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SHORT REPORT

Leadership, gender, and colorism: Children in India use social category information to guide leadership cognition

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Abstract

Across the globe, women and racial minorities are underrepresented in leadership. We examined the development of 5–10-year-old children's leadership cognition in India, the world's largest democracy. This cultural context offered the opportunity to study the development of attitudes about gender and to extend examinations of children's conceptions of race to include colorism (the privileging of lighter skin). In Experiment 1, children completed a novel Election Task in which they saw a fictional class with 20 students varying in gender (boys, girls) and race/skin tone (darker-skinned South Asian [Dark-SA], lighter-skinned South Asian [Light-SA], Black, White). Children predicted who would be elected as President, Treasurer, Welcomer, and Notetaker. Children most often chose Light-SA and White students as President. When choosing Presidents, younger children showed an own-gender bias, but by age 9, both boys and girls primarily chose boy Presidents. Importantly, children's choices differed for the other class positions. Next, we asked children to draw a "leader." No boys drew a girl, and girls' drawings were mixed (52% drew girls). In Experiment 2, we replicated the drawing task findings and compared children's drawings of a leader to their drawings of a helper and a scientist. Children most often drew boys and men as leaders and scientists, but not as helpers, suggesting specificity of children's pro-male bias to male-stereotyped positions. Children's conceptions of leadership reflected a male bias and an association between lighter skin and status.

KEYWORDS
colorism, gender, leadership, politics, race, social development

1 | INTRODUCTION

Globally, women and racial minorities are underrepresented in leadership. In 2021, 26% of national parliamentarians are women (World Economic Forum, 2021), and across many national contexts, some racial groups are overrepresented in leadership positions (Holman & Schneider, 2018; Hughes, 2011). To give one striking example: In 2018, although Black and mixed-race Brazilians comprised the majority of Brazil's population, under 10% of Brazil's national congress was Black (Mitchell-Walthour, 2018). Importantly, the leadership gap exists at the intersection of gender and race, and people's experiences in leadership are shaped by their specific intersecting identities.

For decades, researchers have studied factors underlying these patterns. One such factor is cultural portrayals of leadership as masculine and White (Eagly & Karau, 2002; Gündemir et al., 2014; Holman & Schneider, 2018; Hoyt, 2010; Koenig et al., 2011; Schneider & Bos, 2019), and indeed attitudes about leadership often reflect intersectional considerations (Childs & Hughes, 2018; Junn & Brown, 2008; Rosette et al., 2008; Schyns & Schilling, 2013). These attitudes can result in explicit and implicit biases, undermining historically

underrepresented groups' pursuits of leadership roles (Fox & Lawless, 2005; Holman & Schneider, 2018; Schneider & Bos, 2019; Verba et al., 2003). For example, compared to White men candidates, voters often perceive women and racial minority candidates as less competent. Even when women and racial minority candidates are perceived as competent, these judgments are often exclusive to stereotypically congruent domains (e.g., for racial minorities, race, and poverty) (Barnes & O'Brien, 2018; Sigelman et al., 1995).

Research on people's attitudes about leadership prior to adulthood is limited (see Heck et al., 2021; Patterson et al., 2019). Yet decades of research in developmental psychology suggests children absorb societal attitudes about social groups early in life. Open questions concern when and how children's leadership cognition may come to reflect considerations of gender, race, and their intersection.

Extant research has found that children in the United States are knowledgeable about the race and gender of past presidents (Bigler et al., 2008; Patterson et al., 2013, 2019) and that ideas about gender and power emerge early in life (Charafeddine et al., 2020; Mandalaywala et al., 2020). But little research has examined how considerations of gender, race, and their intersection inform children's broader leadership cognition (as noted by Heck et al., 2021; Patterson et al., 2019), especially in non-Western populations (Amir & McAuliffe, 2020; Henrich et al., 2010).

