in children's moral judgments. For example, when children aged 6 and 8 years old were tasked with assigning punishments for selfish behavior, ingroup favoritism and outgroup biases emerged, resulting in harsher punishments for outgroup peers committing the same selfish transgression as their ingroup counterparts (Jordan et al., 2014). These findings indicate that even amongst children who generally prefer to be fair, witnessing morally inappropriate behavior can elicit intergroup biases that can ultimately influence moral evaluations

of ingroup and outgroup peers. This suggests that the group peership of the individual committing the immoral act is an important indicator of how the children will evaluate it and was expected to be an important determinant of how children and adolescents evaluated a misinformer in the present study.

Research also suggests that the intentions of the person committing the morally dubious act are important when children make social and moral judgments (Killen et al., 2011). This is key in the context of misinformation in particular, as the act of sharing misinformation can be perceived differently depending on whether the sharer's intent has been regarded as deliberate or accidental. For children, perceiving someone as deliberately or accidentally sharing misinformation, requires a level of mental state understanding and ability to infer intentionality (Perner, 1997). This ability, however, is subjected to developmental differences. According to research, from the age of 5 years old, children start to consider the intentions of a character when making social and moral judgments about their lying behavior, however, they tend to struggle to tell the difference between intentionally and unintentionally deceptive statements (Peterson, 1995). As a result, when young children attribute intentions to a supposed moral transgressor, they tend to make more negative evaluations than older children. For instance, younger children are more likely to assume the transgressor deliberately engaged in the transgression, whereas older children apply their more advanced perspective taking skills to consider the transgressor's point of view. So, the attribution of intentions increases in positivity as children get older (Killen et al., 2011). This trend continues into middle childhood up to the age of 11 years (Jambon and Smetana, 2013).

In addition to these developmental differences, group peership and consequently ingroup biases can also influence intentionality evaluations. For instance, from as young as 5 years of age, children refer to an ingroup peer's mental state more than an outgroup peer's (McLoughlin and Over, 2017) and older children make more accurate inferences about mental states for similar ingroup peers than outgroup peers (Gönültaş et al., 2020). This suggests that even measurements of intentionality are susceptible to ingroup biases, and so can potentially result in children making mental state assessments about individuals that are first and foremost based on their group peership. Therefore, we would expect that children's and adolescents' intentionality attributions of the misinformer will be related to the group membership of the misinformer. Specifically, we anticipate that the attributions will be more positive when there is an ingroup misinformer/outgroup victim compared to an outgroup misinformer/ingroup victim.

What remains unclear is whether these ingroup biases come into effect in the context of morally evaluating someone who is spreading false information with intentions that are ambiguous. If they do so, it is also unknown how these evaluations develop over the course of late childhood and adolescence, when attribution of intention can become more positive (Killen et al., 2011), but is also when exposure to information from misleading and deceptive sources increases, with growing use of social media (Office of Communications, 2020). This is of particular interest given the influence of group norms also start to become prevalent from late childhood onward (Abrams and Rutland, 2012) and can influence how children and adolescents morally judge someone who is spreading misinformation.

The Importance of Group Norms and Group Loyalty

With age, children start paying increased attention to their group's norm, and even make moral judgments, such as whether or not to exclude someone, based upon the norms of their ingroup (Hitti et al., 2014). Similarly, due to the importance of groups, and how central they can be to one's social identity (as per SIT; Tajfel and Turner, 1986), loyalty to the group is a key expectation of group peership, and loyal ingroup peers are typically preferred from late childhood onward (Abrams and Rutland, 2012). According to developmental research, from middle childhood, the importance of showing loyalty to one's group norm is regarded as a way of staying included and accepted in it (Killen et al., 2013; Rutland et al., 2015). It is, therefore, of interest to explore whether group peers default to showing loyalty to their group, even when not explicitly told to do so, and even when their group peers commit potentially immoral acts such as spreading misinformation about an outgroup peer and so disadvantaging the outgroup. This can have important implications for addressing ways in which belief in misinformation, and support for people who spread misinformation, can be tackled.

Critical Thinking Against Susceptibility to Misinformation

One way to tackle the spread of misinformation amongst children is by introducing them to the idea of critical thinking. This would promote a way of thinking that encourages being questioning and evaluative about information and its source. While research shows that adolescents and young adults are relatively poor at discerning false information from credible news, there is promising evidence to suggest that improved critical thinking skills can lead to better ability to identify misinformation (Kahne and Bowyer, 2017; Nygren and Guath, 2018). This suggests that questioning and investigative skills, which encourages striving for accuracy rather than solely following group-based beliefs, may help children and adolescents overcome the ingroup biases that lead them to support false testimonies. Individuals can develop such critical thinking, but these skills can also be perceived as normative (i.e., expected) for a social group and become key to how they define their group. It is important to investigate whether creating an ingroup norm that promotes being critical about information can override ingroup biases amongst children and adolescents when morally evaluating a misinformer.

The Present Study

The aim of the present study was to explore the factors that influence children's (8–11-year-old) and adolescents' (12–16-year-old) moral evaluations and intentionality attributions with regards to a peer spreading misinformation about another peer within an intergroup context. These age groups were chosen for a number of reasons. Firstly, around 8 years old is when children become capable of nuanced reasoning that

considers factors pertaining to others' beliefs and mental states, as well as social and moral concerns, simultaneously (Wainryb et al., 1998). As a result, children younger than 7–8 years old understand experiences relating to psychological harm (e.g., name-calling) differently to older children (Helwig et al., 1995), which could extraneously influence understanding of the present study's context. Furthermore, a recent report shows that 21% of United Kingdom children aged 8–11 years who go online have a social media profile, and this significantly increases to 71% of 12–15-year-old (Office of Communications, 2020). For the purpose of interventions, we wanted to understand how these age groups in particular differ, given their supposed different level of exposure to online sources, as well as when implementation of interventions would be most effective.

Moral evaluations were measured in the form of making a judgment about the misinformer, as well as the decision to include the misinformer. Intentionality attribution was measured by asking participants to rate the extent to which they thought the misinformer was deliberately spreading misinformation, and so the intentions of the misinformer were unknown to the participants, to capture differences in attributions based on the manipulated factors.

The first factor which was manipulated was the type of ingroup norm participants were prescribed upon being introduced to their school group, which served as the intergroup context for the present study. Half of the participants were assigned to a control condition where the only expectation was to be competitive, and where a default of showing loyalty to fellow ingroup peers was expected given the sample was all above 7 years of age, when children are known to evaluate peers based on their loyalty to the group (Abrams and Rutland, 2012). Indeed, previous research shows that loyalty to the group is a feature of group peership that children understand from approximately 7 years of age (Abrams et al., 2003, 2008). The other half of the participants were assigned to a "critical" ingroup norm condition where there was an explicit norm encouraging group peers to be critical in how they considered information and seek truth above all else. This was to investigate whether being placed in a group that values being critical about information can influence evaluations of someone spreading false information, even if they are from their own group. This ingroup norm is based on the findings about how to counter misinformation which states that critical thinking about the source and accuracy of information is key to being able to detect false or unreliable information (Kahne and Bowyer, 2017; Swire and Ecker, 2018).

The second factor which was manipulated was the group membership of the misinformer and the target of their misinformation. Half of the participants were exposed to an ingroup misinformer who spread misinformation about an outgroup peer, and the other half read about an outgroup misinformer who spread misinformation about a peer of the participant's own group. This was done to examine whether ingroup biases are present when children and adolescents make moral judgments and attribute the intentionality of someone who is sharing information that is potentially false.

It was therefore expected that both moral evaluations and intentionality attributions would differ depending on both manipulated factors. Due to the past research which has shown children's intentionality attribution toward a moral transgressor becomes more positive with age (Killen et al., 2011; Jambon and Smetana, 2013; we expected a similar trend to emerge in our sample. Due to the literature that suggests children's social-moral reasoning about moral transgressors tends to be more concerned with moral factors (Killen et al., 2013) while adolescents' draws from different domains such as social-conventional or psychological (Rutland et al., 2015), we predicted that the same would occur in the present study's context.

Hypotheses

H1: Children and adolescents' moral evaluations and intentionality attributions of the misinformer were expected to be more positive when they were assigned an ingroup misinformer/outgroup target than an outgroup misinformer/ingroup target.

H2: Children and adolescents' moral evaluations of the misinformer were expected to be less positive if they were assigned the critical norm condition, compared to if they were assigned to the control condition.

H3: Adolescents were expected to attribute more positive intentions to the misinformer compared with children.

H4: When justifying their moral evaluations of the misinformer, children were expected to be more concerned with moral factors in their reasoning, whereas adolescents were expected to also be concerned with social-conventional or psychological factors in their reasoning.

MATERIALS AND METHODS

Participants

Participants (N = 354) were recruited from schools in the South-West of England. The participants consisted of 206 (113 male, 93 female) children 8–11 years old (M_{age} = 9.40, SD = 0.90) and 148 (71 male, 77 female) adolescents 12–16 years old (M_{age} = 14.16, SD = 1.07). This sample size was determined by conducting an *a priori* power analysis for an ANOVA with eight groups under the assumption that there would be main effects and interaction effects in G*Power using an alpha of 0.05, a power of 0.95 and a medium effect size (η^2 = 0.25) (Faul et al., 2007). This calculation estimated a required sample size of 210. The sample, which was representative of the non-diverse areas of South-West England where the data were collected, consisted of approximately 66.1% White British, 15.6% White European, 6.8% Dual Heritage, and 8.5% other ethnic backgrounds (including Black, Indian, and Bangladeshi). 3% of participants withheld ethnic identity information. Parental consent and participants' confirmation to participate was obtained for the whole sample.

Design

This study used a 2 (age group: children vs. adolescents) × 2 (ingroup norm: control condition vs. critical

norm condition) × 2 (group membership: ingroup misinformer/outgroup target vs. outgroup misinformer/ingroup target) between-participants design.

Procedure

Ethical approval for this study, its procedure and its measures was obtained from the first author's University. This study only consisted of participants whose parent or guardian had given consent for their child to take part. Participants who were happy to begin the questionnaire were informed about a nationwide inter-school "Spelling Bee" competition, in which their school was taking part, and had made it to the final where they would be competing with a (fictional) rival school from their local area for a much coveted trophy, a picture of which they were shown. Information about the competition detailed how the winner would be decided based on a points system, and that COVID-19 guidelines (which followed official United Kingdom Government COVID-19 restrictions at the time of the study) were required be followed at all times, such as hand-washing, avoiding touching the face, and social distancing by standing at least 2 m apart at all times. In order to establish group peership with their school, participants chose a logo and a mascot for their school team. This is a commonly used way of heightening group identification by making group identity salient in children, as demonstrated by previous developmental research (Nesdale and Dalton, 2011).

Ingroup Norm

Participants then received a message from their school team, which was randomized by the survey software Qualtrics, and so they received one of the following messages: Participants in the control condition were shown the following message: "*Welcome to the team. Our goal is to win this competition!*" Participants in the critical norm condition were shown the following message: "*Welcome to the team. Our goal is to win this competition! Now that you are a peer of this team, you should know what is important to us. We think that we should make sure something is true before we believe it, no matter who it comes from."*

Group Membership

Next, participants were introduced to ingroup and outgroup peers who were also competing in the Spelling Bee competition. These group peers were always gender-matched to the participants.

Participants in the ingroup misinformer/outgroup target condition were first introduced to Sam, who was representing the same school as the participant, and was therefore in the participant's ingroup. The participant was then shown other ingroup peers who were also representing the participant's school in the competition, Charlie, Jamie, Joe (or Jo), and Jordan. Then, an outgroup peer, Alex, was introduced, who was representing the opposition school team in the competition.

Participants in the outgroup misinformer/ingroup target condition were first introduced to Alex, who was representing the same school as the participant, and was therefore in the participant's ingroup. The participant was then shown other ingroup peers who were also representing the participant's school in the competition, Charlie, Jamie, Joe (or Jo), and Jordan. Then, an outgroup peer, Sam, was introduced, who was representing the opposition school team in the competition.

After being shown their ingroup and outgroup peers, participants were then informed that on the final day of the National Interschool Spelling Bee Competition, Sam posted a video to WhatsApp. Alongside the video, Sam had written: "*Just saw Alex breaking social distancing rules!* [shocked emoji]."

Participants in the control condition saw responses by most of their fellow ingroup peers underneath Sam's comment, which were all in support of their teammate, and so were congruent with the default expectations of a group – but these responses varied depending on the group identity of the misinformer. If participants were in the ingroup misinformer/outgroup target condition, their ingroup peers were showing their support for fellow ingroup peer Sam ("*I trust Sam, he/she is right. Alex was breaking the rules*!"). If participants were in the outgroup misinformer/ingroup target condition, their ingroup peers were disagreeing with outgroup peer Sam to support fellow ingroup peer Alex ("*I trust Alex, he/she can't be breaking the rules. Sam is wrong*"). The ingroup peers within the WhatsApp group always defended the ingroup peer whether they were the misinformer or target to provide ecological validity to the context. This is because from an early age, ingroup peers typically expect loyalty from members of their peer group (Abrams and Rutland, 2008; Yazdi et al., 2020).

Participants in the critical norm condition saw responses by most of their fellow ingroup peers underneath Sam's comment, which were always in support of seeing more information, and so congruent with the explicit norm those participants had seen in the beginning ("*I think we should wait for more information to see if this is true*"). They saw this response from fellow ingroup peers regardless of whether their misinformer was an ingroup or outgroup peer.

In all conditions, participants were then shown the reaction of a final teammate, Jordan, who despite being an ingroup peer, was deviating from the responses of fellow ingroup peers. In the control condition, Jordan said: "*I think we should wait for more information to see if this is true."* In the critical norm condition, Jordan said: "*I trust Sam, he/she was breaking the rules. Alex was breaking the rules!*" when Sam was an ingroup misinformer and "*I trust Alex, he/she can't be breaking the rules. Sam is wrong*" when Sam was an outgroup misinformer.

All participants were then informed that Sam's video was misleading, and the angle from which it was taken did not convey the truth, which was that Alex was indeed social distancing. All participants saw the following message: ***BUT***. . .*Sam's video was taken from very far away, which made it look like Alex was not social distancing. Other videos and pictures, which were taken closer to the team, showed that* ***Alex was standing 2 m away*** *from everyone else. Sam did not check this information before posting the video to WhatsApp.*

Measures

Judgment of Misinformer

Participants were asked to give their judgment of Sam, the misinformer, "*Sam, from [relevant group affiliation] posted the*

video to WhatsApp. How do you feel about Sam?" They then selected their response from a 5-point scale showing faces ranging from 1 (very unhappy face) to 5 (very happy face).

Inclusion of Misinformer

Participants were then asked to decide whether they wanted Sam to be a part of their team, "*Do you want Sam to still be in/join your team?*" They selected their answer from a 5-point Likert scale which went from 1 ("Definitely not") to 5 ("Definitely yes").

Intentions of Misinformer

Participants were finally asked about the misinformer's intentions, "*Do you think Sam thought he/she was doing something OK when he/she posted the video and comment on WhatsApp*?" They gave their responses on a 5-point Likert scale which went from 1 ("Definitely not") to 5 ("Definitely yes").

Reasoning Coding

After participants indicated their judgment and inclusion decisions about the Misinformer, they were asked each time to elaborate on their response by answering open-ended 'Why?' questions. These responses were coded in accordance with Social Domain Theory (Turiel, 1998; Smetana, 2013) and the three distinct domains of reasoning it outlines (moral, social-conventional, and psychological). Based on these domains, five subcategories were drawn which emerged the most from within the participants' responses, having been referred to more than 10% of the time (see **Table 1** for examples of each subcategory from the participants' responses). The coding was conducted by two trained coders, one of whom was blind to the hypotheses of the study, on 25% of the sample of responses (n = 89). A high level of interrater agreement was achieved for both measures (Judgment of Misinformer: Cohen's $\kappa = 0.98$; Inclusion of Misinformer: Cohen's $\kappa = 0.96$). Participants who referenced moral concerns in relation to fairness and equality or personal concerns in terms of autonomy were dropped from the final analyses due to the frequency of their use being less than 10%, along with participants who referenced other matters (e.g., lack of information). Often, participants referenced more than one subcategory in the same response (e.g., "*Everyone in the team is important for us to win, and everyone makes mistakes*") and so multiple coding was adopted. Each subcategory was given a code, where 1 = full use of the subcategory, 5 = even use with another subcategory, 0 = no use of the subcategory. Both negative and positive responses were included in each subcategory.

TABLE 1 | Social-moral reasoning categories, with examples of participant responses for each of the subcategories which are in bold.

	Examples
1. Moral	
Welfare Concerns relating to harm including hurting feelings	"because she did something pretty mean"
Lying and deceit Any references to lying, deception, but also honesty	"he made one of our team mates look like he was breaking rules"
2. Social-conventional	
Group functioning References to winning, group dynamics and loyalty	"because he's helping us and sounds like a good team mate"
Conventional norms and expectations Non-competitive references to rules and norms	"because if she has not broken the rules she deserves to [be included]"
3. Personal	
Personal References to personal choice, traits and perspective taking	"because he could have just made a mistake and misinterpreted Alex's social distancing"

Data Analytic Plan

The first analysis set out to examine H1, H2, and H3, which concerned the misinformer evaluations (judgments, inclusion and intentionality of the misinformer). These hypotheses were analyzed with a 2 (age group: children vs. adolescents) × 2 (ingroup norm: control condition vs. critical norm condition) × 2 (group membership: ingroup misinformer/outgroup target vs. outgroup misinformer/ingroup target) univariate ANOVA. Follow up independent-sample t-tests for interaction effects were conducted with Bonferroni corrections for multiple comparisons applied. Participants' interest in spelling and their identification with their school group was controlled for in each analysis.

To investigate H4, another analysis was conducted on participants' open-ended reasoning responses for Judgments and Inclusion of Misinformer. This was achieved with a 2 (age group: children vs. adolescents) × 2 (ingroup norm: control condition vs. critical norm condition) × 2 (group membership: ingroup misinformer/outgroup target vs. outgroup misinformer/ingroup target) × 5 (reasoning: welfare, lying and deceit, group functioning, conventional norms and expectations, personal) ANOVA with repeated measures on the final variable (for Inclusion of Misinformer, welfare was dropped as a moral subcategory as only 5% participants made references to such concerns). Where sphericity was violated, the Huynh–Feldt adjustment was reported. Pairwise comparisons were observed for main effects, and independent-samples t-tests were used to break down interactions. Participants' interest in spelling and their identification with their school group was controlled for in each analysis.

RESULTS

Judgment of Misinformer

As expected, there was a significant main effect of group membership on Judgment of Misinformer, $F(1,343) = 16.02$, $p < 0.001$. Participants with an ingroup misinformer/outgroup target judged Sam, the misinformer, more positively ($M = 2.81$, $SD = 0.96$) than those with an outgroup misinformer/ingroup target ($M = 2.38$, $SD = 1.03$). There were no significant main effects of ingroup norm ($p = 0.58$) on this measure, and no interactions.

Inclusion of Misinformer

Again, as anticipated, there was a significant main effect of group membership on Inclusion of Misinformer, $F(1,343) = 79.73$, $p < 0.001$. Participants with an ingroup misinformer/outgroup target included Sam, the misinformer, more ($M = 3.64$, $SD = 1.10$) than those with an outgroup misinformer/ingroup target ($M = 2.49$, $SD = 1.16$). There were no significant main effects of ingroup norm ($p = 0.36$) on this measure, and no interactions.

Intentionality of Misinformer

There were no significant main effects of either age group ($p = 0.08$), ingroup norm ($p = 0.12$) or group membership ($p = 0.28$) on Intentionality of Misinformer. However, there was a significant three-way interaction effect between age group, ingroup norm and group membership, $F(1,343) = 4.70$, $p = 0.031$ (see **Figure 1**). Age-related differences in intentionality attributions emerged in both norm type conditions, dependent on the identity of the misinformer/target.

Amongst participants in the control condition, there was a significant difference between children and adolescents with an ingroup misinformer/outgroup target $t(76) = 2.45$, $p = 0.017$, but not between children and adolescents with an outgroup misinformer/ingroup target ($p = 0.32$). Adolescents in the control condition attributed more positive intentions to an ingroup misinformer with an outgroup target ($M = 3.43$, $SD = 0.82$) than children in the control condition did ($M = 2.83$, $SD = 1.17$). In the control condition, children's intentionality attributions did not significantly differ by group membership, ($p = 0.61$) nor did adolescents' ($p = 0.21$).

Amongst participants in the critical norm condition, there was a significant difference between children and adolescents with an outgroup misinformer and an ingroup target $t(71) = 2.16$, $p = 0.034$, but not between children and adolescents with an ingroup misinformer and an outgroup target ($p = 0.78$). Adolescents in the critical norm condition attributed more positive intentions to an outgroup misinformer with an ingroup target ($M = 3.46$, $SD = 0.92$) than children in the critical norm condition did ($M = 2.93$, $SD = 1.07$). In the critical norm condition, children's intentionality attributions did not significantly differ by group membership, ($p = 0.055$) nor did adolescents' ($p = 0.53$).

Amongst the children in the sample, there was a significant difference in intentionality attributions by ingroup norm for those with an ingroup misinformer and outgroup target, $t(101) = 2.33$, $p = 0.022$, but not with an outgroup misinformer and ingroup target ($p = 0.95$). Children in the critical norm condition attributed more positive intentions to an ingroup misinformer with an outgroup target ($M = 3.38$, $SD = 1.21$), than children in the control condition did ($M = 2.83$, $SD = 1.17$).

Amongst the adolescents in the sample, there were no significant differences in intentionality attributions by ingroup norm for neither those who had an ingroup misinformer and an outgroup target ($p = 0.60$), nor those adolescents who had an outgroup misinformer and an ingroup target ($p = 0.19$).

Taken altogether, the three-way interaction shows that in the control condition, adolescents attributed more positive intentions to a misinformer compared with children, but only when the misinformer was an ingroup peer and their target was an outgroup peer. In the critical norm condition, adolescents also attributed more positive intentions to the misinformer, but only when the misinformer was an outgroup peer and their target was an ingroup peer. For children specifically, there was an effect of the ingroup norm manipulation, where being allocated to the critical norm condition resulted in more positive intentionality attributions toward the misinformer, but only when the misinformer was an ingroup peer and their target was an outgroup peer.

Reasoning About Judgment of Misinformer

There was a significant reasoning by age group interaction, $F(1,349) = 6.31$, $p = 0.012$, $\eta^2 = 0.02$ in participants' open-ended responses about their Judgments of the Misinformer. Welfare reasoning (e.g., "*because he was trying to get Alex into trouble*") was used more by children ($M = 0.16$, $SD = 0.34$) than adolescents, ($M = 0.05$, $SD = 0.19$), $t(335) = 3.85$, $p < 0.001$. Lying and deceit reasoning (e.g., "*because Sam could be making it up*") was also used more by children ($M = 0.23$, $SD = 0.40$) than adolescents ($M = 0.08$, $SD = 0.24$), $t(342) = 4.37$, $p < 0.001$. However, reasoning referencing conventional norms and expectations (e.g., "*because she might of broken the rules*") was prioritized by adolescents ($M = 0.23$, $SD = 0.39$) more than children ($M = 0.09$, $SD = 0.25$), $t(231) = 3.83$, $p < 0.001$. This interaction shows that children's reasoning about their judgments of the misinformer included more moral concerns (i.e., welfare, lying and deceit), whereas adolescents included more social-conventional matters (i.e., conventional norms and expectations).

Reasoning About Inclusion of Misinformer

There was also a significant reasoning by age group interaction, $F(3,347) = 2.76$, $p = 0.046$, $\eta^2 = 0.008$ in participants' open-ended responses about their Inclusion of Misinformer evaluation. Children used more lying and deceit reasoning (e.g., "*because I think she's lying to us so that's why I don't want her to join our team*") to justify their inclusion decisions ($M = 0.24$, $SD = 0.41$), than adolescents did ($M = 0.09$, $SD = 0.26$), $t(346) = 4.46$, $p < 0.001$. Adolescents used more group functioning reasoning (e.g., "*because she doesn't seem like a team player*") in their inclusion justifications ($M = 0.33$, $SD = 0.45$), than children did ($M = 0.23$, $SD = 0.40$), $t(293) = 2.17$, $p = 0.016$. These interaction shows that children's reasoning about their inclusion evaluations of the misinformer, referred to more moral concerns (lying and deceit) whereas adolescents' reasoning referred to social-conventional matters more (group functioning).

There was also a significant reasoning by group membership interaction, $F(3,347) = 4.24$, $p = 0.007$, $\eta^2 = 0.012$. Participants cited lying and deceit concerns (e.g., "*that is because he is probably a liar*") more when they had an outgroup misinformer and an

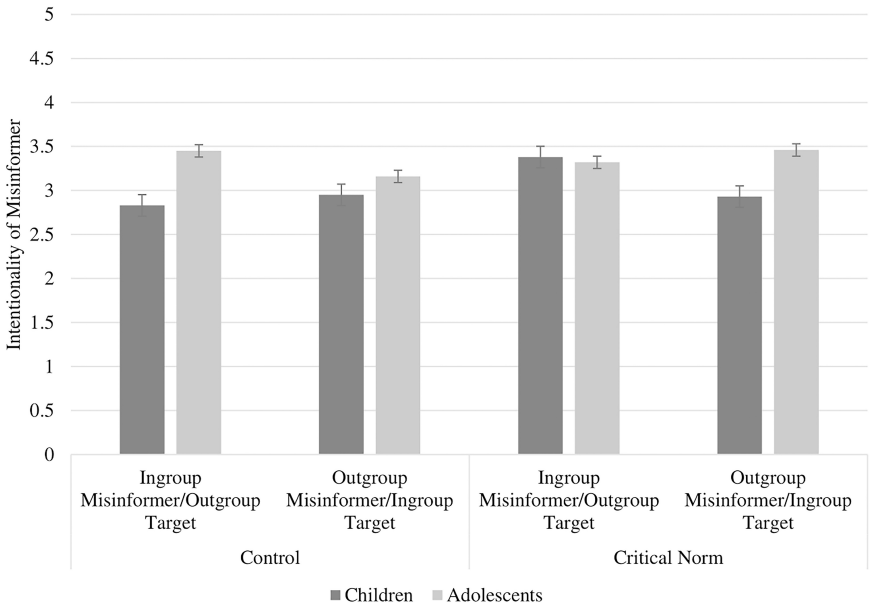

FIGURE 1 | Participants' intentionally attributions (1 = Definitely not OK intentions, 5 = Definitely OK intentions) of the misinformer by age group, ingroup norm, and group membership (with standard errors bars).

ingroup target (M = 0.23, SD = 0.40), than when they had an ingroup misinformer and an outgroup target (M = 0.13, SD = 0.31), $t(346) = 4.46$, $p < 0.001$. Alternatively, participants used more personal reasoning, (e.g., "*because I think Sam thought that Alex wasn't social distancing because it was far away*") when they had an ingroup misinformer and an outgroup target (M = 0.24, SD = 0.40), than when they had an outgroup misinformer and an ingroup target (M = 0.11, SD = 0.30), $t(335) = 3.45$, $p < 0.001$. This shows that inclusion evaluations were justified using moral concerns such as lying and deceit more for an outgroup misinformer with an ingroup target, whereas inclusion evaluations about an ingroup misinformer with an outgroup target were justified more using personal reasoning.

DISCUSSION

The present study used a Social Reasoning Developmental (SRD; Rutland et al., 2010) approach to understand how children and adolescents evaluated and reasoned about an individual spreading misinformation, depending on factors such as the group membership of the misinformer and their target, as well as the norm of the participants' ingroup. In terms of children's and adolescents' judgment of the misinformer, and their decision to include the misinformer in their group, results showed that only group membership impacted responses. As predicted in H1, when the misinformer was an ingroup peer who had spread misinformation about an outgroup peer, participants were more likely to be happy with and include the misinformer in their group. However, unlike moral evaluations, intentionality attributions were not directly affected by the group membership manipulation.

With regards to the ingroup norm, contrary to predictions (H2), there was no main effect of the critical norm condition on participants' moral evaluations of the misinformer. In terms of intentionality attributions, while there were no main effects of either age group or misinformer identity on participants' attribution of intentions, there was a three-way interaction between age group, ingroup norm and group membership. The three-way interaction indicated developmental effects in line with predictions (H3), insofar as adolescents attributed more positive intentions to the misinformer compared with children in both norm manipulation conditions, but this was dependent on the identity of the misinformer/target. The interaction also highlighted the role of the critical norm condition in increasing children's intentionality attributions compared to the control condition, but only when the misinformer was an ingroup peer who had spread misinformation about an outgroup peer. Finally, H4 was also supported as children used more moral reasoning (welfare, lying, and deceit) to justify their evaluations of the misinformer than adolescents did, whereas adolescents comparatively used more social-conventional (group functioning, conventional norms, and expectations) reasoning than children did.

The Importance of Group Identity

In line with Social Identity Theory (SIT; Tajfel and Turner, 1986), children and adolescents did indeed exhibit an ingroup bias when morally evaluating a misinformer. This study is the first of its kind as it focused on children's and adolescents' moral evaluations of the individual spreading misinformation in an intergroup context, and so provides a novel insight into a phenomenon that is becoming increasingly more relevant to our current digital society. This finding is important as it implies that from the age of

8, children differentiate between individuals from their group and individuals from a different group even when they commit the same morally dubious act – and they continue to do so through to adolescence. Crucially, having an ingroup norm that emphasized being questioning of information, and thus an ingroup peer who spread information without checking, did not have a direct impact on participants' responses. This could have been because of the failure of the critical norm manipulation itself, which due to the strong ingroup bias demonstrated in this context, may have required more emphasis and frequent reminders in order have an impact. As critical thinking skills training can be effective in reducing belief in misinformation, it is possible that for a critical norm to be effective in impacting *moral* evaluations *of* the misinformer, it would need to be prioritized over the strong ingroup preference that children display. The question is then what may encourage children and adolescence to prioritize being critical over supporting their ingroup.

From the trends observed in participants' reasoning, it is clear that the group identity of the misinformer and their target led to different justifications being used by the participants. When participants had an outgroup misinformer and an ingroup target, they cited lying and deceit concerns to justify their inclusion evaluations, which involved more accusations of dishonesty. In comparison, participants with an ingroup misinformer and an outgroup target used more personal reasoning to justify their inclusion evaluations, which tended to include more perspective taking on the misinformer's part. This highlights that despite the misinformer's claim being the same for participants in both misinformer identity conditions, having an ingroup peer as a misinformer can result in more likelihood to engage in mental state understanding, whereas having an outgroup peer as a misinformer results in less belief in their claim. This is in line with past research showing that children and adolescents are more likely to consider the mental states of ingroup peers than outgroup peers (McLoughlin and Over, 2017; Gönültaş et al., 2020). It is also an important insight, for it suggests that to counteract the ingroup bias in accepting misinformers, emphasizing concerns in these particular areas of the moral and social domains of reasoning may be most effective.

Developmental Differences

There were important age-related differences that emerged in the present study. Firstly, children made more references to moral concerns, such as welfare and lying and deceit, than adolescents did when judging the misinformer. On the other hand, adolescents' reasoning about their judgments consisted of more references to social-conventional matters, such as group functioning and conventional norms and expectations. This developmental shift is congruent with previous research, which claims that children are relatively more concerned with moral factors in their reasoning, whereas adolescents become comparatively more concerned with social-conventional or psychological matters (Killen and Rutland, 2011; Killen et al., 2013) as explained by adolescents' more fervent interest in group norms and dynamics (Rutland et al., 2015).

Furthermore, as predicted, and in line with previous research (Killen et al., 2011; Jambon and Smetana, 2013), participants' intentionality attributions became more positive with age; adolescents made more positive intentionality attributions about the misinformer compared with children. This age trend, when broken down, was partially due to the two conditions in which adolescents were more likely than children to believe a misinformer was spreading misinformation unintentionally.

First, in the control condition where loyalty to the group was expected, adolescents attributed significantly more positive intentions to an ingroup misinformer compared with children. This could have been due to adolescents' superior perspective taking abilities, which may have resulted in them being more likely to regard the misinformer's actions as accidental, an effect exacerbated by the ingroup status of the misinformer, the outgroup status of the target and the expectations of loyalty in the group.

Second, the other condition that showed an age difference was when there was an ingroup norm that encourages thinking critically. In this condition, children's intentionality attributions for an outgroup misinformer were significantly more negative than adolescents', suggesting the critical norm facilitated a dislike for the outgroup amongst the children only. This could have been linked to the evidence that shows younger children are worse at acknowledging and interpreting the mental states of outgroup peers, and consider the mental states of ingroup peers more, than older children and adolescents do (McLoughlin and Over, 2017; Gönültaş et al., 2020).

Further, when children were assigned to the critical ingroup norm condition, they made more positive intentionality attributions about an ingroup misinformer than when they were in the control condition. This finding opens up the possibility that a group norm of being critical may encourage children to be more positive in their perspective taking regarding an ingroup misinformer's intentions. Hence, a norm of thinking critically may have made children question their assumption of a misinformer's intentions, but in a negative direction for outgroup peers and in a positive direction for ingroup peers, given children are better at interpreting their ingroup's mental states. The present study did not take an isolated measure of participants' social-cognitive perspective taking ability, such as their Theory of Mind ability, so it is not possible to underpin the mechanism responsible for this effect. Future research should, therefore, explore Theory of Mind ability in relation to age-related effects of a critical ingroup norm on intentionality attribution.

These developmental differences may also have been linked to children's open-ended justifications of both moral evaluations, which were significantly more concerned with lying and deceit than adolescents. Hence, it is possible that given the misinformer's intentions were ambiguous in the study, children were more likely to presume the misinformer had deliberately spread misinformation, and so committed an intentional act of deception. This is supported by prior research, which has shown that even when a false claim is made unintentionally, children justify negative evaluations of the claim with references to lying (Rizzo et al., 2019). Developmental differences in intentionality attributions, therefore, are necessary to consider in the context of misinformers, especially as much of misinformation online can be spread unintentionally or with ambiguous intentions.

These developmental differences in attributing intentions should, therefore, be considered when designing interventions that combat the spread of misinformation, as age may play a key role in whether someone is perceived as being intentionally or unintentionally deceptive.

Limitations and Future Directions

The manipulation of the ingroup norm, which failed to have a predicted effect, is a limitation of the study. This may have been because, with regards to the critical norm condition, a norm message from their school team telling them what they value may not have been enough to influence their judgments and decisions. Rather, seeing their fellow peer group members being critical, or being presented with a context that explicitly highlights moral concerns over group concerns might have been needed. Without seeing what being critical means in practice, it is possible that it is not strong enough to influence the participants as much as the manipulation of the misinformer's identity did. Given this was the first time a norm of this kind was used in a study manipulation, it is possible that with more development and further studies, it can become more effective. The control condition may also have been a possible weakness for not having an explicit norm, and for assuming loyalty to be the norm without making it a more salient expectation. Together, this may have been why the effect of the norm was not as predicted, and may need to be strengthened in future studies. From this study alone, the findings suggest that critical thinking is something that requires more than just a single norm message to encourage in children and adolescents, and perhaps first it needs to combat the strong effect of ingroup biases.

The present study's design manipulated the group membership of both the misinformer and the target of the misinformation, so the misinformer was always in the opposing team of their target. This was done to create an intergroup context with ecological validity, as in real-life contexts, it is unlikely for a group member to share a false accusation about their fellow group member in a competitive intergroup context, resulting in a disadvantage for their own group. We still acknowledge that not having comparative groups where an ingroup misinformer targets a fellow ingroup peer, and an outgroup misinformer targets a fellow outgroup peer, is a limitation of the present study. Adding such manipulation conditions would have made the conclusions much clearer in terms of whether it is the group membership of the misinformer or the target that drives the evaluations made by our sample, which we are aware is currently unclear from our present study. Future research should include such comparisons for more comprehensive conclusions and include evaluation questions about both the misinformer and their target.

Ingroup and outgroup membership in this study was related to school teams in a spelling competition. We recognize that the inclusion evaluation may have been affected by the presumption that an individual cannot easily leave their school team to join another. Nonetheless we would have anticipated similar results in an alternative intergroup context other than a school, such as a sports team, where moving between groups is also potentially difficult and risky. In future research, this question could be reframed around the inclusion of the misinformer in a future event and a different intergroup context, for instance, rather than the same inter-school context.

It should also be noted that this research was conducted during the COVID-19 pandemic, in-between national lockdown cycles and during strong, government-led norms about social distancing and following rules for the sake of saving lives. It is unclear from this study how the COVID-19 social distancing guidelines, which feature in the intergroup context, were perceived by the participants. This was not a factor we had controlled for, as to our knowledge, there have not been any studies conducted around children and adolescents' reasoning about COVID-19 rules. It is therefore uncertain whether they perceived social distancing as a matter of moral concern, social-convention or personal choice. This lack of certainty is a limitation of the present study, but a definite exploration for future research to undertake.

Nonetheless, in some cases participants' reasoning about their evaluations indicated that the welfare concerns of not social distancing (such as spreading of the virus, getting sick, etc.) were not a priority. From the whole sample, welfare concerns in the context of *health risk* was only commented on twice (e.g., "*broke rules risking people's health*" and "*because he is telling her friend to keep 2 m so she doesn't get COVID-19*"), suggesting COVID-19 and its guidelines were not seen as much of a moral matter, but was frequently commented on in the context of *just* following the social distancing rules (e.g., "*because she does not break the social distancing rules*"), which on its own was regarded as a social-conventional matter. While these indications alone are insufficient to draw conclusions from, there is a likelihood that the participants of the study viewed the social distancing guidelines as a social-conventional matter rather than a moral welfare concern.

Overall, the findings in this study make a strong case for focusing on group identity effects, as highlighted by both evaluation responses and open-ended reasoning, when trying to address ingroup biases toward misinformers. In the adult literature, it has been demonstrated that misinformation belief and spread can be attributed to individuals' desire to gain the acceptance of an identity group, often at the expense of maintaining the accuracy of the information itself (Levy et al., 2021). The present study and its findings arguably tap into a similar mechanism occurring in childhood and adolescence, where participants who share a group identity with the misinformer make more favorable evaluations of the misinformer, even attempting to understand their perspective more. The developmental differences in intentionality attribution and choice of reasoning also highlight that evaluations of misinformers are subject to age-related influences. It is therefore crucial that interventions that focus on challenging children and adolescents' susceptibility to misinformation and its source should consider the intergroup factors that may be at play, alongside emerging developmental differences. For this reason, the present study makes an important and necessary Contribution To The Field of understanding children and

adolescents' evaluations of peers who spread misinformation about fellow peers.

