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EMPIRICAL ARTICLE

CHILD DEVELOPMENT

Children and adolescents rectify unequal allocations of leadership duties in the classroom

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Abstract

Little is known about how children and adolescents evaluate unequal teacher allocations of leadership duties based on ethnicity-race and gender in the classroom. U.S. boys and girls, White (40.7%), Multiracial (18.5%), Black/African American (16.0%), Latine (14.2%), Asian (5.5%), Pacific Islander (0.4%), and other (4.7%) ethnic-racial backgrounds, 8–14 years, $N = 275$, evaluated teacher allocations of high-status leadership positions favoring specific ethnic-racial or gender groups during 2018–2021. Adolescents, more than children, negatively evaluated unequal teacher allocations of leadership duties that resulted in group-based inequalities, expected peers who shared the identity of a group disadvantaged by the teacher's allocation to view it more negatively than others, and rectified inequalities. Understanding perceptions of teacher-based bias provides an opportunity for interventions designed to create fair and just classrooms that motivate all students to achieve.

Social inequalities and group-based disparities impact children's and adolescents' healthy development (Bonilla-Silva, 2015). Social inequalities include the perpetuation of unequal opportunities and resources for those in different positions in society or from different social statuses (Jost et al., 2015). Ethnic-racial minority children and families in the United States and around the globe experience social inequalities—often perpetuated by discrimination, prejudice, and bias—and are at risk for a host of negative mental health outcomes, including depression, social withdrawal, and anxiety (Alvarez-Galvez & Rojas-Garcia, 2019; Rivas-Drake et al., 2014).

Detailed reviews of U.S. systemic racism and sexism document persisting inequalities in the workforce, politics, and education (Elisha et al., 2023; Turiel et al., 2016), and there is increasing evidence that children and adolescents recognize these inequities at school and in their neighborhoods (Mistry et al., 2021; Roberts & Rizzo, 2021). For example, children and adolescents think about complex ideas surrounding social exclusion based on group identities, often resulting in discriminatory outcomes (Elenbaas et al., 2020; Ruck et al., 2019). Children and adolescents also recognize disparities related to the lack of access to resources and opportunities within the peer context (Heck et al., 2022), and use gender and ethnicity-racial cues to infer social status in U.S. society (Mandalaywala et al., 2020).

What has rarely been studied, however, is how children evaluate unequal teacher allocations of leadership opportunities in the classroom based on ethnicity-race and gender, and their understanding of these unequal allocations against the backdrop of larger societal

Abbreviations: SES, socioeconomic status; SRD model, social reasoning developmental model.

inequalities that often privilege White individuals and men. Indeed, schools reflect these larger societal inequalities and teachers hold gender and ethnic-racial biases that impact children's experience in the classroom (Kaufman & Killen, 2022; Okonofua et al., 2016).

In the current study, we focused on two groups that experience ethnic-racial and gender biases. First, we explored evaluations of Latine students' experiences of inequalities in the classroom. We use Latine as a gender-neutral term to refer to students of Latin American heritage. Latine students are the largest ethnic minority group in K-12 schools in the United States, with a persistent academic achievement gap despite experiencing family support that stems from living in immigrant households. For example, in a 2-year study examining perceptions of peer and teacher discrimination among Latine children, a majority of children perceived at least one instance of school-based discrimination, and this discrimination was perpetuated more often by teachers than peers (Brown & Tam, 2019). This is a critical problem, as Latine children disadvantaged by teacher-held biases experience psychological harm and reduced motivation to attend school (Guevara et al., 2020; Rivas-Drake et al., 2014).

Second, teachers expect boys to perform better academically than girls (Stephenson et al., 2022). For example, gender stereotypes regarding girls' intellectual and science competencies exist from childhood to adulthood, despite high performance for both boys and girls in these areas (Bian et al., 2017). Both children and adults assume that men are more brilliant than women (Storage et al., 2020), which may impact endorsements of women in leadership roles perceived as requiring high aptitude. Girls experience social exclusion from leadership duties (Brown & Bigler, 2004) and may also be more sensitive to potential social repercussions of accepting a leadership role, even though both girls and boys are equally interested in leadership opportunities (Vail & Cimpian, 2024). Thus, gender biases and stereotypes remain pervasive in childhood and may be obstacles to achieving gender equality in leadership positions (Bigler et al., 2014).

In the current study, we concentrated on children's and adolescents' perceptions of teachers' ethnic-racial and gender biases by asking them to evaluate teachers' equal and unequal allocations of leadership duties in the classroom. We use the term "ethnicity-race" in this manuscript given our comparison of leadership duties allocated to Latine and White students.

Social reasoning developmental model

The social reasoning developmental (SRD) model guided this study (Elenbaas et al., 2020; Rutland & Killen, 2015). A central proposition of the theory is that understanding the origins of prejudice requires investigating how individuals' perceptions of intergroup relationships may conflict with conceptions of fairness, equity, and social justice. Research from this model has shown that children and young adolescents reason about these issues as they arise in their everyday lives (Elenbaas et al., 2016; Hitti et al., 2019).

It is essential to understand how these processes emerge and change during childhood and adolescence, including the factors that motivate children to challenge the unfair treatment of others (Killen et al., 2022). Creating classrooms that promote learning for all students requires understanding how minoritized groups view and experience social exclusion and discrimination, and how to foster a sense of support and belongingness for students who have been excluded (Killen & Rutland, 2022).

Reflecting previous research on allocations of opportunities from the SRD model (Elenbaas et al., 2016), this study aimed to examine children's evaluations of and reasoning about ethnic-racial and gender bias in teachers' allocations of leadership duties, expectations about peer perspectives, and the degree to which they would rectify the unequal allocation. These assessments measure children's willingness to correct unequal allocations when teachers deny opportunities to minoritized in contrast to majoritized groups.

Children's awareness of teacher bias: Ethnicity-race and gender

Expectations for awareness of teacher bias

Many teachers play a central role in children's lives as caring adults who contribute to children's well-being through social support and empathy (Jarvis & Woodrow, 2005; Van Ryzin et al., 2009). Yet, teachers also hold biases about their students related to their group identities (Chin et al., 2020; İnan-Kaya & Rubie-Davies, 2022). Teachers may not be aware of the biases that result in unequal treatment of students, such as preferential assignment of leadership duties (McKown & Weinstein, 2008; Starck et al., 2020). However, teachers' group preferences can send negative messages to students about ethnic-racial and gender groups' performance and competence (İnan-Kaya & Rubie-Davies, 2022), and children may adopt these biases (Losinski et al., 2019). For example, children take cues from teachers to further perpetuate group biases in the classroom (Brey & Pauker, 2019).

Expectations of peers' evaluations

Adolescents, compared to children, are more likely to recognize that their peers' attitudes about social inclusion and exclusion may differ from their

own (Mulvey, 2016). For example, although children thought a club would include a peer who wanted to do a counter-gendered activity (e.g., a ballet club playing football or a football club taking a ballet class), adolescents expected that the club would reject the "deviant" peer even when the adolescents agreed with trying something new (Mulvey & Killen, 2015). Asking children and adolescents about another peers' perspective reveals the capacity to differentiate their evaluation from others' evaluations—a capacity that was more apparent in adolescents given that mental state knowledge increases with age (Mulvey et al., 2020). Adolescents recognize multiple perspectives must be reconciled to enact solutions for mitigating inequity and unfairness.

What is less understood is whether children and adolescents would expect a peer from an ethnic-racial or gender group denied an opportunity would view the inequality more negatively than someone not from the group. Examining how a *peer* would evaluate an unequal allocation, then, provides a unique window into the extent to which individuals understand the consequences of group-level disparities.