However, more generally, young children recognize and form attitudes about gender and race (Dunham et al., 2015; Liberman et al., 2017; Ziv & Banaji, 2012). As early as age 5, children prefer people who share their gender (Renno & Shutts, 2015; Shutts et al., 2013) and race (Bigler & Hughes, 2009; Pauker et al., 2017; Renno & Shutts, 2015). Though critically, the strength of children's ingroup preferences depends on their group membership. Children from lower-status social groups often show less marked ingroup preferences, in some cases preferring majority or higher-status groups (Dunham et al., 2007; Newheiser et al., 2014; Sacco, 2019; Yazdi et al., 2020). Additionally, children's attitudes hinge on the intersection of gender and race (Lei et al., 2020; Perszyk, Lei et al., 2019). For example, by age 6, children associate men with brilliance (Bian et al., 2017), but this notion of "brilliance" is restricted to reasoning about White men specifically (Jaxon, Lei et al., 2019). Open questions concern how race/skin tone, gender, and their intersection inform children's leadership cognition. We tested whether developing expectations of who holds leadership roles mirror real-world gendered and racial patterns in leadership.

Research Highlights

- Across two experimental tasks, children in India reflected colorism and global patterns of underrepresentation in their leadership cognition.
- In a novel classroom election paradigm, participants most often chose lighter-skinned South Asian and White boys for "president" but not for other elected classroom positions.
- In their choice of "president" in an election paradigm, younger children generally showed an own-gender bias, whereas older children showed a pro-male bias.
- In a drawing task, no boy drew a girl/woman leader, whereas girls drew both boys/men and girls/women; children's pro-male bias was exclusive to male-stereotyped positions.

1.1 | India as a context to study leadership cognition

As the world's largest democracy with a noteworthy racial landscape, India presents a compelling context to study children's leadership cognition. Rhetoric in the United States surrounding race often reflects psychological conceptions of distinct racial group boundaries (e.g., Black and White). In India, the national Census does not recognize racial or ethnic groups, and Black and White individuals make up only 0.1% of the population (though people in India are indirectly exposed to Black and White individuals through media; Rohn, 2009). In India–and many global contexts–conceptualizations of race may be better understood in the context of colorism (i.e., the privileging of lighter skin). In India, lighter skin often confers greater status (Nadeem, 2013) and is associated with dominant castes (Parameswaran & Cardoza, 2009; Shankar & Subish, 2007). Although explicit caste discrimination was abolished in 1947, caste exclusion and employment discrimination remain prevalent (Borooah et al., 2014; Thorat & Attewell, 2007), and colorism is pervasive. For example, in India, matrimonial websites show an overwhelming bias toward lighter-skinned brides (Bilkhu, 2020; Jha & Adelman, 2009), "good" characters in popular children's cartoons are often portrayed as having lighter skin (Amin, 2017), and the skin-whitener market is a $4 billion industry (Karnani, 2007). Constitutional amendments have attempted to increase political representation of marginalized-caste groups with quotas, yet this system is criticized for its ineffectiveness (Jensenius, 2015). Open questions concern whether children's conceptualizations of leadership reflect race- and color-based cultural attitudes.

India also presents a nuanced context regarding women's representation in leadership. From one perspective, compared to many other nations, India is relatively gender equitable with respect to its highest positions of governance (e.g., head of state). Among 156 countries, India currently ranks seventh in number of years with a woman as head of state (World Economic Forum, 2021). From another perspective, women remain underrepresented in India's lower government positions (e.g., parliament) despite the implementation of quotas aimed at increasing women's political representation (e.g., Beaman et al., 2012). Moreover, a leadership gap is evident outside politics: For example, in 2010, only 11% of CEOs in India were women (Bagati & Carter, 2010), and there exist dramatic gender disparities between women's and men's educational and economic attainment (World Economic Forum, 2021). Open questions concern whether and when in life children's leadership cognition may reflect these gendered patterns.