Conclusion

The present study provided a novel contribution to existing research by demonstrating that group membership and age-related differences influence moral and intentionality evaluations and reasoning about a misinformer. Ingroup preferences emerged both when participants morally evaluated the misinformer, and when they justified those responses. Participants were more likely to engage in perspective taking when the misinformer was an ingroup peer targeting an outgroup peer, and more likely to level an accusation of dishonesty toward an outgroup misinformer targeting an ingroup peer. The age-related differences highlighted in the present study also extend previous research, reinforcing the relative importance of moral concerns for children and social-conventional matters for adolescents, and providing insights from children's reasoning for their more negative intentionality attributions compared with adolescents. Altogether, this study argues for an approach to tackling the spread of misinformation that takes into account factors such as shared group identity with, and developmental differences in attribution of intentionality to the spreaders of misinformation itself.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Dr. Nick Moberly, University of Exeter Ethics Committee. Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin.

AUTHOR CONTRIBUTIONS

AF, AR, and AA conceived of the study and contributed to manuscript revision, read, and approved the submitted version. AF carried out the data collection, performed the data analysis, with assistance from EK on reliability coding, and wrote the first draft of the manuscript. All authors contributed to the article and approved the submitted version.

FUNDING

This research was supported by the lead author's funder, College of Life and Environmental Sciences, University of Exeter. Funds for the Open Access Publication Fees were also received from the University of Exeter.

ACKNOWLEDGMENTS

We would like to thank the head teachers, school staff and pupils of the schools who participated in this study for their generous time and support during a difficult period.

REFERENCES

Abrams, D., and Rutland, A. (2008). "The development of subjective group dynamics," in *Intergroup Relations and Attitudes in Childhood Through Adulthood*, eds S. R. Levy and M. Killen (Oxford: Oxford University Press), 47–65.

Abrams, D., and Rutland, A. (2012). "Children's understanding of deviance and group dynamics: the development of subjective group dynamics," in *Rebels in Groups: Dissent, Deviance, Difference and Defiance*, eds J. Jetten and M. J. Hornsey (Oxford: Wiley-Blackwell), 135–157. doi: 10.1002/9781444390841.ch8

Abrams, D., Rutland, A., and Cameron, L. (2003). The development of subjective group dynamics: children's judgments of normative and deviant in-group and out-group individuals. *Child Dev.* 74, 1840–1856. doi: 10.1046/j.1467-8624.2003.00641.x

Abrams, D., Rutland, A., Ferrell, J. M., and Pelletier, J. (2008). Children's judgments of disloyal and immoral peer behavior: subjective group dynamics in minimal intergroup contexts. *Child Dev.* 79, 444–461. doi: 10.1111/j.1467-8624.2007.01135.x

Aldan, P., and Soley, G. (2019). The role of intergroup biases in children's endorsement of information about novel individuals. *J. Exp. Child Psychol.* 179, 291–307. doi: 10.1016/J.JECP.2018.11.007

Chen, E. E., Corriveau, K. H., and Harris, P. L. (2013). Children trust a consensus composed of outgroup members-but do not retain that trust. *Child Dev.* 84, 269–282. doi: 10.1111/j.1467-8624.2012.01850.x

Evans, A. D., and Lee, K. (2013). Emergence of lying in very young children. *Dev. Psychol.* 49, 1958–1963. doi: 10.1037/a0031409

Faul, F., Erdfelder, E., Lang, A., and Buchner, A. (2007). G*Power 3: a flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behav. Res. Methods* 39, 175–191. doi: 10.3758/bf03193146

Gönültaş, S., Selçuk, B., Slaughter, V., Hunter, J. A., and Ruffman, T. (2020). The capricious nature of theory of mind: does mental state understanding depend on the characteristics of the target? *Child Dev.* 91, e280–e298. doi: 10.1111/cdev.13223

Helwig, C. C., Hildebrandt, C., and Turiel, E. (1995). Children's judgments about psychological harm in social context. *Child Dev.* 66, 1680–1693. doi: 10.1111/J.1467-8624.1995.TB00958.X

Hitti, A., Mulvey, K. L., Rutland, A., Abrams, D., and Killen, M. (2014). When is it okay to exclude a member of the ingroup? Children's and adolescents' social reasoning. *Soc. Dev.* 23, 451–469. doi: 10.1111/sode.12047

Jambon, M., and Smetana, J. (2013). Moral complexity in middle childhood: children's evaluations of necessary harm. *Dev. Psychol.* 50, 22–33. doi: 10.1037/a0032992

Jordan, J. J., McAuliffe, K., and Warneken, F. (2014). Development of in-group favoritism in childrenŠs third-party punishment of selfishness. *Proc. Natl. Acad. Sci.* U.S.A. 111, 12710–12715. doi: 10.1073/pnas.1402280111

Kahne, J., and Bowyer, B. (2017). Educating for democracy in a partisan age: confronting the challenges of motivated reasoning and misinformation. *Am. Educ. Res. J.* 54, 3–34. doi: 10.3102/0002831216679817

Killen, M., and Rutland, A. (2011). *Children and Social Exclusion: Morality, Prejudice, and Group Identity*. Hoboken, NJ: Wiley Blackwell. doi: 10.1002/9781444396317

Killen, M., Lynn Mulvey, K., Richardson, C., Jampol, N., and Woodward, A. (2011). The accidental transgressor: Morally-relevant theory of mind. *Cognition* 119, 197–215. doi: 10.1016/J.COGNITION.2011.01.006

Killen, M., Rutland, A., Abrams, D., Mulvey, K. L., and Hitti, A. (2013). Development of intra-and intergroup judgments in the context of moral and social-conventional norms. *Child Dev.* 84, 1063–1080. doi: 10.1111/cdev.12011

Levy, J., Bayes, R., Bolsen, T., and Druckman, J. N. (2021). "Science and the politics of misinformation," in *The Routledge Companion to Media Disinformation and Populism*, eds H. Tumber and S. Waisbord (London: Routledge), 231–241. doi: 10.4324/9781003004431-26

Lewandowsky, S., Ecker, U. K. H., and Cook, J. (2017). Beyond misinformation: understanding and Coping with the "Post-Truth" Era. *J. Appl. Res. Mem. Cogn.* 6, 353–369. doi: 10.1016/J.JARMAC.2017.07.008

McDonald, K. P., and Ma, L. (2016). Preschoolers' credulity toward misinformation from ingroup versus outgroup speakers. *J. Exp. Child Psychol.* 148, 87–100. doi: 10.1016/J.JECP.2016.03.011

McLoughlin, N., and Over, H. (2017). Young children are more likely to spontaneously attribute mental states to members of their own group. *Psychol. Sci.* 28, 1503–1509. doi: 10.1177/0956797617710724

Nesdale, D., and Dalton, D. (2011). The British psychological society children's social groups and intergroup prejudice: assessing the influence and inhibition of social group norms. *Br. J. Dev. Psychol.* 29, 895–909. doi: 10.1111/j.2044-835X.2010.02017.x

Nygren, T., and Guath, M. (2018). "Mixed digital messages: the ability to determine news credibility among Swedish teenagers," in *Proceedings of the 15th International Conference on Cognition and Exploratory Learning in the Digital Age, CELDA 2018*, Budapest, 375–378.

Office of Communications (2020). *Children and Parents: Media use and Attitudes Report 2019*. 220. Available online at: https://www.ofcom.org.uk/__data/assets/pdf_file/0023/190616/children-media-use-attitudes-2019-report.pdf (accessed November 5, 2021).

Perner, J. (1997). Children's competency in understanding the role of a witness: truth, lies, and moral ties. *Ltd. Appl. Cognit. Psychol* 11, 21–35. doi: 10.1002/(SICI)1099-0720(199712)11:7

Peterson, C. C. (1995). The role of perceived intention to deceive in children's and adults' concepts of lying. *Br. J. Dev. Psychol.* 13, 237–260. doi: 10.1111/J.2044-835X.1995.TB00677.X

Rizzo, M. T., Li, L., Burkholder, A. R., and Killen, M. (2019). Lying, negligence, or lack of knowledge? children's intention-based moral reasoning about resource claims. *Dev. Psychol.* 55:274. doi: 10.1037/DEV0000635

Rutland, A., Hitti, A., Mulvey, K. L., Abrams, D., and Killen, M. (2015). When does the in-group like the out-group? bias among children as a function of group norms. *Psychol. Sci.* 26, 834–842. doi: 10.1177/0956797615572758

Rutland, A., Killen, M., and Abrams, D. (2010). A new social-cognitive developmental perspective on prejudice: the interplay between morality and group identity. *Perspect. Psychol. Sci.* 5, 279–291. doi: 10.1177/1745691610369468

Shin, J., Jian, L., Driscoll, K., and Bar, F. (2018). The diffusion of misinformation on social media: temporal pattern, message, and source. *Comput. Hum. Behav.* 83, 278–287. doi: 10.1016/J.CHB.2018.02.008

Smetana, J. G. (2013). "Moral development: the social domain theory view," in *The Oxford Handbook of Developmental Psychology: Body and Mind*, Vol. 1, ed. P. D. Zelazo (Oxford: Oxford University Press), 832–863.

Swire, B., and Ecker, U. K. H. (2018). "Misinformation and its correction: cognitive mechanisms and recommendations for mass communication," in *Misinformation and Mass Audiences*, eds B. G. Southwell, E. A. Thorson, and L. Sheble (Austin, TX: University of Texas Press), 195–211. doi: 10.7560/314555-013

Tajfel, H., and Turner, J. (1986). "The social identity theory of intergroup behavior," in *Psychology of Intergroup Relation*, eds S. Worchel and W. Austin (Chicago, IL: Nelson Hall), 7–24.

Turiel, E. (1998). "The Development of Morality," in *Handbook of Child Psychology, (Social, Emotional and Personality Development)*, Vol. 3, eds N. Eisenberg, W. Damon, and R. M. Lerner (New York, NY: Wiley), 863–932.

Wainryb, C., Shaw, L. A., and Maianu, C. (1998). Tolerance and intolerance: children's and adolescents' judgments of dissenting beliefs, speech, persons, and conduct. *Child Dev.* 69, 1541–1555. doi: 10.1111/J.1467-8624.1998.TB06176.X

Yazdi, H., Barner, D., and Heyman, G. D. (2020). Children's intergroup attitudes: insights from Iran. *Child Dev.* 91, 1733–1744. doi: 10.1111/CDEV.13363

Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

frontiers | Frontiers in Psychology

ORIGINAL RESEARCH
published: 11 May 2022
doi: 10.3389/fpsyg.2022.816205

Group Norms Influence Children's Expectations About Status Based on Wealth and Popularity

Kathryn M. Yee, Jacquelyn Glidden and Melanie Killen*

Department of Human Development and Quantitative Methodology, University of Maryland, College Park, MD, United States

Children's understanding of status and group norms influence their expectations about social encounters. However, status is multidimensional and children may perceive status stratification (i.e., high- and low-status) differently across multiple status dimensions (i.e., wealth and popularity). The current study investigated the effect of status level and norms on children's expectations about intergroup affiliation in wealth and popularity contexts. Participants (N = 165; age range: 5–10 years; M_{age} = 7.72 years) were randomly assigned to hear two scenarios where a high- or low-status target affiliated with opposite-status groups based on either wealth or popularity. In one scenario, the group expressed an inclusive norm. In the other scenario, the group expressed an exclusive norm. For each scenario, children made predictions about children's expectations for a target to acquire social resources. Novel findings indicated that children associated wealth status to some extent, but they drew stronger inferences from the wealth dimension than from the popularity dimension. In contrast to previous evidence that children distinguish between high- and low-status groups, we did not find evidence to support this in the context of the current study. In addition, norms of exclusion diminished children's expectations for acquiring social resources from wealth and popularity groups but this effect was more pronounced between wealth groups. We found age differences in children's expectations in regards to norms, but not in regards to status. The implications of how these effects, in addition to lack of effects, bear on children's expectations about acquiring resources are discussed.

Keywords: group norms, status, wealth, popularity, intergroup

OPEN ACCESS

Edited by:
Luke McGuire,
University of Exeter, United Kingdom

Reviewed by:
Rebecca Peretz-Lange,
SUNY Purchase, United States
Adam Rutland,
University of Exeter, United Kingdom

****Correspondence:***
Kathryn M. Yee
katyee@umd.edu

Specialty section:
This article was submitted to Developmental Psychology, a section of the journal Frontiers in Psychology

Received: *16 November 2021*
Accepted: *29 March 2022*
Published: *11 May 2022*

Citation:
Yee KM, Glidden J and Killen M (2022) Group Norms Influence Children's Expectations About Status Based on Wealth and Popularity. Front. Psychol. 13:816205. doi: 10.3389/fpsyg.2022.816205

INTRODUCTION

Social status reflects the level of prestige and deference that an individual or group is afforded by others (Anderson et al., 2015). Status stratification is prevalent across societies and young children attend to status cues based on dimensions such as power, wealth, dominance, and social acceptance. By their preschool years, children accurately identify individuals who are high- or low-status, which further guides their expectations about others' traits, abilities, and behavior (Brey and Shutts, 2015; Charafeddine et al., 2015; Shutts et al., 2016; Gülgöz and Gelman, 2017; Enright et al., 2020). Often, children associate multiple dimensions of status. For example, they view wealthy targets as popular (Shutts et al., 2016) and associate physical dominance with competence and possessing more resources (Charafeddine et al., 2015). Moreover, studies examining various status dimensions find

that children associate more positive attributes with high-status individuals and exhibit stronger preferences for them than for low-status individuals (Horn, 2006; Newheiser et al., 2014; Mistry et al., 2015; Shutts et al., 2016; Enright et al., 2020).

Children may favor high-status peers over low-status peers for a variety of reasons. In addition to inferring that individuals possess similar rank across status dimensions, they may broadly infer positive traits from positive status information (Cain et al., 1997). For example, children associate the wealthy with more positive traits (e.g., smart, hardworking, clean, good, honest, polite) than the poor (Mistry et al., 2015). They may also infer positive traits in order to justify existing disparities observed between status groups (Baron and Banaji, 2009; Newheiser et al., 2014).

Alternatively, children may be motivated to identify with groups that are positively distinguished in order to enhance their own self-esteem (Abrams and Rutland, 2008; Nesdale, 2008). Status distinctions may indicate to children the extent to which an individual can functionally benefit others. Affiliation with popular peers, for instance, can enhance one's own social standing (Dijkstra et al., 2010). Children expect wealthy peers to share more resources than non-wealthy peers (Ahl and Dunham, 2019; Ahl et al., 2019) and also allocate more resources to peers who they expect to share with them and help them (Dunham et al., 2011; Renno and Shutts, 2015).

Despite associations between multiple dimensions of status, no studies to date have compared children's expectations about the benefits of cross-status affiliation between different dimensions. Moreover, although children expect to receive material resources from the wealthy, less is known about whether children also expect to receive relatively more social benefits from wealthy peers than non-wealthy peers. The current study first aims to investigate children's associations between two dimensions of status: wealth and popularity. In addition, we aim to extend previous literature by comparing children's expectations about acquiring social benefits through cross-status affiliation in wealth and popularity contexts.

Conceptions of Wealth Status

Children are aware of wealth stratification from a young age and often favor wealthy peers over non-wealthy peers. Children view wealthy individuals as more competent (Woods et al., 2005; Sigelman, 2012; Li et al., 2014; Mistry et al., 2015; Shutts et al., 2016), more likely to share (Ahl and Dunham, 2019; Ahl et al., 2019), and having more friends (Shutts et al., 2016) than non-wealthy individuals. Moreover, children as young as 4 years of age explicitly and implicitly prefer wealthy peers over non-wealthy peers (Olson et al., 2012; Horwitz et al., 2014; Li et al., 2014; Newheiser et al., 2014; Shutts et al., 2016).

Despite these biases, children are simultaneously sensitive to the needs of the economically disadvantaged. They view poverty as unfair and recognize that the poor lack basic necessities as well as a social network (Chafel and Neitzel, 2005). Children increasingly attempt to reduce inequality by allocating more resources and opportunities to low-wealth peers than high-wealth peers with age (Li et al., 2014; Elenbaas and Killen, 2019; Zhang et al., 2021). In contrast to 4-year-olds, 8-year-olds reported more negative emotions after hypothetically excluding an economically disadvantaged peer (Dys et al., 2019). However, some evidence suggests that after age 11, children increasingly legitimize wealth inequality and their beliefs that the rich should give to the poor then decline (Leahy, 1990).

Children's preferences for the wealthy appear to be at odds with their egalitarian beliefs. Li et al. (2014) found that 4- and 5-year-olds preferred to be friends with a resource rich target than a resource poor target, but allocated more toys to the resource poor target. Interestingly, when children forgot which target initially possessed more resources due to a delay between the preference and allocation tasks, they favored the resource rich target in both their preferences and allocations. Thus, children's wealth preferences may be driven by automatic and unconscious positive associations. Moreover, their attitudes and behavior may not consistently favor the wealthy when moral concerns arise.

Studies focusing on children's trait associations with wealth groups, suggest that children's preferences may be particularly driven by beliefs that wealthy individuals are competent and likely to share (Woods et al., 2005; Sigelman, 2012; Li et al., 2014; Mistry et al., 2015; Shutts et al., 2016; Ahl and Dunham, 2019; Ahl et al., 2019). At the same time, children as young as 8 years view wealthy individuals as greedy, selfish, and exclusive (Elenbaas and Killen, 2019; Burkholder et al., 2020). Preferences for the wealthy may not merely be driven by beliefs that they are particularly likeable. Rather, affiliating with individuals who are viewed as competent and able to share their resources may provide certain economic and social benefits that children find attractive.

Conceptions of Popularity Status

Peer popularity is another important dimension of status for children and is defined as individual's prestige, visibility, and reputation among peers (Cillessen and Marks, 2011). Traditional sociometric methods (for review, see Cillessen, 2009) have assessed popularity using peer nomination procedures, where children rank their peers by who they like the most to the least. Those who received the most nominations were then classified as popular and those with the least were classified as unpopular. However, peer relation studies now distinguish popularity from mere peer preference. For example, a study of 9- to 13-year-olds found that children who were explicitly nominated as the most popular exhibited more social dominance (i.e., ability to compete for or control material and social resources) than those who were nominated as the most well-liked (Lease et al., 2002). The same study also found an association between popularity and wealth in terms of having money to spend and high-quality possessions such as expensive clothing and a very nice house. Younger children in grades 3–5 also identify popular peers as those who influence others' behavior and set social norms (Lease et al., 2020). However, peers who were considered both popular and well-liked were distinguished from the broader popular group by prosocial qualities and being less likely to use ridicule or model misbehavior in order to influence others. Thus, popular peers are viewed as both prosocial and antisocial (LaFontana and Cillessen, 2002).

Children's associations between popularity and peer preference decline between early childhood and adolescence

(Cillessen and Marks, 2011). This may be due, in part, to children's increasing consideration of group dynamics (e.g., status hierarchies, norms, and distinctions between personal and consensus-based judgments). There is also evidence that popularity becomes increasingly related to antisocial behavior such as aggression (Sandstrom, 2011). In addition, children increasingly prioritize popularity status. Compared to children in grades 1–4, children in grades 5–8 were more likely to make decisions that increase or maintain their popularity status at the expense of friendship, compassion, achievement, and rule adherence (LaFontana and Cillessen, 2010).

In addition, children may be more willing to disregard or admire a high-status peer's antisocial behavior than a low-status peer's. Children explicitly prefer popular peers over unpopular peers even if they hold implicit negative attitudes toward them (Lansu et al., 2012), and choose to include them in activities over unpopular peers (Horn, 2006). While prosocial behavior predicted higher perceived friendship quality among unpopular children, popular children were viewed as possessing high quality friendships regardless of their prosocial tendencies (Poorthuis et al., 2012). Even in the absence of prosocial traits, popular peers may possess other redeeming qualities such as being powerful and influential, which may help others enhance their social standing (Cillessen and Marks, 2011). A study among adolescents found that an individual's popularity and likeability increased the closer they affiliated with popular peers (Dijkstra et al., 2010). However, it's unclear whether elementary school-aged children view affiliation with popular peers as a means for achieving status or acquiring additional social resources.

Group Norms and Status

Children's understanding of social norms can powerfully regulate their intergroup attitudes and behavior (Nesdale et al., 2005; Rutland et al., 2005; Bennett, 2014; McGuire et al., 2017). Social norms promote group functioning by establishing a sense of common ground and by regulating within-group behavior (Feldman, 1984; Abrams et al., 2003a,b). The manifestation of prejudice and discrimination depends on the strength of one's group identification, perceptions of threat and competition, and the extent to they view these attitudes and behaviors as in line with group standards (Rutland and Killen, 2015). For instance, children who were assigned to a group with a norm of exclusion favored their own group and expressed attitudes that were consistent with their group's norm (Nesdale et al., 2008). Under some circumstances, norms can also moderate children's biases toward their own group. When children view an outgroup as holding a competitive or exclusive norm, they are more likely to dislike and lack empathy for outgroup members than when the outgroup is perceived to be cooperative or inclusive (Nesdale et al., 2005, 2007; Nesdale and Dalton, 2010). However, children are inclined to view their own group's positively and therefore, may be more likely to view their own group as more inclusive than an outgroup when norms are not explicit. For example, Non-Arab American adolescents expected their own group to include peers based on shared interests, but expected Arab American peers to include peers based on ethnicity (Hitti and Killen, 2015). Whether they show out-group prejudice or not will depend in part on the strength of their identification with their group, how much they feel their group is being threatened, and if they understand and believe that showing such prejudice is consistent with the expectation of their group (i.e., the in-group norm).

Further, the way in which norms guide children's behavior depends on group status. In a study where participants were assigned to an advantaged or disadvantaged group that held either a norm of equality or equity, disadvantaged adolescents allocated more resources to their in-group when their group held a norm of equity, rather than equality (McGuire et al., 2019). In contrast, advantaged adolescents distributed resources equally even when their group prescribed an equity norm. Group norms are based on a consensus among peers. However, individuals who possess substantial social status have greater influence over the attitudes and behaviors of others. For example, popular children have the ability to exert control over group norms by serving as visible models of group standards and reinforcing norms through their social networks (Sandstrom, 2011). While wealthy children vary in their visibility and social connectedness, they may have the ability to influence others due to their control over material resources (Ahl and Dunham, 2019; Ahl et al., 2019). Thus, norms may be more strongly determined by high status groups and they may impact status groups differently.

Children's understanding of group dynamics becomes increasingly sophisticated with age (Nesdale et al., 2005; Abrams and Rutland, 2008; Abrams et al., 2009; Rutland et al., 2010). For example, a study by McGuire et al. (2019) found differences in how children considered their group's relative social standing and group norms when deciding how to allocate resources. Adolescents allocated more resources to their disadvantaged in-group over a disadvantaged outgroup when their ingroup held a norm of equity. In contrast, children prioritized equal allocations regardless of the norm and even when it perpetuated their own disadvantage. Studies that investigate children's reasoning further shed light on changes in their cognition. For instance, older children are more likely to prioritize group loyalty (Rutland and Killen, 2015) and cite concerns about group functioning in order to justify exclusion than younger children (Hitti and Mulvey, 2021). This increasing awareness of competing factors contributes to a shift in children's motivations and behavior during intergroup encounters.

The Current Study

The first goal of this study was to investigate children's associations between wealth and popularity status.

> **H1:** We expected that participants in the current sample would demonstrate a bidirectional association between wealth and popularity status, such that they would view wealthy targets as more popular than non-wealthy targets and would view popular targets as wealthier than unpopular targets. Investigating these associations served to clarify existing literature about the relationship between wealth and popularity. Despite some evidence that children conflate features of wealth and popularity (Lease et al., 2002; Charafeddine et al., 2015; Shutts et al., 2016;

Gülgöz and Gelman, 2017; Enright et al., 2020), studies have not compared the relative strength of inferences across these two dimensions.

Our second goal was to investigate and compare children's expectations about acquiring social resources through cross-status affiliation in wealth and popularity contexts. Specifically, we examined children's expectations about positive group attitudes toward a cross-status target, the target's personal enjoyment from cross-status affiliation, and the group's future inclusion of the target. The interplay between group norms and social status was a primary focus of our investigation and we predicted that several factors would contribute to children's expectations for social resources.

H2: We predicted that overall, participants would have higher expectations for a target to acquire social resources from a group that held a norm of inclusion rather than exclusion, but that the extent to which the norm influenced expectations would depend on the group's status level. Children's expectations about others' attitudes and behavior are sensitive to their perceptions of how individuals conform or deviate from group standards (Rutland and Killen, 2015). Exclusive norms can exacerbate in-group biases and facilitate prejudice, while inclusive norms can elicit positive intergroup attitudes and have been shown to mitigate prejudice toward low-status groups (Nesdale et al., 2007; Nesdale and Lawson, 2011). We anticipated that children would also have higher expectations for a target to acquire social resources through affiliation with a high-status group than a low-status group. Children expect to receive material resources from wealthy peers (Ahl and Dunham, 2019; Ahl et al., 2019) and to increase their social network from popular peers (Dijkstra et al., 2010). If wealth and popularity status are associated, children may expect there to be social benefits to affiliation with the wealthy as well. These expectations may contribute to children's preferences for high-status groups, which have been well-documented (Horn, 2006; Newheiser et al., 2014; Mistry et al., 2015; Shutts et al., 2016; Enright et al., 2020). As a result, children might have higher expectations for acquiring social resources from a high-status group than a low-status group, even when both groups have a norm of inclusion. Further, children may also be willing to overlook antisocial attributes of peers when they have redeeming qualities such as high-status (Cillessen and Marks, 2011; Poorthuis et al., 2012). Compared to an inclusive low-status group, for instance, children may still have relatively high expectations for an individual to acquire social resources from an exclusive high-status group. Alternatively, children might have relatively low expectations for acquiring resources from an exclusive high-status group. Children view high-status peers as setting norms (Gülgöz and Gelman, 2017; Lease et al., 2020) so a norm of exclusion could be viewed as a more difficult barrier to overcome with a high-status group. In addition, a high-status group might ultimately reject a low-status individual because affiliation with them could be viewed as a threat to their group's positive social standing (Nesdale et al., 2005). They may also view high-status group as particularly exclusive even when one member is inclusive (Lease et al., 2002; Cillessen and Marks, 2011; Elenbaas and Killen, 2019; Burkholder et al., 2020).

H3: We also expected the effect of norm on children's expectations for acquiring resources to be more pronounced when affiliation occurs between wealth groups than between popularity groups. Wealth distinctions may be more salient to children than popularity distinctions. Children view the wealthy as competent and hardworking, while the view the poor as incompetent and lazy (Woods et al., 2005; Sigelman, 2012; Li et al., 2014; Mistry et al., 2015; Shutts et al., 2016). Some children are also more favorable to the poor and distinguish the wealthy as selfish and entitled, while the poor are viewed as generous (Elenbaas and Killen, 2019; Burkholder et al., 2020). Evidence that children readily endorse stereotypes about high- and low-wealth groups suggests that wealth is a particularly informative status distinction. Moreover, children expect their peers to preferentially include others on the basis of wealth due to more perceived comfort with their own group (Burkholder et al., 2021). They may assume that groups are exclusive even in the absence of an explicit norm (Burkholder et al., 2020, 2021) and thus, more readily generalize an individual group member's exclusive preferences to a wealth group than a popularity group. On its own, popularity status may be less informative for predicting behavior during childhood. Children may be less inclined to generalize an exclusive preference to a popularity group since there's no evidence that they stereotype popularity groups as particularly exclusive or negative toward each other before adolescence. Rather, they may expect more variability among the members of popularity groups some group members more readily than they do among wealth groups. For example, they recognize that some popular individuals are more well-liked by their peers than others and that popular individuals exhibit both prosocial and antisocial qualities (LaFontana and Cillessen, 2002; Lease et al., 2020). In addition, we predicted that children's expectations about wealth and popularity groups would further depend on the group's status level. Although evidence suggests that wealth and popularity are associated, children may be more likely expect a popular individual to have a large social network than a wealthy individual. Therefore, a less popular individual might socially profit from a popular peer to a greater extent than they would from a wealthy peer. While children expect there to be benefits from affiliating with wealthy (Ahl and Dunham, 2019; Ahl et al., 2019) and popular peers (Dijkstra et al., 2010; Cillessen and Marks, 2011; Lease et al., 2020), these expectations for wealthy children may be specific to material resources (Ahl and Dunham, 2019). For instance, they may be expected to share more than a poor individual due to having more resources to

spare, rather than due to a broader prosocial tendency. In contrast, children expect popular individuals to help others in need and mediate conflict between others (Cillessen and Marks, 2011; Lease et al., 2020). For this reason, we included measures to examine children's associations between wealth and popularity with prosocial helping and sharing behavior as an exploratory part of our investigation to examine children's relative associations of wealth and popularity status groups with prosocial behavior.

H4: Lastly, we predicted that the effects of status and group norms would become increasingly pronounced with age. During middle childhood (ages 5–7 children generally have positive perceptions of high-status wealth and popularity groups (Cillessen and Marks, 2011; Shutts et al., 2016; Enright et al., 2020). However, by late childhood (ages 8–10) children attribute selfish motives to wealthy groups (Elenbaas and Killen, 2019) and overt and relational aggression to popular groups (Sandstrom and Cillessen, 2006). Previous research also shows between middle and late childhood, children's understanding of how groups function (e.g., considerations of status, threat, group loyalty) becomes increasingly advanced (Nesdale et al., 2005; Abrams and Rutland, 2008; Abrams et al., 2009; Rutland et al., 2010). Evidence suggests that this is due, in part, to advanced perspective-taking abilities that emerge after the age of 8 (Banerjee, 2000) and allow children to better predict mental states within and between groups (Abrams et al., 2009). In addition, they become better at simultaneously weighing competing factors, such as the dynamics between status groups, norms, and their own personal preferences, when strategically reasoning about intergroup encounters (Abrams et al., 2003a; Killen and Rutland, 2011; Mulvey, 2016). The current study compared 5- to 7-year-old children's expectations to those of 8- to 10-year-old children in order to examine differences in children's conceptions of wealth and popularity status in relation to changes in their understanding of group dynamics and developing cognitive abilities.

MATERIALS AND METHODS

Participants

The study included 165 5- to 10-year-old children (52.7% female, M_{age} = 7.72 years). Participants' racial-ethnic background was indicated by parental report as follows: 60% White, 14.5% Black, 8.5% Latinx, 3.6% Asian, 6.1% multiethnic, 3.6% other, and 6% undisclosed. Participants were recruited from afterschool programs in the Mid-Atlantic region of the United States and through online venues. Identical protocol was used to test participants in-person and *via* Zoom, an online video conferencing software. All participants were shown colorful illustrations on a computer screen and interviewed individually by a researcher face-to-face.

Design

The study utilized a 2 (Status Dimension: wealth, popularity) × 2 (Status Composition: low-status protagonist with high-status group, high-status protagonist with low-status group) × (Participant Age: 5–7, 8–10) × 2 (Gender: female, male) × 2 (Norm Presentation Order: inclusive first, exclusive first) × 2 (Norm: inclusive, exclusive) mixed design with repeated measures on the last factor. An *a priori* power analysis conducted in G*Power (Faul et al., 2009) determined that a sample size of 160 participants would be required to detect an effect size of f = 0.22 with 80% power, based on previous research utilizing similar designs which found effect sizes of η_p^2 = 0.04 and 0.055 (Nesdale and Lawson, 2011; McGuire et al., 2015). This number was subsequently rounded up to include 165 participants in order to account for counterbalancing and potential exclusion from the final analyses due to reasons such as experimental error or attrition. In this study, all participants finished the protocol and there were no errors or attrition.

Procedure

Participants were randomly assigned to one of four between-subjects conditions based on status composition (low-status protagonist/high-status group vs. high-status protagonist/low-status group) and status dimension (wealth, popularity). Participants were first introduced to a protagonist, who was described by their status dimension and level.

Wealth Status Descriptions

For participants in the wealth condition, status was depicted in terms of the target's monetary resources, type of car, and type of house. Participants who saw a low-wealth target were told, "This is [protagonist/host]. [Protagonist/host]'s family has very of money. They drive a car like this, and they live in a house like this." Low-wealth characters were shown with a small stack of dollar bills, an old rusty car, and a small and modest looking house. Participants who saw a high-wealth character and told, "This is [protagonist/host]. [Protagonist/host]'s family has lots and lots of money. They drive a car like this, and they live in a house like this." High-wealth characters were shown with a large stack of dollar bills, a new luxury sports car, and a large and expensive looking house. The depictions were comparable to previous studies examining children's conceptions of wealth (Mistry et al., 2015; Elenbaas and Killen, 2019; Burkholder et al., 2020).

Popularity Status Descriptions

For participants in the popularity condition, status was depicted in terms of friend group size (two = "low-popularity"; ten = "high-popularity), visibility, and influence. Participants who saw a low-popularity target were told, "This is [protagonist/host]. [Protagonist/host]has a friend group like this. Only a few kids know who [Protagonist/Host] is. At recess, [protagonist/host] always joins what someone else is doing." Participants who saw a high-popularity target were told, "This is [Protagonist/Host]. [Protagonist/Host] has a friend group like this. All of the other kids know who [Protagonist/Host] is. At recess, a lot of kids always want to do what [Protagonist/Host]is

doing." The depictions were designed to be comparable to the wealth manipulation and were adapted from sociometric descriptions of popularity (Lease et al., 2002).

Participants were told that the protagonist was going to attend two birthday parties for two different peers (i.e., the hosts). The first party vignette was introduced by describing the host as being the opposite status level (same dimension) from the protagonist using the descriptions from above. Participants were informed that, apart from the protagonist, all of the other party attendees (i.e., the group) were the same status as the host (i.e., wealth: "Other kids with [very little/lots and lots] of money are going to the party"; popularity: "Other kids with [only a few/a lot of] friends are going to [Host]'s party"). The protagonist and host were both gender-matched to the participant to control for potential confounds with gender preferences.

Trait Associations

In order to examine children's associations with wealth and popularity status participants in each of the four conditions made inferences about the host's traits: wealth ("How wealthy is [Host]?"); popularity ("How many friends does [Host] have?"); sharing ("How often does [Host] help other kids who are sad and lonely?"); and helping ("How often does [Host] share the things he/she has with other kids?") For each of these measures, participants indicated their responses on a 4-point Likert-type scale. The wealth measure served as a manipulation check in the two wealth conditions. Similarly, the popularity measure served as a manipulation check in the two popularity conditions.

Group 1 Norm Manipulation

Following the trait measures, participants the heard that the host held either an inclusive or exclusive norm regarding their status group.

For the inclusive host, participants heard, "[Host] says they like to be friends with kids who have any amount of [money/friends]. Some of their friends have only a [little bit of money/few friends] and some of their friends have a lot of [money/friends]. [Host] doesn't think it matters how [much money/many friends] other kids have and they like kids who have any amount of [money/friends].

For the exclusive host, participants heard, "[Host] says they only like to be friends with kids who have [the same amount] of [money/friends]. None of their friends have [the opposite amount] of [money/friends] and all of their friends have [the same amount] of [money/friends]. [Host] thinks it really matters how much [money/friends] other kids have and they only like kids who have [the same amount] of [money/friends]."

Expectations for Social Resources

To examine how social status and normative information influences children's expectations about acquiring social resources in cross-status encounters, participants predicted the group's attitudes toward the protagonist ("How much will the other kids at this party like [Protagonist]?"), the protagonist's enjoyment ("How much fun do you think the party will be for [Protagonist]?"), and group inclusion of the protagonist. For the attitude and enjoyment measures, participants indicated their responses on a 4-point Likert-type scale. For the inclusion measure, six targets (gender-matched to the participant) were displayed in an array and participants were told, "Here are some kids from the party. They're each going to have their own birthday parties later this year." Each target was then displayed individually and participants were asked, "Do you think this kid will invite [Protagonist] to their birthday party?" The number of "yes" responses (0–6) were recorded as a raw score.

Since we did not predict differences between these three measures, we created a composite score from participant ratings of group attitudes toward the protagonist, the protagonist's enjoyment, and inclusion of the protagonist. For each measure, raw scores were transformed into *z*-scores and subsequently added to create a composite "expectations for acquiring social resources" score.

Group 2 Norm Manipulation

Next, the second party was introduced. Similar to the first vignette, the host and group were described as being the opposite status from the protagonist. However, participants were told that the second host held the opposite norm as the first host regarding their status group (host/group are same status in both vignettes). For this vignette, participants again predicted the group's attitudes toward the protagonist, the protagonist's enjoyment, and group inclusion of the protagonist. The order in which the participant received the inclusive or exclusive host in the first vignette was counterbalanced.

Data Analytic Plan

Data were analyzed using the lme4 package for mixed-effects models in R (Bates et al., 2015; R Core Team, 2017). Preliminary analyses did not find significant effects of the interview method (i.e., in-person vs. online), gender, or the presentation order of the norm vignettes, which were unrelated to our hypotheses ($ps > 0.05$). Therefore, these variables were excluded from subsequent analyses. To test trait associations with wealth and popularity, we examined the effect of status dimension, status level, and participant age on ratings of the target's wealth, popularity, sharing behavior, and helping behavior using analysis of variance (ANOVA).

The expectations for acquiring social resources composite score had acceptable internal consistency (3 items; $\alpha = 0.74$). Thus, in order to test predictions about acquiring social resources, we examined the effect of status dimension, status level, group norm, and participant age on children's expectations of social resources using mixed ANOVA with group norm as the within-subjects factor (see **Supplementary Material** for separate analyses by item). For each model, pairwise comparisons of the estimated marginal means were used to test expected differences between the factors and Bonferroni *post-hoc* tests were conducted to control for Type I errors.