Rectifying or perpetuating teacher bias

Although we predicted that adolescents would be more likely than children to recognize an unequal allocation perpetuated by a teacher, it is unclear when this recognition may translate into a decision to rectify it. When asked to distribute resources in contexts in which the resources or opportunities are necessary (e.g., educational supplies), and in contexts where certain groups have historically been denied opportunities, from 5 to 10 years of age, children increasingly give more resources to disadvantaged groups (Elenbaas et al., 2016). Yet in competitive contexts, adolescents are more likely to rectify inequalities for their ingroup than the outgroup (McGuire et al., 2019). These findings suggest that children and adolescents rectify inequalities in peer contexts, but that considerations such as the competitiveness or prestige of a leadership opportunity may result in ingroup biases.

It is less understood whether children and adolescents would rectify a localized inequality that is embedded in a larger societal level inequality regarding ethnicity-race and gender. In the current study, children viewed unequal teacher allocations that favored minoritized groups (Latine and female students) and majoritized groups (White and male students). Adolescents may be more aware than younger children of unequal allocations perpetuated by a teacher in an authority position. Additionally, adolescents may also recognize that advantaging minoritized groups in a local school context may be an attempt at rectifying a broader societal level inequality.

The current research

The goals of the present project were to investigate whether children and adolescents were aware of teacher's unequal allocations of classroom leadership duties based on ethnicity-race and gender. Participants evaluated hypothetical scenarios in which teachers assigned leadership roles to students across one of three allocation conditions (unequally in favor of a minoritized group, unequally in favor of a majoritized group, and equally). Unequal allocations favoring White students and males perpetuate broader societal inequalities given that these groups have often been the recipients of privilege (Roberts & Rizzo, 2021). In contrast, unequal allocations favoring Latine students and females rectify broader societal inequalities, as these groups have traditionally been excluded from high-status positions such as leadership roles (*Latine*: Brown & Tam, 2019; Guevara et al., 2020; *female*s: Bian et al., 2017; Mandalaywala et al., 2020; Stephenson et al., 2022). We also included an equal allocation for comparison.

To add to the larger conceptual goal of elucidating children's understanding of group-based status hierarchies, this study was designed to address three specific research questions. First, how do children evaluate and reason about equal and unequal teacher allocations of leadership duties based on ethnicity-race and gender? Second, how do children expect their peers from social groups that the teacher advantaged or disadvantaged by the allocation evaluate what the teacher did? Third, do children desire to rectify the unequal allocations, and do they differ in their preferences when the unequal allocation reflects a broader societal inequality? We also tested for age-related differences and for differences based on the ethnicity-race and gender of the participants. We included children and adolescents between 8 and 14 years old given that there are age-related differences regarding evaluations of the wrongfulness of discrimination.

Hypotheses

Based on the SRD model, we expected that participants would evaluate unequal allocations more negatively than equal allocations regardless of who was being left out (H1). Additionally, adolescents, compared to children, would evaluate unequal leadership allocations to White and male students as more wrong than the unequal leadership allocations to Latine and female students, recognizing the larger societal context of social inequality. These expectations were consistent with previous research revealing children and adolescents' overall preferences for equality (Heck et al., 2022), and that adolescents consider how contextual and broader societal inequalities impact fairness in

access to opportunities (Elenbaas et al., 2020; McGuire et al., 2017).

We also hypothesized that participants, and especially adolescents, would expect peers to evaluate allocations favoring students more positively from their ingroup than those favoring outgroup students (H2). It was an open question as to whether participants would be more likely to view favoring their ingroup more positively for ethnicity-race targets than for gender targets given the lack of previous research comparing ethnicity-race and gender preferences in the context of teacher assignment of leadership positions in the classroom.

For participants' leadership selections (H3), we expected an ethnicity-race by age effect such that children would show ingroup preferences, whereas adolescents would attempt to rectify the unequal allocation created by the teacher, similar to previous research findings (Elenbaas et al., 2016). We also expected that adolescents would choose the Latine and female students more than the White and male students, indicating an understanding of broader-level inequalities that exist outside of the vignette itself (Elenbaas et al., 2020).

Finally, for participants' reasoning for their evaluation of teacher ethnicity-race- and gender-based allocations (H4), based on the SRD model, we predicted that participants would reference the group-based inequality and the discrimination for viewing unequal allocations that reflected inequalities (favoring White students and males) as not okay, and would use individual trait attributions for viewing unequal allocations as okay.

METHODS

Participants ($N=275$, $n_{\text{males}}=128$, $n_{\text{females}}=147$) were recruited from middle- to high middle-income backgrounds in the Mid-Atlantic region of the United States. The participants were between the ages of 8 to 14 years old ($M_{\text{age}}=11.18$ years, SD = 1.95 years, $n_{8-11}=167$, $n_{12-14}=108$), and were from White ($n=112$, 40.7%), Multiracial ($n=51$, 18.5%), Black/African American ($n=44$, 16.0%), Latine ($n=39$, 14.2%), Asian ($n=15$, 5.5%), Pacific Islander ($n=1$, 0.4%), and other ($n=13$, 4.7%) ethnic-racial backgrounds. The ethnic-racial and gender information was reported by parents and self-reported by adolescents. Participants whose parents checked more than one box or wrote in multiracial were counted as multiracial. The multiracial group included Black/Pacific Islander, Black/White, Latino/White, Black/Persian, Latino/Black, Latino/White/Black, White/Asian, and White/Black/Asian, with several "multi-racial" responses that did not provide the ethnic-racial breakdown.

Overall, the ethnic-racial minority groups were larger ($n=163$) than the White group ($n=112$). Due to the high level of heterogeneity within the ethnic and racial minority groups, we chose to analyze participant ethnicity-race as a binary: participants of color and White participants. The consent and assent forms listed gender as a binary and we did not receive any requests for non-binary gender options. We discuss the limitations of this approach and make recommendations for future research to oversample selected ethnic-racial groups as well as to provide a non-binary gender option for analyses in the discussion section.

An a priori power analysis conducted in G*Power (Faul et al., 2009) determined that a sample size of 240 participants would be required to detect an effect size of 0.20, based on previous research similar to this study (Nesdale & Lawson, 2011). 275 participants were collected to account for the possibility of incomplete responses and to achieve a racially and ethnically diverse sample according to the study hypotheses. The analyses conducted for this article represent a confirmatory approach with theoretically driven hypotheses testing expectations based on a robust sample size.

Procedure

The present study was part of a larger project approved by the University of Maryland Institutional Review Board IRB# 1281432 and parental written consent and child verbal assent were obtained for participants aged 8–12 years, whereas adolescent written assent was obtained for participants aged 13–14 years. Data were collected from April 2018 to January 2021. Most participants ($n=226$) completed individual written surveys in person at their school or summer camp with a research assistant present for instructions and to answer any questions. Due to the constraints of the COVID-19 pandemic, the remaining 49 participants completed the identical survey using an online survey platform (Qualtrics). Online participants were from the same geographical region where the in-person data were collected and were recruited through social media sites using zip codes (such as local parent Facebook groups and Nextdoor). A research assistant was present on Zoom with the participant to answer any questions as they completed the survey as was done with the in person data collection. All participants were told that the survey responses would be kept confidential and de-identified would not be shared with parents and teachers, and that they could ask questions or stop at any time. The survey took participants approximately 20 min to complete. There were no differences detected for the in-person and online surveys.

Protocol

Participants read two vignettes (within-subjects) about children in a classroom. One vignette presented a group-level leadership duty with an unequal allocation based on

ethnicity-race and the other presented a group-level leadership duty with an unequal allocation based on gender. For both vignettes, participants read the following script:

> Today you're going to learn about some of the kids in this class. Just like most classes, they learn how to read and do math, they have recess, gym class, and lunch. The teacher picks some kids to help with leadership duties like helping take attendance, leading the pledge of allegiance, passing out papers, and picking up messages from the office. You're going to learn which kids the teacher picked to help with these leadership duties.