1.2 | The present studies

We tested how race, skin tone, gender, and their intersection influence children's attitudes about leadership. In Experiment 1, children predicted who was elected to different positions in a class election among a group of children varying in gender (boys, girls) and race/skin tone (lighter-skinned South Asian, darker-skinned South Asian, Black, White). Next, we asked children to draw a "leader." In Experiment 2, to examine whether children's tendency to draw men was specific to male-dominated fields, we compared children's drawings of "leader[s]" to their drawings of "helper[s]" and "scientist[s]."

2 | EXPERIMENT 1

Children predicted who would be elected into different positions in a student election. One possibility was that children would pick randomly, representing the stimuli's proportions in their picking. Another possibility was that children would express ingroup preferences (see Renno & Shutts, 2015). A third possibility was that children would reflect real-world patterns of underrepresentation in leadership, selecting lighter-skinned and/or boy students (see Dunham et al., 2007; Newheiser et al., 2014 for related findings on children's high-status biases). After the election task, we asked children to draw a "leader."

2.1 | Methods

2.1.1 | Participants

Participants were 108 5- to 10-year-old children (50 girls, 58 boys, M_{age} = 7.50 years, SD = 1.72 years). All children completed the Election Task and 94 completed the Drawing Task (10 boys and two girls opted out of the Drawing Task). We recruited participants from four schools (n = 66) and two community centers (n = 39) in Chennai, India. All children who wanted to participate were tested; a sensitivity power analysis revealed 76% statistical power. Families of children from community centers earned less than RS 10,00,000 (~15,000 USD) annually; families of children from schools earned an annual income of RS 50,00,001–75,00,000 (~77,000–116,000 USD). We were advised by our school and community center partners not to inquire about skin tone or caste as this would be considered atypical and potentially insensitive.

2.1.2 | Materials

In the Election Task, a PowerPoint slide depicted 20 images of students varying in race/skin tone[1] and gender: six darker-skinned South Asian (Dark-SA) students (30%), six lighter-skinned South Asian students (Light-SA), four Black students (20%), and four White students (20%). Within each race/skin tone, half of students were boys and half were girls. We thought carefully about how to select these proportions: one approach was to present the same number of students per race/skin tone group. An alternative was to present proportions that matched children's local environment (i.e., nearly 100% South Asian students). We compromised by presenting a majority of South Asian students, better representing children's local environment but including enough White and Black students to assess children's attitudes across racial groups. Images were matched on perceived age and attractiveness using adult ratings (Table S1). Materials for the Drawing task included a sheet of paper and a pencil.

TABLE 1 Election task position descriptions

Position	Description
President	The President of the class is responsible for all of the important decisions for the class, so the President has to be really good at making decisions.
Treasurer	The Treasurer is responsible for all of the money for the class, so the Treasurer has to be really good at math.
Welcomer	The Welcomer is responsible for welcoming the little kids to school in the morning, so the Welcomer has to be really good at making others feel happy.
Notetaker	The Notetaker is responsible for writing down what everyone else says, so the Notetaker has to be really good at listening.

Note: Full descriptions of the positions introduced in the Election Task.

2.1.3 | Procedure

The procedure was approved by our university's Institutional Review Board and conducted by two Indian experimenters (one local). Children participated in the Election task and the Drawing task in a fixed order. We tested the novel Election Task first to avoid potential priming effects from eliciting children's mental representation of a leader in the drawing task (note that in Experiment 2, we tested the Drawing Task in isolation and replicated the results).

Election task

Children viewed a yearbook depicting 20 images of students (displayed in one of three pseudo-randomized orders) and heard about four classroom positions (Table 1). Children predicted which student had been chosen for each position. Participants first were asked to predict which student would be chosen as President. We presented this position first because our primary interest was children's leadership judgments and because we were testing a novel method in a new setting. Moreover, this design choice reflects the typical structure of ballots, in which the highest position of power is listed first. Next, to examine whether children's attitudes varied across other domains, we asked children which student they thought would be chosen as the Treasurer, Welcomer, and Notetaker (in counterbalanced order). Last, we asked children which position they would want ("Own choice").