RESULTS

Associations Between Wealth and Popularity

First, we confirmed that the status descriptions use in the study effectively manipulated children's beliefs about the targets' wealth

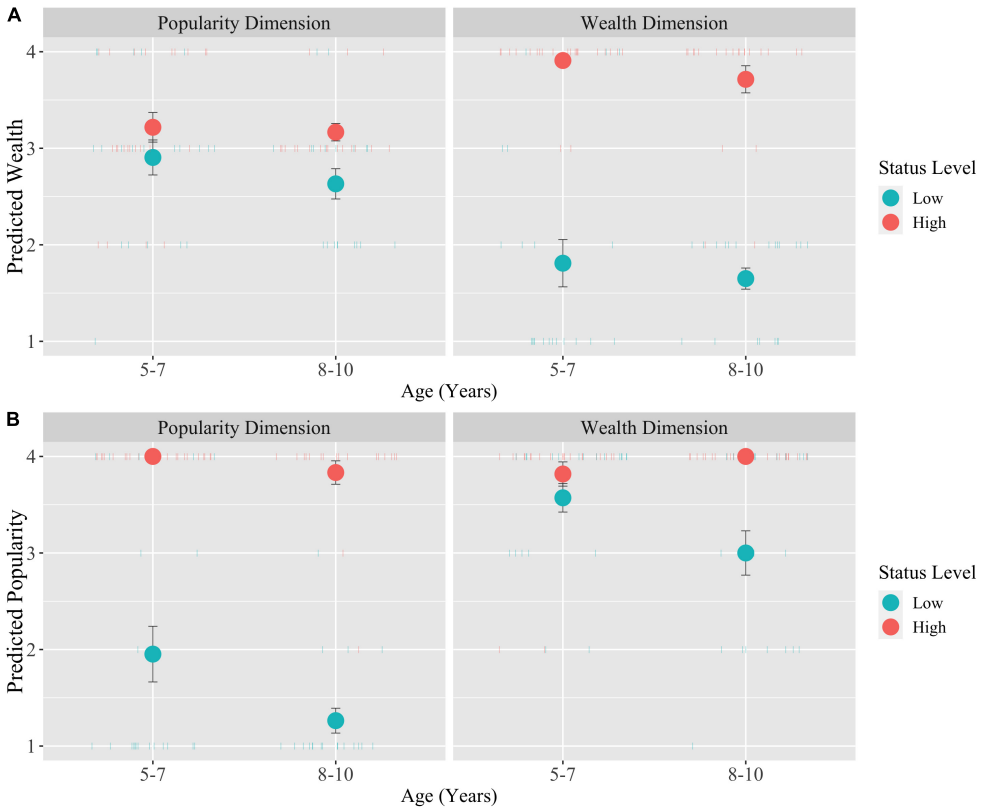

FIGURE 1 | Children's associations between wealth and popularity (with standard error bars). **(A)** Predicted wealth as a function of age, status dimension, and status level. **(B)** Predicted popularity as a function of age, status dimension, and status level.

and popularity status. Children rated the high-wealth target (M = 3.81, SE = 0.08) as wealthier than the low-wealth target (M = 1.74, SE = 0.14), $t(161)$ = 13.70, $p < 0.001$ (**Figure 1A**, Wealth Dimension). Children also rated the high-popularity target (M = 3.93, SE = 0.05) as more popular than the low-popularity target (M = 1.62, SE = 0.17), $t(161)$ = 13.80, $p < 0.001$ (**Figure 1B**, Popularity Dimension).

As predicted (H1), we found a bidirectional association between wealth and popularity dimensions. An interaction between status dimension and status level on ratings of the target's wealth, $F(1, 157) = 58.22$, $p < 0.001$, $\eta_p^2 = 0.27$ (**Figure 1A**, Popularity Dimension), revealed that children rated high-popularity targets (M = 3.20, SE = 0.09) as more wealthy than low-popularity targets (M = 2.78, SE = 0.12), $t(161)$ = 2.72, $p < 0.001$. Similarly, there was an interaction between status dimension and status level on ratings of the target's popularity, $F(1,157) = 56.70$, $p < 0.001$, $\eta_p^2 = 0.27$ (**Figure 1B**, Wealth Dimension), such that children rated high-wealth targets (M = 3.91, SE = 0.07) as more popular than low-wealth targets (M = 3.29, SE = 0.14), $t(161)$ = 3.76, $p < 0.001$.

Participants' wealth ratings did not significantly differ across age groups. However, there was an interaction between age and status level on popularity ratings, $F(1,157) = 6.84$, $p < 0.01$, $\eta_p^2 = 0.04$. Participants did not differ by age in how they rated high-status targets, but older children (M = 2.15, SE = 0.19) rated low-status targets as significantly less popular than did young children (M = 2.76, SE = 0.20), $t(161)$ = 2.94, $p < 0.01$.

Expectations About Acquiring Social Resources

Children's expectations about acquiring social resources are shown in **Figure 2**. Overall, children had greater expectations for the target to acquire social resources from a group that held norm of inclusion (M = 0.93, SE = 0.15) rather than from group that held and norm of exclusion (M = −0.93, SE = 0.20), $F(1,157) = 91.36$, $p < 0.001$, $\eta_p^2 = 0.40$. Although we expected this effect to be influenced by the group's status level, we did not find support for this prediction (H2). Children's expectations about a high-status group (M = 0.09, SE = 0.18) and a low-status group (M = −0.09, SE = 0.20) did not differ significantly. In addition, there were no significant interactive effects of status level on children's expectations for acquiring social resources. Children's expectations were slightly greater for a high-status inclusive group (M = 1.15, SE = 0.18) than for a low-status inclusive group (M = 0.69, SE = 0.24) but they did not differ from chance.

However, consistent with our predictions (H3), there was a significant main effect of status dimension, $F(1,157) = 5.90$, $p = 0.02$, $\eta_p^2 = 0.04$, and a interaction between norm and status dimension on children's expectations for acquiring social

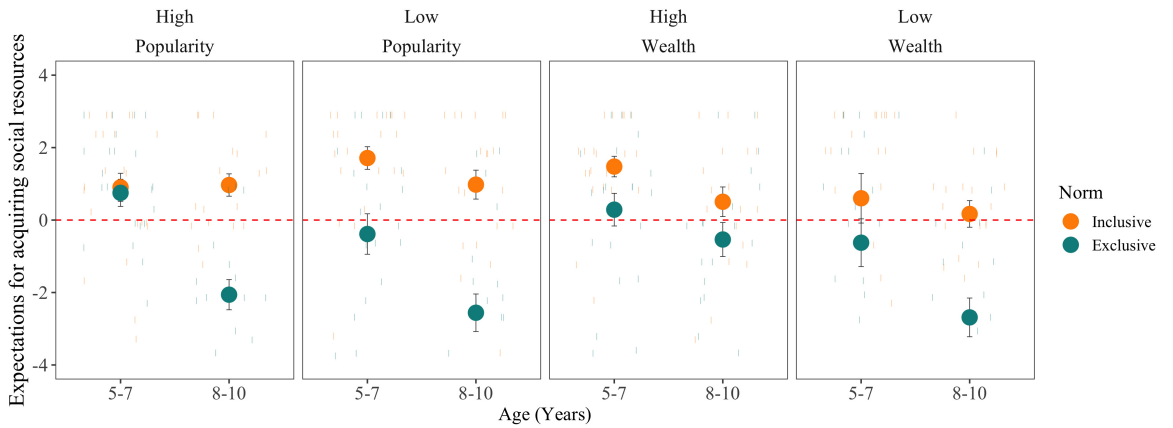

FIGURE 2 | Children's expectations for acquiring social resources as a function of norm, status dimension, status level, and participant age (with standard error bars). Expectations for acquiring social resources are based on a composite of *z*-scores for children's predictions of the group's attitudes toward the protagonist, the protagonist's enjoyment, and the group's inclusion of the protagonist. A score of zero indicates the mean of each sub-measure.

resources, $F(1,157) = 7.40$, $p < 0.001$, $\eta_p^2 = 0.05$. Overall, children had lower expectations in the wealth dimension ($M = -0.33$, $SE = 0.21$) than in the popularity dimension ($M = 0.34$, $SE = 0.16$). When the group held a norm of inclusion, children exhibited similar expectations across both dimensions. However, the negative effects of a norm of exclusion on children's expectations for acquiring resources were particularly pronounced for wealth groups ($M = -1.54$, $SE = 0.30$) compared to popularity groups ($M = -0.30$, $SE = 0.24$) independent of their status level.

Although we speculated that this finding might be due to differences in children's associations of wealth and popularity with prosocial behavior, we did not find evidence for this. Participants generally viewed the target positively regardless of their status dimension or level. However, participant age did influence the extent to which children associated a target with sharing, $F(1,157) = 15.68$, $p < 0.001$, $\eta_p^2 = 0.09$, and helping, $F(1,157) = 14.30$, $p < 0.001$, $\eta_p^2 = 0.08$. Younger children ($M = 3.29$, $SE = 0.10$) were more likely to expect targets to share material resources than older children $M = 2.77$, $SE = 0.08$) and younger children were also more likely to expect targets to help others in need ($M = 3.37$, $SE = 0.09$), than older children ($M = 2.88$, $SE = 0.09$).

We found partial evidence for our hypothesis that the effect of norms and status become more pronounced with age. Overall, older children ($M = -0.67$, $SE = 0.19$) had lower expectations for a target to acquire social resources than younger children ($M = 0.60$, $SE = 0.18$), $F(1,157) = 22.54$, $p < 0.001$, $\eta_p^2 = 0.13$. There was also an interaction of participant age and norm on expectations for acquiring social resources, $F(1,157) = 13.41$, $p < 0.001$, $\eta_p^2 = 0.08$. When the group held an inclusive norm, older children ($M = 0.09$, $SE = 0.18$) and younger children did not differ in their expectations, $p > 0.05$. However, when the group held an exclusive norm, older children ($M = -1.93$, $SE = 0.26$), expected fewer resources than younger children ($M = 0.02$, $SE = 0.26$), $t(157) = 6.00$, $p < 0.001$. Neither status dimension nor status level, however, interacted with participant age.

DISCUSSION

Previous research suggests that children infer rank across multiple dimensions of social status and favor high-status groups over low-status groups. We speculated that children's biases could be, in part, due to associations between wealth and popularity dimensions and expectations about the benefits of intergroup affiliation might contribute to children's biases. The present study extended previous research by comparing the relative strength of children's associations between wealth and popularity status, and examining children's expectations acquiring social resources (i.e., positive attitudes, enjoyment, and inclusion) through cross-status affiliation in wealth and popularity contexts. Two primary novel findings emerged.

First, we found that children positively associated wealth and popularity status. Children viewed high-popularity targets as wealthier than low-popularity targets (provided with no information about wealth) and viewed high-wealth targets as more popular than low-wealth targets (provided with no information about popularity). This finding is consistent with previous work showing that children associate features of wealth and popularity (Lease et al., 2002; Charafeddine et al., 2015; Shutts et al., 2016; Gülgöz and Gelman, 2017; Enright et al., 2020). However, we extend previous research by providing evidence of a bidirectional association and comparing the relative strength of inferences across these two dimensions.

Children inferred popularity from wealth descriptions more strongly than they inferred wealth from popularity descriptions. They viewed high-wealth targets as equally popular as high-popularity targets but did not view high-popularity targets as equally wealthy as high-wealth targets. Moreover, older children distinguished between high- and low-wealth targets in their inferences about popularity to a greater extent than younger children. Evidence suggests that young children make inferences on the basis of one's quantity of physical resources such as possessions and friends (Pun et al., 2016; Ahl and Dunham, 2019). However, they may view non-physical resources as less

indicative of status. For example, 3- to 4-year-old children view individuals who control access to material resources as powerful, but do not view an individuals who gives orders as powerful until 7–9 years of age (Gülgöz and Gelman, 2017). In addition, children in grades 3–5 view peers who influence others' behavior and set social norms as high-status (Lease et al., 2020). We suspect that young children do not necessarily view social visibility and influence over others' behavior as attributes that contribute to status while older children likely do. However, we can only speculate about children's relative prioritization of physical and non-physical resources. More investigation is needed to determine whether children distinguish between these types of resources.

The second novel finding was that norms of exclusion diminished children's expectations for acquiring social resources from wealth and popularity groups but was more pronounced in wealth contexts. Surprisingly, we did not find evidence that children's expectations were dependent on the group's status level. This is in contrast to an overwhelming body of research that suggests that considerations of wealth status (Woods et al., 2005; Sigelman, 2012; Li et al., 2014; Mistry et al., 2015; Shutts et al., 2016; Ahl and Dunham, 2019; Ahl et al., 2019; Enright et al., 2020) and popularity status (LaFontana and Cillessen, 2002; Lease et al., 2002, 2020; Cillessen and Marks, 2011; Sandstrom, 2011) do indeed impact children's attitudes an expectations about others. Our results do not imply that children's broader evaluations, or even their more specific expectations about acquiring social resources, are not informed by status differences. In fact, additional analyses conducted on each independent social resources sub-measure found that children expected that attending a low-wealth party would be significantly less enjoyable than attending a party with a high-wealth or either type of popularity group (see **Supplementary Material**). Rather, our findings suggest that group norms and status dimension are relatively more informative for children's expectations about acquiring resources than status level. Norms of inclusion and exclusion had a particularly powerful effect on children's expectations overall, but operated differently for wealth and popularity.

We suspect that children more readily generalized the host's exclusive preferences to other wealth group members than they did to popularity group members due to their pre-existing beliefs about wealth groups. Regardless of whether children make more favorable assumptions about high- or low-wealth groups, they may generally believe that both groups prefer their in-group. This explanation would be consistent with evidence that children expect peers to prefer affiliation with their own wealth group even those wealth in-group members are out-group members on another dimension such as race (Burkholder et al., 2021). Also in line with evidence that norms of inclusion can mitigate prejudice (Nesdale et al., 2007; Nesdale and Lawson, 2011), our findings suggest that although children may hold pre-existing beliefs about wealth groups are exclusive, norms of inclusion may broadly reduce their perceptions of social barriers between high- and low-status groups.

However, given that the current study already included multiple factors that could influence children's, we could not control for the influence of norms, for instance, by including a condition that would allow us to examine children's expectations in a more neutral context (i.e., without the influence of an explicit norm). Therefore, we could not draw conclusion about the relative impact of norms on children's pre-existing expectations about cross-status affiliation. Children may hold different stereotypes about how inclusive or exclusive wealth and popularity groups are in general. For instance, in the absence of explicit information, children could expect wealth peers to be exclusive while viewing popular peers as inclusive. If this were the case, then our finding that children's expectations about an inclusive wealth group were just as optimistic as they were for an inclusive popularity group would suggest that the norm was relatively more powerful for wealth groups than for popularity groups.

This limitation of the study design may have also obscured potential status level differences. The negative effects of an exclusive norm may could have been due to negative assumptions about the group's status or the protagonist's status. Children differentiate more between malevolent and benevolent forms of status (Gülgöz and Gelman, 2017; Kajanus et al., 2020). Although they infer similar rank between prestigious and dominant targets, children expect a character to prefer affiliation with a prestigious target who shares their opinion when asked over a dominant target who forces their opinion (Kajanus et al., 2020). Yet, the participants in our sample generally rated all targets positively prior to hearing the norm manipulation so we do not believe that the main effects of the norm were strongly based on children's assumptions that a target would be more or less likely to acquire social resources from a certain status group. However, more evidence is needed to understand why children's expectations were lower for an exclusive wealth group than an exclusive popularity group and future research should investigate how children's expectations about similarly ranked wealth and popularity groups might differ in more ambiguous contexts.

In addition to the previously described findings, we found age-related differences in children's expectations for acquiring social resources. The participant age groups included in this study held similar expectations for inclusive wealth and popularity groups, but 8- to 10-year-old children's expectations for acquiring social resources were significantly lower than 5- to 7-year-old children's expectation. This is consistent with previous evidence that children become increasingly sensitive to group norms with age (Nesdale et al., 2005; Abrams and Rutland, 2008; Abrams et al., 2009; Rutland et al., 2010; Rutland and Killen, 2015). However, we did not find evidence that age differences in children's expectations about obtaining social resources were specifically linked status groups based on wealth and popularity. This in contrast to evidence that children's conceptions of wealth and popularity status change between middle- and late-childhood (Cillessen and Marks, 2011; Shutts et al., 2016; Enright et al., 2020). It's possible that the interaction of norms and participant age could be explained by a stronger positivity bias among younger children than among older children, however, there are many instances in which younger children are seemingly more pessimistic or negative than older children in in their trait attributions and expectations for behavior (Aboud, 2008). For

example, younger children are more willing than older children and adults to condone retribution and punish a transgressor regardless of intention (Mulvey et al., 2020).

In the current study, children's expectations about wealth and popularity dimensions appear to be similarly informed by norms and their prioritization of norms increases with age. However, we suspect that the effects of how younger and older children differentially consider norms in relation to different aspects of status may be too subtle to detect between middle and late childhood (Nesdale et al., 2007; McGuire et al., 2019). Adolescents' (13–16 years), but not children's (7–11 years), resource allocations to disadvantaged in-groups than disadvantaged out-groups (i.e., low-status) were dependent on group norms (McGuire et al., 2019). In other words, participants had to coordinate considerations of status level, how each norm applied to each level, and how their own group membership interacted with these factors. Similarly, the current study asked children to consider these same factors in relation to different status dimensions instead of group memberships. The added consideration of the group membership distinction in the McGuire et al. (2019) study and of the dimension distinction in the current study, in conjunction with group norms, may be beyond children's abilities to systematically coordinate in late childhood. Given that with age, children differentially coordinate how they apply norms to different groups (including those based on status level), we posit that the absence of an interactive effect on either status level or status dimension had more to do with a limited ability to coordinate multiple competing factors, rather than due to a limitation in children's ability to differentiate between dimensions and levels of status.

CONCLUSION

Reasoning about status can become rather complex, perhaps overwhelmingly so for children, given its multifaceted features. Therefore, children's expectations about status appear to be highly dependent social contexts. It's possible that in some contexts (i.e., regarding material resources) children's expectations about acquiring resources may be more informed by the relative status rank between groups than the dimension of status. In the context of the current study, exclusive norms across status dimensions appeared to lead to lower expectations for acquiring social resources than exclusive norms across groups of different status levels. This is a promising finding because sheds light on the possibility for mitigating children's biases toward high-status groups. Emphasizing positive qualities among low-status groups or negative qualities among high-status groups across broader dimensions may, to some extent, reduce children's tendency to favor high-status groups more generally. Understanding the nuances in how children prioritize multiple features of status is thus, critical to devising methods that mitigate status biases.

DATA AVAILABILITY STATEMENT

The datasets presented in this article are not readily available because they are part of an ongoing research project. Requests to access the datasets should be directed to KY.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by the University of Maryland's Institutional Review Board (1470874-6). Written informed consent to participate in this study was provided by the participants' parent/legal guardian.

AUTHOR CONTRIBUTIONS

KY and JG contributed to data collection. KY conducted the statistical analyses and wrote the first draft of the manuscript. All authors contributed to the design of study and revisions, read, and approved the submitted version.

FUNDING

MK was supported by a National Institutes of Health grant, R01HD09368. Open access fees were partially covered by the University of Maryland Libraries Open Access Publishing Fund.

SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyg.2022.816205/full#supplementary-material

REFERENCES

Aboud, F. E. (2008). "A social-cognitive developmental theory of prejudice," in *Handbook of Race, Racism, and the Developing Child*, eds S. M. Quintana and C. McKown (New Jersey, NJ: John Wiley & Sons).

Abrams, D., and Rutland, A. (2008). "The development of subjective group dynamics," in *Intergroup Attitudes and Relations in Childhood and Throughout Adulthood*, eds S. R. Levy and M. Killen (Oxford: Oxford University Press). 47–65.

Abrams, D., Rutland, A., and Cameron, L. (2003a). The development of subjective group dynamics: children's judgments of normative and deviant in-group and out-group individuals. *Child Dev.* 74, 1840–1856. doi: 10.1046/j.1467-8624.2003.00641.x

Abrams, D., Rutland, A., Cameron, L., and Marques, J. (2003b). The development of subjective group dynamics: when in-group bias gets specific. *Br. J. Dev. Psychol.* 21, 155–176. doi: 10.1348/026151003765264020

Abrams, D., Rutland, A., Pelletier, J., and Ferrell, J. M. (2009). Children's group nous: understanding and applying peer exclusion within and between groups. *Child Dev.* 80, 224–243. doi: 10.1111/j.1467-8624.2008.01256.x

Ahl, R. E., and Dunham, Y. (2019). "Wealth makes many friends": children expect more giving from resource-rich than resource-poor individuals. *Child Dev.* 90, 524–543. doi: 10.1111/cdev.12922

Ahl, R. E., Duong, S., and Dunham, Y. (2019). Children employ wealth cues when predicting others' sharing. *Dev. Psychol.* 55, 303–314. doi: 10.1037/dev0000643

Anderson, C., Hildreth, J. A. D., and Howland, L. (2015). Is the desire for status a fundamental human motive? A review of the empirical literature. *Psychol. Bull.* 141, 574–601. doi: 10.1037/a0038781

Banerjee, R. (2000). The development of an understanding of modesty. *Br. J. Dev. Psychol.* 18, 499–517. doi: 10.1348/026151000165823

Baron, A., and Banaji, M. (2009). Evidence of system justification in young children. *Soc. Pers. Psychol. Compass* 3, 918–926. doi: 10.1111/j.1751-9004.2009.00214.x

Bates, D., Mächler, M., Bolker, B., and Walker, S. (2015). Fitting linear mixed-effects models using lme4. *J. Stat. Softw.* 67:1048. doi: 10.18637/jss.v067.i01

Bennett, M. (2014). Intergroup social exclusion in childhood: forms, norms, context, and social identity. *J. Soc. Issues* 70, 183–195. doi: 10.1111/josi.12054

Brey, E., and Shutts, K. (2015). Children use nonverbal cues to make inferences about social power. *Child Dev.* 86, 276–286. doi: 10.1111/cdev.12334

Burkholder, A. R., Elenbaas, L., and Killen, M. (2020). Children's and adolescents' evaluations of intergroup exclusion in interracial and interwealth peer contexts. *Child Dev.* 91, e512–e527. doi: 10.1111/cdev.13249

Burkholder, A. R., Elenbaas, L., and Killen, M. (2021). Giving priority to race or wealth in peer group contexts involving social inclusion. *Dev. Psychol.* 57, 651–661. doi: 10.1037/dev0001178

Cain, K. M., Heyman, G. D., and Walker, M. E. (1997). Preschoolers' ability to make dispositional predictions within and across domains. *Soc. Dev.* 6, 52–75. h0035080 doi: 10.1037/

Chafel, J. A., and Neitzel, C. (2005). Young children's ideas about the nature, causes, justification, and alleviation of poverty. *Early Child. Res. Q.* 20, 433–450. doi: 10.1016/j.ecresq.2005.10.004

Charafeddine, R., Mercier, H., Clément, F., Kaufmann, L., Berchtold, A., Reboul, A., et al. (2015). How preschoolers use cues of dominance to make sense of their social environment. *J. Cogn. Dev.* 16, 587–607. doi: 10.1080/15248372.2014.926269

Cillessen, A. H. N. (2009). "Sociometric methods," in *Handbook of Peer Interactions, Relationships, and Groups*, eds K. H. Rubin, W. M. Bukowski, and B. Laursen (New York, NY: The Guilford Press). 82–99.

Cillessen, A. H. N., and Marks, P. E. L. (2011). "Conceptualizing and measuring popularity," in *Popularity in the Peer System*, eds A. H. N. Cillessen, D. Schwartz, and L. Mayeux (New York, NY: The Guilford Press). 25–56.

Dijkstra, J. K., Cillessen, A. H. N., Lindenberg, S., and Veenstra, R. (2010). Basking in reflected glory and its limits: why adolescents hang out with popular peers. *J. Res. Adolesc.* 20, 942–958. doi: 10.1111/j.1532-7795.2010.00671.x

Dunham, Y., Baron, A. S., and Carey, S. (2011). Consequences of "minimal" group affiliations in children. *Child Dev.* 82, 793–811. doi: 10.1111/j.1467-8624.2011.01577.x

Dys, S. P., Peplak, J., Colasante, T., and Malti, T. (2019). Children's sympathy and sensitivity to excluding economically disadvantaged peers. *Dev. Psychol.* 55, 482–487. doi: 10.1037/dev0000549

Elenbaas, L., and Killen, M. (2019). Children's perceptions of economic groups in a context of limited access to opportunities. *Child Dev.* 90, 1632–1649. doi: 10.1111/cdev.13024

Enright, E. A., Alonso, D. J., Lee, B. M., and Olson, K. R. (2020). Children's understanding and use of four dimensions of social status. *J. Cogn. Dev.* 21, 573–602. doi: 10.1080/15248372.2020.1797745

Faul, F., Erdfelder, E., Buchner, A., and Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: tests for correlation and regression analyses. *Behav. Res. Methods* 41, 1149–1160. doi: 10.3758/BRM.41.4.114

Feldman, D. C. (1984). The development and enforcement of group norms. *Acad. Manage. Rev.* 9, 47–53. doi: 10.5465/amr.1984.4277934

Gülgöz, S., and Gelman, S. A. (2017). Who's the boss? Concepts of social power across development. *Child Dev.* 88, 946–963. doi: 10.1111/cdev.12643

Hitti, A., and Killen, M. (2015). Expectations about ethnic peer group inclusivity: the role of shared interests, group norms, and stereotypes. *Child Dev.* 86, 1522–1537. doi: 10.1111/cdev.12393

Hitti, A., and Mulvey, K. L. (2021). The consequences of outgroup helping: children's and adolescents' reasoning. *J. Exp. Child Psychol.* 203, 105013. doi: 10.1016/j.jecp.2020.105013

Horn, S. S. (2006). Group status, group bias, and adolescents' reasoning about the treatment of others in school contexts. *Int. J. Behav. Dev.* 30, 208–218. doi: 10.1177/0165025406066721

Horwitz, S. R., Shutts, K., and Olson, K. R. (2014). Social class differences produce social group preferences. *Dev. Sci.* 17, 991–1002. doi: 10.1111/desc.12181

Kajanus, A., Afshordi, N., and Warneken, F. (2020). Children's understanding of dominance and prestige in China and the UK. *Evol. Hum. Behav.* 41, 23–34. doi: 10.1016/j.evolhumbehav.2019.08.002

Killen, M., and Rutland, A. (2011). *Children and Social Exclusion: Morality, Prejudice, and Group Identity*. New York, NY: Wiley-Blackwell. doi: 10.1002/9781444396317

LaFontana, K. M., and Cillessen, A. H. N. (2002). Children's perceptions of popular and unpopular peers: a multimethod assessment. *Dev. Psychol.* 38, 635–647. doi: 10.1037/0012-1649.38.5.635

LaFontana, K. M., and Cillessen, A. H. N. (2010). Developmental changes in the priority of perceived status in childhood and adolescence. *Soc. Dev.* 19, 130–147. doi: 10.1111/j.1467-9507.2008.00522.x

Lansu, T. A. M., Cillessen, A. H. N., and Karremans, J. C. (2012). Implicit associations with popularity in early adolescence: an approach–avoidance analysis. *Dev. Psychol.* 48, 65–75. doi: 10.1037/a0025681

Leahy, R. L. (1990). The development of concepts of economic and social inequality. *New Dir. Child Adolesc. Dev.* 1990, 107–120. doi: 10.1002/cd.23219904608

Lease, A. M., Kennedy, C. A., and Axelrod, J. L. (2002). Children's social constructions of popularity. *Soc. Dev.* 11, 87–109. doi: 10.1111/1467-9507.00188

Lease, A. M., Kwon, K., Lovelace, M., and Huang, H. (2020). Peer influence in elementary school: the importance of assessing the likeability of popular children. *J. Genet. Psychol.* 181, 95–110. doi: 10.1080/00221325.2020.1730744

Li, V., Spitzer, B., and Olson, K. R. (2014). Preschoolers reduce inequality while favoring individuals with more. *Child Dev.* 85, 1123–1133. doi: 10.1111/cdev.12198

McGuire, L., Elenbaas, L., Killen, M., and Rutland, A. (2019). The role of in-group norms and group status in children's and adolescents' decisions to rectify resource inequalities. *Br. J. Dev. Psychol.* 37, 309–322. doi: 10.1111/bjdp.12274

McGuire, L., Manstead, A. S. R., and Rutland, A. (2017). Group norms, intergroup resource allocation, and social reasoning among children and adolescents. *Dev. Psychol.* 53, 2333–2339. doi: 10.1037/dev0000392

McGuire, L., Rutland, A., and Nesdale, D. (2015). Peer group norms and accountability moderate the effect of school norms on children's intergroup attitudes. *Child Dev.* 86, 1290–1297. doi: 10.1111/cdev.12388

Mistry, R. S., Brown, C. S., White, E. S., Chow, K. A., and Gillen-O'Neel, C. (2015). Elementary school children's reasoning about social class: a mixed-methods study. *Child Dev.* 86, 1653–1671. doi: 10.1111/cdev.12407

Mulvey, K. L. (2016). Children's reasoning about social exclusion: balancing many factors. *Child Dev. Perspect.* 10, 22–27. doi: 10.1111/cdep.12157

Mulvey, K. L., Gönültaş, S., and Richardson, C. B. (2020). Who Is to blame? Children's and adults' moral judgments regarding victim and transgressor negligence. *Cogn. Sci.* 44:e12833. doi: 10.1111/cogs.12833

Nesdale, D. (2008). "Peer group rejection and children's intergroup prejudice," in *Intergroup Attitudes and Relations in Childhood Through Adulthood*, eds S. R. Levy and M. Killen (Oxford: Oxford University Press). 32–46.

Nesdale, D., and Dalton, D. (2010). Children's social groups and intergroup prejudice: assessing the influence and inhibition of social group norms. *Br. J. Dev. Psychol.* 29, 895–909. doi: 10.1111/j.2044-835X.2010.02017.x

Nesdale, D., and Lawson, M. J. (2011). Social groups and children's intergroup attitudes: can school norms moderate the effects of social group norms? *Child Dev.* 82, 1594–1606. doi: 10.1111/j.1467-8624.2011.01637.x

Nesdale, D., Durkin, K., Maass, A., Kiesner, J., and Griffiths, J. A. (2008). Effects of group norms on children's intentions to bully. *Soc. Dev.* 17, 889–907. doi: 10.1111/j.1467-9507.2008.00475.x

Nesdale, D., Maass, A., Durkin, K., and Griffiths, J. (2005). Group norms, threat, and children's racial prejudice. *Child Dev.* 76, 652–663. doi: 10.1111/j.1467-8624.2005.00869.x

Nesdale, D., Maass, A., Kiesner, J., Durkin, K., Griffiths, J., and Ekberg, A. (2007). Effects of peer group rejection, group membership, and group norms, on children's outgroup prejudice. *Int. J. Behav. Dev.* 31, 526–535. doi: 10.1177/0165025407081479

Newheiser, A.-K., Dunham, Y., Merrill, A., Hoosain, L., and Olson, K. R. (2014). Preference for high status predicts implicit outgroup bias among

children from low-status groups. *Dev. Psychol.* 50, 1081–1090. doi: 10.1037/a0035054

Olson, K. R., Shutts, K., Kinzler, K. D., and Weisman, K. G. (2012). Children associate racial groups with wealth: evidence from South Africa. *Child Dev.* 83, 1884–1899. doi: 10.1111/j.1467-8624.2012.01819.x

Poorthuis, A. M. G., Thomaes, S., Denissen, J. J. A., van Aken, M. A. G., and de Castro, B. (2012). Prosocial tendencies predict friendship quality, but not for popular children. *J. Exp. Child Psychol.* 112, 378–388. doi: 10.1016/j.jecp.2012.04.002

Pun, A., Birch, S. A. J., and Baron, A. S. (2016). Infants use relative numerical group size to infer social dominance. *Proc. Natl. Acad. Sci.U.S.A* 113, 2376–2381. doi: 10.1073/pnas.1514879113

R Core Team. (2017). *R: A Language and Environment for Statistical Computing*. Available online at: https://www.R-project.org.(accessed October 31, 2017)

Renno, M. P., and Shutts, K. (2015). Children's social category-based giving and its correlates: expectations and preferences. *Dev. Psychol.* 51, 533–543. doi: 10.1037/a0038819

Rutland, A., and Killen, M. (2015). A developmental science approach to reducing prejudice and social exclusion: intergroup processes, social-cognitive development, and moral reasoning. *Soc. Issues Policy Rev.* 9, 121–154. doi: 10.1111/sipr.12012

Rutland, A., Cameron, L., Milne, A., and McGeorge, P. (2005). Social norms and self-presentation: children's implicit and explicit intergroup attitudes. *Child Dev.* 76, 451–466. doi: 10.1111/j.1467-8624.2005.00856.x

Rutland, A., Killen, M., and Abrams, D. (2010). A new social-cognitive developmental perspective on prejudice: the interplay between morality and group identity. *Perspect. Psychol. Sci.* 5, 279–291. doi: 10.1177/1745691610369468

Sandstrom, M. J. (2011). "The power of popularity: influence processes in childhood and adolescence," in *Popularity in the Peer System*, eds A. H. N. Cillessen, D. Schwartz, and L. Mayeux (New York, NY: The Guilford Press). 219–244.

Sandstrom, M. J., and Cillessen, A. H. N. (2006). Likeable versus popular: distinct implications for adolescent adjustment. *Int. J. Behav. Dev.* 30, 305–314. doi: 10.1177/0165025406072789

Shutts, K., Brey, E. L., Dornbusch, L. A., Slywotzky, N., and Olson, K. R. (2016). Children use wealth cues to evaluate others. *PLoS One* 11:e0149360. doi: 10.1371/journal.pone.0149360

Sigelman, C. K. (2012). Rich man, poor man: developmental differences in attributions and perceptions. *J. Exp. Child Psychol.* 113, 415–429. doi: 10.1016/j.jecp.2012.06.011

Woods, T. A., Kurtz-Costes, B., and Rowley, S. J. (2005). The development of stereotypes about the rich and poor: age, race, and family income differences in beliefs. *J. Youth Adolesc.* 34, 437–445. doi: 10.1007/s10964-005-7261-0

Zhang, X., Corbit, J., Xiao, X., Xu, L., Wei, B., and Li, Y. (2021). Material and relational asymmetry: the role of receivers' wealth and power status in children's resource allocation. *J. Exp. Child Psychol.* 208:105147. doi: 10.1016/j.jecp.2021.105147

Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

frontiers | Frontiers in Psychology

ORIGINAL RESEARCH
published: 31 May 2022
doi: 10.3389/fpsyg.2022.866966

Group Membership Trumps Shared Preference in Five-Year-Olds' Resource Allocation, Social Preference, and Social Evaluation

*Li Yang and Youjeong Park**

Department of Child Development and Family Studies, Seoul National University, Seoul, South Korea

This study investigated five-year-olds' priority between shared preference and group membership in resource allocation, social preference, and social evaluation. Using a forced-choice resource allocation task and a friend choice task, we first demonstrate that five-year-old children distribute more resources to and prefer a character who shares a preference with them when compared to a character who has a different preference. Then, we pitted the shared preference against group membership to investigate children's priority. Children prioritized group membership over shared preference, allotting more resources to and showing more preference toward characters in the same group who did not share their preferences than those from a different group who shared their preferences. Lastly, children evaluated resource allocation and social preference in others that prioritized group membership or shared preference. Children regarded prioritization of group membership more positively than prioritization of shared preference from the perspective of a third person. The results suggest that children by five years of age consider group membership as of greater importance than shared preference not only in their own resource allocation and social preference, but also in their evaluation of others' resource allocation and liking.

Keywords: group membership, social liking, third-party evaluation, resource distribution, shared interest, five-year-olds

OPEN ACCESS

Edited by:
Clare Conry-Murray,
Saint Joseph's University,
United States

Reviewed by:
Talia Waltzer,
University of California,
Santa Cruz, United States
Young-eun Lee,
Columbia University, United States

***Correspondence:**
Youjeong Park
youjeongpark@snu.ac.kr

Specialty section:
This article was submitted to Developmental Psychology, a section of the journal Frontiers in Psychology

Received: *31 January 2022*
Accepted: *01 April 2022*
Published: *31 May 2022*

Citation:
Yang L and Park Y (2022) Group Membership Trumps Shared Preference in Five-Year-Olds' Resource Allocation, Social Preference, and Social Evaluation. Front. Psychol. 13:866966. doi: 10.3389/fpsyg.2022.866966

INTRODUCTION

Children's social behaviors are often based on choices. For example, choosing which friend to share candies or play with presents a child with multiple options; children may also select whom to help in some contexts (e.g., Dunfield and Kuhlmeier, 2010; Vaish et al., 2010; Kenward and Dahl, 2011; Dahl et al., 2013). A considerable amount of research has focused on identifying the bases of these selections, such as social group membership, reciprocity, and others' past moral and immoral behavior (for review, see Kuhlmeier et al., 2014). Relatively little attention has been paid, however, to examining the bases that children consider more important than others while making such decisions, despite its relevance for predicting and understanding their behaviors.

One foundation of young children's social liking is shared preferences. Children by two years recognize similarity in preferences between themselves and others (Fawcett and Markson, 2010a). At three years, they prefer to play with peers whose food and toy preferences match their own (Fawcett and Markson, 2010b). Further, four- to six-year-old children, most of whom have at least one focused interest which persists for some time (e.g., dinosaurs and constructive play; Alexander et al., 2008), report common play and interests as important criteria for friend selection (Rekalidou and Petrogiannis, 2012). In addition, experimental studies that presented a variety of interests such as books, games, and TV shows by way of character representations such as pictures of peers have revealed children's liking for same-preference individuals at four to six years (Sparks et al., 2017) and six to nine years (Heiphetz et al., 2014).

Moreover, although few studies have investigated the effects of shared preferences on young children's generosity in resource allocation, limited evidence suggests that shared preferences can influence young children's resource distribution to some extent. When asked to distribute stickers between themselves and a fictional peer, four- to six-year-old children distributed less to peers who disliked their preferences than to those who shared their preferences or whose opinions were unknown (Sparks et al., 2017). In addition, three- to six-year-old children who had equally distributed resources to in-group and out-group members switched to unfair allocation favoring their in-group after being informed that their in-group, but not out-group, shared their preferences (Sudo, 2021). Although findings are limited to children from Western countries, these findings together with those regarding young children's friend choice suggest that shared preference is closely linked to affiliation formation and an increased possibility of positive social behaviors through the preschool years.

Young children's affiliation with others who share their preferences may be explained by the general preference for *similar others*, a preference evident from infancy (e.g., Mahajan and Wynn, 2012). According to Dishion et al. (1994), interpersonal similarity may lead to an emotional sense of connectedness that begins the process of becoming friends. The initial feeling of connectedness serves as a guide to discovering more similarities and establishing a friendship. Therefore, shared preferences cannot guarantee, but at least indicate a possibility of a good relationship. Young children's generosity to those with similar preferences may also be explained by the feeling of affiliation (Sparks et al., 2017). In addition to the general effect (i.e., the positivity toward those who are like them), more strategic motives may partially contribute to children's generosity to those who share their preferences. As Sparks et al. (2017) postulated, an interpersonal compatibility may make investing in a relationship seem more promising.