Accompanying the vignette, participants viewed colored illustrations of eight children (Figure 1). They were informed that four of the children (circled in red) were selected for special leadership duties. The duties selected were common in the U.S. elementary and middle school classrooms where the data were collected and were viewed as highly desirable activities allocated to students with excellent school performance, conveying an expectation of agency and responsibility for those who are selected for these positions. These included taking attendance, leading the pledge of allegiance, passing out worksheets, and getting messages from the office. These leadership duties were viewed as special opportunities in the school region where the data were collected, as verified in our pilot testing.

Visual displays of characters' gender and ethnicity achieved a high consensus among Latine and White undergraduate research assistants. All characters were the same size and had identical facial expressions. In the Ethnicity-Race vignette, four characters were depicted as White and four characters were depicted as Latine through differences in skin color, hair color, and names. To control for gender, all characters in the Ethnicity-Race vignette were gender-matched to the participants. In the Gender vignette, four characters were depicted as female, and four characters were depicted as male through differences in hair shape and names. To control for ethnicity-race, all characters in the gender vignette had similar skin color and hair color and were racially ambiguous.

The Ethnicity-Race and Gender vignettes were counterbalanced across participants, and the order of characters was also counterbalanced. Between the two vignettes, participants completed a distraction task that was unrelated to the study (e.g., "Who is your favorite music artist/ favorite actor?" with a choice of four photos of celebrity headshots to pick from for each of the four questions).

For the Ethnicity-Race vignette, participants viewed one of three allocation conditions: (1) *unequal perpetuating a broader inequality*: only White students were selected, (2) *unequal rectifying a broader inequality*: only Latine students were selected, and (3) *equal*: two White students and two Latine students were selected. For the Gender vignette, participants viewed one of three allocation conditions: (1) *unequal perpetuating a broader inequality*: only boys were selected, (2) *unequal rectifying a broader inequality*: only girls were selected, or (3) *equal*: two boys and two girls were selected. Type of allocation condition was between subjects and vignette (Ethnicity-Race and Gender) was within subjects.

Measures

Following both the Ethnicity-Race and Gender vignettes, participants were prompted to respond to the following questions.

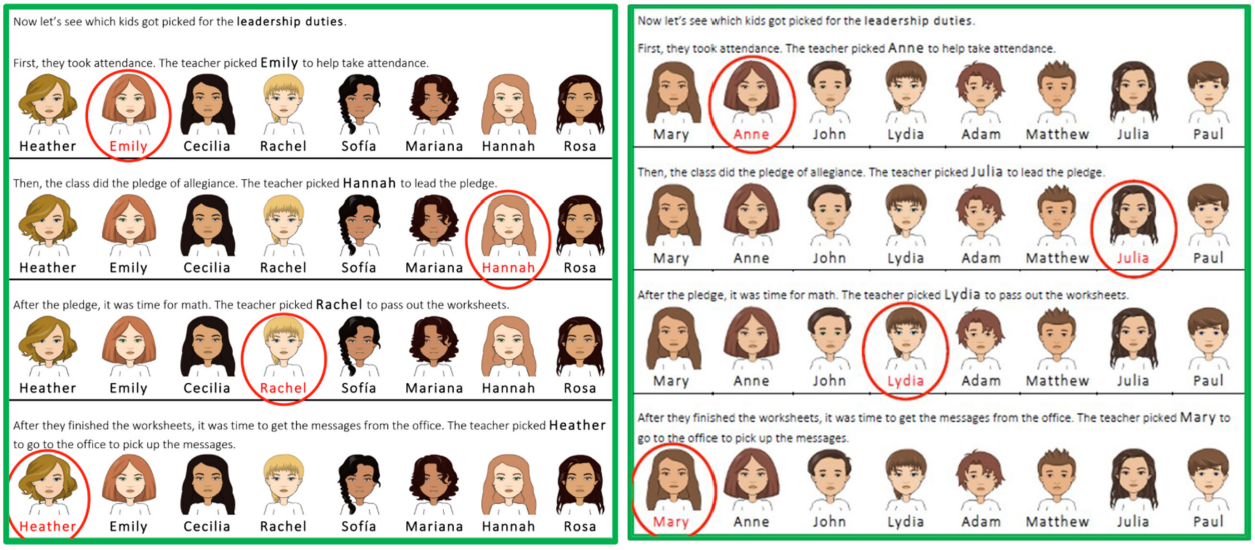

FIGURE 1 Example protocols for the ethnicity-race and gender vignettes. Example vignettes for ethnicity-race (left) and gender (right). © Pixton with permission.

Evaluations of teacher's allocation

To assess participants' evaluations of the teacher's leadership allocation, participants were asked to rate, "How okay or not okay is it that the teacher picked these kids (and not the other kids) to do the leadership duties?" on a 6-point Likert-type scale from 1 (*Really Not Okay*) to 6 (*Really Okay*). Then, participants were asked "Why do you think the teacher chose them? Write below." to determine their reasoning for their judgment.

Expectations of peers' evaluations

To assess how participants expected peers from different backgrounds to evaluate the teacher's leadership allocation, participants were introduced to two novel students who were not part of the original eight, "Here are two other students in the class, [Student 1] and [Student 2]. Let's see what they think." In the Gender vignette, one student was female and the other was male. In the Ethnicity-Race vignette, one student was White and the other was Latine. For both students, participants were asked to rate, "Do you think [Student] thinks it's okay or not okay that the teacher picked [names of the four selected students] (and not the other kids) to do the leadership duties?" on a 6-point Likert-type scale from 1 (*Really Not Okay*) to 6 (*Really Okay*).

Participant leadership duty allocations

To assess leadership duty allocations, participants were informed: "It is your turn to choose who gets picked for a leadership duty! One of the leadership duties is to answer the phone. In the afternoon, the phone rings. Here are some of the other kids in the class. Who do you think should be chosen to answer the phone?" Participants selected one of four novel students. In the Ethnicity-Race vignette, two students were White and two were Latine. In the Gender vignette, two students were female and two were male. To analyze participants' binary choice between a majoritized and minoritized character, selections of a White student (Ethnicity-Race vignette) or a male student (Gender vignette) received a 1 and selections of a Latine student (Ethnicity-Race vignette) or a female student (Gender vignette) received a 2.

Debrief

To mitigate any lasting negative effects from the protocol, after completing all the measures participants were informed that the four students who did not get picked by the teacher in the original vignette were given the opportunity to carry out the next day's leadership duties.

Data analytic plan

All analyses were conducted using IBM SPSS 27. Ethnicity-Race and Gender vignettes were analyzed separately. For models testing participants' evaluations of teachers' allocations, we ran generalized linear models with the independent variables age (8–11 years, 12–14 years), ethnicity-race (participant of color, White), gender (male, female), and condition (Unequal favoring Latine students, Unequal favoring White students, and Equal [Ethnicity-Race Vignette]; Unequal favoring female students, Unequal favoring male students, and Equal [Gender Vignette]). We also included interaction terms for condition and age, condition and ethnicity-race, and condition and gender. We explained significant interactions with Bonferroni-adjusted pairwise comparisons of estimated marginal means. We list the correlations for the outcome variables in Table S1.

To assess participants' expectations of peers' evaluations, we performed generalized linear models with the independent variables age (8–11 years, 12–14 years), ethnicity-race (participant of color, White), gender (male, female), condition (Unequal favoring Latine students, Unequal favoring White students, and Equal [Ethnicity-Race Vignette]; Unequal favoring female students, Unequal favoring male students, and Equal [Gender Vignette]), and target peer identity (White, Latine [Ethnicity-Race Vignette]; male, female [Gender Vignette]) with repeated measures on the last factor. We also included interaction terms for condition and age, condition and ethnicity-race, and condition and gender on participants' within-subjects expectations based on target peer identity. We explained significant interactions using Bonferroni-adjusted pairwise comparisons of estimated marginal means.