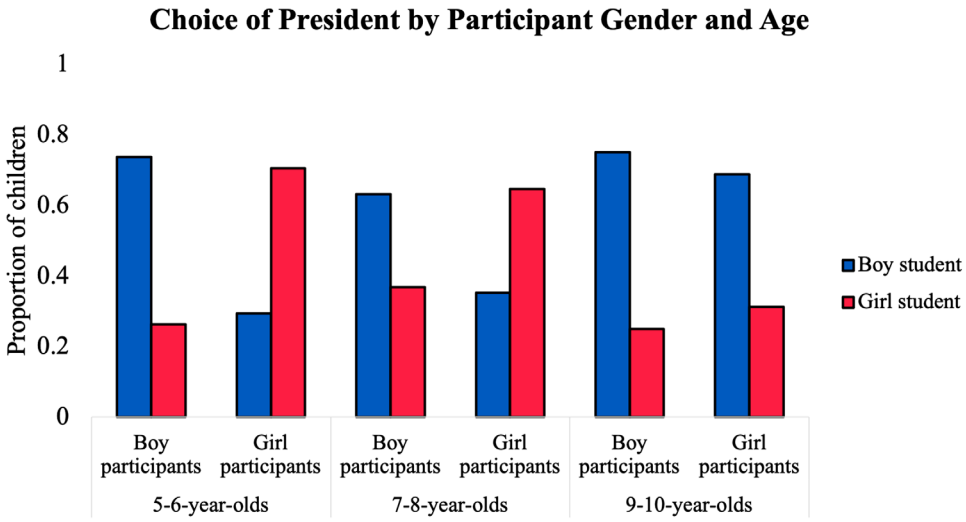

FIGURE 1 Choice of President by participant gender and age in the Election Task.
Note: The proportion of children who chose boy and girl students as President, by participant age (5 to 6-year-olds, 7 to 8-year-olds, 9 to 10-year-olds) and gender (boy participants, girl participants). Age is depicted categorically for presentation purposes; age was treated as a continuous variable in all analyses

Drawing task

Based on the "Draw-a-Scientist" test (Chambers, 1983; for a review, see Miller et al., 2018), we gave children 2 min to draw a "leader" ("someone who is really good at leading other people") and then asked who they drew.

2.2 | Results

2.2.1 | Election task

For each position (i.e., President, Treasurer, Welcomer, and Notetaker), we considered the gender and race/skin tone of the chosen student and whether participants' selections depended on their own gender and age. Preliminary analyses revealed no differences between community centers and schools, all p's > 0.700. Chance picking by gender would result in children choosing girl and boy students 50% of the time each. Chance picking by race/skin tone would result in children choosing Dark-SA students 30% of the time, Light-SA students 30% of the time, Black students 20% of the time, and White students 20% of the time. Below, we first separately analyze the influence of gender and race/skin tone on children's choices and next examine children's intersectional (gender-race/skin tone) choices.

Student gender

Overall, 58% of children chose a boy student for President (not different from chance, Binomial Exact Test $p = 0.101$), 55% of children chose a boy student for Treasurer (not different from chance, $p = 0.387$), 36% of children chose a boy student for Welcomer (below chance, $p = 0.006$), and 47% of children chose a boy student for Notetaker (not different from chance, $p = 0.149$). To examine children's likelihood of choosing students of their own gender for each of the four positions (Figure 1; Table S2), we used the "glmer" function in R's lme4 package (Bates et al., 2015) to construct a generalized linear mixed effects model with a binomial distribution and a random intercept for each participant. As predictors, we included participant age, gender, position, and the interaction between participant gender and position.