Another well-established factor of young children's social liking is group membership—namely, whether the person belongs to the same group as the child (in-group) or not (out-group). Particularly, a social group is defined as two or more people who interact with one another, share similar characteristics, and collectively have a sense of unity (Reicher, 1982). Among various types of groups (Lickel et al., 2000), group membership in social groups such as social categories (e.g., nationality) and task groups (e.g., a team) has been shown to influence social liking. For example, three-year-olds show a stronger tendency toward friendship with their same-sex peers (Shutts et al., 2013). Five-year-old Caucasian children tended toward friendship with children who matched their race (Abel and Sahinkaya, 1962). In addition, five-year-old American children who spoke English wanted to be friends with English-speaking peers more than French-speaking peers and preferred those who spoke English in their native accent more than those who spoke with a French accent (Kinzler et al., 2009). Furthermore, in a minimal group task in which children were randomly assigned to groups (teams) by a temporary minimal criterion, five-year-olds rated their liking for in-group members higher than out-group members (Dunham et al., 2011; Sudo, 2021).

Group membership can also play a role in young children's resource allocation. Three- to six-year-old children distributed more resources to in-group than out-group members in groups assigned according to gender (Dunham et al., 2011), race (Renno and Shutts, 2015), or a combination of accent and race (Spence and Imuta, 2020). In minimal group contexts, young children distributed resources in favor of their in-group members (Sparks et al., 2017) although the tendency failed to reach statistical significance in a few studies (Dunham et al., 2011; Plötner et al., 2015a; Sudo, 2021).

The effects of group membership on young children's social preference and resource allocation may be explained by developing group-mindedness. It has been argued that human beings have developed a unique way of thinking called *group-mindedness*, reflecting the importance of the group to human survival (Tomasello et al., 2012; Tomasello, 2019). Human beings live in groups, allowing individuals to protect themselves from external threats better, share important information among group members, and more efficiently select a mate for reproduction (Ward and Webster, 2016). Therefore, humans recognize group division, are more favorable to in-group than out-group members, and they pay attention to and abide by group norms, enabling the group to operate smoothly (Tomasello, 2019). This group-mindedness is evident from about three years of age (for review, see Tomasello, 2019). Young children begin to classify people into social groups based on appearance and behavior, and distinguish between in-group and out-group (e.g., Nesdale et al., 2004). They exhibit In-Group Favoritism (IGF; Nesdale et al., 2004; Patterson and Bigler, 2006; Shutts et al., 2013). In addition, children from the age of three will reprimand and correct an in-group member who breaks a social norm in a way that threatens the group's function, and strive to bring the group back into line (Schmidt et al., 2012). Thus, although group-mindedness persists into adulthood (Billig and Tajfel, 1973; Brewer and Silver, 1978; Dobbs and Crano, 2001; Falk et al., 2014), the preschool period is crucial for its development.

While studies have demonstrated that shared preference and group membership impact preschool-aged children's resource allocation and social preference, little research has examined which of the two factors more strongly affects such behaviors.

In practice, members of the same social group may tend to share preferences (Reicher, 1982), but preferences may not always vary with group membership. That is, children may encounter in-group members with different preferences and out-group members with the same, which implies that shared preference and group membership can be in conflict with one another. Considering such conflict, Sudo (2021) examined how the conflicting versus non-conflicting cues about group membership and shared preferences would affect three- to six-year-old children's social preference and resource allocation. Children who received the non-conflicting cues that their group (but not the out-group) shared their preferences rated their liking (measured on a five-point scale) and distributed resources in favor of their in-group. However, children who heard the conflicting cues that their out-group (but not the in-group) shared their preferences equally liked the groups. They also allocated resources equally to their in-group and out-group characters, just like they did before they were given the information about preferences. Together, the out-group was not favored over the in-group by these children despite its common preference, suggesting a limited impact of shared preference and a robustness of intergroup biases in the face of its conflict with shared preference.

The findings by Sudo (2021) have provided important initial evidence for the robustness of intergroup biases relative to the effect of shared preferences in young children's social liking and resource allocation. Yet, the study had a limitation in revealing children's priority between shared preference and group membership as bases of liking and favorable behaviors. Specifically, the task in Sudo's (2021) study included not only the shared preference and group membership but also the equality rule as the choices; children always had the option of distributing resources equally (they were given eight coins and eight potential recipients, four of whom were in-group members), thus allowing young children's preference for equal distributions of resources between individuals (e.g., LoBue et al., 2011; Cooley and Killen, 2015) to overshadow the choices between the shared preference and group membership. Possibly, young children's priority was not clearly evident in Sudo's (2021) study due to the equality option. This possibility calls for empirical research that excludes the equality option and focuses on demonstrating which of the shared preference and group membership children consider more important in *selective* favorable behaviors.

A combination of several research findings predicts that young children—especially, five-year-olds—would privilege group membership over shared preference in selective resource distribution and liking. First, Sudo (2021) measured children's liking with two types of tasks (i.e., a five-point scale versus a forced-choice task in which they were asked to choose one that they liked more). Children of three to six years, when given the conflicting cues, trended toward preferring their in-group member with a different preference over an out-group member with a shared preference on the forced-choice task ($p = 0.06$). Second, evidence indicates that group loyalty becomes a strong factor in children's own behaviors and evaluation of others' between the ages of four and five years. Specifically, five-year-olds consider group loyalty so important that they willingly pay a personal cost for the benefit of their group even with minimal groups (Misch et al., 2016), consider a lie told in favor of in-group members more morally acceptable than for out-group (Jin et al., 2019), and are less likely to tattle on transgression of their group members when much is at stake for the group (Misch et al., 2018). Thus, moral reactions of five-year-olds are moderated by group loyalty in some contexts. In addition, children by five years expect group loyalty as a norm, evaluating loyal individuals positively but disloyal individuals negatively (Misch et al., 2014). These findings align well with the developing group-mindedness during the preschool years (Tomasello, 2019) and social identity development theory (Nesdale, 2004) that characterizes preschool-aged children with a focus on, and concern for, belonging to their group and positively distinguishing their in-group from out-groups. Taken together, it would be reasonable to expect that group membership would outweigh the general positivity effect of shared preference at least in older preschoolers' resource allocation and social liking in forced-choice contexts.

Another question that remains unanswered concerns young children's reasoning about group membership (and shared preference) as a basis of liking and favorable behaviors. In particular, children's own choices in resource allocation and social liking do not speak to whether they have a normative sense that prioritizing one factor (e.g., group membership) over the other is something good and more appropriate, or their priority is merely behavioral inclinations. Children's evaluation of others may provide a venue for exploring this question. If children have a normative sense that prioritizing group membership over shared preferences is desirable, then children should evaluate a character prioritizing group membership over shared preference positively, but a character showing the reverse priority negatively. Importantly, exploring this possibility requires one to test children's evaluation of resource allocation and preference of others who are in *no* relation to the children, to rule out the possibility that the responses are based simply on the behaviors' outcomes (e.g., more resources) to or their positive feelings for their own groups (Abrams et al., 2003) rather than based on a general, abstract understanding of the prioritization. This third-party evaluation of others' resource allocation and preference in fact is likely to occur in young children's lives. Preschool-aged children have rich opportunities to observe others' resource allocation and preferences as they expand their scope of social experiences by attending preschools. They also spontaneously evaluate others' behaviors that are not directed to them, based on the diverse social norms that they have acquired, such as fair allocation of resources and respect of others' property right, as an unaffected bystander (e.g., Rossano et al., 2011; DeJesus et al., 2014; Hardecker et al., 2016; Hardecker and Tomasello, 2016). Thus, how children evaluate others' resource allocation and preferences based on shared preference and group membership is a matter of interest. To our knowledge, however, no study has yet investigated the issue, particularly when shared preference and group membership are in conflict. Thus, it would be interesting to explore how children reason

about peers who prioritize either group membership or shared preference in friend choice and resource allocation in forced-choice scenarios. This would be informative for theorizing on the development of a norm for prioritizing group membership over shared preference.

Although not a direct test of how children evaluate others who prioritize shared preference over group membership and those who show the reverse priority, an investigation of children's evaluation of others' group loyalty suggests the possibility that a normative stance toward group membership priority would be evident later in the preschool years. It is not until the age of five years that children not only choose group loyalty themselves (Misch et al., 2016, 2018) but also clearly regard group loyalty as being morally good and disloyal group members as being morally bad ("a betrayal") in a third-party standpoint (Misch et al., 2014). Five-year-olds, who have demonstrated that loyal behavior is the expected norm (Misch et al., 2014), would negatively evaluate others' behaviors that are more beneficial to out-group members than in-group members. Thus, it was predicted that five-year-old children would evaluate others' resource allocation and friend choice that prioritized group membership more positively than those choices that prioritized shared preferences.

Based on the research gaps mentioned above, this study had three goals. The first was to test whether shared preference affects resource allocation and social preference among young children in an East Asian country. The second goal was to test whether children would prioritize shared preference or group membership for resource allocation and social preference when the two are in conflict and they have to favor one person over the other. Furthermore, we aimed to examine whether the choice would generalize to children's evaluation of the resource allocation and liking of others, to obtain an insight into young children's developing normative sense about prioritizing between shared preference and group membership in their selective social behaviors. Together, this study would provide novel data regarding the relative impact of shared preference and group membership on young children's resource allocation, social preference, and social evaluation.

To achieve the goals, we pitted the characters' group membership against shared preferences. For the purpose of the present study, we used fictional classes as groups. Although groups can be formed on the basis of various criteria including shared preferences (e.g., a music club), prior work has shown that five- to six-year-old children's spontaneous definition of a "group" is limited to classes in kindergartens (Plötner et al., 2015b). Classes also meet the definition of a social group (i.e., two or more people who interact with one another, share similar characteristics, and collectively have a sense of unity; Reicher, 1982). Furthermore, our pilot study revealed that the term "class (班)" was familiar to and normally used by preschool-aged children in China, whereas the term "team (组 or 队)" was unfamiliar to them. We also reasoned that having to choose a play partner between a classmate with a dissimilar preference and a peer who has similar tastes from a different class does happen in young children's lives. Likewise, conditions where children are required to benefit one person more than the other in resource distribution can occur for reasons such as limited resources. We expected that while shared preference would have an impact on young children's resource allocation and social liking, five-year-old children would provide clear evidence for their prioritizing group membership over shared preference when they were to select one over the other as a play partner or one who benefits more. Moreover, their priority to group membership was predicted to generalize to their evaluation of others' selective social liking and resource distribution.

MATERIALS AND METHODS

Participants

Sixty-four five-year-old children (32 boys, 32 girls; $M = 64.98$ months, $SD = 3.52$ months) residing in Zhangjiakou City, Hebei Province, China, participated in this study. Four additional children participated but were excluded for the following reasons: two children's answers were not recorded due to an equipment error; one child could not concentrate on the study due to a change in test place in the middle of test session; and one child did not understand the researcher's explanation as indicated by the comprehension check. Among the participants, 14.06% ($n = 9$) were first born, 48.44% ($n = 31$) were second born, 7.81% ($n = 5$) were third born, and 29.69% ($n = 19$) were the only child. With regard to years of kindergarten attendance, two to three years was the most common (50.00%, $n = 32$), followed by three to four years (28.13%, $n = 18$), one to two years (20.31%, $n = 13$), and less than one year (1.56%, $n = 1$). Prior to data collection, we conducted an *a priori* analysis to determine a sample size required to detect an effect of medium size (0.5) in one-sample *t*-tests and paired *t*-tests. Given the alpha level of 0.05, a medium effect size of 0.5, and two-tailed tests, a required sample size was 54. The medium effect size was based on previous results. For example, in Sparks et al. (2017), the effect of shared preference on resource allocation was $d = 0.47$. Also, sample sizes of previous studies were 32 (Sparks et al., 2017, Exp.1 and Exp. 2), 81 six to nine year olds (Heiphetz et al., 2014), and 76 three to six year olds (Sudo, 2021, with one between-participants manipulation).

Materials

Task 1: Resource Allocation and Social Preference Task Based on Shared Preference

The first task was designed to test children's resource allocation and social preference based on shared preferences. Four pairs of toys or pets familiar to young Chinese children were selected as the objects of preference (**Figure 1**). Also, four picture cards of black and white line drawings, each showing a pair of characters that looked identical (**Figure 2A**), were constructed. The characters' hairstyles varied with cards. One character in each pair shared a preference with the child, and the other had a different preference. Identical characters were used to control for the influence of facial expression, gender, and appearance on responses. Laminated pictures of the objects were used to demonstrate the characters' preferences.

In addition, three stickers were used as resources for allocation as they are considered valuable to young children, are often used

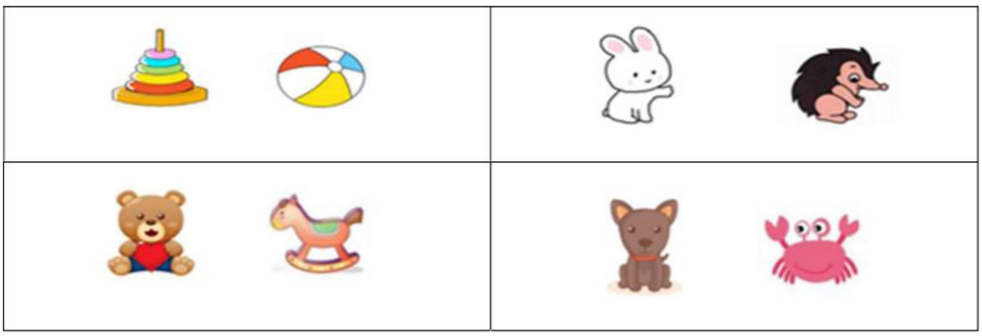

FIGURE 1 | Four pairs of objects of preference used in Tasks 1 and 2. The images of toys and animals used in task 1 and 2 were obtained from the following free image websites (www.huihua8.com; www.jianbihua.com; www.51yuansu.com; www.baiqi008.com; www.jbhdq.com; www.photophoto.cn).

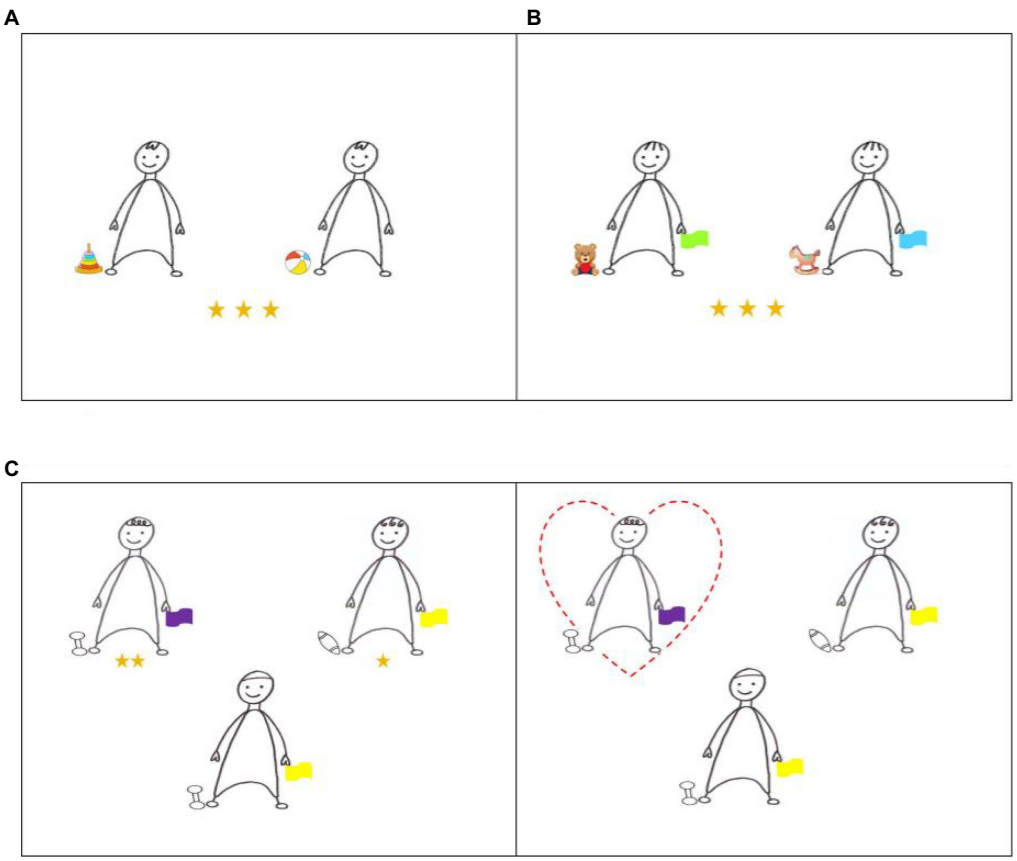

FIGURE 2 | Sample items of Tasks 1 **(A)**, 2 **(B)**, and 3 **(C)**. The images of toys and animals used in task 1 and 2 were obtained from the following free image websites (www.huihua8.com; www.jianbihua.com; www.51yuansu.com; www.baiqi008.com; www.jbhdq.com; www.photophoto.cn).

as rewards in kindergarten (Park et al., 2019), and have frequently been used in studies examining resource allocation in children (e.g., Cha and Song, 2015; Plötner et al., 2015a). We limited the number of resources to three, as young children's ability to count has been shown to affect their distributive behavior (Chernyak et al., 2016; Choe et al., 2021), as exemplified in previous studies (Olson and Spelke, 2008; Shutts et al., 2013; Renno and Shutts, 2015). We measured children's social preference using the friend selection method, which has been used widely in previous studies (Kinzler et al., 2009; Fawcett and Markson, 2010b; Shutts et al., 2013).

Task 2: Resource Allocation and Social Preference Task Based on Shared Preference vs. Group Membership

The second task aimed to determine children's priorities in resource allocation and preference when shared preference was

in conflict with group membership. The task consisted of four picture cards identical to those in Task 1, except that the characters' group membership information was added. Group membership was indicated by the color of a flag held by the characters. Sky blue and light green were selected because they had neither positive nor negative meanings associated with them in Chinese culture. One character in each pair shared a preference with the child but belonged to a different group, whereas the other belonged to the child's group but showed a preference for a different object. Again, children were asked to distribute three stickers between the two characters and choose a character they would like to be friends with **Figure 2B**.

Task 3: A Task of Third-Party Evaluation on Others' Resource Allocation and Social Preference

The third task was constructed to test children's evaluation of others' resource allocation and preference that prioritized either shared preference or group membership. It consisted of eight picture cards showing three characters, two in the upper row and the third, the protagonist, at the bottom (**Figure 2C**). The task employed a new set of characters to avoid a carry-over impression from Tasks 1 and 2. The two upper characters shared either preference or group membership with the protagonist. The left–right position of the two characters was counterbalanced. A gender-neutral name such as Ji Mi/几米 was given to the protagonist for each picture card.

A new set of objects and groups was used to avoid potential confusion caused by repeated use of the same sets. Representations of novel toys and pets similar to those used in previous studies (e.g., Roberts and Horii, 2019) were employed with two new pairs of color to indicate the groups (**Figure 3**).

Four of the eight picture cards depicted how the protagonist distributed the three stickers to the other two characters, and the other four depicted the protagonist's liking indicated by heart over their preferred character. Two of the four distribution picture cards showed resource allocation biased in favor of shared preference over group membership, while the other two showed a bias in favor of group membership over shared preference. Of the four liking cards that indicated the protagonist's character preference, two favored the character who shared preferences, while the other two favored the character who shared group membership.

Procedure

The procedure of this study was approved by the Bioethics Review Committee of Seoul National University (IRB No. 2012/003–016). Data collection took place in a kindergarten in Zhangjiakou City, Hebei Province, China. We first obtained written permission from the head of the kindergarten after explaining the purpose and procedure of the study. Study descriptions, consent forms, and questionnaires were described to the teachers who distributed the material to the children's guardians. Only children who expressed interest and whose guardians provided written consent participated in this study.

Children were individually tested in a quiet room in a kindergarten. The researcher had a casual conversation with the child before the tasks to build rapport. A practice session was initiated once the child felt comfortable. In the practice session, the child was presented with three stickers and a picture card showing a panda and a frog. The child was then told to distribute the stickers between the animals freely but to use up all the stickers. The researcher ensured that all stickers were distributed. After that, the researcher asked the child which of the two animals he/she wanted to be friends with but instructed him/her to choose only one. This practice session was followed by the three tasks described below. The tasks were presented in a fixed order, at advancing levels of complexity, to facilitate children's understanding of the tasks. The pilot test (conducted with an additional five children) suggested that some children might have difficulty understanding Task 3 (a relatively complex task) when it was presented as the first task of the experiment. For all tasks, children's responses were recorded by the researcher on video and a test sheet.

The first task tested resource allocation and social preference based on shared preferences. The researcher presented the child with a pair of toys (or pets) and asked which of the two items he/she would like to play with more. After ascertaining the child's preference, she showed the child a picture card depicting two characters and introduced a character who shared the child's preference and a character who did not. The researcher indicated which character liked to play with the shared preference and which character liked to play with an item that the child did not choose, putting the laminated pictures of the items next to the characters. Then, the researcher requested the child to distribute the stickers between the characters explaining

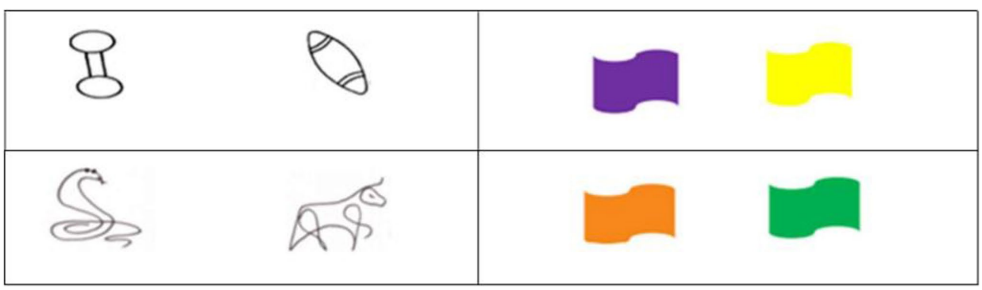

FIGURE 3 | Objects of preference and flags used in Task 3.

that they should use all the stickers. Once the child distributed the stickers to the characters, the researcher asked the child which character he/she wanted to be friends with. The resource allocation always preceded the friend choice question as in previous work (Renno and Shutts, 2015) so that children's decisions in resource allocation could not be influenced by their friend choice. After the child had allocated the stickers or selected a friend, the researcher verbally confirmed the responses. Each child received four trials for this task, distributing the resources four times and choosing friends four times. Two trials presented the child with pairs of toys, and the remaining two presented them with pairs of pets as items of preference.

Task 1 was followed by Task 2. The researcher showed the child two different color flags and told him/her that whichever color he/she was given was the color class he/she would belong to. The child was then handed a flag and thereby assigned to a group (e.g., a sky blue class). The color of the flag given to the child was counterbalanced. Next, the researcher introduced two characters to the child, using a picture card. One character introduced shared a preference with the child but not the child's group; the other character introduced shared a group with the child, but not their preference. The researcher then asked the child to confirm which character shared the child's preference and which character shared the child's group to demonstrate understanding. If answered incorrectly, the child was reinformed of the characters' status until the correct answers were given. After that, the child's resource allocation and social liking were measured in the same way as in Task 1, by asking them to distribute three stickers between the characters and choose which they wanted to be friends with. Once the child allocated resources or selected a friend, a confirmation was made. Again, there were four trials for this task. The presentation order of the characters (i.e., Same-preference character and Same-group character) was counterbalanced within and across participants.

Once the child completed Task 2, Task 3 was carried out to test children's evaluation of resource allocation and social preference of others. The task consisted of four trials whereby children were first asked to evaluate others' resource allocation and then to evaluate others' social preference. The researcher introduced the protagonist (e.g., Ji Mi) on a picture card and indicated the protagonist's preference and group for each trial. The researcher then introduced two additional characters—a character who shared the same preference as the protagonist but belonged to a different group and a character who did not share a preference with the protagonist but belonged to the same group. Children's understanding of the three characters, their group, and their preferences was confirmed. If the child confirmed incorrectly, the information was reinformed to ensure understanding. After confirmation of understanding, the researcher described how the protagonist distributed the stickers to the other characters. The picture card also indicated which character received more stickers than the other. She then asked the child to evaluate the protagonist's resource allocation by asking if the behavior was good or bad and to what degree. If the child answered that the behavior was good, the researcher asked them to clarify whether it was a little good or very good. The same was asked if they answered that the behavior was bad. They were also asked to justify the evaluation. The protagonist's preference was then evaluated. The researcher described the protagonists' friend choice between the two characters. The child's evaluation of the protagonist's friend choice was measured using the same questions as those used to evaluate the protagonist's resource allocation. After the third task, the child was thanked and given a small gift. The exact wording for the procedure of Tasks 1 to 3 is presented in the **Supplementary Material**.

Scoring

For each trial of Task 1, children received one point for a response in favor of the character with a shared preference. That is, if they distributed more stickers to the character with a shared preference, or if they chose them as the one they wanted to be friends with in each trial, they received one point. Otherwise, they received no points. Thus, the possible resource allocation scores ranged from 0 to 4. The possible social preference scores ranged the same. Higher scores indicated more resource allocation and social preference in favor of the shared-preference character over the different-preference character.

For Task 2, children were given one point for responses in favor of a same-group-different-preference character over the different-group-same-preference character. That is, they received one point if they distributed more stickers to the same-group character or chose the same-group character as friends. Otherwise, they received no points. The possible scores for resource allocation and social preference based on group membership ranged from 0 to 4. Higher scores indicated more responses in favor of the same-group character over the same-preference character.

For Task 3, evaluation of the protagonist's behavior was scored as follows: very bad was scored as −2, a little bad −1, a little good 1, and very good 2. If no clear evaluation was given, no points were assigned. Then, for each child, the average scores for the two trials in which children evaluated protagonist's resource distribution or social preference in favor of the same-group character were obtained. Likewise, average scores for the remaining two trials in which children evaluated protagonist's resource distribution or social preference in favor of shared preference were obtained. The averages obtained allowed for a more intuitive understanding of children's evaluations, which could be mapped between very bad (−2) and very good (2).

RESULTS

Resource Allocation and Social Preference Based on Shared Preference

Figure 4 indicates the main results of this study. Children allocated more resources to characters who shared preferences with them than to those who had different preferences in 3.42 trials ($SD = 0.83$) out of four trials, which differed significantly from chance probability, $t(63) = 13.67$, $p < 0.001$, $d = 1.71$. In addition, children chose characters who shared preferences as friends in an average of 3.42 trials ($SD = 1.04$) out of four trials. The score differed significantly from chance probability, $t(63) = 10.98$, $p < 0.001$, $d = 1.37$.

Thus, children favored characters with the same preferences as them over those with different preferences in both resource allocation and social preference.

Resource Allocation and Social Preference Based on Shared Preference vs. Group Membership

Children distributed more resources to characters in the same group who did not share preferences than to characters in a different group who shared preferences, in an average of 3.27 ($SD = 0.91$) out of four trials. The score differed significantly from chance, $t(63) = 11.09$, $p < 0.001$, $d = 1.40$. Also, children chose to be friends with characters from the same group who did not share their preferences in an average of 2.59 ($SD = 1.35$) trials, which differed significantly from the chance probability, $t(63) = 3.51$, $p < 0.001$, $d = 0.44$. Therefore, children prioritized group membership over shared preferences in their distribution of resources and friend choice.

Third-Party Evaluation on Others' Resource Allocation and Social Preference

When shared preference and group membership conflicted with one another, the average evaluation score for resource allocation that prioritized shared preferences was −1.15 ($SD = 1.05$). The score differed significantly from zero, $t(63) = 8.76$, $p < 0.001$, $d = -1.10$, indicating that children evaluated the behavior as negative. In contrast, the average evaluation score for resource allocation prioritizing group membership was 1.50 ($SD = 0.89$),

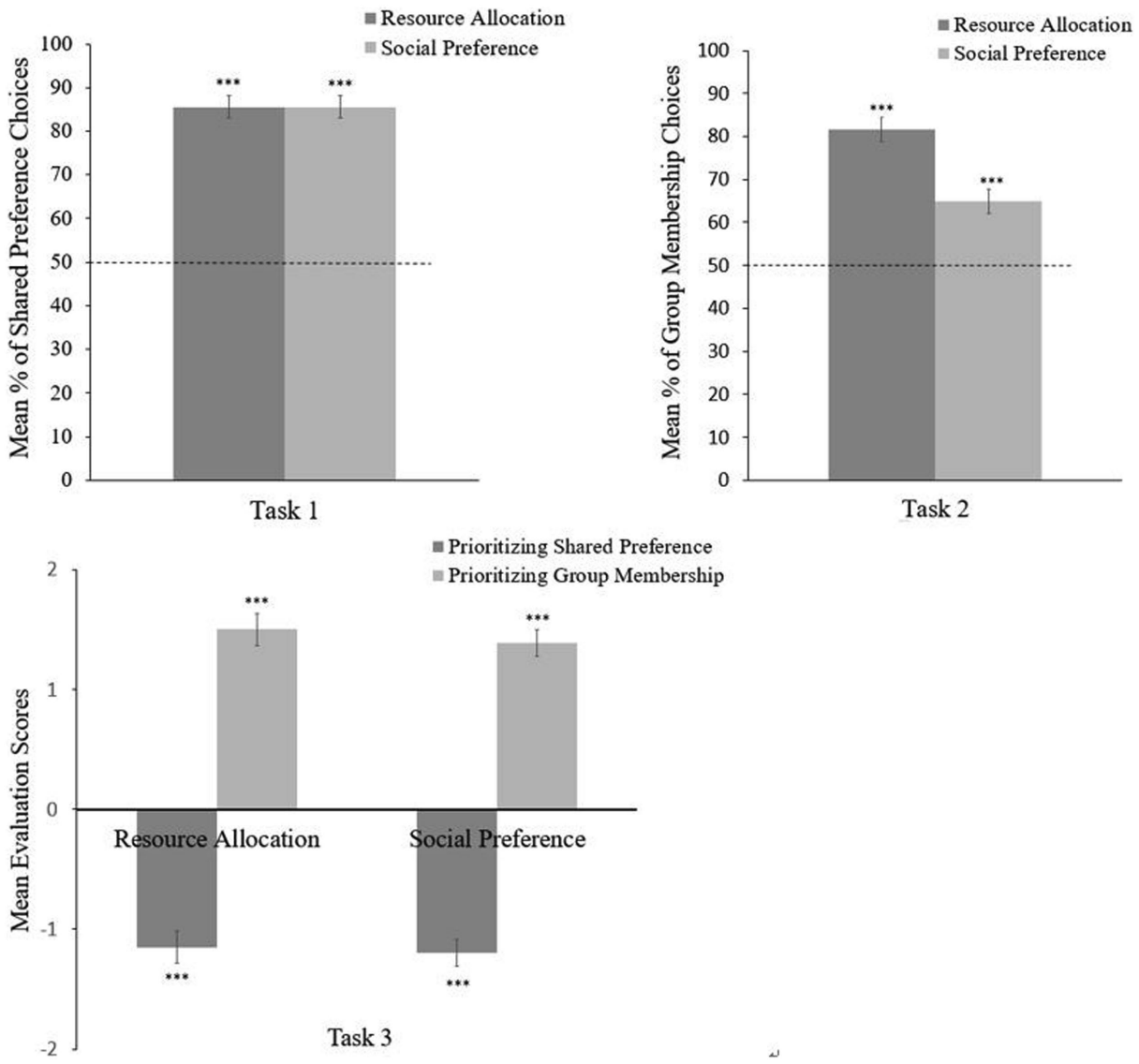

FIGURE 4 | Results of Task 1 (upper left), Task 2 (upper right), and Task 3 (bottom). Error bars depict ±1 standard error, and asterisks indicate means that are significantly different from chance (***$p < 0.001$).

which differed significantly from zero, $t(63) = 13.54$, $p < 0.001$, $d = 1.69$, indicating a positive evaluation of the behavior. These scores differed significantly, demonstrating that children evaluated resource allocation that prioritized group membership more positively than resource allocation prioritizing shared preference from a third-party standpoint, $t(63) = 16.12$, $p < 0.001$, Hedges' $g = 2.69$.

The mean evaluation score for others' social preference that prioritized shared preference was −1.20 ($SD = 1.14$), which was significantly different from zero, $t(63) = 8.39$, $p < 0.001$, $d = -1.05$. Thus, children evaluated the preference as negative. However, the average evaluation score for preference prioritizing group membership was 1.39 ($SD = 1.04$), significantly greater than zero, $t(63) = 10.69$, $p < 0.001$, $d = 1.34$, indicating positive evaluation of the preference. Children favored prioritization of group membership over prioritizing shared preference when shared preference and group membership were in conflict as a third party, $t(63) = 14.04$, $p < 0.001$, Hedges' $g = 2.35$.

DISCUSSION

This study was designed to test (1) whether five-year-old children would consider shared preference for their resource allocation and social liking, (2) whether five-year-old children would prioritize shared preference or group membership for resource allocation and social liking when the two are in conflict, and (3) whether the priority would generalize to children's third-party evaluation of the resource allocation and liking of others.

First, five-year-old children allocated more resources to and showed more liking toward the characters who shared their preferences than those who had different preferences. These results indicate that children take shared preference into account for both resource allocation and social liking at age five, consistent with earlier findings with younger children's (e.g., Fawcett and Markson, 2010b), same-age peers' (Rekalidou and Petrogiannis, 2012; Sparks et al., 2017), older children's (Heiphetz et al., 2014), and adults' (Vélez et al., 2019) social liking. The results are also in line with young children's resource sharing in Sparks et al. (2017). In addition, it extends previous findings showing the effect of shared preferences on young children's affiliation and generosity, from children in Western countries to children in an East Asian country. Moreover, this finding, combined with previous findings showing that the recipient's group membership affects young children's resource allocation and social liking (e.g., Dunham et al., 2011; Sparks et al., 2017; Yang and Dunham, 2019), suggests that shared preference and group membership can be placed in competition as factors of resource allocation and social preference in young children.

However, the present study cannot tell us about the mechanisms underlying the affiliation with and generosity to similar-preference individuals. The mechanisms may relate to an emotional sense of connectedness that interpersonal similarity might bring about Dishion et al. (1994). There may be more strategic motives as well. For instance, children may care about shared preference because it is a positive sign for a possible friendship (Fawcett and Markson, 2010b) and investing in a potential friendship is more promising (Sparks et al., 2017). Exploration of children's reasoning about shared preferences would be an interesting avenue for future research.

Our second finding concerns children's relative weighing in forced-choice scenarios of resource allocation and social liking when shared preference and group membership are in conflict. Five-year-old children distributed more resources to and showed more liking toward characters in the same group who did not share their preferences than those from a different group who shared their preferences. This finding is consistent with the earlier finding by Sudo (2021) in that children do not favor the out-group over their in-group despite the shared preference. However, going beyond that, our study provides the first evidence that young children actually favor the in-group with dissimilar tastes over the out-group with similar tastes, when required to choose one person to befriend or benefit more in resource allocation. Thus, when the equality rule cannot be followed, children privilege group membership over shared preference in both resource allocation and social liking.

The current finding corroborates five-year-old IGF in resource allocation (Dunham et al., 2011; Plötner et al., 2015a; Sparks et al., 2017) and social preference (Dunham et al., 2011; Sparks et al., 2017; Yang and Dunham, 2019), adding new information about its importance relative to shared preference. In addition, it is comparable to the prioritization of group membership over shared preferences in older children (Nesdale et al., 2010). Thus, our finding suggests that attaching greater importance to belonging to the same group than having some preferences in common in selective favorable behaviors is already evident by the age of five.

Another novel finding of this study is that five-year-old children's prioritization of group membership over shared preference translates to their third-party evaluation of others. Five-year-old children positively regarded resource allocation and social liking in others that prioritized group membership over a shared preference, whereas they evaluated behaviors that prioritized shared preference over group membership negatively. Importantly, children were affiliated with neither group in the task and were not influenced by the protagonist's resource allocation and friend choice. Thus, children's evaluation in the present study is likely to apply to others in general (i.e., in an agent-neutral way). The result then provides initial evidence suggesting that five-year-old children possess a normative stance that the priority to group membership over shared preference is something good and more appropriate than the reverse priority if the two are in conflict.

Our finding that children regard others' prioritization of group membership more positively than prioritization of shared interest from the perspective of a third person is compatible with the prior findings that group loyalty is an expected norm for five-year-old children (Misch et al., 2014, 2016, 2018; Jin et al., 2019). Perhaps, becoming a reliable member of a social group may be a more important issue for five-year-old children, relative to affiliating with and being generous to individuals with similar preferences, as suggested by the social identity development theory (Nesdale, 2004).

In the present study, we have provided the analysis of children's justifications of social evaluations in **Supplementary Material**. A large proportion of the responses refer to the group membership and preference information given by the researcher (e.g., "Because this child is in the same class," "They are not classmates," and "They like different pets"). However, some responses offered interesting explanations for their endorsement of group membership prioritization. As justification for distributing more resources to in-group members, children indicated both an expectation of reciprocity among in-group members and a belief that benefitting in-group members is a normative behavior. For example, children said that by distributing more resources to in-group members, they could receive help from them. They also indicated that giving more resources to in-group members was "a kind of duty," and "normal," "natural," or the "right" behavior. On the contrary, allocating more resources to out-group members was seen as the "wrong behavior." These justifications are consistent with the previous finding that five- to thirteen-year-olds judged that characters would feel more obligated to help an unfamiliar child from an in-group than an out-group (Weller and Lagattuta, 2013). In addition, some children referred to out-group members as an "out person (外人)" and said that giving them only one sticker should be okay. In contrast, they called an in-group member a "companion (同伴)" and said that giving the companion only one sticker should not be okay. As justifications for playing with in-group members, children mentioned that playing with classmates was the most "appropriate" and "correct" behavior. One child mentioned that other classmates might disapprove of the protagonist if the protagonist did not choose the same-class member as a friend. Lastly, a few children deemed that being in the same class was a prerequisite for being friends. Thus, in fact, children's normative stance about the priority to group membership is also found in their justifications of social evaluations.