To test participants' leadership duty allocations, we conducted logistic regressions with the independent variables age (8–11 years, 12–14 years), ethnicity-race (participant of color, White), gender (male, female), and condition (Unequal favoring Latine students, Unequal favoring White students, and Equal [Ethnicity-Race Vignette]; Unequal favoring female students, Unequal favoring male students, and Equal [Gender Vignette]) in the first step and the addition of interactions between condition and age, condition and ethnicity-race, and condition and gender in the second step. We further explored significant effects using chi-squares.

For the reasoning, we coded the responses into five categories derived from studies that analyze reasoning (Elenbaas et al., 2016) and stem from the SRD model as well as pilot data (see Table S2). These were: Group-based inequality, Recognizing prejudice, Fairness references, Trait attributions, and Random allocation. χ^2 tests with Bonferroni-adjusted comparisons of z-scores were conducted to determine whether participants who evaluated the allocations positively (allocation was "okay") or negatively (allocation was "not okay") differed in their

justifications. χ^2 tests with Bonferroni-adjusted comparisons of *z*-scores were also conducted to determine whether participants differed into their justifications based on the between-subjects condition they viewed (Ethnicity-Race vignette: unequal favoring Latine students; unequal favoring White students, Equal; Gender vignette: unequal favoring female students; unequal favoring male students, Equal).

RESULTS

First, we report the results for the vignette in which teachers made ethnicity-race-based (White or Latine) allocations of leadership duties. Then, we report the results for the vignette in which teachers made gender-based (male or female) allocations of leadership duties. Finally, we report the results for the reasoning responses.

Teachers' ethnicity-race-based allocations of leadership duties

Evaluations of ethnicity-race-based allocations

For our hypothesis (H1) relating to participants' evaluations of teachers' Ethnicity-Race-based allocations of leadership duties, there was a significant main effect of age group, $F(1, 262) = 10.583$, $p = .001$,$\eta_p^2 = .039$, condition, $F(1, 262) = 34.679$, $p < .001$,$\eta_p^2 = .209$, and a significant interaction between age and condition, $F(2, 262) = 10.498$, $p < .001$,$\eta_p^2 = .074$. As shown in Figure 2, Bonferroni-adjusted pairwise comparisons revealed that adolescents evaluated both unequal conditions as significantly less okay than did children, and adolescents evaluated the unequal conditions as less okay than the equal condition. Adolescents also evaluated the unequal condition favoring Latine students more positively than the unequal condition favoring White students, whereas children did not differentiate between the two unequal conditions. Children evaluated the equal condition significantly more positively than the unequal condition favoring White students, however. The main effects of ethnicity-race and gender as well as the interactions between ethnicity and condition and gender and condition were not significant (*p*s > .276).

Thus, supporting our hypothesis (H1), while both children and adolescents viewed equal allocations most positively, by adolescence individuals viewed ethnicity-based leadership allocations more negatively when they disadvantaged Latine peers, reflecting knowledge of the broader societal inequalities faced by Latine individuals. Interestingly, children also evaluated the biased condition disadvantaging Latine students more negatively than the equal condition, providing some evidence that by 8 years of age children begin to differentially evaluate teachers' biased and unbiased decisions but may not factor in broader societal level inequalities that inform teachers' decisions.

Expectations for peers' evaluations for ethnicity-race-based allocations

Relating to our hypothesis about participants' expectations for novel peers' evaluations of teachers' Ethnicity-Race-based leadership duty allocations (H2), there was a significant interaction between participants' expectations of White and Latine peers' evaluations and condition, $F(2, 261) = 45.142$, $p < .001$,$\eta_p^2 = .257$, which was qualified by a three-way interaction with age group, $F(2, 262) = 3.606$, $p = .02852$,$\eta_p^2 = .028$. As shown in

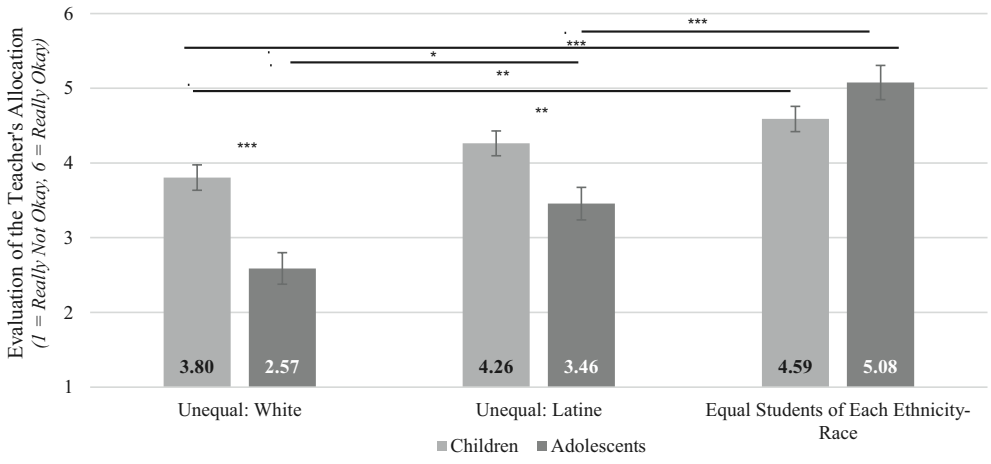

FIGURE 2 Children's and adolescents' evaluations of teachers' ethnicity-race-based allocations. Unequal: White (left) denotes the between-subjects condition in which only White students received leadership duties; Unequal: Latine (middle) denotes the between-subjects condition in which only Latine students received leadership duties; Equal Students of Each Ethnicity-Race (right) denotes the condition in which White and Latine students received an equal number of leadership duties. 1 = Really not okay; 6 = Really okay. Error bars reflect standard error. Significant values are denoted with *$p < .05$; **$p < .01$; ***$p < .001$.

Figure 3, Bonferroni-adjusted pairwise comparisons revealed that both children and adolescents expected that the Latine peer would evaluate the unequal condition favoring the White students more negatively than either the unequal condition favoring their ingroup or the equal condition.

Children also expected Latine peers to evaluate the condition favoring their ingroup more positively than the equal condition, whereas adolescents expected them to evaluate these conditions equally. Both children and adolescents expected the White and Latine peers to evaluate the unequal allocation favoring their ingroup more positively than would the other peer, while expecting both peers to similarly evaluate equal allocations. There was no main effect for target peer identity or interactions between target peer identity and ethnicity-race, age group, or gender, and no interactions between target peer identity, condition, and ethnicity-race, or target peer identity, condition, and gender (*p*s > .170).

Thus, consistent with our hypothesis (H2), overall, participants thought both Latine and White peers would positively evaluate equal allocations. Participants also expected students to evaluate teachers' leadership allocations more positively when they favored the peer's ethnic-racial ingroup versus the peer's ethnic-racial outgroup. Yet, they also expected the Latine peer to differentiate between the allocations more than the White peer, indicating these assessments may be motivated in part by broader societal level inequalities rather than simply group membership.

Participant ethnicity-race-based leadership duty allocations

Regarding our hypothesis (H3) about participants' own ethnicity-race-based leadership duty allocations, there was a main effect of age group, $\beta = .672$, $t(264) = 5.832$, $p < .001$, Exp(B) = 1.958, 95% CI [1.135, 3.378], with Bonferroni-adjusted comparisons on z scores showing that more children (46.0%) than adolescents (27.9%) chose a White character to receive the leadership duty, whereas more adolescents (72.1%) than children (54.0%) chose a Latine character, $p = .004$.

There was also a main effect of ethnicity, $\beta = -.690$, $t(264) = 6.738$, $p < .001$, Exp(B) = 0.501, 95% CI [0.298, 0.844]. Bonferroni-adjusted comparisons of z-scores revealed that more White participants (49.5%) than participants of color (31.4%) chose a White character to receive the leadership duty, whereas more participants of color (68.6%) than White participants (50.5%) chose a Latine peer for the leadership duty, $p = .003$.