The overall interaction was not significant (likelihood ratio test: $\chi^2(3) = 7.44$, $p = 0.059$). Of primary interest to us was whether rates of choosing one's own gender varied by participant gender within and across positions. We examined this using R's emmeans package (Lenth et al., 2020) and Tukey corrections. Boys were significantly more likely than girls to select gender-ingroup students as President, OR = 2.61, $p = 0.018$. In contrast, boys and girls were equally likely to select gender-ingroup students for the three other positions, all p's > 0.144 (Table S3). Moreover, boy participants were more likely to select boy students for President than for Welcomer (OR = 4.29, corrected-$p = 0.002$) or Notetaker (OR = 2.79, corrected-$p = 0.044$) but not Treasurer (OR = 2.42, corrected-$p = 0.107$). In contrast, girl participants selected girl students at equal rates across positions, all corrected-p's > 0.931 (Table S4). Given the difference between boys' and girls' choices for President, we tested whether this pattern changed with age by comparing the youngest and oldest children in our sample. Whereas both 5–6-year-old boys and girls were somewhat more likely to favor their own gender for President (Binomial Exact Test $p = 0.034$ and $p = 0.058$, respectively), this pattern persisted among 9–10-year-old boys ($p = 0.041$) but not among 9–10-year-old girls, $p = 0.210$ (Figure 1).

Student race/skin tone

To contrast children's likelihood of choosing each race/skin tone group across positions (while accounting for groups' different base rates in the stimuli), we conducted McNemar's tests using Bonferroni-Holm adjusted p-values (Table S5). Overall, 53% of children chose a Light-SA

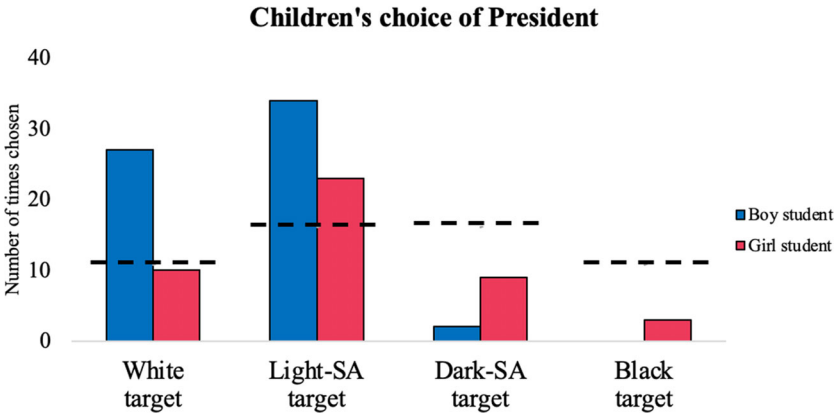

FIGURE 2 Children's selections for President in the Election Task in Experiment 1.
Note: The number of times each gender-race/skin tone pairing was chosen as President (the black lines represent chance) in Experiment 1

student as President and 34% chose a White student as President (both above chance, Binomial Exact Test *p's* < 0.001). Children were more likely to choose a Light-SA student for President than for the other positions (Treasurer, $\chi^2(1) = 14.01$, $\alpha = 0.010$, $p < 0.001$; Welcomer, $\chi^2(1) = 7.78$, $\alpha = 0.013$, $p = 0.005$; Notetaker, $\chi^2(1) = 17.23$, $\alpha = 0.008$, $p < 0.001$) but were no more likely to choose a White student for President than for the other positions (Treasurer, $\chi^2(1) = 3.89$, $\alpha = 0.010$, $p = 0.048$; Welcomer, $\chi^2(1) = 3.89$, $\alpha = 0.013$, $p = 0.066$; Notetaker, $\chi^2(1) = 4.45$, $\alpha = 0.008$, $p = 0.035$).