Altogether, our findings indicate that group membership weighs more than shared preference in young children's selective actions (resource allocation and liking) and their third-party appraisal of the actions of others. However, several limitations should be noted about the current study. It only tested five-year-old children and could not speak to possible developmental changes. Comparing the findings from multiple studies indicates that five- to eight-year-olds, but not three- to four-year-olds, show in-group preference in minimally defined groups (Dunham et al., 2011; Dunham and Emory, 2014; Yang and Dunham, 2019). Furthermore, a positive evaluation bias for in-group members is evident in six-year-olds but not in three-year-olds (Dunham and Emory, 2014). Future research should examine developmental changes in children's tendency to prioritize group membership over shared preference. Second, our findings may not apply to children from other cultures as this study was conducted only on Chinese children living in China. Prioritization of group membership may differ in children from an individualistic culture that emphasizes self-direction based on individuals' desires, preferences, and needs. Those in a collectivist culture may emphasize the maintenance of group harmony based on in-group cohesion and the duties imposed by the collective (Schreier et al., 2010; Yu et al., 2016; Over and McCall, 2018; Triandis, 2018). Further studies should be conducted on children from diverse cultures such as Korea and the United States. Third, our study presented characters as drawings rather than photos or actual children. While drawings can control for potential variables of characters that may influence children's responses, the results might not be representative of their responses to actual peers. Future studies should investigate children's resource allocation, social preference, and evaluation in a more naturalistic setting. Additionally, while children were distributing the resources and choosing friends, the researcher ensured their safety and adherence to the distribution and friend choice rules. Although the researcher responded to the children's behaviors neutrally, the researcher's presence might have influenced the children's responses in the tasks. Nonetheless, we consider it unlikely that the findings would change in the absence of the researcher, considering that most children in our study responded to the task without any hesitation. Also, although not all children were able to articulate their reasons underlying the evaluations, there were responses that clearly justify the prioritization of group membership over shared preference. Last but not least, it is important to note that the current findings were obtained from forced-choice paradigms. The forced-choice format represents only a part of real life situations. Children in real life may be given more diverse options; for instance, they may distribute resources to others and keep the remaining sticker with them. Thus, generalization of the current findings is limited. Nevertheless, it is true that children sometimes encounter such situations in which they have to selectively benefit or approach others in their lives. Our study aimed to focus on the relative importance of shared preference versus group membership and suggests that children may regard group membership over shared preferences in such contexts.

Despite the limitations, the present study fills the gap in prior work on the impact of shared preference and group membership on children's social preference and resource allocation, by presenting a situation in which shared preferences are in conflict with group membership and children have to favor one over the other in their liking and resource allocation. Also, this study is the first to examine five-year-old children's evaluation of resource allocation and preference by unaffiliated others, where either shared preference or group membership were prioritized in a third-party context. Lastly, most previous work on children's group-mindedness was conducted in individualistic western countries. This study fills the gap by testing children living in an eastern collectivist country and provides a stepping stone for cross-cultural research to better understand the development of group-mindedness in children from different cultural backgrounds.

As a whole, the study elucidates children's developing group-mindedness. First, children readily recognized the group division even though the groups were previously unfamiliar ones, as evident in not only their correct answers to the confirmation questions (e.g., "I am in the sky blue class.") but also their frequent, spontaneous use of distinguishing labels during the task (e.g., "I have to give a lot to *my class*" and "I should give

my class two, and *their* class one."). Second, they demonstrated more favorable social behaviors to their in-group than out-group members despite the shared preferences with the out-group members. Third, their justification for evaluating others' resource allocation and preference reveals that children pay attention to and abide by group norms, as indicated by their remarks that a favorable behavior toward in-group members is normal and that a more favorable behavior toward out-group members is considered wrong and carries the cost of social rejection.

In conclusion, although shared preference affects children's resource allocation and social preference at the age of five, young children attach greater importance to group membership than shared preference in their selective resource allocation and social liking when the two are in conflict. Further, this priority translates to their evaluation of resource allocation and social preference of others as a third party. Our findings, together with other converging evidence from five-year-olds (Dunham et al., 2011; Misch et al., 2014, 2016, 2018; Plötner et al., 2015a; Sparks et al., 2017; Jin et al., 2019; Yang and Dunham, 2019), suggest that, by five years of age, children are already developing a strong sense of group-mindedness, with group membership playing a crucial role in their social behavior and peer evaluation.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by the Bioethics Review Committee of Seoul National University (IRB No. 2012/003–016). Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin.

AUTHOR CONTRIBUTIONS

LY collected and organized the data. All authors contributed to conception and design of the study, performed the statistical analysis, and wrote the manuscript. All authors contributed to the article and approved the submitted version.

ACKNOWLEDGMENTS

We would like to thank all of the parents and children who participated in this research. We are also grateful to the principal and teachers in the kindergarten who helped us recruit and test participants.

SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyg.2022.866966/full#supplementary-material

REFERENCES

Abel, H., and Sahinkaya, R. (1962). Emergence of sex and race friendship preferences. *Child Dev.* 33, 939–943. doi: 10.2307/1126904

Abrams, D., Rutland, A., and Cameron, L. (2003). The development of subjective group dynamics: children's judgments of normative and deviant in-group and out-group individuals. *Child Dev.* 74, 1840–1856. doi: 10.1046/j.1467-8624.2003.00641.x

Alexander, J. M., Johnson, K. E., Leibham, M. E., and Kelley, K. (2008). The development of conceptual interests in young children. *Cogn. Dev.* 23, 324–334. doi: 10.1016/j.cogdev.2007.11.004

Billig, M., and Tajfel, H. (1973). Social categorization and similarity in intergroup behaviour. *Eur. J. Soc. Psychol.* 3, 27–52. doi: 10.1002/ejsp.2420030103

Brewer, M. B., and Silver, M. (1978). Ingroup bias as a function of task characteristics. *Eur. J. Soc. Psychol.* 8, 393–400. doi: 10.1002/ejsp.2420080312

Cha, M., and Song, H. (2015). The influence of in-group favoritism on 5 to 6-year-olds' resource-allocation decisions. *Korean J. Cogn. Sci.* 26, 241–261. doi: 10.19066/cogsci.2015.26.2.005

Chernyak, N., Sandham, B., Harris, P. L., and Cordes, S. (2016). Numerical cognition explains age-related changes in third-party fairness. *Dev. Psychol.* 52, 1555–1562. doi: 10.1037/dev0000196

Choe, S., Park, Y., and Kim, S. (2021). Relationship between equal sharing and numerical competence in four- to five-year-old children. *J. Cognit. Enhancement Intervention* 12, 1–21. doi: 10.21197/JCEI.12.1.1

Cooley, S., and Killen, M. (2015). Children's evaluations of resource allocation in the context of group norms. *Dev. Psychol.* 51, 554–563. doi: 10.1037/a0038796

Dahl, A., Schuck, R. K., and Campos, J. J. (2013). Do young toddlers act of their social preferences? *Dev. Psychol.* 49, 1964–1970. doi: 10.1037/a0031460

DeJesus, J. M., Rhodes, M., and Kinzler, K. D. (2014). Evaluations versus expectations: Children's divergent beliefs about resource distribution. *Cogn. Sci.* 38, 178–193. doi: 10.1111/cogs.12093

Dishion, T. J., Patterson, G. R., and Griesler, P. C. (1994). "Peer adaptation in the development of antisocial behavior: a confluence model," in *Aggressive Behavior: Current Perspectives*. ed. L. R. Huesmann (New York: Plenum), 61–95.

Dobbs, M., and Crano, W. D. (2001). Outgroup accountability in the minimal group paradigm: implications for aversive discrimination and social identity theory. *Personal. Soc. Psychol. Bull.* 27, 355–364. doi: 10.1177/0146167201273009

Dunfield, K. A., and Kuhlmeier, V. A. (2010). Intention-mediated selective helping in infancy. *Psychol. Sci.* 21, 523–527. doi: 10.1177/0956797610364119

Dunham, Y., Baron, A. S., and Carey, S. (2011). Consequences of "minimal" group affiliations in children. *Child Dev.* 82, 793–811. doi: 10.1111/j.1467-8624.2011.01577.x

Dunham, Y., and Emory, J. (2014). Of affect and ambiguity: the emergence of preference for arbitrary ingroups. *J. Soc. Issues* 70, 81–98. doi: 10.1111/josi.12048

Falk, C. F., Heine, S. J., and Takemura, K. (2014). Cultural variation in the minimal group effect. *J. Cross-Cult. Psychol.* 45, 265–281. doi: 10.1177/0022022113492892

Fawcett, C. A., and Markson, L. (2010a). Children reason about shared preferences. *Dev. Psychol.* 46, 299–309. doi: 10.1037/a0018539

Fawcett, C. A., and Markson, L. (2010b). Similarity predicts liking in 3-year-old children. *J. Exp. Child Psychol.* 105, 345–358. doi: 10.1016/j.jecp.2009.12.002

Hardecker, S., Schmidt, M. F. H., Roden, M., and Tomasello, M. (2016). Young children's behavioral and emotional responses to different social norm violations. *J. Exp. Child Psychol.* 150, 364–379. doi: 10.1016/j.jecp.2016.06.012

Hardecker, S., and Tomasello, M. (2016). From imitation to implementation: how two- and three-year-old children learn to enforce social norms. *Br. J. Dev. Psychol.* 35, 237–248. doi: 10.1111/bjdp.12159

Heiphetz, L., Spelke, E. S., and Banaji, M. R. (2014). The formation of belief-based social preferences. *Soc. Cogn.* 32, 22–47. doi: 10.1521/soco.2014.32.1.22

Jin, K., Hwang, J., and Song, H. (2019). Children's moral evaluations of lying for one's ingroup member. *Korean J. Dev. Psychol.* 32, 87–104. doi: 10.35574/KJDP.2019.03.32.1.87

Kenward, B., and Dahl, M. (2011). Preschoolers distribute scarce resources according to the moral valence of recipients' previous actions. *Dev. Psychol.* 47, 1054–1064. doi: 10.1037/10023869

Kinzler, K. D., Shutts, K., DeJesus, J., and Spelke, E. S. (2009). Accent trumps race in guiding children's social preferences. *Soc. Cogn.* 27, 623–634. doi: 10.1521/soco.2009.27.4.623

Kuhlmeier, V. A., Dunfield, K. A., and O'Neill, A. C. (2014). Selectivity in early prosocial behavior. *Front. Psychol.* 5:836. doi: 10.3389/fpsyg.2014.00836

Lickel, B., Hamilton, D. L., Wieczorkowska, G., Lewis, A., Sherman, S. J., and Uhles, A. N. (2000). Varieties of groups and the perception of group entitativity. *J. Pers. Soc. Psychol.* 78, 223–246. doi: 10.1037/0022-3514.78.2.223

LoBue, V., Nishida, T., Chiong, C., DeLoache, J. S., and Haidt, J. (2011). When getting something good is bad: even three-year-olds react to inequality. *Soc. Dev.* 20, 154–170. doi: 10.1111/j.1467-9507.2009.00560.x

Mahajan, N., and Wynn, K. (2012). Origins of "us" versus "them": Prelinguistic infants prefer similar others. *Cognition* 124, 227–233. doi: 10.1016/j.cognition.2012.05.003

Misch, A., Over, H., and Carpenter, M. (2014). Stick with your group: young children's attitudes about group loyalty. *J. Exp. Child Psychol.* 126, 19–36. doi: 10.1016/j.jecp.2014.02.008

Misch, A., Over, H., and Carpenter, M. (2016). I won't tell: young children show loyalty to their group by keeping group secrets. *J. Exp. Child Psychol.* 142, 96–106. doi: 10.1016/j.jecp.2015.09.016

Misch, A., Over, H., and Carpenter, M. (2018). The whistleblower's dilemma in young children: when loyalty trumps other moral concern. *Front. Psychol.* 9:250. doi: 10.3389/fpsyg.2018.00250

Nesdale, D. (2004). "Social identity processes and children's ethnic prejudice," in *The Development of the Social Self*. eds. M. Bennett and F. Sani (Hove: Psychology Press), 219–246.

Nesdale, D., Durkin, K., Maass, A., and Griffiths, J. (2004). Group status, outgroup ethnicity and children's ethnic attitudes. *J. Appl. Dev. Psychol.* 25, 237–251. doi: 10.1016/j.appdev.2004.02.005

Nesdale, D., Lawson, M. J., Durkin, K., and Duffy, A. (2010). Effects of information about group members on young children's attitudes towards the in-group and out-group. *Br. J. Dev. Psychol.* 28, 467–482. doi: 10.1348/026151009X433321

Olson, K. R., and Spelke, E. S. (2008). Foundations of cooperation in young children. *Cognition* 108, 222–231. doi: 10.1016/j.cognition.2007.12.003

Over, H., and McCall, C. (2018). Becoming us and them: social learning and intergroup bias. *Soc. Personal. Psychol. Compass* 12:e12384. doi: 10.1111/spc3.12384

Park, J., Han, K., Park, C., and Song, H. (2019). Drawing attention to recipients' emotional and physical characteristics promotes generous resource allocation in preschoolers. *Korean J. Dev. Psychol.* 32, 127–139. doi: 10.35574/KJDP.2019.03.32.1.127

Patterson, M. M., and Bigler, R. S. (2006). Preschool children's attention to environmental messages about groups: social categorization and the origins of intergroup bias. *Child Dev.* 77, 847–860. doi: 10.1111/j.1467-8624.2006.00906.x

Plötner, M., Over, H., Carpenter, M., and Tomasello, M. (2015a). The effects of collaboration and minimal-group membership on children's prosocial behavior, liking, affiliation, and trust. *J. Exp. Child Psychol.* 139, 161–173. doi: 10.1016/j.jecp.2015.05.008

Plötner, M., Over, H., Carpenter, M., and Tomasello, M. (2015b). What is a group? Young children's perceptions of different types of groups and group entitativity. *PLoS One* 11:e0152001. doi: 10.1371/journal.pone.0152001

Reicher, S. D. (1982). "The determination of collective behavior," in *Social Identity and Intergroup Relations*. ed. H. Tajfel (Cambridge: Cambridge University Press), 41–83.

Rekalidou, G., and Petrogiannis, K. (2012). Criteria for selection and rejection of social relationships among children in urban and rural kindergartens in Greece. *Int. J. Primary Elementary Early Years Educ.* 40, 173–188. doi: 10.1080/03004279.2010.506193

Renno, M. P., and Shutts, K. (2015). Children's social category-based giving and its correlates: expectations and preferences. *Dev. Psychol.* 51, 533–543. doi: 10.1037/a0038819

Roberts, S. O., and Horii, R. I. (2019). Thinking fast and slow: children's descriptive-to-prescriptive tendency under varying time constraints. *J. Cognit. Dev.* 20, 790–799. doi: 10.1080/15248372.2019.1599001

Rossano, F., Rakoczy, H., and Tomasello, M. (2011). Young children's understanding of violations of perperty rights. *Cognition* 121, 219–227. doi: 10.1016/j.cognition.2011.06.007

Schmidt, M. F. H., Rakoczy, H., and Tomasello, M. (2012). Young children enforce social norms selectively depending on the violator's group affiliation. *Cognition* 124, 325–333. doi: 10.1016/j.cognition.2012.06.004

Schreier, S. S., Heinrichs, N., Alden, L., Rapee, R. M., Hofmann, S. G., Chen, J., et al. (2010). Social anxiety and social norms in individualistic and collectivistic countries. *Depress. Anxiety* 27, 1128–1134. doi: 10.1002/da.20746

Shutts, K., Roben, C. K. P., and Spelke, E. S. (2013). Children's use of social categories in thinking about people and social relationships. *J. Cogn. Dev.* 14, 35–62. doi: 10.1080/15248372.2011.638686

Sparks, E., Schinkel, M. G., and Moore, C. (2017). Affiliation affects generosity in young children: the roles of minimal group membership and shared interests. *J. Exp. Child Psychol.* 159, 242–262. doi: 10.1016/j.jecp.2017.02.007

Spence, J. L., and Imuta, K. (2020). Age-related changes in children's accent-based resource distribution. *J. Exp. Child Psychol.* 193:104807. doi: 10.1016/j.jecp.2020.104807

Sudo, M. (2021). Blurred boundaries between us and them: do young children affiliate with outgroup members with shared preferences? *J. Exp. Child Psychol.* 208:105150. doi: 10.1016/j.jecp.2021.105150

Tomasello, M. (2019). *Becoming Human: A Theory of Human Ontogeny*. Cambridge, MA: Harvard University Press.

Tomasello, M., Melis, A. P., Tennie, C., Wyman, E., and Herrmann, E. (2012). Two key steps in the evolution of human cooperation: the interdependence hypothesis. *Curr. Anthropol.* 53, 673–692. doi: 10.1086/668207

Triandis, H. C. (2018). *Individualism and Collectivism*. Boulder, CO: Westview Press.

Vélez, N., Bridgers, S., and Gweon, H. (2019). The rare preference effect: Statistical information influences social affiliation judgments. *Cognition* 192:103994. doi: 10.1016/j.cognition.2019.06.006

Vaish, A., Carpenter, M., and Tomasello, M. (2010). Young children selectively avoid helping people with harmful intentions. *Child Dev.* 81, 1661–1669. doi: 10.1111/j.1467-8624.2010.01500.x

Ward, A., and Webster, M. (2016). *Sociality: The Behaviour of Group-Living Animals*. Switzerland: Springer International Publishing.

Weller, D., and Lagattuta, K. H. (2013). Helping the in-group feels better: children's judgments and emotion attributions in response to prosocial dilemmas. *Child Dev.* 84, 253–268. doi: 10.1111/j.1467-8624.2012.01837.x

Yang, X., and Dunham, Y. (2019). Minimal but meaningful: probing the limits of randomly assigned social identities. *J. Exp. Child Psychol.* 185, 19–34. doi: 10.1016/j.jecp.2019.04.013

Yu, J., Zhu, L., and Leslie, A. M. (2016). Children's sharing behavior in mini-dictator games: the role of in-group favoritism and theory of mind. *Child Dev.* 87, 1747–1757. doi: 10.1111/cdev.12635

Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

frontiers | Frontiers in Psychology

ORIGINAL RESEARCH
published: 08 August 2022
doi: 10.3389/fpsyg.2022.837276

British Adolescents Are More Likely Than Children to Support Bystanders Who Challenge Exclusion of Immigrant Peers

Seçil Gönültaş[1,2], Eirini Ketzitzidou Argyri[1], Ayşe Şule Yüksel[1], Sally B. Palmer[3], Luke McGuire[1], Melanie Killen[4] and Adam Rutland[1]*

[1]Department of Psychology, University of Exeter, Exeter, United Kingdom, [2]Department of Psychology, Bilkent University, Ankara, Turkey, [3]Graduate School of Education, University of Exeter, Exeter, United Kingdom, [4]Department of Human Development and Quantitative Methodology, University of Maryland, College Park, MD, United States

OPEN ACCESS

Edited by:
Fanli Jia,
Seton Hall University,
United States

Reviewed by:
Elizabeth Pérez Izaguirre,
University of the Basque Country,
Spain
Alessandra Geraci,
University of Trento, Italy

***Correspondence:**
Seçil Gönültaş
secil.gonultas@gmail.com

Specialty section:
This article was submitted to Developmental Psychology, a section of the journal Frontiers in Psychology

Received: *16 December 2021*
Accepted: *07 June 2022*
Published: *08 August 2022*

Citation:
Gönültaş S, Ketzitzidou Argyri E, Yüksel AŞ, Palmer SB, McGuire L, Killen M and Rutland A (2022) British Adolescents Are More Likely Than Children to Support Bystanders Who Challenge Exclusion of Immigrant Peers. Front. Psychol. 13:837276. doi: 10.3389/fpsyg.2022.837276

The present study examined British children's and adolescents' individual and perceived group evaluations of a challenger when a member of one's own group excludes a British national or an immigrant newcomer to the school (Turkish or Australian) from participating in a group activity. Participants included British children ($n = 110$, $M_{\text{age in years}} = 9.69$, $SD = 1.07$, 44 girls, aged 8–11) and adolescents ($n = 193$, $M_{\text{age in years}} = 14.16$, $SD = 0.92$, 104 girls, aged 13–16), who were inducted into their group and heard hypothetical scenarios in which a member of their own group expressed a desire to exclude the newcomer from joining their activity. Subsequently, participants heard that another member of the ingroup challenged the exclusionary act by stating that they should be inclusive. Children's and adolescents' individual evaluations of the bystander who challenged the social exclusion of an immigrant peer were more positive than their perceived group evaluations, recognizing that groups are often exclusionary. Only adolescents but not children differed in their individual and perceived group evaluations in the social exclusion of British peers. When the newcomer was an immigrant peer, adolescents were more likely to evaluate the challenger positively in both their individual and perceived group evaluations compared to children. Further, children, compared to adolescents, were more likely to reason about social and group norms to justify their evaluations only when the excluded peer was an immigrant but not when the excluded peer was British. Adolescents were more likely to reason about fairness, rights, and equality. The findings indicate that exclusionary group norms surrounding immigrants begin in childhood. Interventions that focus on changing group norms to be more inclusive could be effective in reducing prejudicial attitudes toward immigrants in childhood.

Keywords: moral reasoning, evaluation of a challenger, group functioning, intergroup and intragroup social exclusion, immigrants

INTRODUCTION

Immigrant children and adolescents represent a growing part of the United Kingdom population (Vargas-Silva and Rienzo, 2019; Office for National Statistics, 2020). As a result, intergroup interactions between immigrant and non-immigrant children and adolescents are becoming increasingly likely in schools in the United Kingdom. However, despite this increase in intergroup interactions, immigrant children and adolescents are at higher risk of experiencing social exclusion because of their national identity (Stevens et al., 2020). As bystanders are central actors who can stop intergroup social exclusion when they challenge the excluder, it is critically important to understand how non-immigrant children and adolescents consider peer group members who stand up against the social exclusion of immigrant peers (Evans et al., 2014; Palmer and Abbott, 2018). Termed a "challenger," peers who stand up to members of their group that victimize and harass others are a central factor in reducing prejudice and changing group norms. Thus, investigating how children and adolescents evaluate and reason about bystanders who challenge exclusionary behaviors and treatment is both urgent and timely.

Social exclusion includes both intergroup (e.g., when an outgroup member is excluded) and intragroup (i.e., when an ingroup member is excluded) contexts (Killen et al., 2013a). In the current study, we examined British children's and adolescents' individual evaluations, and their perception of their group's evaluation of a challenger who stands up against the social exclusion of immigrant (intergroup) and British (intragroup) peers.

The Social Reasoning Developmental Perspective

The present study examined children's and adolescents' individual and perceived group evaluation of challenger based on the premises of the social reasoning developmental (SRD) model (Killen and Rutland, 2011; Rutland and Killen, 2015). Children and adolescents often experience incidents that require them to make decisions about whom to include in, or exclude from, their peer activities within their daily lives. The SRD model provides a theoretical and empirical framework to examine children's and adolescents' behaviors, attitudes, and reasoning in such situations by integrating the social domain theory (SDT, Turiel, 1983; Smetana et al., 2014) and social identity development and group dynamics theories (Nesdale, 2004; Abrams and Rutland, 2008). By drawing on these theories, the SRD model enables to understand how children and adolescents reason about fairness, equality, and concerns for others to challenge social exclusion and to understand how they attribute group functioning, social and group norms while justifying their exclusionary attitudes and behaviors (Killen and Rutland, 2011).

Empirical studies based on the SRD model have also indicated that in some contexts, children and adolescents evaluate social exclusion as unacceptable based on the unfair treatment of others (Palmer et al., 2015; Mulvey et al., 2016). As well, they also support instances of social exclusion for reasons related to group functioning and group dynamics (Hitti et al., 2011; Mulvey, 2016). Further, the SRD model proposes that, with age, children become more capable of balancing moral and group concerns when evaluating social exclusion by recognizing the multifaceted nature of it (Killen and Rutland, 2011; Rutland and Killen, 2015). As a complex process, social exclusion can occur at many levels including intragroup and intergroup, and it is highly likely to occur covertly (Rutland and Killen, 2015). Thus, examining how children and adolescents reason about their peers' approach (e.g., challenging or supporting) toward intragroup and intergroup social exclusion provides a stage for researchers to understand interpretations and motivations that underlie exclusionary behavior and treatments in different contexts. Unlike *intragroup* social exclusion (Killen and Malti, 2015), *intergroup* social exclusion is mostly rooted in prejudice, discrimination, and negative attitudes toward the targeted outgroups. Examining and comparing children's and adolescents' evaluation of challenger peers in different social exclusion contexts will provide insights into the developmental awareness of the role that intergroup processes play when evaluating and reasoning about how ingroup and outgroup members respond to social exclusion and victimization. It is vital to understand these processes to identify the ways to promote inclusive schools, especially in intergroup contexts (Palmer et al., 2021).

Individual and Group Evaluations of a Peer Who Challenges Social Exclusion

Although earlier research has focused on excluded peers of social exclusion and excluders, there has been a recent shift to focus on bystanders. Bystanders, who are peers witnessing, social exclusion, and other different types of victimization can serve as central actors to offset both the occurrence and effects of social exclusion and other types of peer aggression (Salmivalli et al., 2011). Research in the area of *intragroup* exclusion reveals that when bystanders challenge social exclusion and bullying, these incidences tend to cease within a short time (Hawkins et al., 2001; Salmivalli et al., 2011). Yet, research has not fully delved into the role of bystanders for intergroup social exclusion.

Children and adolescents are concerned with fairness and often act prosocially to challenge someone being unfairly socially excluded in both intragroup and intergroup contexts (Killen and Rutland, 2011). Yet, especially in intergroup contexts when deciding whether to challenge social exclusion, individuals must also consider group norms and how their group will react to an ingroup peer who challenges social exclusion.

For example, the national identity of the excluded peer might shape how children and adolescents evaluate an ingroup member who challenges the exclusion including whether the excluded peer is from the same group as the child doing the excluding (e.g., non-immigrant peer) or from an outgroup (e.g., immigrant peer; Palmer et al., 2022). Further, understanding children's and adolescents' cognition and reasoning about the role of the bystander and the potential costs involved of challenging exclusionary behavior sheds light on the interpretations and motivations that underlie responses to victimization.

A growing literature on bystander responses to social exclusion has revealed that children and adolescents have differentiated judgments about the likelihood that a member of their own group would challenge an act of aggression committed by a

member of their own group. Further, studies have shown that children and adolescents differentiate their own judgments from the groups' judgments in intergroup settings involving stigmatization or status (Mulvey et al., 2014, 2018; Mulvey and Killen, 2016). For example, Mulvey and Killen (2016) showed that children (9 to 10-year-olds) and adolescents (13 to 14-year-olds) were individually more supportive of challenges to peer aggression than they expected their group to be in a gender-based intergroup context. Similarly, both children and adolescents were more likely to report that they would be more supportive of challenger peers than their group would in the context of challenging gender stereotypes (Mulvey and Killen, 2016). Youth recognize that there is a cost to challenging group norms even when they view the challenging act as legitimate and sometimes imperative as in the case of bullying and harassment.

The differentiation between children's and adolescents' own judgments and their perception about their group's judgments has also been found in different intergroup contexts. For example, Mulvey et al. (2018) showed differentiation in individual and group judgments in a social inclusion context in which they manipulated language spoken by outgroup members (e.g., Spanish, Chinese, or Arabic speaking). They found that children (aged 8–11 years) were more likely to rate their own inclusivity judgments of a language-outgroup member as higher compared to their group's inclusivity judgments documenting differentiation between their own perspective and their group's perspective. Thus, youth recognize that group norms apply to the ingroup and the outgroup.

Age-Related Differences in Individual Versus Group Evaluations of the Challenger

Drawing on the SRD model (Rutland et al., 2010; Killen and Rutland, 2011) the ability to differentiate between individuals' own perspective and their group's perspective can be important for social interactions in which there is a need to consider multiple perspectives. By late childhood individuals typically evaluate exclusion in intergroup contexts negatively, though they perceive their group may be less negative about such exclusion. Age differences regarding this distinction have been documented in different intergroup contexts. For example, McGuire et al. (2019) found that adolescents' (13- to 5-year-olds) ability to differentiate between their own evaluation and group perspective in an inter-school context was more stable as compared to children (8- to 11-year-olds). Similarly, in a gender-based intergroup context, participants (aged between 9.5 and 13.5 years) differentiated their own individual favorability from the group's favorability for an ingroup challenger as they get older (Mulvey et al., 2014). Together these studies show how the interaction between context and age impacts children's and adolescents' individual and group evaluation of the challenger. It is particularly important to examine individual evaluations together with perceived group evaluations across different age groups considering the importance of peer influence in children's and adolescents' decision-making in social exclusion.

To our knowledge, no studies have examined age-related changes regarding evaluations and reasoning about whether a peer would challenge as a bystander, their individual evaluations of challenging, and their perception of their group's evaluation of challenging social exclusion of immigrant peers. Youth's judgments and reasoning about the group processes surrounding bystander challenging are important, as understanding these social cognitions may ultimately help reduce prejudice-based social exclusion.

Present Study

The current study examined British children's and adolescents' individual evaluations, their perception of their group's evaluations, and reasoning about the challenger of the social exclusion of immigrant (either Turkish or Australian) and British peers by drawing from the SRD approach to social exclusion (Rutland et al., 2010; Killen and Rutland, 2011; Rutland and Killen, 2015). Further, we examined whether the difference between an individual's evaluation of a challenger peer and their perception of their group's evaluation of an ingroup challenger was present in intergroup and non-intergroup contexts. It is important to note that the current study is part of a larger project that examines bystander judgments and responses to the intergroup social exclusion of immigrants.

In the current study, participants were presented with hypothetical scenarios of either non-immigrant (British) or immigrant peers (Turkish or Australian). Both groups were reported to be newcomers as they had recently moved to the school featured in the scenarios; the distinction was that the British youth moved from another area in Britain and the immigrants moved to the United Kingdom from their home country. We purposefully chose immigrants as the intergroup context because immigrants are one of the groups stigmatized and treated differently in the United Kingdom based on different characteristics nationality, religion, and language (Ford et al., 2015; Creighton and Jamal, 2020). Considering the widespread and long-lasting effects of social exclusion on immigrant youth (psychological well-being, physical health, educational attainment), it is critically important to identify how children and adolescents evaluate their peers' challenging behaviors to create inclusive norms in school contexts (Oxman-Martinez et al., 2012; Rodríguez Hidalgo et al., 2014). For explanatory purposes, we also manipulated the nationality of the immigrant being excluded, so they were either a Turkish immigrant peer or an Australian immigrant peer in the scenarios. Although different immigrant groups in the United Kingdom share common experiences (e.g., moving from another country), each of these immigrant groups might have unique characteristics and might be perceived differently by British individuals. Thus, we also examined whether British children's and adolescents' evaluations differ when their ingroup members challenge the social exclusion of immigrants from different backgrounds.

As a summary, in the current study, we examined both participants' individual evaluations and their perceptions of group evaluations of the challenger to gain a more comprehensive understanding of bystanders' judgments in intergroup contexts in relation to group dynamics. Further, we also examined our participants' reasoning about their evaluations of the challenger of social exclusion to have insight into what drives their motivation in their evaluations (fairness, prejudice,

discrimination, group norms, societal conventions, etc.) based on the SDT (Turiel, 1983).

The following hypotheses were tested:

Hypotheses

Participants' individual and group evaluations of the challenger peer were expected to differ based on the exclusion condition (whether excluded peer was an immigrant peer vs. a British peer) and age (children and adolescents):

1. We expected that participants would be more likely to evaluate the challenger's action as acceptable in intragroup (when the excluded peer is British) compared to intergroup (when the excluded peer is an immigrant) social exclusion.
2. Similarly, we hypothesized that participants would be more likely to think that their group would evaluate the challenger act as more okay in intragroup (when the excluded peer is British) compared to intergroup (when the excluded peer is an immigrant) social exclusion.
3. We expected that both adolescents and children would report that their group would evaluate the challenger less positively than they would in intergroup social exclusion of immigrants as group identities and norms should become more salient in this condition.
4. We expected that adolescents but not children would differentiate between their individual and group evaluation in intragroup social exclusion when the excluded peer was a British peer as adolescents are cognitively able to attend to what a group might expect better in both intergroup and intragroup context.

Participants' reasoning for their judgments were expected to differ based on their evaluations:

5. We expected that reasoning justifications would differ based on participants' individual and group evaluation of the challenger (okay or not okay).

Age and condition base differences in participants' reasoning judgments were also examined for exploratory purposes.

MATERIALS AND METHODS

Participants

Our initial sample consisted of 386 participants including 133 children ($M_{\text{age in years}} = 9.67$, $SD = 1.08$, 57 girls, aged 8–11) and 253 adolescents ($M_{\text{age in years}} = 14.23$, $SD = 0.94$, 135 girls, aged 13–16). We excluded participants who did not identify themselves as British (*no* = 42; *I do not know* = 11). Participants who failed to answer attention check questions about where their own group of friends ($n = 22$) and the excluded peer ($n = 17$) were born were also dropped from analyses. Overall, the final sample included 110 children ($M_{\text{age in years}} = 9.69$, $SD = 1.07$, 44 girls, aged 8–11) and 193 adolescents ($M_{\text{age in years}} = 14.16$, $SD = 0.92$, 104 girls, aged 13–16). The ethnic breakdown of our final sample was as follows: White-British (71%), White-European (10.6%), White-Irish (3%), White-Polish (0.3%), Bangladeshi, Indian or Sri Lankan (2%), Black-Caribbean (0.3%), mixed-race (3.4%), or "other" (9.6%). The G*Power analysis (alpha of 0.05, power of 0.95, and an effect size of 0.25) demonstrated that 279 participants were required (Faul et al., 2007).

Design

Our original design was 2 (Age group: children and adolescents) x 3 (Exclusion condition: Turkish, Australian, British) between-participant design. However, as we did not find differences between the two immigrant conditions in our dependent variables (Turkish and Australian), we merged those into one category called as immigrant condition (explained in detail in the data analysis section below). The dependent variables were participants' individual and group evaluations of a challenger peer's bystander reaction to the social exclusion, and participants' reasoning responses to their individual and group evaluations.

Procedure

After obtaining Ethics Committee Board approval, we introduced the study to the school principals. All participants were recruited by sending invitation letters and consent forms to parents through their headteachers. Both parental consent and participants' own assent were sought. All students with parental consent who assented to participate were included in the study. Participants completed questionnaires online *via* survey software Qualtrics. Participants worked on their own computers, within class-sized groups, with support from trained researchers where needed. Debriefs were provided verbally (to participants) and in writing *via* letters sent home to primary caregivers. Small gifts (e.g., stickers or pens) were given to participants as a token of thanks for their participation.

Measures

Initial Group Affiliation Story

Participants were presented with the following initial group manipulation scenario: "*We would like you to imagine that you are in the story and tell us what you think of what is happening. In the story, let us say that you are part of a group of friends who all live in England, which is in Britain. All your friends in this group were born here in Britain. Everyone in this group describes themselves as British*" (based on the previous literature, e.g., Killen et al., 2013a; Mulvey and Killen, 2016; Mulvey et al., 2016). This hypothetical friendship group description was accompanied by gender-matched silhouettes of a group of friends (see **Supplementary Documents** for the gender-matched silhouettes). A question ("Where were your friends in this story born?") was asked as a comprehension check question. Participants who failed to answer were dropped from the analyses ($n = 22$). After they were introduced to the group, they completed a brief group affiliation task to increase shared identity with the group. For this task, they selected a name and a symbol for their group. Participants were also asked to rate the following question "How much do you like being part of this group of British friends? (1 = *no way*, 6 = *yes, definitely*)" to see whether the affiliation task

worked. Descriptive statistics showed that overall participants reported that they liked being part of this group (Turkish exclusion condition: $M = 5.14$, $SD = 0.80$; Australian exclusion condition: $M = 5.07$, $SD = 0.79$; British exclusion condition: $M = 5.06$, $SD = 1.00$) and no significant differences were found between conditions (all $ps > 0.05$). Then, participants were asked to imagine their group of friends had chosen to go to an after-school cooking and baking club, "that involves cooking and baking food that is popular in Britain."

Social Exclusion Story

After the group affiliation part, participants read about a newcomer to the school (described as Turkish or Australian or British): "Imagine one week there's a new student who has come along to your group's cooking club and wants to join in. *Deniz/Charlie/Jamie* was born in Turkey/Australia/Britain." Those in the Turkish/Australian conditions then read: "*Deniz/Charlie* recently moved from Turkey/Australia with his/her family to live in Britain." Those in the British condition read: "*Jamie* recently moved here with his/her family from somewhere else in Britain." A comprehension check ensured participants understood where the newcomer was from. Those who answered incorrectly were dropped from the analyses ($n = 17$). Participants then read that someone in their British group of friends did not want the newcomer to join (from hereon, the "excluder"): "Sam, who is in your group of friends, says to [newcomer], 'We do not want you to join our group because you are from somewhere else - you are different'."

Evaluation to Challenger Reactions to Social Exclusion

After the social exclusion scenario participants read that someone in their British group of friends disagreed with excluding the newcomer (from hereon, the "challenger"): "Alex is one of the friends in your British group. They disagree with [excluder]. Alex thinks that your group should invite [newcomer] to cook with them." After participants were asked to evaluate two outcome variables (1) individual evaluation of challenger (2) group evaluation of challenger:

Individual Evaluation of Challenger

To measure participants' evaluation of challenger response, participants read the following sentences "Imagine that Alex (challenger) tells Sam (excluder) that they think the group should invite *Deniz/Charlie/Jamie* (excluded) to cook with them. How OK or not OK was it for Alex (challenger) to say that to Sam (excluder)?" and were asked to evaluate on a six-point Likert type scale (1-*definitely not OK* to 6-*yes, definitely OK*).

Perceived Group Evaluation of Challenger

To measure perceived group evaluations, we asked, "How OK or not OK does your group think Alex (challenger) is for telling Sam (excluder) that *Deniz/Charlie/Jamie* (excluded) should be invited to cook with the group?" Participants responded on a 1 (*definitely not OK*) to 6 (*yes, definitely OK*) scale.

Reasoning

After each evaluation question, participants were asked, *why do you think that?* and typed their open-ended response into a text box. Participants' responses were coded based on a framework derived from Social Domain Theory (SDT, Turiel, 1983; Killen et al., 2013b; Smetana et al., 2014). SDT explains how individuals identify and evaluate different domains of social knowledge when judging socially relevant actions including moral (i.e., involves reasoning around issues of fairness, equality, welfare, prejudice, and discrimination), societal (i.e., relate to reasoning around social norms, group identity, group norms, and group functioning), and personal domains (i.e., involves concerns around autonomy; Turiel, 1983).