Finally, there was a main effect of condition, $\beta = -.317$, $t(264) = 3.855$, $p < .001$, Exp(B) = 0.728, 95% CI [0.531, 0.999]. Bonferroni-adjusted comparisons of z-scores revealed that participants selected a Latine character (45.1%) more than a White character (19.4%) in the condition in which the teacher picked only White students, picked a White character (51.5%) more than a Latine character (21.0%) in the condition in which the teacher selected only Latine students, and were equally likely to pick the White character (29.1%) and Latine character (34.0%) in the equal condition, $p < .001$.

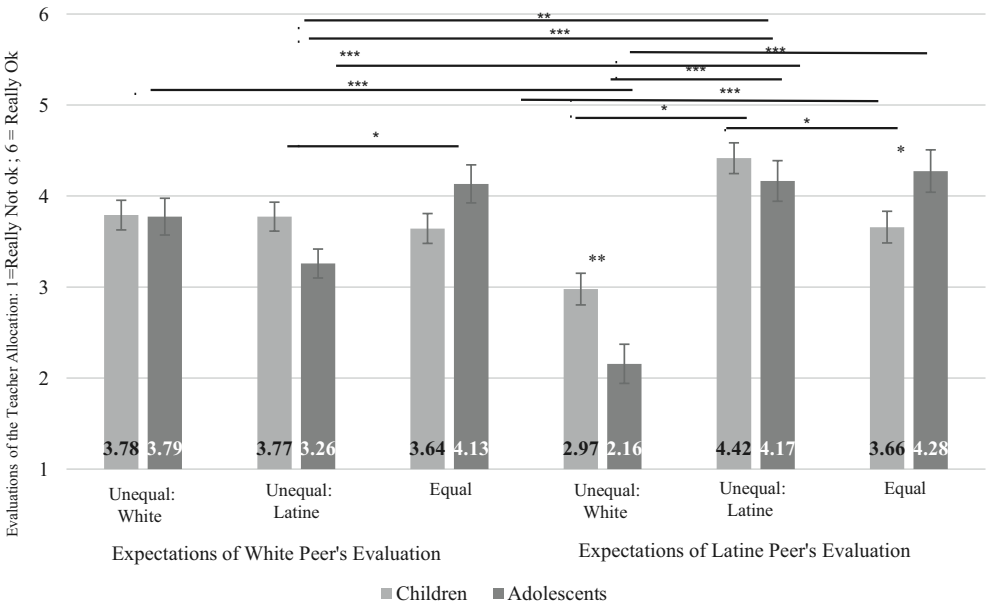

FIGURE 3 Children's and adolescents' expectations of peers' evaluations of teachers' ethnicity-race-based allocations. Participants' within-subjects expectations of White peers' evaluations are presented on the left while expectations of Latine peers' evaluations are presented on the right. Unequal: White denotes the between-subjects condition in which only White students received leadership duties; Unequal: Latine denotes the between-subjects condition in which only Latine students received leadership duties; Equal denotes the condition in which White and Latine students received an equal number of leadership duties. 1 = Really not okay; 6 = Really okay. Error bars reflect standard error. Significant values are denoted with *$p < .05$; **$p < .01$; ***$p < .001$.

There was not a main effect of gender ($p=.828$), nor was the inclusion of interactions significant, $\Delta\chi^2(3)=2.527$, $p=.470$. Thus, in partial support of our hypothesis (H3), regardless of age participants both favored their own ingroup and attempted to mitigate the inequality created by the teacher. Adolescents were more likely to select Latine peers than were children, yet there was not a clear age-cohort difference between ingroup preference and rectifying the inequality created through teachers' biased allocations.

Teachers' gender-based allocations of leadership duties

Evaluations of gender-based allocations

Relating to our hypothesis (H1) on children's and adolescents' evaluations of teachers' gender-based allocations of leadership duties, there was a significant main effect of age group, $F(1, 261)=6.34$, $p=.012$,$\eta_p^2=.024$, condition, $F(1, 261)=41.54$, $p<.001$,$\eta_p^2=.241$, and a significant interaction between age and condition, $F(2, 261)=4.00$, $p=.019$,$\eta_p^2=.030$. As shown in Figure 4, Bonferroni-adjusted pairwise comparisons revealed that both children and adolescents evaluated both unequal conditions more negatively than the equal condition, and adolescents evaluated both unequal conditions as significantly less okay than did children. Children and adolescents did not differentiate between the unequal condition favoring male students or the unequal condition favoring female students, however. Main effects of ethnicity-race and gender as well as the interactions between ethnicity-race and condition and gender and condition were not significant ($ps>.262$).

Thus, in partial support for our hypothesis (H1) regarding participants' evaluations of gender-based leadership duty allocations, participants more negatively evaluated instances in which teachers made biased leadership decisions based on gender than instances when teachers picked equal numbers of male and female students for leadership duties. Additionally, adolescents evaluated unequal leadership allocations more negatively than did children. However, neither children nor adolescents differentiated between allocations that favored male or female students, showing they may not have considered broader societal level inequalities that disadvantage girls' and women's access to leadership positions.

Expectations for peers' evaluations of gender-based allocations

In accordance with our hypothesis (H2) about participants' expectations of novel peers' evaluations of teachers' gender-based leadership duty allocations, there was a significant interaction between participants' expectations of male and female peers' evaluations by condition, $F(2, 261)=62.783$, $p<.001$,$\eta_p^2=.325$. As shown in Figure 5, Bonferroni-adjusted pairwise comparisons revealed that participants expected that both female and male peers would evaluate the condition favoring their gender outgroup more negatively than either the condition favoring their gender ingroup or the condition in which the teacher allocated the leadership duties equally between genders. Additionally, participants expected both the male and female peers to more positively evaluate the unequal teacher allocation that favored their gender

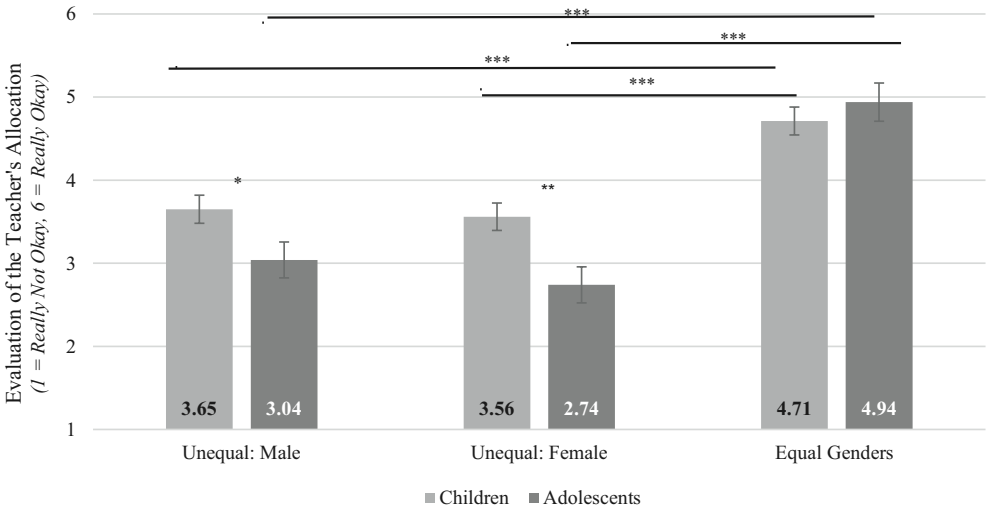

FIGURE 4 Children's and adolescents' evaluations of teachers' gender-based allocations. Unequal: Male (left) denotes the between-subjects condition in which only male students received leadership duties; Unequal: Female (middle) denotes the between-subjects condition in which only female students received leadership duties; Equal Genders (right) denotes the condition in which male and female students received an equal number of leadership duties. Error bars represent standard error. Significant values are denoted with *$p<.05$; **$p<.01$; ***$p<.001$.