In contrast, 3% of children chose a Black student as President and 10% chose a Dark-SA student as President (both below chance, Binomial Exact Test *p's* < 0.001). Children were less likely to select a Black student for President than for the other positions (Treasurer, $\chi^2(1) = 12.04$, $\alpha = 0.013$, $p < 0.001$; Welcomer, $\chi^2(1) = 7.04$, $\alpha = 0.008$, $p = 0.008$; Notetaker, $\chi^2(1)$ 12.04, $\alpha = 0.013$, $p < 0.001$). Children were less likely to choose a Dark-SA student as President than as Notetaker ($\chi^2(1) = 7.782$, $\alpha = 0.008$, $p = 0.005$) but not Treasurer ($\chi^2(1) = 5.04$, $\alpha = .010$, $p = 0.025$) or Welcomer ($\chi^2(1) = 3.89$, $\alpha = 0.013$, $p = 0.048$).

We next contrasted children's *comparative* rates of choosing Light-SA, Dark-SA, Black, and White students across positions, again taking into account the different base rates (Table S6). Children chose Light-SA students over Dark-SA and Black students at greater rates for President than for Treasurer (*Dark-SA*: $\chi^2(1) = 15.49$, $\alpha = 0.010$, $p < 0.001$; *Black*: $\chi^2(1) = 23.81$, $\alpha = 0.010$, $p < 0.001$), Welcomer (*Dark-SA*: $\chi^2(1) = 9.42$, $\alpha = 0.013$, $p = 0.002$; *Black*: $\chi^2(1) = 13.45$, $\alpha = 0.013$, $p < 0.001$), and Notetaker (*Dark-SA*: $\chi^2(1) = 20.64$, $\alpha = 0.008$, $p < 0.001$; *Black*: $\chi^2(1) = 27.27$, $\alpha = 0.008$, $p < 0.001$). Participants also chose White students over Dark-SA and Black students at greater rates for President than for Treasurer (*Dark-SA*: $\chi^2(1) = 9.81$, $\alpha = 0.010$, $p = 0.002$; *Black*: $\chi^2(1) = 17.58$, $\alpha = 0.010$, $p = 0.001$), Welcomer (*Dark-SA*: $\chi^2(1) = 8.08$, $\alpha = 0.013$, $p = 0.004$; *Black*: $\chi^2(1) = 12.66$, $\alpha = 0.013$, $p < 0.001$), and Notetaker (*Dark-SA*: $\chi^2(1) = 12.83$, $\alpha = 0.008$, $p < 0.001$; *Black*: $\chi^2(1) = 18.69$, $\alpha = 0.008$, $p < 0.001$). Across positions, participants chose Light-SA and White students at equivalent rates (all *p*'s > 0.238) and c0hose Black and Dark-SA students at eq0uivalent rates (all *p*'s > 0.342).

Student intersectional identity

For each position, we compared children's intersectional choices (each gender–race/skin tone pairing) to chance using Binomial Exact Tests. For President, children chose Light-SA and White boy students above chance (*p's* < 0.001) and chose Dark-SA boy students, Black boy students, and Black girl students below chance ($p < 0.001$, $p < 0.001$, and $p = 0.009$, respectively) (Figure 2). For Treasurer, children chose between all intersectional identities at chance (all *p*'s > 0.110). For Welcomer, children chose Black girl students above chance ($p = 0.020$) and Dark-SA and Black boy students below chance ($p = 0.004$ and $p = 0.047$). For Notetaker, children chose Black girl students above chance ($p = 0.010$). Children's rates of choosing all other gender-race/skin tone pairings did not differ from chance, (all *p*'s > 0.075; Table 2). We did not have adequate power to pursue pairwise comparisons between rates of choosing intersectional identities.

Own choice

When asked which position they would want, 48% of children said President (above chance, Binomial Exact Test $p < 0.001$), 19% said Treasurer (not different from chance, $p = 0.212$), 18% said Welcomer (not different from chance, $p = 0.087$), and 15% said Notetaker (below chance, $p = 0.012$). Children's own choices did not differ by age or gender.

2.2.2 | Drawing task

Overall, 69% of children drew a man[2], 27% of children drew a woman, and 4% of children drew someone/something whose gender could not be identified. Whereas girl participants drew both men and women (42% drew men; 52% drew women), not a single boy participant drew a woman leader (Figure 3); Fisher's Exact Test $p < 0.001$. Participants' age did not predict their likelihood of drawing someone in their gender-ingroup, $p = 0.253$.