Our coding system consisted of seven categories in three different domains. In the moral domain, there was: (1) Fairness and Individual Rights, (2) Prejudice and Equality, (3) Welfare. In the social conventional domain, there was (4) Social and Group Norms, (5) Group Dynamics and Functions, (6) Repercussions and Representation Management. Finally, in the personal domain, there was (7) Autonomy. Responses that did not make sense or fell outside of these categories were coded as (8) Undifferentiated. Codes that were used less than 10% were combined conceptually with other categories of higher usages (see **Table 1** for the frequencies). Each response was coded under one of those categories (no double codes were used). Interrater reliability was assessed based on 25% of the interviews, with all Cohen's $\kappa = 0.93$.

For each outcome, different categories were merged and used based on their frequencies. For the "why" question related to the individual evaluation of challenger, four different categories emerged: 1-*Fairness, Rights, Prejudice, and Equality*, 2-*Welfare (of others)*, 3-*Social and Group Norms*, *Group Dynamics/Functions Repercussions and Reputation Management* and 4-*Autonomy*. For the "why" question related to group evaluation of challenger, four different categories emerged: 1-*Fairness, Rights, Prejudice, and Equality*, 2-*Welfare (of others)*, 3-*Social and Group Norms,* and 4-*Group Dynamics/Functions Repercussions and Reputation Management*.

Data Analytic Plan

Data analysis was conducted in multiple steps. A dummy code of Turkish (−1), Australian (−1), and British (+2) was created to understand whether participants' evaluations of the challenger and their reasoning varied based on the immigration status of the excluded peer (Exclusion condition: immigrant versus British). First, a mixed ANOVA was conducted to investigate age group and exclusion condition-based differences in participants' individual and group evaluations. To evaluate participants' reasoning, Multinomial Logistic Regressions were conducted to examine the relationship between our reasoning categories and our independent variables while simultaneously controlling for how each of these may be influenced by the other variables.

TABLE 1 | Frequencies (percentages) and examples for the reasoning.

	Individual evaluation of challenger	Perceived group evaluation of challenger
Fairness and Individual Rights	13.7% (Because Jamie deserves to be in the group just as well as everyone else)	9.4% (Because other people in the group also thinks that it's just unfair to exclude someone)
Prejudice and Equality	7.2% (People should not be discriminated for where they come from)	3.6% (There's nothing wrong with you or your group cooking with someone of different race)
Welfare	27.1% (Because he is standing up for Sam which makes him feel more welcome)	22.7% (Because it was her first day she needs to feel welcomed by the group)
Social and Group Norms	9.2% (it depends on what the rest of the group thinks as well)	19.4% (Because they all class themselves as British and do not want someone different joining them)
Group Dynamics and Functions	14.7% (Group could have had something planned for only that amount of people)	28.1% (Because some people in the group do not like Jamie)
Repercussions and Representation	1% (Because he is putting his friendship in risk as they	1.1% (Because they probably agree with Alex but are too scared to
Management	could go against him too)	be "different")
Autonomy	21.2% (Because she is expressing her opinion)	7.9% (It is her choice to say that that and no one can judge her for it)
Undifferentiated	5.8% (Because he gets to cook with them)	7.9% (There's nothing wrong with Charlie)

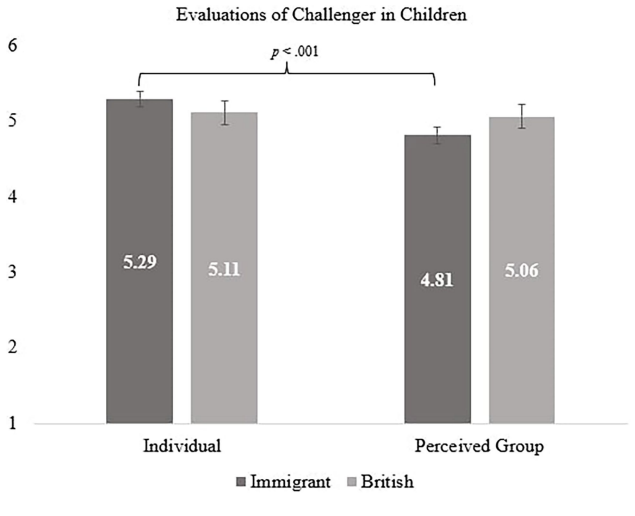

FIGURE 1 | Children's individual and perceived group evaluations of challenger by exclusion condition.

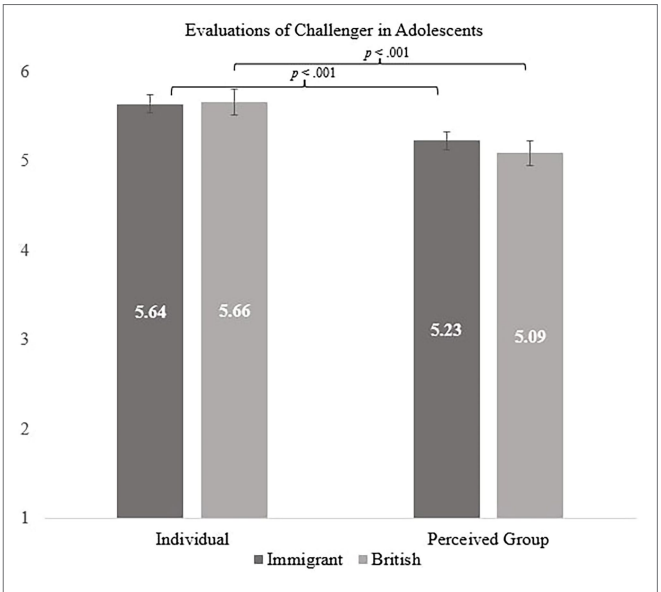

FIGURE 2 | Adolescents' individual and perceived group evaluations of challenger by exclusion condition.

RESULTS

Individual and Perceived Group Evaluations of Challenger

A 2 (Evaluation of challenger: individual, perceived group) x 2 (Exclusion condition: immigrant, British) x 2 (Age group: children, adolescents) repeated measures ANOVA was conducted, with individual and group evaluations of the challenger as within-participant and condition and age as between-participant factors. Results showed that there were no significant differences in participants' individual evaluation [F (1, 294) = 0.46, p = 0.500, η_p^2 = 0.002] and perceived group evaluation [F (1, 294) = 0.13, p = 0.715, η_p^2 = 0.000] across exclusion conditions. Our H1 and H2 (main effect of exclusion condition) were not supported.

However, a significant interaction between exclusion condition, age group and evaluation was found, F (1, 294) = 4.06, p = 0.045, η_p^2 = 0.014. In the immigrant exclusion condition, both children's and adolescents' individual evaluations of challenger were more positive than their perceived group evaluations [children: F (1, 294) = 13.87, p < 0.001, η_p^2 = 0.045; adolescents: F (1, 294) = 18.14, p < 0.001, η_p^2 = 0.058; H3 was supported]. However, in the British exclusion condition children's individual and perceived group evaluations did not differ, while adolescents' individual evaluations were positive compared to group evaluations [children: F (1, 294) = 0.09, p = 0.762, η_p^2 = 0.000; adolescents: F (1, 294) = 15.72, p < 0.001, η_p^2 = 0.051; Please see **Figures 1**, **2**; supports H4].

Further, we also explored pairwise comparisons (with Bonferroni corrections) that examine children and adolescents across two outcomes (individual evaluation and perceived group evaluation of challenger). In the immigrant exclusion condition, adolescents were more likely to evaluate the challenger positively in both their individual [F (1, 294) = 6.78, p = 0.010, η_p^2 = 0.023] and perceived group evaluations [F (1, 294) = 6.63, p = 0.011, η_p^2 = 0.022] compared to children. However, in the British

exclusion condition, adolescents' individual evaluations were more positive than children's [F (1, 294) = 7.66, $p = 0.006$, $\eta_p^2 = 0.025$], but children's and adolescents' perceived group evaluations of the challenger did not significantly differ, F (1, 294) = 0.01, $p = 0.907$, $\eta_p^2 = 0.000$.

Reasoning

Individual Evaluations of Challenger Reasoning

Multinomial logistic regression was used to explore participants' reasoning while justifying their individual evaluations of the challenger as a dependent variable with the following four categories: 1-Fairness, Rights, Prejudice, and Equality, 2-Welfare (of others), 3-Social and Group Norms, Group Dynamics/Functions Repercussions and Reputation Management and 4-Autonomy. Exclusion condition (immigrant and British), age groups (children and adolescents), and individual evaluation of challenger (categorical: okay versus not okay) were entered as factors. The model represents a significant improvement in fit over the null model with the addition of predictors, χ^2 (9, $N = 275$) = 30.46, Nagelkerke $R^2 = 0.11$, $p < 0.001$. Both Pearson's chi-square test [χ^2 (12) = 8.20, $p = 0.770$] and Deviance chi-square [χ^2 (12) = 9.55, $p = 0.656$] indicate good fit.

Result showed that individual evaluation of challenger (okay versus not okay) was found as a significant factor [χ^2 (3, $N = 275$) = 13.87, $p = 0.003$]. Participants who evaluated the challenger's actions as not okay were more likely to attribute "social and group norms" than "fairness, rights and equality" ($p < 0.001$) and "welfare" ($p < 0.001$) compared to participants who evaluated challenger as okay (H5 was supported, see **Figure 3** for the raw percentages for each category across "okay" and "not okay"). Those who evaluated the challenger's action as not okay were more likely to justify their evaluations with reference to the social norms and group functioning (e.g., "it is not okay because it will affect their friendship") while those who evaluated the challenger's action as okay were more likely to refer to the moral domain using fairness and welfare reasoning (e.g., "because she deserves to be treated the same as the others"; "Alex has given Jamie an opportunity to make friends and not be alone").

A significant main effect of age was also found, χ^2 (3, $N = 275$) = 11.16, $p = 0.011$. Welfare (e.g., "To make him happy") justifications were more likely to be used than "fairness, rights and equality" (e.g., "Because Sam was being really unfair and impolite to Jamie") justifications by children compared to adolescents ($p = 0.009$). Further, children (compared to adolescents) were more likely to attribute "social and group norms" (e.g., He is not in our group; they have to work as a group; I think that because it is always good to make new friends; Jaime was not born in the same part that the group of friends were born in) justifications relatively to "fairness, rights and equality" (e.g., "because Sam needs to know and learn that you cannot treat people differently based on where they are from; Because Charlie has just the much right as anyone else to join the group") justifications ($p = 0.006$).

Although no significant main effect of exclusion condition was observed (immigrant vs. British), an interaction between condition and age was found, χ^2 (9, $N = 275$) = 20.69, $p = 0.014$. Accordingly, children were more likely to attribute "social and group norms" than "fairness, rights and equality" only in immigrant exclusion condition, $p = 0.025$ (not in the British exclusion condition, $p = 0.729$). For example, children in the immigrant exclusion condition provided justifications like "it would be hard because Sam (excluder) is your friend and because the group might not need her, and they do not know what she is like yet." Contrary to children, adolescents' justifications about "social and group norms" and "fairness, rights, and equality" did not differ from each other in both conditions.

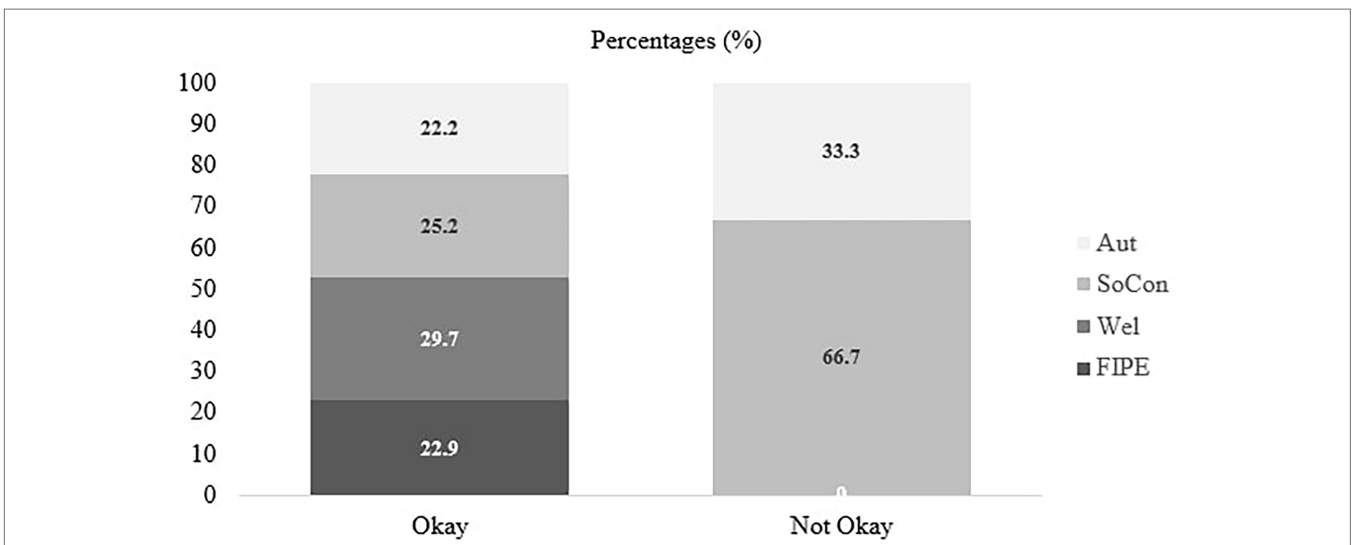

FIGURE 3 | Percentages of participants reasoning of individual evaluation of challenger by individual evaluation (okay, not okay). FIPE, Fairness and Individual Rights and Prejudice and Equality; Wel, Welfare; SoCon, Social and Group Norms, Group Dynamics and Functions and Repercussions and Representation Management; and Aut, Autonomy. Numbers represent the percentages of participants within "okay" and "not okay" categories.

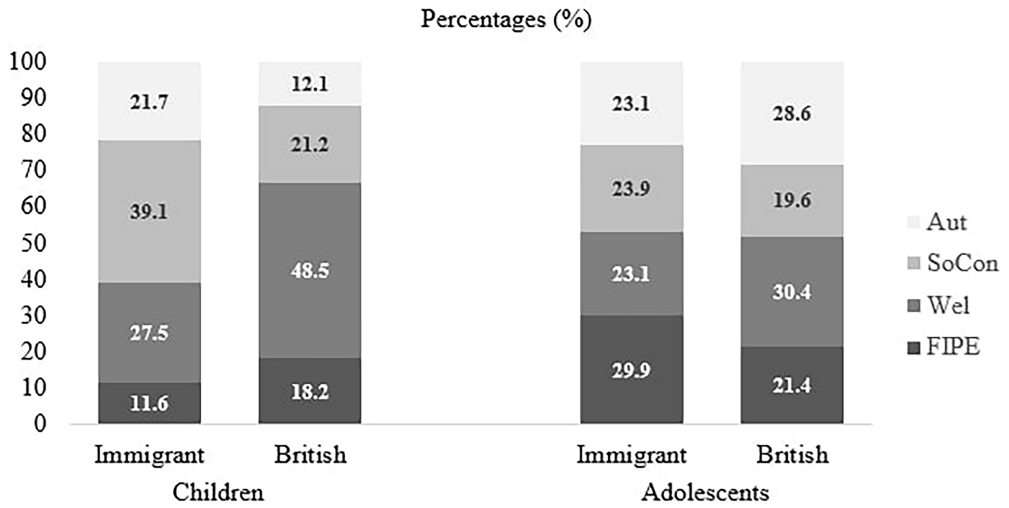

FIGURE 4 | Percentages of participants reasoning of individual evaluation of challenger by exclusion condition and age group. FIPE, Fairness and Individual Rights and Prejudice and Equality; Wel, Welfare; SoCon, Social and Group Norms, Group Dynamics and Functions and Repercussions and Representation Management; and Aut, Autonomy. Numbers represent the percentages of participants within "Immigrant" and "British" conditions.

Lastly, "welfare" justifications were more likely to be used than "autonomy" justifications by children only in British exclusion condition, $p = 0.044$ (but not in immigrant exclusion condition, $p = 0.839$). For example, children who read about a British excluded peer provided justifications for their evaluations like "Because then he would not be lonely." Contrary to children, adolescents' justifications about "welfare" and "autonomy" did not differ in both conditions (see **Figure 4** for the raw percentages for each category based on age and condition).

Perceived Group Evaluations of Challenger Reasoning

We conducted a multinomial logistic regression to examine participants' reasoning about their evaluations of the group toward challenger across four categories: 1-Fairness, Rights, Prejudice, and Equality, 2-Welfare (of others), 3-Social and Group Norms, and 4-Group Dynamics/Functions Repercussions and Reputation Management. Exclusion condition (immigrant and British), age groups (children and adolescents), and group evaluation of challenger (categorical: okay versus not okay) were entered as factors. The model with all predictors was significant, χ^2 (9, $N = 234$) = 21.65, Nagelkerke $R^2 = 0.10$, $p = 0.010$. Both Pearson's chi-square test [χ^2 (12) = 3.61, $p = 0.989$] and Deviance chi-square [χ^2 (12) = 4.26, $p = 0.978$] indicate good fit.

A significant main effect of perceived group evaluation was found, χ^2 (3, $N = 234$) = 16.59, $p < 0.001$. More specifically, participants who reported that their group would evaluate challenger as not okay were more likely to attribute "social and group norms" ($p < 0.001$; e.g., "I think that because the group said that it was an British group and not any other countries; Alex betrayed us") and "welfare" (e.g., "That they have been a bit nasty to both Deniz and Alex"; $p < 0.001$) than "fairness, rights and equality" compared to participants who reported that their group would evaluate challenger as okay (e.g., "It's okay because Jamie deserves to be treated like everyone else, she is a normal human just like the rest of the group"). Further, participants who reported that their group would evaluate challenger as not okay were more likely to attribute "group dynamics/functions, repercussions and reputation management" (e.g., "Sam sounds as if she is a leader and the group may think it's wrong to disagree with her; He might be thinking about Sam kicking him out of the group") than "welfare" ($p < 0.001$) compared to participants who reported that their group would evaluate challenger as okay (e.g., "Because it is a nice thing to do and it might make Deniz very happy"; H5 was supported, see **Figure 5** for the raw percentages).

DISCUSSION

The current study provided novel insights into how British children and adolescents evaluate ingroup challenger peers who object to social exclusion, especially when exclusion involves immigrant peers versus British peers as excluded peers. This study revealed that children and adolescents show different patterns in differentiating between their individual and group evaluations of an ingroup challenger across intergroup and intragroup contexts.

Children's and adolescents' ability to differentiate their own evaluation from the group's perspective is one of the critical skills required to navigate complex intergroup situations (Mulvey et al., 2014). As we expected, our results showed that context (either intergroup or intragroup) shapes how children and adolescents differentiate between their individual and group evaluations. More specifically, as expected, when the newcomer peer was an immigrant both children and adolescents thought their peer group would evaluate the challenger significantly less positively than they would. This is in line with earlier

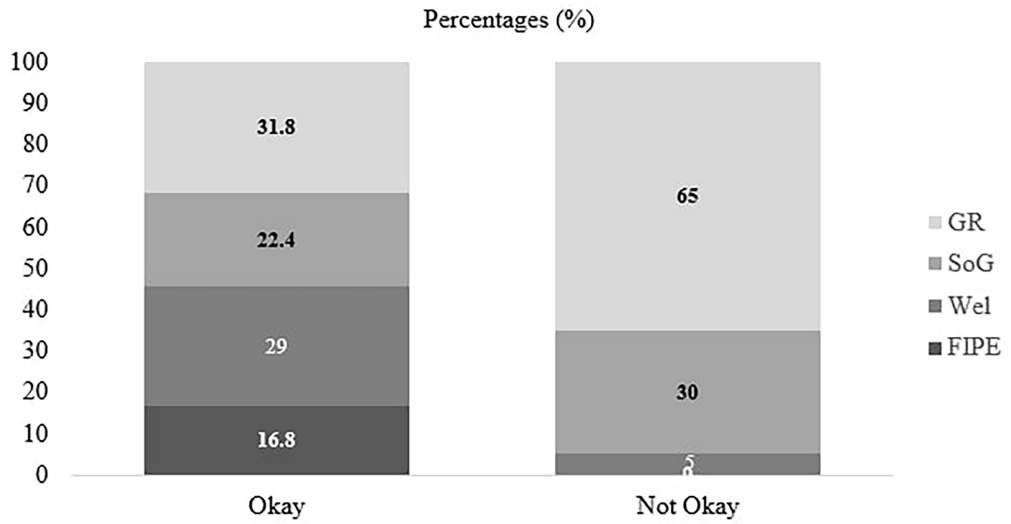

FIGURE 5 | Percentages of participants reasoning of perceived group evaluation of challenger by their group evaluation judgments of challenger (categorized as okay versus not okay). FIPE, Fairness and Individual Rights and Prejudice and Equality; Wel, Welfare; SoG, Social and Group Norms; and GR, Group Dynamics and Functions and Repercussions and Representation Management. Numbers represent the percentages of participants within "okay" and "not okay" categories.

studies that suggest that intergroup factors such as group membership (being ingroup or outgroup) are salient in school settings (Rutland and Killen, 2015; Brenick and Romano, 2016). Negative attitudes toward immigrants in the United Kingdom continue to rise in different social contexts including school settings, which can make immigration one of the salient intergroup contexts among children and adolescents (Blinder and Richards, 2020; Pavetich and Stathi, 2021). Thus, both children and adolescents might consider peer group norms more when determining their group's evaluation of an ingroup challenger of intergroup exclusion involving an immigrant peer excluded peer.

In contrast, when the newcomer was a non-immigrant (i.e., British), only adolescents thought their peer group would evaluate the challenger significantly less positively than they would, and children did not differentiate between their individual and group evaluations. This is in line with previous studies documenting adolescents' greater capacity to attend to both their group's perspective and moral concerns compared to children (Mulvey et al., 2014). While adolescents' reasoning frequencies were relatively similar across different justifications domains in both intragroup and intergroup social exclusion contexts, children's reasoning justification was more unbalanced, especially in the intragroup context.

Regarding age-related patterns, our results showed that adolescents were more likely to evaluate the ingroup challenger positively in both their individual and group evaluations compared to children when the excluded peer was an immigrant. Adolescents might be more likely to think the underlying reason behind intergroup social exclusion is prejudice and discrimination since they are more aware of intergroup processes compared to children. In turn, compared to children, adolescents were more likely to be positive toward an ingroup challenger who stands up against racism and discriminatory tendencies and to think that their peers would be supportive of the ingroup challenger. This is also in line with some previous studies documenting increasing prosocial bystander responses with age (Mulvey et al., 2018; Yüksel et al., 2021) in an intergroup context. However, it should also be noted that there are studies suggesting reverse developmental age patterns in children's and adolescents' judgments and evaluations of social transgression. For example, Gönültaş and Mulvey (2021) showed that high school students were more likely to evaluate the bias-based bullying of immigrants as acceptable compared to middle school students. Although none of those studies examined age-related patterns in the context of bystander challenger evaluations, they still provide implications to show the complexity of developmental differences in children's and adolescents' judgments in an intergroup context. Our results also showed that when the excluded peer was British, adolescents' individual evaluations were more positive than children's, but children's and adolescents' group evaluations of the challenger did not significantly differ.

Our results also provide novel insights into participants' reasoning behind their individual and group evaluations of ingroup challengers. As we expected, participants who evaluated the challenger as not okay were more likely to justify their evaluation using reasoning focused on social norms and group functioning than moral domains (e.g., fairness and welfare; e.g., "Because new students deserve the right to make friends; I think that because she might not have any friend and if we do not invite her then she is going to be really lonely") compared to participants who evaluated the challenger as okay. Further, our results showed that children were more likely to refer to social and group norms than morality only when the excluded peer was an immigrant but not when the excluded peer was British. Similarly, children were more likely to use welfare justifications than autonomy only when the excluded peer was British but not when the excluded peer was an

immigrant. This suggests that children's reasoning justifications were more likely to differ based on the group membership of the excluded peers while adolescents were more likely to use similar justifications for their reasoning regardless of the group membership of excluded peers. In terms of reasoning judgments regarding the group evaluations, a similar pattern was observed based on participants' evaluations. More specifically, participants who reported that their group would evaluate the challenger's actions as not okay were more likely to reason using social conventional domain justifications than moral domain justifications compared to participants who reported that their group would evaluate the challenger's actions as okay. Contrary to our predictions, group membership of the excluded peer and age did not relate to participants' reasoning. It is possible that both children and adolescents are more likely to focus on group-related processes while providing justifications for their group perspective rather than focusing on group membership of excluded peers.

Limitations and Future Directions

Despite novel insights, the current study has some limitations. First, as the study's design was cross-sectional, it is difficult to infer the causality and to have a complete developmental picture. Thus, longitudinal studies would be helpful to explore further the mechanism behind age-related patterns. Further, we only examined the evaluation of challenger in middle childhood and adolescence. However, recent studies also investigated the infants' evaluations and expectations about defensive and non-defensive puppets. For example, Geraci (2020) showed that 20-month-olds preferred the puppet that defended the victim puppet ("pushed by the aggressor puppet compared to the non-defensive puppet"). Further, Geraci and Surian (2021) examined 21-month-old infants' expectations about punishing and rewarding a defensive puppet through the violation-of-expectation paradigm. They demonstrated that infants looked longer to the bystander puppet that punished the defensive puppet compared to the non-defensive puppet. They found reverse-looking patterns with the reward. These studies provide insights into early developmental patterns in evaluations of defenders in social contexts. Thus, future research could also examine evaluations of challengers in early childhood in the context of social exclusion.

Second, although we manipulated the group membership of the excluder across scenarios (Turkish, Australian, and British), we kept the group membership of challenger (British) and the excluder (British) as constant for the specific purpose of our study. However, future research should also examine how group membership of excluders and challengers might shape children's and adolescents' individual and group evaluations. Third, our findings are only limited to the immigration context in the United Kingdom. Although some previous studies provide similar evidence in some other contexts (e.g., gender-based), it is worth paying attention to the issue of contextual differences in different intergroup settings. Fourth, there is a possibility that participants could tend to align with others' expectations or could have tried to answer in socially acceptable ways. However, we also wanted to acknowledge that this methodology has been used successfully in several studies to measure reasoning around intergroup biases in a manner that avoids social desirability (e.g., Mulvey and Killen, 2015; Rizzo et al., 2016). Often what is socially desirable is not crystal clear, since children and adolescents hear many comments from parents, teachers, and the media that are anti-immigrant and/or reflect ingroup preferences. Thus, it could be socially desirable to state that "our group is the most important" and show explicit biases against immigrants. In fact, in many of intergroup social exclusion studies, children and adolescents endorse ingroup biases and claims that other groups are "different" or not meritorious (e.g., Palmer et al., 2015; Mulvey et al., 2016, 2018; Gönültaş and Mulvey, 2021; Yüksel et al., 2021). Further, we also ensured our participants that any response could not linked back to the participant or schools and cannot be used to identify them individually within the data set. Lastly, although we involved open-ended "Why" questions to have an insight into the justifications of their judgments, we did not ask follow-up questions. Future research can examine participants' reasoning about evaluating a challenger of intergroup social exclusion with a more comprehensive reasoning assessment approach, one that uses counterprobes and requests for evaluations of other hypothetical peers' reasoning, which has been shown to be effective for providing multiple measures of reasoning responses (Rizzo et al., 2016).

Conclusion

Addressing the factors that might encourage children and adolescents to challenge intergroup social exclusion, which can inform interventions are critical for a better future for youth and society. Our results show the importance of understanding how children and adolescents think and reason differently about bystander challengers in intergroup and intragroup exclusion contexts. In this study, adolescents, unlike children, readily expected that their group would evaluate the challenger more negatively than they would due to their advanced understanding of group dynamics. This understanding was only evident in children when the context made group identity and norms salient. Children's reasoning behind their own evaluations of the challenger also differed from adolescents. Children, unlike adolescents, varied their reasoning more depending on the context, being more likely to reason about social processes than moral concerns only when the excluded peer was an immigrant. These findings suggest that children consider social and group norms when evaluating bystander challenging in "hot" or salient intergroup contexts, and interventions aimed at reducing exclusion of immigrants among children need to pay attention to the social and peer group norms that either support or challenge the exclusion of immigrants. Considering the current negative climate regarding immigrants in the United Kingdom and many other parts of the world, it is vital to develop strategies that focus on tackling the social exclusion of immigrant children and adolescents to promote inclusive school settings.

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/**Supplementary Material**, further inquiries can be directed to the corresponding author.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by the University of Goldsmith. Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin.

AUTHOR CONTRIBUTIONS

SG made contributions to the data analysis, interpretation of data, and drafting of the manuscript. EK made contributions to the data analysis and interpretation of data and provided feedback to revise the manuscript critically for important intellectual content. AY made contributions to the acquisition of data and provided feedback to revise the manuscript critically for important intellectual content. SP made contributions to the design of the project and the acquisition of data and provided feedback to revise the manuscript critically for important intellectual content. LM and MK made contributions to design of the project and provided feedback for the manuscript. AR made contributions to the design of the project, the acquisition, analysis, and interpretation of data, and drafting of the manuscript, and revised the manuscript critically for important intellectual content. All authors contributed to the article and approved the submitted version.

FUNDING

This research was funded by a grant from the Economic and Social Research Council (ES/R005540/1).

SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyg.2022.837276/full#supplementary-material

REFERENCES

Abrams, D., and Rutland, A. (2008). "The development of subjective group dynamics," in *Intergroup Relations: An Integrative Developmental and Social Psychological Perspective*. eds. S. Levy and M. Killen (New York: Oxford University Press), 47–65.

Blinder, S., and Richards, L. (2020). UK public Opinion Toward Immigration: Overall Attitudes and Level of Concern (Migration Observatory Briefing, COMPAS, Issue). Available at: https://migrationobservatory.ox.ac.uk/wp-content/uploads/2020/01/Briefing-UK-Public-Opinion-toward-Immigration-Overall-Attitudes-and-Level-of-Concern.pdf (Accessed November 11, 2021).

Brenick, A., and Romano, K. (2016). Perceived peer and parent out-group norms, cultural identity, and adolescents' reasoning about peer intergroup exclusion. *Child Dev.* 87, 1392–1408. doi: 10.1111/cdev.12594

Creighton, M. J., and Jamal, A. A. (2020). An overstated welcome: brexit and intentionally masked anti-immigrant sentiment in the UK. *J. Ethn. Migr. Stud.* 48, 1051–1071. doi: 10.1080/1369183X.2020.1791692

Evans, C. B., Fraser, M. W., and Cotter, K. L. (2014). The effectiveness of school-based bullying prevention programs: a systematic review. *Aggress. Violent Behav.* 19, 532–544. doi: 10.1016/j.avb.2014.07.004

Faul, F., Erdfelder, E., Lang, A. G., and Buchner, A. (2007). G* Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behav. Res. Methods* 39, 175–191. doi: 10.3758/BF03193146

Ford, R., Jennings, W., and Somerville, W. (2015). Public opinion, responsiveness and constraint: britain's three immigration policy regimes. *J. Ethn. Migr. Stud.* 41, 1391–1411. doi: 10.1080/1369183X.2015.1021585

Geraci, A. (2020). How do toddlers evaluate defensive actions toward third parties? *Infancy* 25, 910–926. doi: 10.1111/infa.12367

Geraci, A., and Surian, L. (2021). Toddlers' expectations of third-party punishments and rewards following an act of aggression. *Aggress. Behav.* 47, 521–529. doi: 10.1002/ab.21979

Gönültaş, S., and Mulvey, K. L. (2021). The role of immigration background intergroup processes, and social-cognitive skills in bystanders' responses to Bias-based bullying towards immigrants during adolescence. *Child Dev.* 92, e296–e316. doi: 10.1111/cdev.13476

Hawkins, D. L., Pepler, D. J., and Craig, W. M. (2001). Naturalistic observations of peer interventions in bullying. *Soc. Dev.* 10, 512–527. doi: 10.1111/1467-9507.00178

Hitti, A., Mulvey, K. L., and Killen, M. (2011). Social exclusion and culture: the role of group norms, group identity and fairness. *An. de Psicol.* 27, 587–599.

Killen, M., and Malti, T. (2015). Moral judgments and emotions in contexts of peer exclusion and victimization. *Adv. Child Dev. Behav.* 48, 249–276. doi: 10.1016/bs.acdb.2014.11.007

Killen, M., Mulvey, K. L., and Hitti, A. (2013a). Social exclusion in childhood: a developmental intergroup perspective. *Child Dev.* 84, 772–790. doi: 10.1111/cdev.12012

Killen, M., and Rutland, A. (2011). *Children and Social Exclusion: Morality, Prejudice and Group Identity*. Oxford: Wiley-Blackwell.

Killen, M., Rutland, A., Abrams, D., Mulvey, K. L., and Hitti, A. (2013b). Development of intra- and intergroup judgments in the context of moral and social-conventional norms. *Child Dev.* 84, 1063–1080. doi: 10.1111/cdev.12011

McGuire, L., Rizzo, M. T., Killen, M., and Rutland, A. (2019). The role of competitive and cooperative norms in the development of deviant evaluations. *Child Dev.* 90, e703–e717. doi: 10.1111/cdev.13094

Mulvey, K. L. (2016). Children's reasoning about social exclusion: balancing many factors. *Child Dev. Perspect.* 10, 22–27. doi: 10.1111/cdep.12157

Mulvey, K. L., Boswell, C., and Niehaus, K. (2018). You don't need to talk to throw a ball! Children's inclusion of language-outgroup members in behavioral and hypothetical scenarios. *Dev. Psychol.* 54, 1372–1380. doi: 10.1037/dev0000531

Mulvey, K. L., Hitti, A., Rutland, A., Abrams, D., and Killen, M. (2014). When do children dislike ingroup members? Resource allocation from individual and group perspectives. *J. Soc. Issues* 70, 29–46. doi: 10.1111/josi.12045

Mulvey, K. L., and Killen, M. (2015). Challenging gender stereotypes: resistance and exclusion. *Child Dev.* 86, 681–694. doi: 10.1111/cdev.12317

Mulvey, K. L., and Killen, M. (2016). Keeping quiet just wouldn't be right: children's and adolescents' evaluations of challenges to peer relational and physical aggression. *J. Youth Adolesc.* 45, 1824–1835. doi: 10.1007/s10964-016-0437-y

Mulvey, K. L., Palmer, S., and Abrams, D. (2016). Race-based humor and peer group dynamics in adolescence: bystander intervention and social exclusion. *Child Dev.* 87, 1379–1391. doi: 10.1111/cdev.12600

Nesdale, D. (2004). "Social identity processes and children's ethnic prejudice," in *The Development of the Social Self*. eds. M. Bennett, F. Sani, M. Bennett and F. Sani (New York, NY: Psychology Press), 219–245.

Office for National Statistics (2020). Population of the UK by Country of Birth and Nationality: 2020. Available at: https://www.ons.gov.uk/peoplepopulation

andcommunity/populationandmigration/internationalmigration/bulletins/ukpopulationbycountryofbirthandnationality/2020 (Accessed November 9, 2021).

Oxman-Martinez, J., Rummens, A. J., Moreau, J., Choi, Y. R., Beiser, M., Ogilvie, L., et al. (2012). Perceived ethnic discrimination and social exclusion: newcomer immigrant children in Canada. *Am. J. Orthopsychiatry* 82, 376–388. doi: 10.1111/j.1939-0025.2012.01161.x

Palmer, S. B., and Abbott, N. (2018). Bystander responses to bias-based bullying in schools: a developmental intergroup approach. *Child Dev. Perspect.* 12, 39–44. doi: 10.1111/cdep.12253

Palmer, S. B., Filippou, A., Argyri, E. K., and Rutland, A. (2022). Minority-and majority-status bystander reactions to, and reasoning about, intergroup social exclusion. *J. Exp. Child. Psychol.* 214:105290. doi: 10.1016/j.jecp.2021.105290

Palmer, S. B., Mulvey, K. L., and Rutland, A. (2021). "Developmental differences in evaluations of, and reactions to, bullying among children and adolescents: a social reasoning developmental approach," in *The Wiley Blackwell Handbook of Bullying: A Comprehensive and International Review of Research and Intervention*. *Vol. 2*. eds. P. K. Smith and J. O'Higgins Norman (John Wiley & Sons Ltd.), 764–782.

Palmer, S. B., Rutland, A., and Cameron, L. (2015). The development of bystander intentions and social–moral reasoning about intergroup verbal aggression. *Br. J. Dev. Psychol.* 33, 419–433. doi: 10.1111/bjdp.12092

Pavetich, M., and Stathi, S. (2021). Investigating antecedents of Islamophobia: the role of perceived control over terrorism, threat, meta-dehumanization, and dehumanization. *J. Community Appl. Soc. Psychol.* 31, 369–382. doi: 10.1002/casp.2512

Rizzo, M. T., Elenbaas, L., Cooley, S., and Killen, M. (2016). Children's recognition of fairness and others' welfare in a resource allocation task: age related changes. *Dev. Psychol.* 52, 1307–1317. doi: 10.1037/dev0000134

Rodríguez Hidalgo, A. J., Ortega Ruiz, R., and Zych, I. (2014). Peer victimization and ethnic-cultural peer victimization: self-esteem and school relations between different cultural groups of students in Andalucia, Spain. *Revista de Psicodidáctica* 19, 191–210.

Rutland, A., and Killen, M. (2015). A developmental science approach to reducing prejudice and social exclusion: intergroup processes, social-cognitive development and moral reasoning. *Soc. Issues Policy Rev.* 9, 121–154. doi: 10.1111/sipr.12012

Rutland, A., Killen, M., and Abrams, D. (2010). A new social-cognitive developmental perspective on prejudice: The interplay between morality and group identity. *Perspect. Psychol. Sci.* 5, 279–291. doi: 10.1177/1745691610369468

Salmivalli, C., Voeten, M., and Poskiparta, E. (2011). Bystanders matter: associations between reinforcing, defending, and the frequency of bullying behavior in classrooms. *J. Clin. Child Adolesc. Psychol.* 40, 668–676. doi: 10.1080/15374416.2011.597090

Smetana, J. G., Jambon, M., and Ball, C. (2014). "The social domain approach to children's moral and social judgments," in *Handbook of Moral Development*. *2nd Edn.* eds. M. Killen and J. G. Smetana (New York: Psychology Press), 23–45.