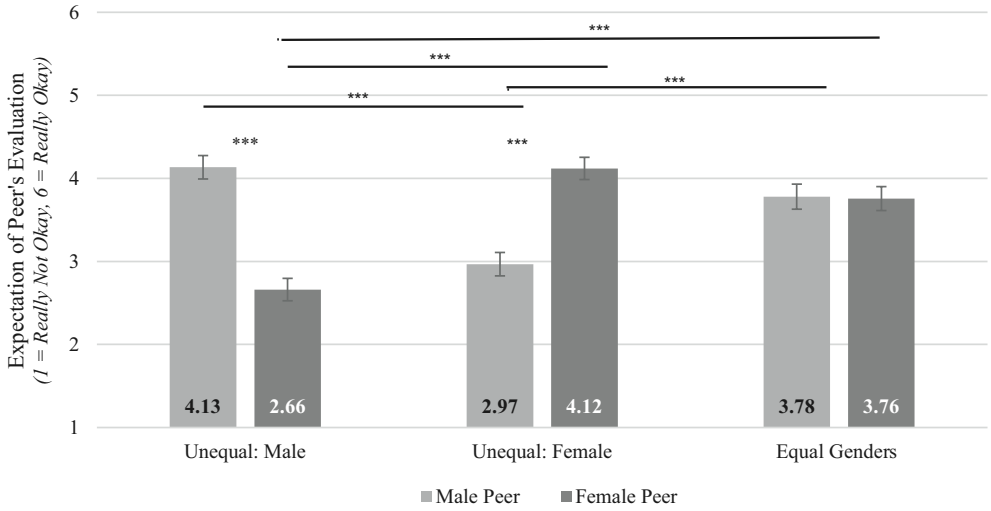

FIGURE 5 Children's and adolescents' expectations of peers' evaluations of teachers' gender-based allocations. Unequal: Male denotes the between-subjects condition in which only male received leadership duties; Unequal: Female denotes the between-subjects condition in which only female students received leadership duties; Equal denotes the condition in which male and female students received an equal number of leadership duties. Error bars represent standard error. Significant values are denoted with ***$p < .001$.

group than the other gender peers. There was no main effect for target peer identity or other significant interactions ($ps > .185$).

Thus, overall participants expected students to evaluate teachers' leadership allocations more positively when those allocations favored the student's gender ingroup than when they favored the student's gender outgroup, and they thought both peers would positively evaluate equal allocations. Additionally, these expectations did not differ between age cohorts.

Participant gender-based leadership duty allocations

To assess participants' own leadership allocation decisions (H3), there was a main effect of gender, $\beta = .665$, $t(262) = 6.631$, $p < .001$, $\text{Exp}(B) = 1.945$, 95% CI [1.172, 3.226]. Bonferroni-adjusted comparisons of z-scores showed that more male participants (56.7%) than female participants (40.8%) chose a male character to receive the leadership duty, and more female participants (59.2%) than male participants (43.3%) chose a female peer for the leadership duty, $p = .013$.

There was also a main effect of condition, $\beta = .489$, $t(262) = 9.394$, $p < .001$, $\text{Exp}(B) = 1.631$, 95% CI [1.193, 2.231]. Bonferroni-adjusted comparisons of z-scores revealed that more participants selected the female character (44.9%) than the male character (22.2%) in the condition in which the teacher picked only male students, more participants picked the male character (47.6%) than the female character (21.3%) in the condition in which the teacher selected only female students, and they were equally likely to select the male peer (30.2%) or female peer (33.8%) in the equal condition, $p < .001$. There was not a main effect of ethnicity or age ($ps = .328$), nor was the inclusion of interactions significant, $\Delta\chi^2(3) = 3.959$, $p = .266$.

Thus, participants both favored their own gender ingroup and attempted to mitigate the gender inequality created by the teacher, which was found across both older and younger children.

Reasoning for evaluations of teachers' ethnicity-race and gender-based allocations

Participant justifications for the evaluations of teachers' ethnicity-race and gender-based allocations are depicted in Tables 1 and 2. For both the participant evaluation and condition analyses, column percentages with different superscripts are significantly different at $p < .001$, viewed horizontally. Participant responses were coded into one of the five reasoning categories. 13.1% of responses were categorized as uncodeable because they were missing or did not fit into a defined category (e.g., "I don't know"). Participants who viewed unequal ethnicity-race-based and gender-based allocations as unacceptable used different reasons than those who viewed them as acceptable, confirming H4. Specifically, participants referenced Group-based Inequality and Recognizing Prejudice more when they viewed the allocation as not okay than okay. Conversely, participants used more Fairness references, Trait attributions and Random Allocation reasons when viewing it as okay than not okay. When viewing the Ethnicity-Race vignette, they were also more likely to reference Group-based Inequalities and Recognizing Prejudice when the vignette depicted an unequal allocation than when it depicted an equal allocation. Interestingly, they were more likely to reference

TABLE 1 Participants' justifications for their evaluations of teachers' ethnicity-race-based allocations.

Ethnicity-race-based teacher allocation justification	Overall % justification	% Justification per participant evaluation		% Justification per condition		
		Not okay	Okay	Unequal favoring Latine students	Unequal favoring White students	Equal
Group-based inequality	20.9	37.9[a]	11.2[b]	31.1[a]	24.7[a]	8.3[b]
Recognizing prejudice	26.8	51.7[a]	12.5[b]	31.1[a]	35.8[a]	14.3[b]
Fairness references	19.7	4.6[a]	28.3[b]	18.9[a]	13.6[a]	26.2[a]
Trait attributions	27.2	5.7[a]	39.5[b]	17.6[a]	23.5[a,b]	39.3[b]
Random allocation	5.4	0.0[a]	8.6[b]	1.4[a]	2.5[a,b]	11.9[b]
n	239	87	152	74	81	84

Note: This table represents overall category percentages of participants' justifications for their evaluations of the teacher's ethnicity-race-based allocation of leadership duties. χ^2 tests with Bonferroni-adjusted comparisons of *z*-scores were conducted to determine whether participants who evaluated the allocations positively (allocation was "okay") or negatively (allocation was "not okay") differed in their justifications. χ^2 tests with Bonferroni-adjusted comparisons of *z*-scores were also conducted to determine whether participants differed into their justifications based on the condition they viewed (between-subjects: unequal favoring Latine students; unequal favoring White students, Equal). For both the participant justification and condition analyses, column percentages with different superscripts are significantly different at $p < .001$, read horizontally. Percentages were calculated out of the total responses that were coded into one of the five reasoning categories. 13.1% of responses were categorized as uncodeable because they were missing or did not fit into a defined category (e.g., "I don't know").

TABLE 2 Participants' justifications for their evaluations of teachers' gender-based allocations.

Gender-based teacher allocation justification	Overall % justification	% Justification per participant evaluation		% Justification per condition		
		Not okay	Okay	Unequal favoring female students	Unequal favoring male students	Equal
Group-based inequality	20.1	36.4[a]	8.1[b]	31.6[a]	20.8[a,b]	7.7[b]
Recognizing prejudice	35.9	49.5[a]	25.9[b]	40.5[a]	46.8[a]	20.5[b]
Fairness references	18.4	8.1[a]	25.9[b]	11.4[a]	13.0[a]	30.8[b]
Trait attributions	21.4	6.1[a]	32.6[b]	16.5[a]	18.2[a]	29.5[a]
Random allocation	4.3	0.0[a]	7.4[b]	0.0[a]	1.3[a]	11.5[b]
n	234	99	135	79	77	78

Note: This table represents overall category percentages of participants' justifications for their evaluations of the teacher's gender-based allocation of leadership duties. χ^2 tests with Bonferroni-adjusted comparisons of *z*-scores were conducted to determine whether participants who evaluated the allocations positively (allocation was "okay") or negatively (allocation was "not okay") differed in their justifications. χ^2 tests with Bonferroni-adjusted comparisons of *z*-scores were also conducted to determine whether participants differed into their justifications based on the condition they viewed (between-subjects: unequal favoring female students; unequal favoring male students, Equal). For both the participant justification and condition analyses, column percentages with different superscripts are significantly different at $p < .001$, read horizontally. Percentages were calculated out of the total responses that were coded into one of the five reasoning categories. 14.9% of responses were categorized as uncodeable because they were missing or did not fit into a defined category (e.g., "I don't know").

trait attributions (such as the students being picked because they were most responsible) in the equal condition. In the Gender vignette, participants were more likely to reference Recognizing Prejudice after viewing an unequal allocation than an equal allocation. Participants were more likely to reference Group-Based Inequality when the allocation favored female students than in the equal allocation, and they referenced General Fairness and Random Allocation choices by the teacher most after viewing the equal allocation.