Stevens, G. W., Boer, M., Titzmann, P. F., Cosma, A., and Walsh, S. D. (2020). Immigration status and bullying victimization: associations across national and school contexts. *J. Appl. Dev. Psychol.* 66:101075. doi: 10.1016/j.appdev.2019.101075

Turiel, E. (1983). *The Development of Social Knowledge: Morality and Convention*. Cambridge, England: Cambridge University Press.

Vargas-Silva, C., and Rienzo, C. (2019). Migrants in the UK: an overview. Briefing Paper: Migration Observatory, University of Oxford. Available at: https://migrationobservatory.ox.ac.uk/wp-content/uploads/2017/02/Briefing-Migrants-in-the-UK-An-Overview.pdf (Accessed November 9, 2021).

Yüksel, A. Ş., Palmer, S. B., and Rutland, A. (2021). Developmental differences in bystander behavior toward intergroup and intragroup exclusion. *Dev. Psychol.* 57, 1342–1349. doi: 10.1037/dev0001202

Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

frontiers | Frontiers in Psychology

TYPE Original Research
PUBLISHED 30 August 2022
DOI 10.3389/fpsyg.2022.833589

OPEN ACCESS

EDITED BY
Clare Conry-Murray,
Saint Joseph's University, United States

REVIEWED BY
Patricia Kanngiesser,
University of Plymouth,
United Kingdom
Elisa Bisagno,
University of Modena and Reggio Emilia,
Italy

*CORRESPONDENCE
Ayşe Şule Yüksel
a.yuksel4@exeter.ac.uk

SPECIALTY SECTION
This article was submitted to Developmental Psychology, a section of the journal Frontiers in Psychology

RECEIVED 11 December 2021
ACCEPTED 01 August 2022
PUBLISHED 30 August 2022

CITATION
Yüksel AŞ, Palmer SB, Argyri EK and Rutland A (2022) When do bystanders get help from teachers or friends? Age and group membership matter when indirectly challenging social exclusion. *Front. Psychol.* 13:833589. doi: 10.3389/fpsyg.2022.833589

When do bystanders get help from teachers or friends? Age and group membership matter when indirectly challenging social exclusion

Ayşe Şule Yüksel[1]*, Sally B. Palmer[2], Eirini Ketzitzidou Argyri[1] and Adam Rutland[1]

[1]Department of Psychology, University of Exeter, Exeter, United Kingdom, [2]Graduate School of Education, University of Exeter, Exeter, United Kingdom

We examined developmental changes in British children's (8- to 10-year-olds) and adolescents' (13- to 15-year-olds, *N*=340; Female *N*=171, 50.3%) indirect bystander reactions (i.e., judgments about whether to get help and from whom when witnessing social exclusion) and their social-moral reasoning regarding their reactions to social exclusion. We also explored, for the first time, how the group membership of the excluder and victim affect participants' reactions. Participants read a hypothetical scenario in which they witnessed a peer being excluded from a school club by another peer. We manipulated the group membership of the victim (either British or an immigrant) and the group membership of the excluder (either British or an immigrant). Participants' likelihood of indirect bystander reactions decreased from childhood into adolescence. Children were more likely to get help from a teacher or an adult than getting help from a friend, whereas adolescents were more likely to get help from a friend than getting help from a teacher or an adult. For both indirect bystander reactions, children justified their likelihood of responding by referring to their trust in their teachers and friends. Adolescents were more likely to refer to group loyalty and dynamics, and psychological reasons. The findings support and extend the Social Reasoning Developmental (SRD) approach by showing the importance of group processes with age in shaping children's judgments about how to respond indirectly by asking for help from others, when they are bystanders in a situation that involves exclusion. The findings have practical implications for combating social exclusion and promoting prosocial bystander behavior in schools.

KEYWORDS

indirect bystander reactions, social and moral reasoning, children, adolescents, group membership

Introduction

Social exclusion involves being left out of a group or an activity and has many long-term detrimental psychological and academic effects on children (Buhs et al., 2006; Gazelle and Druhen, 2009; Lansu et al., 2017). When peers intervene to challenge social exclusion as bystanders (i.e., witnesses), their reactions can help to reduce exclusion (Polanin et al., 2012; Evans et al., 2014; Palmer and Abbott, 2018). However, bystander reactions can be either *direct* (i.e., intervening to stop the incident by confronting the perpetrator) or *indirect* (i.e., getting help from a teacher or friend; Pronk et al., 2013; Lambe and Craig, 2020). Unlike direct forms, indirect bystander reactions to challenge bullying arguably require less resources (i.e., cognitive empathy, self-efficacy) and involve less risks (i.e., potential retaliation by the bully, perceived costs within the peer group; Levy and Gumpel, 2018; Lambe et al., 2019). Therefore, when bystanders witness social exclusion, indirect challenging may be more likely than direct challenging. Indirect bystander reactions in a school context can involve getting help from either a teacher/other adult or a friend within the peer group, yet we know little about developmental and contextual effects on indirect bystander reactions. This study examines age differences in terms of how children and adolescents indirectly challenge exclusion as bystanders, and whether such indirect challenging is dependent on the immigrant status of the excluder and the victim.

The present study examined age differences in British children's and adolescents' indirect prosocial bystander reactions to social exclusion using hypothetical scenarios. We manipulated both the group membership of the excluder and the group membership of the victim. Participants read a scenario in which either a British or an immigrant peer was excluded from a school club by either a British or an immigrant peer, and answered questions measuring their likelihood of indirect bystander reactions (i.e., getting help from a teacher or an adult and getting help from a friend). This study explored the immigrant context as it is becoming more relevant in today's global world where immigrant children and adolescents experience pervasive social exclusion and discrimination in school settings (Stevens et al., 2020; Xu et al., 2020). This bias-based form of exclusion stems from prejudice and discrimination and can have more negative health and academic consequences than interpersonal forms of exclusion (Oxman-Martinez et al., 2012; Killen et al., 2013; Brown and Lee, 2015). A better understanding of developmental and contextual effects on indirect bystander challenging can inform anti-bullying programs designed to improve prosocial bystander behavior among students and can have a crucial role in combating the social exclusion of immigrants in schools (Polanin et al., 2012; Gönültaş and Mulvey, 2019).

Social reasoning developmental perspective on social exclusion

Our research was guided by the Social Reasoning Developmental approach (SRD, Rutland et al., 2010; Killen and Rutland, 2011; Rutland and Killen, 2015), which provides a developmental intergroup framework to examine social exclusion in childhood by drawing upon different theories and research (i.e., social identity theory and social domain theory; Turiel, 1983, 2008; Tajfel and Turner, 1986; Nesdale, 2004). The Social Reasoning Developmental approach highlights the interplay between moral decision-making and intergroup factors such as group membership and group dynamics in understanding children's and adolescents' bystander reactions to social exclusion (Palmer and Abbott, 2018; Palmer et al., 2021).

Only a few studies conducted in North America drawing from the Social Reasoning Developmental approach have explored indirect bystander reactions using hypothetical scenarios (Mulvey et al., 2019, 2020a; Gönültaş and Mulvey, 2020; Knox et al., 2021). Most of these studies measured indirect bystander reactions but generated composite measures of general bystander reactions including direct and indirect measures together (Mulvey et al., 2019, 2020a; Knox et al., 2021). Only one study used a separate measure of indirect bystander reactions and found that younger European American adolescents (mean age 12 years) were more likely to report that they would get help from others (i.e., a composite variable of getting help from teachers and adults and getting help from peers) compared to older adolescents (mean age 15 years) when they witnessed peer aggression (Gönültaş and Mulvey, 2020). What is not known, however, is whether there are any developmental trends in indirect bystander reactions from childhood into adolescence, especially in the context of social exclusion. Getting help as a bystander is a very important way of addressing biased-based social exclusion because it identifies the behavior, often publicly, in a way that can change group norms, and potentially provide a path to less such exclusion in the future. This is especially so for children, who may have less power than adults, so getting others involved may be necessary to change these types of social exclusion. Social exclusion is conceptually different from other forms of bullying, such as aggression which is perceived as a moral transgression (i.e., harmful to the welfare of the victim). Social exclusion is not always considered immoral and is often legitimized in order to maintain group identity, group norms or group functioning (Killen and Rutland, 2011).

A decline in indirect challenging of social exclusion in a peer group context would be expected according to the Social Reasoning Developmental approach since it emphasizes how group context and dynamics play an increasing role in the shift from childhood to adolescence, affecting potential bystander reactions to social exclusion (i.e., "how would the group react to me telling a teacher" or "instead should I tell a friend"?; Killen and Rutland, 2011; Palmer et al., 2021). Studies have shown that, from an early age, children start to understand social mechanisms and become aware of group life (Smetana, 2006). They start to affiliate with groups, develop group identities, and show ingroup bias and loyalty toward ingroups (Nesdale, 2004; Dunham et al., 2011; Misch et al., 2016). With age, and into later childhood and adolescence, an advanced understanding of group identity and group loyalty emerges (Horn, 2003; Abrams and Rutland, 2008),

with a better understanding that being seen as disloyal to the group can have consequences and can lead to the disloyal member being excluded from the peer group (Mulvey and Killen, 2015; Mulvey et al., 2016). Thus they become more likely to show group loyalty and ingroup bias when evaluating their peers and determining their bystander reactions to exclusion. Research shows that with age, children can support negative acts when they think that their peer group is okay with that act (Nipedal et al., 2010; Mulvey et al., 2016). In the current study, therefore, we expected that adolescents would be less likely to report indirect bystander reactions (i.e., getting help from a teacher or an adult and getting help from a friend).

Different forms of indirect bystander reactions

Studies using the Social Reasoning Developmental approach to examine bystander reactions, to date, have not typically explored separately the bystander reactions of getting help from a teacher and getting help from a friend. They have usually combined various bystander reaction items to create composite variables, including the reactions of getting help from a teacher and a friend in different categories such as inactive bystander responses (e.g., Mulvey et al., 2019, 2020a; Gönültaş et al., 2020) or seeking help responses (e.g., Gönültaş and Mulvey, 2020) or bystander intention/intervention (e.g., Palmer et al., 2015, 2022; Knox et al., 2021). Examining the indirect reactions of getting help from a teacher and getting help from a friend separately is crucial. From late childhood into adolescence there is increasing focus on group identity and loyalty within the peer group (Mulvey and Killen, 2015; Mulvey et al., 2016). Because of this, children and adolescents may reason differently about who they would get help from (i.e., teachers or friends within a peer group). Engaging in these two indirect forms of prosocial bystander reactions may have potentially different perceived group consequences for children and adolescents (i.e., how they think they may be perceived within their peer group). This could make adolescents, relative to those in late childhood, more likely to engage in indirect bystander reactions involving peers rather than teachers. In the current study, for the first time, we focused on these two types of indirect bystander reactions to social exclusion: getting help from a teacher or an adult (1) and getting help from a friend (2).

Getting help from a teacher

Teachers have a critically important role in combating bullying, including social exclusion (Brendgen and Troop-Gordon, 2015) and they are usually the first adults to respond to conflicts among peers. However, to respond to bullying incidents, teachers first need to know about bullying incidents. Research shows that teachers are not present at most bullying incidents (Ozada Nazim and Duyan, 2021). When they are present, they take action in only 4% of bullying episodes in the playground (Craig and Pepler, 1997) and 18% when bullying incidents happen in the classroom (Atlas and Pepler, 1998). Their lack of action can be related to them not being aware of bullying or not observing the bullying incidents in person (Craig et al., 2000). Research also shows that teachers do not perceive themselves as prepared to identify bullying because of a lack of awareness and training (Bauman and Hurley, 2005; Beran, 2005; Novick and Isaacs, 2010). Their likelihood of reacting can also be impacted by the type of bullying. While teachers easily identify physical forms as bullying, they can think nonphysical forms of bullying (e.g., social exclusion) are less harmful and less serious than physical and verbal forms (Yoon and Kerber, 2003; Bauman and Del Rio, 2006) and some do not consider them as bullying at all (Boulton, 1997; Craig et al., 2000). Moreover, one piece of research showed that even when teachers were aware of bullying, they preferred not to intervene in 25% of bullying incidents (Atlas and Pepler, 1998). Other research showed that teachers were less likely to identify bullying among secondary school adolescents than among elementary school children (Leff et al., 1999).

One way to make teachers take action is students who are often bystanders to bullying incidents (e.g., social exclusion) telling them about bullying. Research found that the strongest predictor of teacher intervention was students telling them about bullying incidents compared to the other forms (i.e., observing bullying with their own eyes; Novick and Isaacs, 2010). Another study showed the more children reported bullying to their teachers, the lower the levels of victimization were observed (Cortes and Kochenderfer-Ladd, 2014). However, children do not often tell their teachers about bullying incidents and they become less likely to inform a teacher as they become adolescents (Smith and Shu, 2000).

Getting help from a friend

Another form of indirect bystander reaction is getting help from a friend. This is an important response because it increases the likelihood of further bystander intervention by another peer. Indeed, research shows that being asked by a victim to help a victim makes that individual more likely to intervene themselves (Machackova et al., 2018). Bullying research, however, mainly focuses on victims getting help from a friend, but not on bystanders getting help from a friend. Research also shows that victims of bullying are more likely to tell a friend than to tell a teacher (Smith and Shu, 2000; Blomqvist et al., 2020) and although their likelihood of telling a teacher decreases with age, the likelihood of telling a friend remains high as it is perceived to be less risky (Oliver and Candappa, 2007). This is in line with the Social Reasoning Developmental approach, as with an increasing understanding of group dynamics (i.e., group repercussions), adolescents develop the ability to evaluate the consequences of challenging groups (Mulvey and Killen, 2016, 2017). Although victims' perspectives can give an insight into how

they perceive getting help from a friend, examining bystanders' perspectives is also important since if the bystander asks a friend for help when they witness exclusion this can increase the likelihood of victims getting help. However, no studies have yet explored the "getting help from a friend" bystander reaction specifically. In the current study, we expected that children would be more likely to get help from a teacher or an adult than from a friend when they witnessed social exclusion. With increasing recognition of the social consequences and risks (Oliver and Candappa, 2007; Mulvey et al., 2016), adolescents would be more likely to get help from a friend than to get help from a teacher or an adult.

Group membership of excluder and victim

The social reasoning developmental model of social exclusion would also anticipate that the group membership of the excluder and victim is related to whether children and adolescents as bystanders get help from either a teacher/adult or a friend. Previous developmental research has examined children's evaluations of aggressors who either shared or did not share group membership with the children (Nesdale et al., 2013) and found that children were more positive toward aggressors who belonged to the same group as them. This suggests that when the excluder is an ingroup compared to an outgroup peer, youth should be especially concerned about the consequences of telling a teacher. This is because it may affect their position in the group, since the act of telling a teacher may be seen as disloyal. This could consequently lead to them being excluded from their peer group or at least fearing this outcome (Mulvey and Killen, 2015; Mulvey et al., 2016).

Developmental research also suggests that the group membership of the victim relates to whether youth indirectly challenge social exclusion. For example, Gönültaş and Mulvey (2020) found that adolescents were more likely to get help from a teacher or friend when the victim was an ingroup peer compared to an outgroup peer. In the current study, for the first time, the group membership of the victim (either British or an immigrant peer) and the group membership of the excluder (either British or an immigrant peer) were manipulated in a fully crossed design (i.e., a British peer excluding an immigrant victim, an immigrant peer excluding an immigrant victim, a British peer excluding a British victim, or an immigrant peer excluding an immigrant peer). We expected that when the excluder was an ingroup compared to an outgroup peer, participants would be less likely to report indirect prosocial bystander reactions. Additionally, when the victim was an ingroup compared to an outgroup peer, participants should be more likely to report indirect prosocial bystander reactions.

Social and moral reasoning

In addition to examining the developmental and contextual differences in indirect prosocial bystander reactions, the current study examined how children and adolescents justified their likelihood of getting help from a teacher and getting help from a friend to provide more insight into developmental differences. Participants' reasoning was coded using categories from Social Domain Theory (Turiel, 2008; Smetana, 2013) and previous research that draws from the Social Reasoning Developmental approach to social exclusion and bystander responses (e.g., Killen et al., 2013; Palmer et al., 2015; Rutland et al., 2015; Mulvey et al., 2016). The Social Reasoning Developmental approach indicates that children and adolescents attempt to balance different concerns in different domains of knowledge when making decisions about bystander responses (Killen and Rutland, 2011; Palmer et al., 2015; Mulvey et al., 2016). In line with the Social Domain Theory, the Social Reasoning Developmental approach contends that children draw on three domains of knowledge—moral concerns (fair and equal treatment of others), social-conventional or social group concerns (traditional beliefs, group identity and group functioning) and psychological concerns (autonomy and personal preferences)—when evaluating social exclusion and bystander reactions (Killen et al., 2013; Palmer et al., 2015). It is worth noting that other theoretical approaches, for example, Moral Foundation Theory (Haidt and Graham, 2007), contends affinity to one's social group is a moral concern, and this issue is a topic of debate (see Haste, 2013; Harper and Rhodes, 2021).

Which domains are prioritized alternates as children's comprehension of intergroup relations and group dynamics increases with age. At an early age, children often regard exclusion as wrong and reject it due to moral concerns about fairness, equal treatment, and psychological harm, thereby applying basic moral principles to situations (Killen et al., 2001; Rutland and Killen, 2015). With age, however, they often find exclusion relatively acceptable due to having socio-conventional concerns (i.e., group membership, group dynamics, group functioning, and group loyalty) and psychological concerns (i.e., autonomy, and personal choice, Horn, 2008; Killen et al., 2013; Rutland and Killen, 2015). For example, previous research showed that 10th grade participants were more likely to refer to group loyalty to justify their decision about peer group dynamics compared to 8th graders (Rutland et al., 2015). A similar pattern has been observed in the context of bystander reactions. Research has shown that children tend to use more social-conventional and psychological reasons while justifying their likelihood of bystander challenging with age (Palmer et al., 2015; Mulvey et al., 2016). For example, one piece of research showed that children used moral reasoning more than adolescents did, whereas adolescents used psychological reasoning more than children did while justifying their prosocial bystander intentions (Palmer et al., 2015). Given these findings, it was expected that children would use moral reasoning more when justifying their likelihood of indirect bystander reactions to social exclusion whereas adolescents would use social-conventional and personal reasoning more.

The present study

The main aim of this study was to explore developmental differences in children's and adolescents' indirect bystander reactions and how they reasoned about them. We focused on two forms of indirect bystander reactions—(1) getting help from a teacher and (2) getting help from a friend. We also explored contextual effects, by examining whether the group membership of the excluder and the group membership of the victim had an influence on their indirect bystander reactions by manipulating the excluder's membership (i.e., British or an immigrant peer) and the victim's membership (i.e., British or an immigrant peer). We focused on two age groups and compared children's and adolescents' indirect bystander reactions as previous research has shown a developmental shift from childhood into adolescence whereby, compared to children, adolescents are more likely to evaluate social exclusion focusing more on group-related concerns (Killen et al., 2013; Mulvey et al., 2014). Furthermore, previous research has shown a developmental shift between these two age groups with adolescents' greater understanding of group dynamics and intergroup factors suggesting that they are less likely to show bystander intervention in peer group contexts (Palmer et al., 2015; Mulvey et al., 2016).

Research has also shown that adolescents' bystander challenging toward outgroup members can increase when they have high levels of intergroup contact (Abbott and Cameron, 2014). When children have higher levels of intergroup contact, they can be less likely to be prejudiced against those groups, i.e., immigrants (Titzmann et al., 2015) and their evaluations regarding exclusion can become more positive (Crystal et al., 2008; Park et al., 2019). In the current study, therefore, we measured participants' intergroup contact with immigrants in order to use this as a covariate.

Hypotheses

Based on the theoretical framework, i.e., the Social Reasoning Developmental model, and developmental research, we tested four hypotheses in this study.

Hypothesis 1: Adolescents would be less likely to report indirect bystander reactions to social exclusion as bystanders compared to children.

Hypothesis 2: Children would be more likely to get help from a teacher or an adult than from a friend when they witnessed social exclusion as bystanders. Meanwhile, adolescents would be more likely to get help from a friend than getting help from a teacher or an adult as bystanders.

Hypothesis 3: When the excluder was an ingroup compared to an outgroup peer, youth would be less likely to report indirect bystander reactions to social exclusion. When the victim was an ingroup compared to an outgroup peer, youth would be more likely to report indirect bystander reactions to social exclusion.

Hypothesis 4: Children would use moral reasoning more when justifying their likelihood of indirect bystander reaction to challenge exclusion when witnessing social exclusion whereas adolescents would use social-conventional and personal reasoning more. It was an open question as to whether social and moral reasoning would vary depending on the group membership of the victim or the excluder.

Materials and methods

Design

The present study adopted a 2 (Age Group: children, adolescents) × 2 (Excluder Membership: British, immigrant) × 2 (Victim Membership: British, immigrant) × 2 (Indirect Bystander Reactions: getting help from a teacher or an adult and getting help from a friend) mixed experimental design (see Table 1). Participants were randomly presented with a scenario in which either a British or an immigrant peer excluded either a British or an immigrant victim from a school club. The dependent variables were participants' likelihood of engaging in two indirect forms of bystander reactions: (1) getting help from a teacher or an adult and (2) getting help from a friend, and (3) participants' social and moral reasoning for these two bystander reactions.

Participants

The participants were 424 British children and adolescents from two age groups: children ($N = 205$, 48.3%, range = 8–10 years, $M_{age} = 9.03$, SD = 0.74) and adolescents ($N = 219$, 51.7%, range = 13–15 years, $M_{age} = 13.44$, SD = 0.63), evenly distributed across gender groups (Female $N = 209$, 49.3%). Participants were asked if they were British or immigrants. Participants who identified themselves as immigrants ($N = 84$) were excluded from the final analyses. A final sample of 340 participants (children, $N = 155$, $M_{age} = 9.05$, SD = 0.74; adolescents, $N = 185$, $M_{age} = 13.49$, SD = 0.65; Female, $N = 171$, 50.3%) was analyzed.

TABLE 1 The study design.

Condition	Excluder membership	Victim membership
1	British	British
2	British	Immigrant
3	Immigrant	British
4	Immigrant	Immigrant

The present study was carried out in diverse areas of a large city in south-eastern England where participants were from lower to middle-class socioeconomic status groups. The final sample included 24.7% South Asian British, 17.6% White British, 17.1% Black British, 12.1% Dual-Heritage, 9.7% European British and 6.5% other (including Arab, Japanese British), with 12.4% of the sample withholding their ethnic identity information. Power analysis for an analysis of variance with three factors and eight groups was conducted in G*Power to determine a sufficient sample size using an Alpha level of 0.05, power of 0.95, and a small to medium effect size of 0.25 (Faul et al., 2007). The required sample size for this study was 279.

Procedure

All participants received parental consent and gave assent. They completed the assessment on individual computers using the experimental software Qualtrics, in their school under the guidance of the researcher and were debriefed at the end. Participants were asked to imagine that they were part of a gender-matched group; the "British group of friends" (e.g., Killen et al., 2013; Mulvey et al., 2016; Mulvey and Killen, 2016). Following the conventions of the minimal group paradigm (Nesdale, 2008), in order to enhance identification with the group, participants were asked to select a name and a symbol for their group. Next, participants were asked to imagine another group of friends, i.e., the "immigrant group of friends." In line with previous studies involving children (Cameron et al., 2006; Abbott and Cameron, 2014), participants were presented with the following definition of immigrants:

> "*immigrants are individuals who live in Britain but are not British since they were born in and came from other countries.*"

Social exclusion scenario

Next, participants read a hypothetical scenario in which either a British or an immigrant peer was excluded from a cooking club by either a British or an immigrant peer. The reason for the exclusion was ambiguous as in real-life situations, excluders do not always express the reason behind excluding their victims explicitly. It is not always clear that exclusion is biased-based bullying, and it is a developmental challenge for children to determine whether intergroup exclusion is based on prejudice and discrimination (Killen and Rutland, 2011).

An example scenario of when the group membership of the excluder was British and the group membership of the victim was immigrant is as follows:

> "*Imagine that your group, the British group of friends, decide to form a cooking club for students who like cooking British food in your school. [Victim] from the immigrant group of friends likes cooking British food and wants to join the cooking club. [Excluder], from your group, does not want him/her to join the cooking club. [Excluder] shares his/her opinion with the others in the club and they agree to leave [victim] out.*"

Indirect bystander reaction measures

Getting help from a teacher or an adult

To measure participants' likelihood of getting help from a teacher or an adult as a bystander, participants were asked: "How likely or not likely is it that you would get help from a teacher or an adult?" and responded on a 1 (really not likely) to 6 (really likely) scale (adapted from Mulvey et al., 2016; Gönültaş and Mulvey, 2020).

Getting help from a friend

To measure participants' likelihood of getting help from a friend as a bystander, participants were asked: "How likely or not likely is it that you would get help from a friend?" and responded on a 1 (really not likely) to 6 (really likely) scale (adapted from Mulvey et al., 2016; Gönültaş and Mulvey, 2020).

Reasoning justifications

Participants also justified their indirect bystander reactions in open-ended "why?" questions following the likelihood measures. The responses to the reasoning questions were analyzed using a coding system drawing from Social Domain Theory (Turiel, 1983; Smetana, 2006; Smetana et al., 2014), and prior research on social exclusion and bystander responses (Killen and Stangor, 2001; Killen et al., 2002, 2013; Palmer et al., 2015). The responses were coded under three general domains: moral, social-conventional or group and psychological concerns. The moral concerns included references to fairness, individual rights and welfare; the social conventional or group concerns included references to trust in teachers and friends, mistrust in teachers and friends, group dynamics and loyalty. The psychological domain included references to autonomy, personal preferences and personal characteristics. Consequently, five categories that fell under three general domains were created: one moral category, three social-conventional categories and one psychological category (see Table 2).

The moral domain categories and one of the social-conventional categories (mistrust in teachers/friends) were removed from the reasoning analyses as they were used less than 10% for both getting help from a teacher item (moral, 7.9%; trust in teachers, 21.2%; mistrust in teachers, 8.5%; group loyalty and dynamics, 11.5%, psychological, 15%; undifferentiated, 10.3%; missing, 25.6%) and getting help from a friend item (moral, 2.9%; trust in friends, 22.9%; mistrust in friends, 5.3%; group loyalty and dynamics, 12.4%, psychological, 16.5%, undifferentiated, 11.5%; missing, 28.5, see Table 3). Undifferentiated responses (i.e., uncodable statements) were omitted from the central analyses along with missing responses. Interrater reliability was

TABLE 2 Coding domains, categories, content, and example items.

Domain	Categories	Content	Example items
Moral		Fairness and individual rights	"That not fair"
			"He does not deserve to be out"
			"Because it is not right to leave a child out"
		Welfare	"I do not want him to be alone"
			"So she feels included"
Social-conventional	Trust in teachers/friends	Trust in teachers/adults	"Because teachers help you and if somebody is left out you can tell them and they fix it"
			"Teachers are trust-able"
		Trust in friends	"A friend will sort the problem out"
			"Friends are reliable"
	Mistrust in teachers/friends	Mistrust in teachers/ adults	"Teachers do not care most of the time"
			"They would not understand and might take it the wrong way"
		Mistrust in friends	"They cannot help this situation"
			"They will not care"
	Group Dynamics/ Loyalty	Understanding of group dynamics	"Because we all voted that we should kick him out"
			"It's the friend groups problem and it is not a big of a deal so they should sort it out themselves"
			"Because I'd think that we can work it out ourselves"
		Group loyalty and repercussions	"I would not snitch"
			"As I would not want my friends getting in trouble, I ain't a snake"
Psychological		Autonomy	"I am capable of doing it myself"
			"Because if I was in that situation I would not want anyone else involved"
		Personal preferences/ characteristics	"There is no point"
			"It is not big of a deal"
			"I am not very confident"
Undifferentiated			"I do not know"
			"Not sure"

TABLE 3 Categories used in reasoning analyses.

Measures	Moral domain	Social-conventional domain			Psychological domain
		Trust in teachers/ friends	Mistrust in teachers/friends	Group dynamics and loyalty	
Getting help from a teacher or an adult	<10%	(1) Trust in teachers	<10%	(2) Group dynamics/loyalty	(3) Psychological
Getting help from a friend	<10%	(1) Trust in friends	<10%	(2) Group dynamics/loyalty	(3) Psychological

conducted on 25% of each reasoning question by two coders one of whom was blind to the hypotheses of study and analyses of agreement revealed strong inter-rater reliability for both questions (getting help from a teacher or an adult, getting help from a friend, Cohen's kappa = 0.86, 0.89, respectively).

Intergroup contact

An adapted version of the intergroup contact measure developed by Crystal et al. (2008) was used to measure the level of intergroup contact with immigrants. The scale contained six items (e.g., how many students in your school are immigrants?). The responses to these items range from 1 ("none") to 4 ("most"), $\alpha = 0.84$.

Plan of analyses

The analyses were conducted using SPSS 28. Initially, we conducted two separate linear regression analyses with two indirect bystander reactions as the dependent variables and age group, excluder membership, victim membership, gender and intergroup contact, as predictors. Intergroup contact and gender were not significant predictors, so they were dropped from subsequent analyses (see Supplementary materials).

The data was analyzed using a 2 (Age Group: children, adolescents) × 2 (Excluder membership: British, immigrant) × 2 (victim membership: British, immigrant) × 2 (Indirect Bystander Reaction: getting help from a teacher or an adult, getting help from a friend) ANOVA with repeated measures on the last factor. Follow

up tests were performed using the Bonferroni correction to control for Type I errors. In line with the reasoning literature (e.g., McGuire et al., 2017), the reasoning responses were analyzed using multinomial logistic regression models. We modeled the effects of age group (children, adolescents), and excluder membership (British, immigrant) and victim membership (British, immigrant), across reasoning categories for each item.

Results

Indirect bystander reactions

Test of between participant factors revealed a significant main effect of age group on indirect bystander reactions, F (1, 285) = 68.44, $p < 0.001$, partial $\eta^2 = 0.194$. As expected, in line with Hypothesis 1, children were more likely to report indirect bystander reactions ($M = 4.28$, $SD = 1.90$) compared to adolescents ($M = 2.91$, $SD = 1.60$). Test of within participants factors revealed a significant interaction between indirect bystander reactions and age group, F (1, 285) = 39.10, $p < 0.001$, partial $\eta^2 = 0.121$. As anticipated, in line with hypothesis 2, pairwise comparisons showed that adolescents were less likely to get help from a teacher or an adult ($M = 2.51$, $SD = 1.58$) than getting help from a friend ($M = 3.31$, $SD = 1.63$, $p < 0.001$, partial $\eta^2 = 0.080$). In contrast, children were more likely to get help from a teacher or an adult ($M = 4.63$, $SD = 1.78$) than getting help from a friend ($M = 3.93$, $SD = 2.03$, $p < 0.001$, partial $\eta^2 = 0.051$, see Figure 1).

Hypothesis 3 was not fully supported since the test of between-participant factors did not show any main effect of the group membership of the excluder or the group membership of the victim, both $ps > 0.05$. However, our exploratory findings indicated an interaction between indirect bystander reactions and excluder membership, F (1, 285) = 4.70, $p = 0.031$, partial $\eta^2 = 0.016$. Pairwise comparisons showed that when the excluder was British, participants were marginally less likely to get help from a teacher

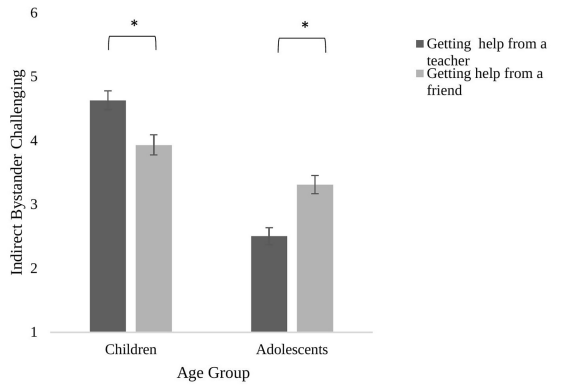

FIGURE 1
Participants' indirect bystander challenging as a function of age group. Error bars show standard error. *$p < 0.001$.

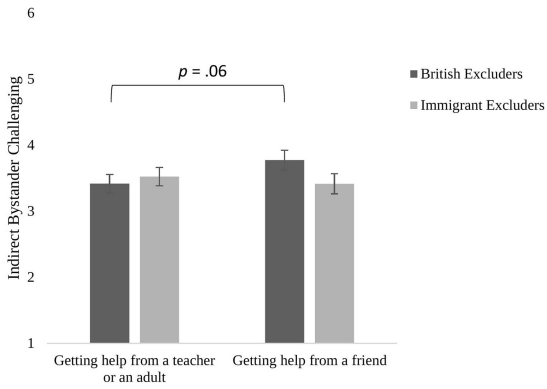

FIGURE 2
Participants' indirect bystander challenging as a function of age group membership of the excluder. Error bars show standard error.

or an adult ($M = 3.42$, $SD = 1.40$) than getting help from a friend ($M = 3.77$, $SD = 1.50$, $p = 0.063$, partial $\eta^2 = 0.012$). However, there were no differences when the excluder was an immigrant ($M_{teacherhelp} = 3.52$, $SD = 1.40$, $M_{friendhelp} = 3.41$, $SD = 1.52$, $p = 0.213$, partial $\eta^2 = 0.005$, see Figure 2). No other interactions were significant (all $ps > 0.05$). These findings indicate that youth favored getting help from a friend over a teacher or adult when the excluder was an ingroup peer (i.e., British). This bias to favor keeping bystander challenging as an internal peer group matter rather than involving teachers or other adults, however, was not evident when the excluder was an outgroup peer (i.e., an immigrant).

Social and moral reasoning

Hypothesis 4 was not supported since moral reasoning was used less than 10% in the case of both forms of indirect bystander responding. However, there were differences between children and adolescents in terms of the type of social-conventional reasoning and the degree of psychological reasoning used to justify indirect bystander responses.

Getting help from a teacher or an adult

The addition of predictors (Age Group, Excluder Membership, Victim Membership) to the model led to a significant improvement in the model fit compared to the null model (LR) χ^2 (6, $N = 172$) = 46.91, Nagelkerke $R^2 = 0.269$, $p < 0.001$. We observed a main effect of age group for getting help from a teacher or an adult, χ^2 (3, $N = 172$) = 44.11, $p < 0.001$. Compared to adolescents, children were more likely to refer to their trust in teachers than group loyalty and dynamics, $\beta = -2.37$, $\chi^2(1) = 28.32$, $p < 0.001$, Exp (B) = 0.09, 95% CI [0.04, 0.22] and psychological reasons, $\beta = -2.16$, $\chi^2(1) = 26.20$, $p < 0.001$, Exp (B) = 0.11, 95% CI [0.05,

TABLE 4 Frequencies and proportions of participants' reasoning of getting help from a teacher or an adult as a function of age group.

Age group	Trust in teachers	Group loyalty and dynamics	Psychological	Row total
Children	50 (0.65)	12 (0.15)	15 (0.20)	77
Adolescents	16 (0.17)	39 (0.41)	40 (0.42)	95
Column total	66	51	55	$N = 172$

Observed values are reported with proportions within group in brackets.

TABLE 5 Frequencies and proportions of participants' reasoning of getting help from a friend as a function of age group.

Age group	Trust in friends	Group loyalty and dynamics	Psychological	Row total
Children	42 (0.60)	11 (0.16)	17 (0.24)	70
Adolescents	36 (0.34)	31 (0.30)	39 (0.37)	106
Column total	78	42	56	$N = 176$

Observed values are reported with proportions within group in brackets.

0.26] (see Table 4). For example, one child participant positively rated the getting help from a teacher or an adult item by referring to their trust in teachers: *"because teachers help you and if somebody is left out you can tell them and they fix it."* Meanwhile, adolescents' reasoning used notions of group dynamics and loyalty and psychological reasoning more than children. For example, adolescents justified their negative evaluations of getting help from a teacher or adult by referring to group dynamics and loyalty and said things like, "*it is best to sort it out between ourselves, teachers or adults might make the situation worse,*" or "*as I would not want my friends getting in trouble, I ain't a snake.*" Finally, adolescents also used psychological reasoning like, "*I could sort it out myself*" more. There were no significant main effects of excluder membership, victim membership or any interactions (all $ps < 0.05$).

Getting help from a friend

The addition of predictors (age group, excluder membership and victim membership) to the model led to a significant improvement in the model fit compared to the null model (LR) χ^2 $(6, N = 176) = 14.91$, Nagelkerke $R^2 = 0.092$, $p = 0.021$. We observed a main effect of age group on getting help from a friend, χ^2 $(2, N = 176) = 11.90$, $p = 0.003$. Compared to adolescents, children were more likely to refer to their trust in friends than group dynamics, $\beta = -1.20$, $\chi^2(1) = 8.23$, $p = 0.004$, Exp (B) = 0.30, 95% CI [0.13, 0.68], and psychological reasons, $\beta = -0.98$, $\chi^2(1) = 7.00$, $p = 0.008$, Exp (B) = 0.37, 95% CI [0.18, 0.77] (see Table 5). For example, child participants positively rated getting help from a friend with reference to their trust in friends by reasoning that "*a friend will sort the problem out*" or "*friends are reliable.*" Meanwhile adolescent participants used group dynamics and loyalty and psychological reasoning more compared to children. For example, adolescents justified their likelihood of getting help from a friend by saying "*they may have the same perspective as [excluder]*" or "*it's better if more people agree.*" Adolescent participants also referred to psychological reasons saying "*no one else should get involved*" or "*I can argue with them myself.*" There were no significant main effects of excluder membership or victim membership (all $ps < 0.05$).

The addition of the interaction term between age group and excluder membership, however, significantly improved the fit of the model, (LR) χ^2 $(6, N = 176) = 18.18$, Nagelkerke $R^2 = 0.111$, $p = 0.006$. The proceeding main effects of age group were qualified by this interaction term. Due to some small cell sizes, we followed the approach of other reasoning studies (e.g., McGuire et al., 2017) and conducted Fisher's exact test and follow-up z tests with Bonferroni correction with multiple comparisons to investigate differences in participants' reasoning to justify getting help from a teacher or an adult as a function of age group and excluder membership (means are proportional percentages of reasoning). The results showed that only when the excluder was British, children compared to adolescents were more likely to refer to trust in friends ($M = 0.62$) than group dynamics ($M = 0.11$, Fisher's exact $= 10.52$, $p = 0.005$). However, there was no significant difference when the excluder was an immigrant ($p = 0.06$). For example, when the excluder was British, children referred to trust in friends more by saying, "*Because friends are really helpful*" or "*a friend helps.*" Meanwhile adolescents referred to group dynamics more by saying, "*I am not a snitch*" or "*they might be on your side.*"

The addition of the interaction term between age group, excluder membership and victim membership also significantly improved the fit of the model (LR) χ^2 $(14, N = 176) = 28.30$, Nagelkerke $R^2 = 0.169$, $p = 0.013$. The results showed that when both the excluder and victim were British, children were more likely to refer to trust in friendship ($M = 0.74$) more than group dynamics ($M = 0.10$) while adolescents referred to group dynamics more ($M = 0.43$) than trust in friends ($M = 0.30$, Fisher's exact $= 9.23$, $p = 0.011$, see Table 6). For example, children positively rated getting help from a friend item by referring to trust in friendship, saying for example, "*you can trust friends*" or "*because they will help you and keep secrets.*" Whereas adolescents referred to group dynamics and loyalty more by saying, "*I would have more than one person on my side.*" There were no significant differences for other comparisons (all $ps > 0.05$).

Discussion

In this study, we examined indirect prosocial bystander reactions to intergroup social exclusion, which are understudied but very crucial. We know how effective prosocial bystander reactions are in reducing bullying (Hawkins et al., 2001; Salmivalli et al., 2011) but children do not report prosocial bystander reactions often and their likelihood of engaging can decrease with age depending on the group membership of the victim and the

TABLE 6 Frequencies and proportions of participants' reasoning of getting help from a friend as a function of age group, the group membership of excluder, and the group membership of the victim.

Age group	Excluder membership	Victim membership	Trust in friends	Group loyalty and dynamics	Psychological	Row total
Children	British	British	14 (0.74)	2 (0.11)	3 (0.16)	19
		Immigrant	9 (0.50)	2 (0.11)	7 (0.39)	18
	Immigrant	British	8 (0.50)	5 (0.31)	3 (0.19)	16
		Immigrant	11 (0.65)	2 (0.12)	4 (0.23)	17
Total			42 (0.60)	11 (0.16)	17 (0.24)	70
Adolescents	British	British	9 (0.30)	13 (0.43)	8 (0.27)	30
		Immigrant	8 (0.36)	7 (0.32)	7 (0.32)	22
	Immigrant	British	11 (0.48)	2 (0.9)	10 (0.43)	23
		Immigrant	8 (0.26)	9 (0.29)	14 (0.45)	31
Total			36 (0.34)	31 (0.30)	39 (0.37)	106
Column total			78	42	56	$N = 176$

Observed values are reported with proportions within group in brackets.

perpetrator (Hawkins et al., 2001; Palmer et al., 2015; Gönültaş and Mulvey, 2020). Among the two types of bystander reactions (i.e., direct and indirect), indirect forms (e.g., intervening indirectly, without confronting bullies or drawing their attention) are important to examine because, compared to direct forms, they require less resources and risks (Levy and Gumpel, 2018; Lambe et al., 2019). In the current study, we explored developmental differences in children's and adolescents' indirect bystander reactions using hypothetical scenarios. We examined whether children and adolescents would get help from a teacher and get help from a friend when they witnessed a British or an immigrant peer being excluded by a British or an immigrant peer from a school club activity. We also investigated their reasoning about their likelihood of engaging in these indirect reactions.

Our results revealed novel developmental findings from middle childhood to adolescence. As predicted by our first hypothesis, participants' likelihood of indirect bystander reactions decreased with age. In line with our second hypothesis, the findings revealed that while children preferred getting help from a teacher or an adult over getting help from a friend, adolescents were more likely to get help from a friend than getting help from a teacher or an adult. Our third hypothesis was partially supported. Participants were found to be marginally less likely to get help from a teacher and an adult than getting help from a friend only when the excluder was an ingroup peer, i.e., British but not when the excluder was an outgroup peer, i.e., an immigrant. The social and moral reasoning that this study examined also provided a novel insight into the developmental trends we found. For both indirect bystander reactions, children justified their likelihood of indirect intervention by referring to their trust in teachers and friends, while adolescents were more likely to refer to group loyalty and dynamics and psychological reasons.

The developmental decline we found in indirect hypothetical bystander reactions from childhood into adolescence is in line with previous research drawing from the Social Reasoning Developmental approach on bystander reactions to bullying in peer group contexts (Palmer et al., 2015; Mulvey et al., 2016; Gönültaş and Mulvey, 2020). We extended previous the Social Reasoning Developmental approach research on hypothetical bystander reactions to bullying (Palmer et al., 2015; Gönültaş and Mulvey, 2020) by showing that the developmental decrease in prosocial bystander reactions is also evident in the context of intergroup social exclusion. This finding fits with the Social Reasoning Developmental approach which indicates that from late childhood into adolescence, children's evaluations and reasoning about social exclusion and bystander responses in peer group contexts increasingly pertain to their knowledge about peer group processes and group dynamics (Rutland et al., 2010). Having a more advanced understanding of peer group dynamics and considering increasing concerns about group-related and psychological factors, adolescents can become less likely to report indirect prosocial bystander responses with age.

The decreasing levels of getting help from teachers and friends from childhood into adolescence, however, is alarming since bullying, especially relational, indirect forms such as social exclusion, increases with age (Crick et al., 2002; Salmivalli and Peets, 2009). Moreover, teachers are not very adept in identifying relational and covert forms of bullying (Yoon and Kerber, 2003; Bauman and Del Rio, 2006) and they are less likely to identify bullying among adolescents compared to children (Leff et al., 1999; Yablon, 2017). In the case of social exclusion, which can be more subtle and ambiguous than other forms of bullying, this presents an additional challenge for teacher detection. The low likelihood of getting help from teachers and friends and the low likelihood of teachers identifying bullying prevent the victims from receiving the help and support they need.

Another novel finding from this study is that while children were more likely to get help from a teacher than getting help from a friend, adolescents were more likely to get help from a friend than from a teacher or an adult. The previous studies (e.g., Palmer

et al., 2015; Gönültaş and Mulvey, 2020) did not fully capture this developmental trend as no study has examined age differences in these two indirect bystander responses to social exclusion separately. This finding indicates developmental differences in preferences regarding different forms of indirect bystander reaction. This can be explained by that getting help from a teacher and getting help from a friend can have different perceived group consequences for different age groups. The findings might suggest that with age, adolescents can become more aware of group processes such as group dynamics and group loyalty and the consequences of letting an authority figure know about the negative situation in general. This interpretation is in accord with research indicating that students think that teacher involvement in bullying situations can make things worse (Bradshaw et al., 2007; Boulton et al., 2017). Moreover, with age, children become more independent and their reasoning around bystander helping involves psychological concerns, i.e., autonomy and personal choice. This is also in line with previous research that showed that adolescents were more likely than children to use psychological reasons such as, "because it is not my business, I do not want to get involved" when they were asked to justify their reduced prosocial bystander intentions following incidents of verbal aggression (Palmer et al., 2015).

This study also extended previous research by identifying the effect of group membership on specific forms of indirect bystander reactions. Even though we did not find an effect for Hypothesis 3 in the expected main effects, there was a marginal effect for a related unhypothesized exploratory finding. Specifically, we found that participants were less likely to get help from a teacher or an adult than getting help from a friend only when the excluder was an ingroup peer, i.e., British. This finding might suggest that participants were concerned about being seen as disloyal to their ingroup by telling a teacher when the excluder was an ingroup peer. This finding is also in line with the Social Reasoning Developmental model in which group membership and group loyalty are considered important factors in peer groups that arise from an early age (Abrams and Rutland, 2008; Rutland et al., 2010; Misch et al., 2016). Children understand that as a member of their group, they are expected to be loyal to their group in order to be socially accepted and not excluded (Killen et al., 2013; Rutland et al., 2015). One piece of bystander research showed that when participants (8th and 10th graders) knew that the ingroup members supported a negative act (i.e., race-based humor), they thought that deviant peers who intervened to help the victim as a bystander were more likely to be excluded from the peer group, due to an increasing understanding of group dynamics (Mulvey et al., 2016).

The social and moral reasoning findings provided more insight into the developmental differences in participants' likelihood of indirect bystander reactions. The results revealed that while children's reasoning focused more on their trust in their teachers and friends more, adolescents focused more on group-related reasoning such as peer group loyalty and group dynamics as well as psychological reasons. This is a novel contribution to the literature emphasizing the importance of different social-conventional concerns in shaping indirect bystander reactions in childhood and adolescence. Previous bullying research has mainly focused on social-cognitive factors and perceptions (e.g., teacher attitudes, positive actions, positive relationship, perceived teacher/friend support, Evans and Smokowski, 2015; Jungert et al., 2016; Demol et al., 2020; Mulvey et al., 2020b) to explain indirect bystander reactions. These factors are important, however, might fail to capture the full picture. Bullying happens in peer groups and therefore peer-group-related factors such as group dynamics and group loyalty can also play an important role.

The current findings emphasize the increasing importance of group processes in adolescents' indirect bystander reactions and reasoning. This supports the Social Reasoning Developmental approach, whereby as children develop increasing knowledge and understanding about the social world and group processes, with age, they start to weigh up different concerns (i.e., moral, group-related and psychological) when evaluating social exclusion and consequent bystander reactions (Killen and Rutland, 2011; Palmer et al., 2015). As a member of a peer group, they can develop a sense of belonging and loyalty to their groups and learn the dynamics of acting in accordance with their group membership, group norms and social norms in a wider perspective (Killen and Rutland, 2011; Killen et al., 2018). Future research should examine and manipulate group norms (i.e., the peer group helping or not helping victims) to further explain how they influence developmental trends in indirect bystander reactions and reasoning.

The reasoning findings also revealed decreasing levels of trust in teachers and friends with age. One qualitative study that examined the role of children's perspectives of school staff support on their prosocial bystander reactions using semi-structured interviews found that students emphasized the importance of trust and safe relationships with teachers and school staff in their willingness to approach them (Wood et al., 2017). The reasoning findings from the current study support the previous evidence by showing the importance of trust as a social-conventional construct and extend it by showing how trust in teachers and friends changes developmentally from childhood into adolescence. Finally, the results showed increasing levels of psychological reasons used in participants' justifications of their likelihood of indirect bystander reactions. This finding can be explained because as children get older, their sense of autonomy develops and they tend to deal with situations on their own instead of asking for help from others (Unnever and Cornell, 2004).

This study has some limitations. First, in this study, we examined participants' hypothetical reactions (i.e., self-report measures), but not their actual bystander behavior. Although research shows that children's hypothetical evaluations are in line with their actual bystander reactions (Mulvey et al., 2018), future research should use alternative methods such as social media

simulations, virtual reality technologies or online game contexts (e.g., Yüksel et al., 2021). Future studies should explore how children and adolescents show indirect bystander behavior in real-life settings (see a review of methodological approaches in Palmer et al., 2021). Second, the current study is cross-sectional in nature. Future longitudinal studies would shed more light on how children's indirect bystander behavior changes over time. Third, the order for the indirect bystander measures were not counterbalanced. Future research should consider this to control for any possible order effect. Fourth, we use single items to measure two different forms of bystander reactions. Future research should develop new items to measure the different forms of indirect bystander reactions to improve validity and reliability of the measures. Finally, there is a need for future research outside North America and Europe to examine the generalizability of these findings.

In sum, the present study provided novel developmental findings about children's and adolescents' indirect prosocial bystander reactions to social exclusion as well as the social and moral reasoning underlying their reactions. This study has important implications for research and school-based anti-bullying intervention programs (e.g., KiVA, Meaningful Roles) that focus on promoting prosocial bystander behavior to help reduce bullying in schools (Polanin et al., 2012; Salmivalli et al., 2012; Ellis et al., 2016). The current study highlights a developmental decline in reporting indirect prosocial bystander reactions from childhood into adolescence. We also demonstrate the importance of peer group dynamics and the intergroup context in determining indirect bystander responses to social exclusion. The finding that adolescents, compared to children, are more likely to speak to their peers than their teachers when they witness social exclusion suggests interventions should focus on normalizing bystander challenging in peer groups, so peers are more likely to act together to confront exclusion. Moreover, providing teachers with additional training on how to recognize social exclusion and how to intervene effectively can also be important as previous research has shown that teachers expressed a need for training in dealing with bullying situations (Bradshaw et al., 2013). Developmentally, making teachers more approachable and more understanding of why adolescents might not feel able to intervene can also be crucially important. Increasing teachers' awareness around adolescents' understanding of group-related concerns, social exclusion and their reactions to it (i.e., they can be less likely to intervene as they worry about being excluded themselves or they do not think they can make a difference) could help teachers to support adolescents' well-being and self-efficacy. The effect of excluder membership also suggests that interventions need to focus on encouraging youth to indirectly challenge excluders by telling a teacher or adult, especially when the perpetrator is an ingroup peer. Overall, the key role of bystander interventions should be emphasized in schools and intervening as a bystander directly or indirectly to support the victim should be promoted to become a school and peer group norm.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving human participants were reviewed and approved by the Ethics Committee of Goldsmiths University of London. Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin.

Author contributions

AY designed the study, developed the hypotheses, performed the data collection, analyzed the data, and drafted the manuscript. SP supervised the study design and helped to draft the manuscript. EA made contributions to the data analysis and helped to draft the manuscript. AR supervised the study design, oversaw the development of the hypotheses and statistical analyses, and helped to draft the manuscript. All authors contributed to the article and approved the submitted version.

Funding

This work was supported by the Turkish Ministry of National Education Postgraduate Scholarship awarded to AY. Open access funding was provided by the University of Exeter.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

Supplementary material

The Supplementary material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyg.2022.833589/full#supplementary-material

References

Abbott, N., and Cameron, L. (2014). What makes a young assertive bystander? The effect of intergroup contact, empathy, cultural openness, and in-group bias on assertive bystander intervention intentions. *J. Soc. Issues* 70, 167–182. doi: 10.1111/josi.12053

Abrams, D., and Rutland, A. (2008). "The development of subjective group dynamics," in *Intergroup Relations: An Integrative Developmental and social Psychological Perspective*. eds. S. Levy and M. Killen (Oxford: Oxford University Press), 47–65.

Atlas, R. S., and Pepler, D. J. (1998). Observations of bullying in the classroom. *J. Educ. Res.* 92, 86–99. doi: 10.1080/00220679809597580

Bauman, S., and Del Rio, A. (2006). Preservice teachers' responses to bullying scenarios: comparing physical, verbal, and relational bullying. *J. Educ. Psychol.* 98, 219–231. doi: 10.1037/0022-0663.98.1.219

Bauman, S., and Hurley, C. (2005). Teachers' attitudes and beliefs about bullying: two exploratory studies. *J. Sch. Violence* 4, 49–61. doi: 10.1300/J202v04n03_05

Beran, T. (2005). A new perspective on managing school bullying: pre-service teachers' attitudes. *J. Soc. Sci.* 8, 43–49.

Blomqvist, K., Saarento-Zaprudin, S., and Salmivalli, C. (2020). Telling adults about one's plight as a victim of bullying: student-and context-related factors predicting disclosure. *Scand. J. Psychol.* 61, 151–159. doi: 10.1111/sjop.12521

Boulton, M. J. (1997). Teachers' views on bullying: definitions, attitudes and ability to cope. *Br. J. Educ. Psychol.* 67, 223–233. doi: 10.1111/j.2044-8279.1997.tb01239.x

Boulton, M. J., Boulton, L., Down, J., Sanders, J., and Craddock, H. (2017). Perceived barriers that prevent high school students seeking help from teachers for bullying and their effects on disclosure intentions. *J. Adolesc.* 56, 40–51. doi: 10.1016/j.adolescence.2016.11.009

Bradshaw, C. P., Sawyer, A. L., and O'Brennan, L. M. (2007). Bullying and peer victimization at school: perceptual differences between students and school staff. *Sch. Psychol. Rev.* 36, 361–382. doi: 10.1080/02796015.2007.12087929

Bradshaw, C. P., Waasdorp, T. E., O'Brennan, L. M., and Gulemetova, M. (2013). Teachers' and education support professionals' perspectives on bullying and prevention: findings from a National Education Association study. *Sch. Psychol. Rev.* 42, 280–297. doi: 10.1080/02796015.2013.12087474

Brendgen, M., and Troop-Gordon, W. (2015). School-related factors in the development of bullying perpetration and victimization: introduction to the special section. *J. Abnorm. Child Psychol.* 43, 1–4. doi: 10.1007/s10802-014-9939-9

Brown, C. S., and Lee, C. A. (2015). Impressions of immigration: comparisons between immigrant and nonimmigrant children's immigration beliefs. *Anal. Soc. Issues Public Policy* 15, 160–176. doi: 10.1111/asap.12067

Buhs, E. S., Ladd, G. W., and Herald, S. L. (2006). Peer exclusion and victimization: processes that mediate the relation between peer group rejection and children's classroom engagement and achievement? *J. Educ. Psychol.* 98, 1–13. doi: 10.1037/0022-0663.98.1.1

Cameron, L., Rutland, A., Brown, R., and Douch, R. (2006). Changing children's intergroup attitudes toward refugees: testing different models of extended contact. *Child Dev.* 77, 1208–1219. doi: 10.1111/j.1467-8624.2006.00929.x

Cortes, K. I., and Kochenderfer-Ladd, B. (2014). To tell or not to tell: what influences children's decisions to report bullying to their teachers? *Sch. Psychol. Q.* 29, 336–348. doi: 10.1037/spq0000078

Craig, W. M., Henderson, K., and Murphy, J. G. (2000). Prospective teachers' attitudes toward bullying and victimization. *Sch. Psychol. Int.* 21, 5–21. doi: 10.1177/0143034300211001

Craig, W. M., and Pepler, D. J. (1997). Observations of bullying and victimization in the school yard. *Can. J. Sch. Psychol.* 13, 41–59. doi: 10.1177/082957359801300205

Craig, W. M., Pepler, D., and Atlas, R. (2000). Observations of bullying in the playground and in the classroom. *Sch. Psychol. Int.* 21, 22–36. doi: 10.1177/0143034300211002

Crick, N. R., Grotpeter, J. K., and Bigbee, M. A. (2002). Relationally and physically aggressive children's intent attributions and feelings of distress for relational and instrumental peer provocations. *Child Dev.* 73, 1134–1142. doi: 10.1111/1467-8624.00462

Crystal, D. S., Killen, M., and Ruck, M. (2008). It is who you know that counts: intergroup contact and judgments about race-based exclusion. *Br. J. Dev. Psychol.* 26, 51–70. doi: 10.1348/026151007X198910

Demol, K., Verschueren, K., Salmivalli, C., and Colpin, H. (2020). Perceived teacher responses to bullying influence students' social cognitions. *Front. Psychol.* 11: 592582. doi: 10.3389/fpsyg.2020.592582

Dunham, Y., Baron, A. S., and Carey, S. (2011). Consequences of "minimal" group affiliations in children. *Child Dev.* 82, 793–811. doi: 10.1111/j.1467-8624.2011.01577.x

Ellis, B. J., Volk, A. A., Gonzalez, J. M., and Embry, D. D. (2016). The meaningful roles intervention: an evolutionary approach to reducing bullying and increasing prosocial behavior. *J. Res. Adolesc.* 26, 622–637. doi: 10.1111/jora.12243

Evans, C. B. R., Fraser, M. W., and Cotter, K. L. (2014). The effectiveness of school-based bullying prevention programs: a systematic review. *Aggress. Violent Behav.* 19, 532–544. doi: 10.1016/j.avb.2014.07.004

Evans, C. B. R., and Smokowski, P. R. (2015). Prosocial bystander behavior in bullying dynamics: assessing the impact of social capital. *J. Youth Adolesc.* 44, 2289–2307. doi: 10.1007/s10964-015-0338-5

Faul, F., Erdfelder, E., Lang, A.-G., and Buchner, A. (2007). G*Power 3: a flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behav. Res. Methods* 39, 175–191. doi: 10.3758/BF03193146

Gazelle, H., and Druhen, M. J. (2009). Anxious solitude and peer exclusion predict social helplessness, upset affect, and vagal regulation in response to behavioral rejection by a friend. *Dev. Psychol.* 45, 1077–1096. doi: 10.1037/a0016165

Gönültaş, S., and Mulvey, K. L. (2019). Social-developmental perspective on intergroup attitudes towards immigrants and refugees in childhood and adolescence: a roadmap from theory to practice for an inclusive society. *Hum. Dev.* 63, 90–111. doi: 10.1159/000503173

Gönültaş, S., and Mulvey, K. L. (2020). The role of immigration background, intergroup processes, and social-cognitive skills in bystanders' responses to bias-based bullying toward immigrants during adolescence. *Child Dev.* 92, e296–e316. doi: 10.1111/cdev.13476

Gönültaş, S., Mulvey, K. L., Irdam, G., Goff, E., Irvin, M. J., Carlson, R., et al. (2020). The role of social-emotional factors in bystanders' judgments and responses to peer aggression and following retaliation in adolescence. *J. Emot. Behav. Disord.* 28, 195–208. doi: 10.1177/1063426619870492

Haidt, J., and Graham, J. (2007). When morality opposes justice: conservatives have moral intuitions that liberals may not recognize. *Soc. Justice Res* 20, 98–116. doi: 10.1007/s11211-007-0034-z

Harper, C. A., and Rhodes, D. (2021). Reanalysing the factor structure of the moral foundations questionnaire. *Br. J. Soc. Psychol.* 60, 1303–1329. doi: 10.1111/bjso.12452

Haste, H. (2013). Deconstructing the elephant and the flag in the lavatory: promises and problems of moral foundations research. *J. Moral Educ.* 42, 316–329. doi: 10.1080/03057240.2013.818529

Hawkins, D. L., Pepler, D. J., and Craig, W. M. (2001). Naturalistic observations of peer interventions in bullying. *Soc. Dev.* 10, 512–527. doi: 10.1111/1467-9507.00178

Horn, S. S. (2003). Adolescents' reasoning about exclusion from social groups. *Dev. Psychol.* 39, 71–84. doi: 10.1037/0012-1649.39.1.71

Horn, S. S. (2008). "The multifaceted nature of sexual prejudice: how adolescents reason about sexual orientation and sexual prejudice," in *Intergroup Attitudes and Relations in Childhood Through Adulthood*. eds. S. R. Levy and M. Killen (Oxford: Oxford University Press), 173–188.

Jungert, T., Piroddi, B., and Thornberg, R. (2016). Early adolescents' motivations to defend victims in school bullying and their perceptions of student–teacher relationships: a self-determination theory approach. *J. Adolesc.* 53, 75–90. doi: 10.1016/j.adolescence.2016.09.001

Killen, M., Lee-Kim, J., McGlothlin, H., and Stangor, C. (2002). How children and adolescents evaluate gender and racial exclusion. *Monogr. Soc. Res. Child Dev.* 67:7. doi: 10.1111/1540-5834.00218

Killen, M., Mulvey, K. L., and Hitti, A. (2013). Social exclusion in childhood: a developmental intergroup perspective. *Child Dev.* 84, 772–790. doi: 10.1111/cdev.12012

Killen, M., Pisacane, K., Lee-Kim, J., and Ardila-Rey, A. (2001). Fairness or stereotypes? Young children's priorities when evaluating group exclusion and inclusion. *Dev. Psychol.* 37, 587–596. doi: 10.1037//0012-1649.37.5.587

Killen, M., and Rutland, A. (2011). *Children and Social Exclusion: Morality, Prejudice, and Group Identity*. New York: John Wiley & Sons.

Killen, M., Rutland, A., Abrams, D., Mulvey, K. L., and Hitti, A. (2013). Development of intra-and intergroup judgments in the context of moral and social-conventional norms. *Child Dev.* 84, 1063–1080. doi: 10.1111/cdev.12011

Killen, M., Rutland, A., Rizzo, M. T., and McGuire, L. (2018). "Intergroup exclusion, moral judgments, and social cognition," in *Handbook of Peer Interactions, Relationships, and Groups*. eds. B. L. W. M. Bukowski and K. H. Rubin (New York: The Guilford Press), 470–487.

Killen, M., and Stangor, C. (2001). Children's social reasoning about inclusion and exclusion in gender and race peer group contexts. *Child Dev.* 72, 174–186. doi: 10.1111/1467-8624.00272

Knox, J., Gibson, S., Gönültaş, S., and Mulvey, K. L. (2021). School connectedness and bystander intervention: the moderating role of perceived exclusion and privilege among African American students. *Sch. Psychol. Rev.* 50, 316–329. doi: 10.1080/2372966X.2020.1846459

Lambe, L. J., Cioppa, V. D., Hong, I. K., and Craig, W. M. (2019). Standing up to bullying: a social ecological review of peer defending in offline and online contexts. *Aggress. Violent Behav.* 45, 51–74. doi: 10.1016/j.avb.2018.05.007

Lambe, L. J., and Craig, W. M. (2020). Peer defending as a multidimensional behavior: development and validation of the defending behaviors scale. *J. Sch. Psychol.* 78, 38–53. doi: 10.1016/j.jsp.2019.12.001

Lansu, T. A., van Noorden, T. H., and Deutz, M. H. (2017). How children's victimization relates to distorted versus sensitive social cognition: perception, mood, and need fulfillment in response to Cyberball inclusion and exclusion. *J. Exp. Child Psychol.* 154, 131–145. doi: 10.1016/j.jecp.2016.10.012

Leff, S. S., Patterson, C. J., Kupersmidt, J. B., and Power, T. J. (1999). Factors influencing teacher identification of peer bullies and victims. *Sch. Psychol. Rev.* 28, 505–517. doi: 10.1080/02796015.1999.12085981

Levy, M., and Gumpel, T. P. (2018). The interplay between bystanders' intervention styles: An examination of the "bullying circle" approach. *J. Sch. Violence* 17, 339–353. doi: 10.1080/15388220.2017.1368396

Machackova, H., Dedkova, L., Sevcikova, A., and Cerna, A. (2018). Bystanders' supportive and passive responses to cyberaggression. *J. Sch. Violence* 17, 99–110. doi: 10.1080/15388220.2016.1222499

McGuire, L., Manstead, A. S. R., and Rutland, A. (2017). Group norms, intergroup resource allocation, and social reasoning among children and adolescents. *Dev. Psychol.* 53, 2333–2339. doi: 10.1037/dev0000392

Misch, A., Over, H., and Carpenter, M. (2016). I won't tell: young children show loyalty to their group by keeping group secrets. *J. Exp. Child Psychol.* 142, 96–106. doi: 10.1016/j.jecp.2015.09.016

Mulvey, K. L., Boswell, C., and Niehaus, K. (2018). You don't need to talk to throw a ball! Children's inclusion of language-outgroup members in behavioral and hypothetical scenarios. *Dev. Psychol.* 54, 1372–1380. doi: 10.1037/dev0000531

Mulvey, K. L., Gönültaş, S., Goff, E., Irdam, G., Carlson, R., DiStefano, C., et al. (2019). School and family factors predicting adolescent cognition regarding bystander intervention in response to bullying and victim retaliation. *J. Youth Adolesc.* 48, 581–596. doi: 10.1007/s10964-018-0941-3

Mulvey, K. L., Gönültaş, S., Hope, E. C., Hoffman, A. J., DiStefano, C., Irvin, M. J., et al. (2020a). The complex nature of youth aggression: relations between cognition, discrimination, and peer perceptions of bullying involvement. *Youth Soc.* 53, 979–1000. doi: 10.1177/0044118X20920085

Mulvey, K. L., Gönültaş, S., Irdam, G., Carlson, R. G., Distefano, C., and Irvin, M. J. (2020b). School and teacher factors that promote adolescents' bystander responses to social exclusion. *Front. Psychol.* 11:581089. doi: 10.3389/fpsyg.2020.581089

Mulvey, K. L., Hitti, A., Rutland, A., Abrams, D., and Killen, M. (2014). Context differences in children's ingroup preferences. *Dev. Psychol.* 50, 1507–1519. doi: 10.1037/a0035593

Mulvey, K. L., and Killen, M. (2015). Challenging gender stereotypes: resistance and exclusion. *Child Dev.* 86, 681–694. doi: 10.1111/cdev.12317

Mulvey, K. L., and Killen, M. (2016). Keeping quiet just wouldn't be right: Children's and adolescents' evaluations of challenges to peer relational and physical aggression. *J. Youth Adolesc.* 45, 1824–1835. doi: 10.1007/s10964-016-0437-y

Mulvey, K. L., and Killen, M. (2017). Children's and adolescents' expectations about challenging unfair group norms. *J. Youth Adolesc.* 46, 2241–2253. doi: 10.1007/s10964-017-0671-y

Mulvey, K. L., Palmer, S. B., and Abrams, D. (2016). Race-based humor and peer group dynamics in adolescence: bystander intervention and social exclusion. *Child Dev.* 87, 1379–1391. doi: 10.1111/cdev.12600

Nesdale, D. (2004). "Social identity processes and children's ethnic prejudice," in *The Development of the Social Self*. eds. M. Bennett, F. Sani, M. Bennett and F. Sani (New York: Psychology Press), 219–245.

Nesdale, D. (2008). "Peer group rejection and children's intergroup prejudice," in *Intergroup Attitudes and Relations in Childhood through Adulthood*. eds. S. R. Levy and M. Killen (Oxford: Oxford University Press), 32–46.

Nesdale, D., Killen, M., and Duffy, A. (2013). Children's social cognition about proactive aggression. *J. Exp. Child Psychol.* 116, 674–692. doi: 10.1016/j.jecp.2013.07.003

Nipedal, C., Nesdale, D., and Killen, M. (2010). Social group norms, school norms, and children's aggressive intentions. *Aggress. Behav.* 36, 195–204. doi: 10.1002/ab.20342

Novick, R. M., and Isaacs, J. (2010). Telling is compelling: the impact of student reports of bullying on teacher intervention. *Educ. Psychol.* 30, 283–296. doi: 10.1080/01443410903573123

Oliver, C., and Candappa, M. (2007). Bullying and the politics of 'telling'. *Oxf. Rev. Educ.* 33, 71–86. doi: 10.1080/03054980601094594

Oxman-Martinez, J., Rummens, A. J., Moreau, J., Choi, Y. R., Beiser, M., Ogilvie, L., et al. (2012). Perceived ethnic discrimination and social exclusion: newcomer immigrant children in Canada. *Am. J. Orthopsychiatry* 82, 376–388. doi: 10.1111/j.1939-0025.2012.01161.x

Ozada Nazim, A., and Duyan, V. (2021). Bullying problem among high school students: The impact of school life. *Int. J. Sch. Educ. Psychol.* 9, 189–197. doi: 10.1080/21683603.2019.1699215

Palmer, S. B., and Abbott, N. (2018). Bystander responses to bias-based bullying in schools: a developmental intergroup approach. *Child Dev. Perspect.* 12, 39–44. doi: 10.1111/cdep.12253

Palmer, S. B., Filippou, A., Argyri, E. K., and Rutland, A. (2022). Minority-and majority-status bystander reactions to, and reasoning about, intergroup social exclusion. *J. Exp. Child Psychol.* 214:105290. doi: 10.1016/j.jecp.2021.105290

Palmer, S. B., Mulvey, K. L., and Rutland, A. (2021). "Developmental differences in evaluations of and reactions to bullying among children and adolescents: a social reasoning developmental approach," in *Handbook of Bullying*. eds. P. K. Smith and J. O'Higgins-Norman (New York: Wiley-Blackwell), 764–782.

Palmer, S. B., Rutland, A., and Cameron, L. (2015). The development of bystander intentions and social–moral reasoning about intergroup verbal aggression. *Br. J. Dev. Psychol.* 33, 419–433. doi: 10.1111/bjdp.12092

Park, H., Gonultas, S., Mulvey, K. L., Killen, M., and Ruck, M. D. (2019). Male adolescents' and young adults' evaluations of interracial exclusion in offline and online settings. *Cyberpsychol. Behav. Soc. Netw.* 22, 641–647. doi: 10.1089/cyber.2019.0102

Polanin, J. R., Espelage, D. L., and Pigott, T. D. (2012). A meta-analysis of school-based bullying prevention programs' effects on bystander intervention behavior. *Sch. Psychol. Rev.* 41, 47–65. doi: 10.1080/02796015.2012.12087375

Pronk, J., Goossens, F. A., Olthof, T., De Mey, L., and Willemen, A. M. (2013). Children's intervention strategies in situations of victimization by bullying: social cognitions of outsiders versus defenders. *J. Sch. Psychol.* 51, 669–682. doi: 10.1016/j.jsp.2013.09.002

Rutland, A., Hitti, A., Mulvey, K. L., Abrams, D., and Killen, M. (2015). When does the in-group like the out-group? Bias among children as a function of group norms. *Psychol. Sci.* 26, 834–842. doi: 10.1177/0956797615572758

Rutland, A., and Killen, M. (2015). A developmental science approach to reducing prejudice and social exclusion: intergroup processes, social-cognitive development, and moral reasoning. *Soc. Issues Policy Rev.* 9, 121–154. doi: 10.1111/sipr.12012

Rutland, A., Killen, M., and Abrams, D. (2010). A new social-cognitive developmental perspective on prejudice: the interplay between morality and group identity. *Perspect. Psychol. Sci.* 5, 279–291. doi: 10.1177/1745691610369468

Salmivalli, C., Garandeau, C. F., and Veenstra, R. (2012). "KiVa anti-bullying program: implications for school adjustment," in *Peer Relationships and Adjustment at School*. eds. A. M. Ryan and G. W. Ladd (Charlotte, NC: IAP Information Age Publishing), 279–305.

Salmivalli, C., and Peets, K. (2009). "Bullies, victims, and bully-victim relationships in middle childhood and early adolescence," in *Handbook of Peer Interactions, Relationships, and Groups*. eds. K. H. Rubin, W. M. Bukowski, and B. Laursen (New York: Guilford Press), 322–340.

Salmivalli, C., Voeten, M., and Poskiparta, E. (2011). Bystanders matter: associations between reinforcing, defending, and the frequency of bullying behavior in classrooms. *J. Clin. Child Adolesc. Psychol.* 40, 668–676. doi: 10.1080/15374416.2011.597090

Smetana, J. (2006). "Social-cognitive domain theory: consistencies and variations in children's moral and social judgments," in *Handbook of Moral Development*. eds. M. Killen and J. Smetana (Mahwah, NJ: Lawrence Erlbaum Associates), 119–153.

Smetana, J. G. (2013). "Moral development: the social domain theory view," in *The Oxford Handbook of Developmental Psychology (Vol. 1): Body and Mind*. ed. P. D. Zelazo (Oxford: Oxford University Press), 832–863.

Smetana, J. G., Jambon, M., and Ball, C. (2014). "The social domain approach to children's moral and social judgments," in *Handbook of Moral Development*. eds. M. Killen and J. G. Smetana (New York: Psychology Press), 23–45.

Smith, P. K., and Shu, S. H. U. (2000). What good schools can do about bullying: findings from a survey in English schools after a decade of research and action. *Childhood* 7, 193–212. doi: 10.1177/0907568200007002005

Stevens, G. W. J. M., Boer, M., Titzmann, P. F., Cosma, A., and Walsh, S. D. (2020). Immigration status and bullying victimization: associations across national and school contexts. *J. Appl. Dev. Psychol.* 66:101075. doi: 10.1016/j.appdev.2019.101075

Tajfel, H., and Turner, J. C. (1986). "The social identity theory of intergroup behavior," in *The Psychology of Intergroup Relations*. eds. S. Worchel and W. G. Austin (Wokingham, UK: Nelson-Hall), 7–24.

Titzmann, P. F., Brenick, A., and Silbereisen, R. K. (2015). Friendships fighting prejudice: a longitudinal perspective on adolescents' cross-group friendships with immigrants. *J. Youth Adolesc.* 44, 1318–1331. doi: 10.1007/s10964-015-0256-6

Turiel, E. (1983). *The Development of Social Knowledge: Morality and Convention*. New York: Cambridge University Press.

Turiel, E. (2008). Thought about actions in social domains: morality, social conventions, and social interactions. *Cogn. Dev.* 23, 136–154. doi: 10.1016/j.cogdev.2007.04.001

Unnever, J. D., and Cornell, D. G. (2004). Middle school victims of bullying: who reports being bullied? *Aggress. Behav.* 30, 373–388. doi: 10.1002/ab.20030

Wood, L., Smith, J., Varjas, K., and Meyers, J. (2017). School personnel social support and nonsupport for bystanders of bullying: exploring student perspectives. *J. Sch. Psychol.* 61, 1–17. doi: 10.1016/j.jsp.2016.12.003

Xu, M., Macrynikola, N., Waseem, M., and Miranda, R. (2020). Racial and ethnic differences in bullying: review and implications for intervention. *Aggress. Violent Behav.* 50:101340. doi: 10.1016/j.avb.2019.101340

Yablon, Y. B. (2017). Students' reports of severe violence in school as a tool for early detection and prevention. *Child Dev.* 88, 55–67. doi: 10.1111/cdev.12679

Yoon, J. S., and Kerber, K. (2003). Bullying: elementary teachers' attitudes and intervention strategies. *Res. Educ.* 69, 27–35. doi: 10.7227/RIE.69.3

Yüksel, A. Ş., Palmer, S. B., and Rutland, A. (2021). Developmental differences in bystander behavior toward intergroup and intragroup exclusion. *Dev. Psychol.* 57, 1342–1349. doi: 10.1037/dev0001202

Advantages of publishing in Frontiers

OPEN ACCESS
Articles are free to read for greatest visibility and readership

FAST PUBLICATION
Around 90 days from submission to decision

HIGH QUALITY PEER-REVIEW
Rigorous, collaborative, and constructive peer-review

TRANSPARENT PEER-REVIEW
Editors and reviewers acknowledged by name on published articles

Frontiers
Avenue du Tribunal-Fédéral 34
1005 Lausanne | Switzerland

Visit us: www.frontiersin.org
Contact us: frontiersin.org/about/contact

REPRODUCIBILITY OF RESEARCH
Support open data and methods to enhance research reproducibility

DIGITAL PUBLISHING
Articles designed for optimal readership across devices

FOLLOW US
@frontiersin

IMPACT METRICS
Advanced article metrics track visibility across digital media

EXTENSIVE PROMOTION
Marketing and promotion of impactful research

LOOP RESEARCH NETWORK
Our network increases your article's readership