DISCUSSION

Social inequalities that deny children access to opportunities and resources based on ethnicity-race or gender create a negative cycle of experiences and impact healthy development and well-being (Bonilla-Silva, 2015; Turiel et al., 2016). Differential treatment based on ethnicity-race and gender (as well as many other groups such as religion, nationality, and wealth) requires solutions. To do this, we must understand how individuals conceptualize, judge, and interpret existing social inequalities in their environment. In this study, we focused on how children and adolescents evaluate equal and unequal teacher allocations of leadership duties to students based on ethnic-racial and gender group membership. Novel findings were associated with evaluations of teacher allocations, how participants viewed a peer's perspective about the teacher allocations, their decision to rectify the allocations when allowed to do so, and social reasoning about their evaluations.

Evaluating teacher leadership allocations

In both the ethnicity-race and gender vignettes, adolescents viewed teachers' unequal allocations of leadership duties as less okay than did children. As shown in Tables 1 and 2, reasoning data reflected differences in children's explanations about what made the allocations okay or not (see also Table S2). Many participants who viewed the teacher allocation as "not okay" referenced that the decision was motivated by prejudiced reasoning based on recognizing prejudice.

A novel aspect of the current findings novel was that adolescents (aged 12–14 years) negatively evaluated a *classroom teacher* allocation of leadership duties that reflected group-based social inequalities more than did children. Research has shown that adolescents view social exclusion based on socioeconomic status (SES) as more wrong than do children (Gönül et al., 2023) and expect parents to have unfair prejudicial attitudes about ethnic out-group members (Hitti et al., 2019). Yet less research has investigated how children and adolescents detect teacher biases in leadership decisions at school. Although this is often difficult to recognize and act on, it is important to know when those in positions of authority are acting in unfair and potentially discriminatory ways. Indeed, recognizing when individuals in positions of authority allocate special opportunities primarily to high-status individuals is an important first step in advocating for just, equal, and fair treatment toward others (Chin et al., 2020; Kaufman & Killen, 2022).

Although adolescents rated teacher unequal allocations more negatively than equal allocations (in contrast to children), an asymmetry emerged for ethnicity-race whereby adolescents viewed the denial of leadership duties for Latine students to be more wrong than the denial of opportunities for White students. Adolescents may recognize the broader societal inequalities that exist outside the paradigm presented in the classroom, especially given that Latine students are a minoritized population in the region of the data collection. This interpretation is supported by previous research showing that U.S. 10- to 11-year-old Black and White children were more likely to rectify inequalities for Black children attending under-resourced schools than for White children attending under-resourced schools (Elenbaas et al., 2016). These age-cohort differences may be because children recognize individual-level disparities earlier than group-level disparities (Peretz-Lange et al., 2021; Rizzo & Killen, 2020). Although adolescents recognized the group-level disparity created by the teacher's allocations, children expected the peer whose group was denied leadership opportunities to be disappointed recognizing that they understood it was not the same as the equal allocation.

Interestingly, although children negatively evaluated the denial of opportunities for boys or girls, they viewed both types of actions as equally wrong. Several reasons may contribute to this finding. First, in the United States, there are many explicitly condoned gender-segregated contexts (e.g., same-gender schools, sports, and clubs) and more so than for race-segregated contexts which exist (e.g., neighborhoods) but are not officially condoned or explicit (Bigler et al., 2014). Second, children's experiences in gender-segregated activities with extensive labeling ("girls' softball team" "boys' school") may contribute to an expectation that exclusion of or denial of resources to female peers is not necessarily more concerning than excluding or denying resources to male peers (Bigler et al., 2014). Third, gender representation is numerically the same in most public schools in contrast to ethnic-racial numeric representations which reflect a numeric minority in many school contexts. Nonetheless, girls continue to experience social exclusion from leadership duties (Brown & Bigler, 2004), making the finding that girls' denial of opportunities is indistinguishable from boys being denied opportunities relevant for studies on social inequalities. Further research is warranted to interpret these findings and to examine how children view the denial of opportunities (social inequalities) based on gender in different school contexts.

Expectations about peers' evaluations of inequality

Even though children did not rate the teacher's actions differently across the equal and unequal conditions, both children and adolescents expected that the student who was part of the Latine group would evaluate a biased allocation in favor of the White students negatively. An unequal allocation that disadvantaged Latine students may be perceived as more devastating than an allocation that disadvantages White students, given that Latine students are more often excluded from special opportunities (Rivas-Drake et al., 2014). Asking participants how another *peer* would evaluate the inequality provided a different lens for understanding children's perspectives given that this judgment was expressed even for students who did not evaluate the teacher's equal and unequal allocations differently. This suggests that children may recognize inequalities when asked about a peer perspective more readily than when focusing on a teacher's actions or the actions of other authority figures whom children may be less likely to question.

As with the evaluation of teacher allocations, an asymmetry between ethnicity-race-based and gender-based allocations was found. Children and adolescents expected that peers would more positively evaluate leadership allocations when those allocations favored the student's gender ingroup than when they favored the student's gender outgroup. The ingroup gender bias documented here has been shown in the literature regarding the allocation of material resources (Conry-Murray & Turiel, 2020) but not for high-status leadership positions in schools. Children and adolescents recognized that

both girls and boys would evaluate unequal conditions more negatively than the equal conditions. The lack of distinction between unequal allocation to girls and to boys requires further examination, particularly regarding other contexts of inequalities. Future research should also conduct direct analyses to compare the ethnic-racial and gender contexts for a more detailed understanding of these distinctions.

Whether to rectify the inequality

Many children and adolescents rectified the teacher's unequal allocation of leadership duties by selecting a new peer who reflected the identity of the group excluded from the opportunity. More participants chose a Latine peer than a White peer in the context in which the teacher favored White students. They also chose a White peer more than a Latine peer when the teacher favored Latine students. These decisions reflect children's recognition of the importance of choosing someone from a group that had been previously denied the opportunity. At the same time, some participants displayed an ingroup bias in that White participants were more likely to select a White peer and participants of color were more likely to select a Latine peer. That children and adolescents both showed concerns for rectifying the teacher's unequal allocation while also displaying ingroup bias reveals the complexity of issues of ethnicity and race. Finally, across conditions, adolescents chose a Latine character for a new leadership duty more than they chose a White character, whereas children picked between White and Latine characters relatively equally. This provides additional evidence that adolescents may recognize broader societal inequalities that disadvantage Latine children, whereas children may not yet be considering the broader societal perspective.

These findings provide additional evidence that inequalities must be contextualized in both fairness concerns and intergroup dynamics, consistent with the SRD model. Even though this study had a large ethnic-racial sample, the heterogeneity of the ethnic-racial minority groups limited the ability to fully determine ethnic-racial by age effects for those who do and do not identify with the excluded character. Future research should include a wider range of target characters or fewer subgroups within the minoritized sample to adequately analyze how identity with the target group bears on allocations.

For the gender context, children selected a female peer more when the teacher only selected boys, and children selected a male peer more when the teacher only selected girls. However, participants also displayed ingroup bias; across conditions, more females selected the girl peer and more males selected the boy peer. This finding is in line with previous research showing there is often ingroup bias in children's and adolescents' gender-based resource allocation decisions (Dunham et al., 2011). Overall, for both ethnicity-based and gender-based allocations, participants showed evidence of rectifying unequal allocations when teachers assigned leadership duties in a biased manner, with some age and social group differences.

More than recognizing what is fair or unfair, rectifying a pre-existing inequality signals that children recognize the importance of remediating what is unfair (Brinkman et al., 2011). For change to occur, it is necessary to identify the contexts in which disparities occur and how individuals can create change (Elisha et al., 2023).

Implications

In this study, children and adolescents recognized teacher biases that contribute to social inequalities in the classroom. The SRD model that guided this study shows that perceiving and evaluating unfair social contexts is an emerging process in early adolescence as they become more aware of historical and contextual factors that account for social disparities (Gönül et al., 2023; McGuire et al., 2019; Rutland & Killen, 2015). Understanding children's and adolescents' cognition is essential for creating programs to address inequalities that exist in the classroom. If children and adolescents observe unfair teacher allocations of leadership duties this can have negative consequences on their understanding of the right course of action to take when interacting with others in the classroom. Children and adolescents are influenced by what teachers say and do, and thus witnessing unfair actions may be confusing as well as potentially verifying what might be viewed as acceptable behavior toward others. Documenting the contexts in which children and adolescents might observe these types of exchanges required detailed analyses in terms of children's own social identity, age, and the target of exclusion (London et al., 2014).

As revealed by the current study, recognizing the importance of mutual respect and social justice begins in childhood but is more explicit and consistent in adolescence. Although recent research has shown that teachers hold biases that result in unfair treatment of students based on ethnicity, race, and gender (Bian et al., 2017; Okonofua et al., 2016), very little research has examined whether children and adolescents are aware of teacher biases in the classroom. Teacher biases that are left unchecked create negative consequences for the recipients (Alvarez-Galvez & Rojas-Garcia, 2019) and have the potential to influence students' beliefs about others' competencies thus perpetuating stereotypic expectations (Brey & Pauker, 2019). The SRD framework has examined how children's mental state knowledge also bears on their ability to recognize unfair treatment and recognize social inequalities (Pauker et al., 2019; Rizzo & Killen, 2020) and testing children's mental state knowledge and perspective-taking regarding how to address social inequalities would be a fruitful avenue for future research.

Creating inclusive classrooms, however, involves more than demonstrating that children and adolescents recognize and seek to rectify teachers' unequal allocation of high-status leadership duties. The next step is to incorporate bias training for teachers as well as provide a context for students to discuss perceptions and experiences of social inequalities at school (Killen et al., 2022; Killen & Rutland, 2022; London et al., 2014). We propose that research on children's understanding of social inequalities needs to examine a range of contexts to determine both generalized and context-specific reasoning, judgments, and attitudes (Heck et al., 2022). Further investigations should be conducted on the contexts and conditions under which children recognize unfair treatment based on group identity, understand a disadvantaged peer's perspective, and take action to rectify the inequalities. Our study raises new questions about how the recognition and interpretation of inequality may vary across development and be situated against the backdrop of inequalities present in society more broadly.

Limitations and future directions

This is one of the first studies to examine the role of context (gender, ethnicity-race) on U.S. children's and adolescents' social cognitive evaluations and awareness of teacher biases regarding the unequal allocation of leadership duties in the classroom. There are many areas for future research to pursue. First, it would be fruitful to investigate whether children's own biases bear on their likelihood of rectifying the inequalities. One might expect that holding negative stereotypes about ethnicity-race and gender groups may lead to a reluctance to choose a peer from that background, even if they have previously been excluded from leadership opportunities. In addition, designing a study to examine participant ethnic-racial and gender differences would reveal how one's experiences bear on evaluations of bias in the classroom.

Second, more information about the talents, motivations, and interests of the children in the classroom who are selected for leadership roles could be included as variables for participants to consider. By design, this study provided only ethnicity-race and gender information, depicted visually. Determining whether children continue to focus on group membership characteristics or give priority to talents, interests, and motivations would provide more information about how children evaluate decisions regarding the allocation of leadership duties in the school context. In addition, as research sheds more light on the contexts in which non-binary students experience social exclusion at school (Diamond, 2020) this information can be applied to research directly addressing the everyday experiences of non-binary students in the context of exclusion from opportunities in the classroom. Further, the types of leadership duties selected might have reflected a confound with gender expectations and future research could ensure that the duties selected are not confounded with gender expectations.

Third, it is important to investigate the role of diversity at the school and community level in a wider range of cultural contexts (Juvonen et al., 2017; Pauker et al., 2015). Examining how children and adolescents in other demographic regions of the United States and around the world evaluate and rectify inequality perpetuated by teacher biases would be important to understand how context may play a role in children's and adolescents' evaluations and decisions. To achieve global science, we need to understand how these attitudes and biases emerge in children in multiple cultural contexts and diverse countries (Grütter et al., 2022). For example, in many countries schools are homogenous by gender and religion (same-gender, same-religion) as well as heterogeneous by nationality, immigrant status, and other salient variables. Examining how children and adolescents from other cultural contexts evaluate teacher-generated inequalities in the classroom, including whether they take the perspective of the low-status peer and rectify an inequality when provided a reason to do so would be very important for understanding the phenomena reported here. Along with understanding the school context, it would be valuable to include information about the ethnic-racial and gender identities of the teachers to determine if children expect teachers to hold same-group preferences (Brown, 2006). There are many interesting research questions to pose focusing on the teacher in this regard.

Finally, the ethnic-racial diversity of our sample and the inability to collect specific SES data on participants prevented analyses testing for differences in evaluations among specific ethnic-racial minority groups or by differences in SES. Given these constraints, the current study compared White participants to participants of color. Future research should recruit equal numbers of participants from several ethnic-racial and socioeconomic backgrounds to test whether there are ethnic-racial and SES differences in children's evaluations of authority-based inequalities. Additionally, identities such as ethnicity-race and gender intersect to inform children's perceptions of bias. For a first step into research on how identity may influence perceptions of teacher bias, our goal was to investigate the effects of ethnicity-race and gender on perceptions of bias and compare how their perceptions may differ across social groups. However, future research should extend this work by investigating the intersectionality of how multiple minoritized identities (such as identifying as both Latine and female) interact to influence children's perceptions of teacher bias (Rogers et al., 2015). It is also important to note that Latine males report more experiences of discrimination than do Latine females (Zeiders et al., 2021). In a study of Latine adolescents, perceived discrimination was linked to lower academic success through decreased academic motivation for boys but

not girls (Alfaro et al., 2009). It is therefore possible that Latine males would rate unequal allocations that disadvantage Latine males as more unfair compared to those that disadvantage Latine females. We recommend that research focus explicitly on these intersecting identities as research on this topic remains underexamined in the developmental science literature.

In conclusion, this study documented that children and adolescents are not only aware that biases might occur in the classroom but recognize that students whose group was denied opportunities to take a leadership role in the classroom because of their ethnicity-race or gender would view it negatively. This may lead students to be motivated to rectify inequalities when provided with an opportunity to do so, as was shown in this study. Understanding how children and adolescents interpret and evaluate complex interactions in the classroom provides the basis for creating strategies to promote just and fair classroom environments, which enable all students to learn and thrive.

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DATA AVAILABILITY STATEMENT

The data and code necessary to reproduce the analyses presented here are publicly accessible from the authors, as are the materials necessary to attempt to replicate the findings which are also available from the authors. Analyses were not pre-registered due to the timing of the data collection which took place before the expectation for pre-registration.

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