2.3 | Discussion

Children most often chose lighter-skinned South Asian and White boy students as President. Moreover, children chose darker-skinned South Asian and Black students *below* chance. Whereas younger children generally showed an own-gender bias for President, by age 9, both boys and girls tended to choose boys as President. An association between

TABLE 2 Children's choices across positions in the Election Task

	President (%)	Treasurer (%)	Welcomer (%)	Note-taker (%)
White Boy (chance = 10%)	25↑	8	7	8
White Girl (chance picking 10%)	9	12	14	11
Light-SA Boy (chance picking 15%)	31↑	11	19	10
Light-SA Girl (chance picking 15%)	21	16	15	14
Dark-SA Boy (chance picking 15%)	2↓	14	6↓	19
Dark-SA Girl (chance picking 15%)	8	12	18	10
Black Boy (chance picking 10%)	0↓	12	5↓	9
Black Girl (chance picking 10%)	3↓	15	17↑	18↑

↑*above chance picking.*
↓*below chance picking.*
Chance determined by proportion of faces in yearbook stimuli.
Note: The percentage of children choosing each gender-race pairing for each position.

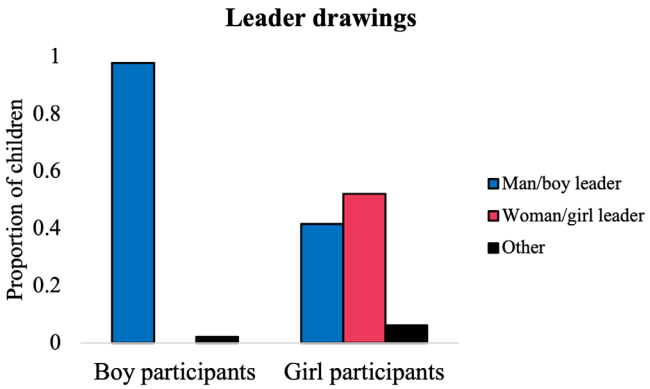

FIGURE 3 Leader drawings by leader gender in Experiment 1.
Note: The observed proportion of boy and girl participants whose leader drawings were men, women, and other

lighter-skinned boys and President was specific to President; children were less systematic in their choices for the other positions. Children's drawings also revealed an association between leaders and men. Indeed, not a single boy drew a woman leader. In Experiment 2, we assessed whether children's tendency to draw men was specific to male-stereotyped positions.

3 | EXPERIMENT 2

We compared children's representations of leaders to their representations of scientists and helpers. We chose "scientist" given decades of research using the "Draw-a-Scientist" task (Chambers, 1983; for a review, see Miller et al., 2018) and because science is generally portrayed as masculine (Cheryan et al., 2017; Diekman et al., 2017). We chose "helper" because it may not be perceived as stereotypically masculine; by age 6, children perceive women as nicer than men (Bian et al., 2017).

3.1 | Methods

3.1.1 | Participants

A new group of participants included 84, 5 to 10-year-old children (39 girls, M_{age} = 7.52 years, SD = 1.68 years) recruited from two schools (n = 63) and two community centers (n = 24) in Chennai, India. Three additional children were excluded for providing no descriptions of their drawings. All children who wanted to participate were tested and a sensitivity power analysis revealed 83% statistical power.

3.1.2 | Materials

Materials included three sheets of paper and a pencil.

3.1.3 | Procedure

In counterbalanced order, we asked children to draw a *Leader* ("someone who is really good at leading other people"), a *Scientist* ("someone who is really good at science and math"), and a *Helper* ("someone who is really good at helping other people").

3.2 | Results

For *Leader*, 63% of children drew a man, 33% drew a woman, and 4% drew someone/something whose gender was unidentifiable. For *Scientist*, 68% of children drew a man, 29% drew a woman, and 3% drew someone/something whose gender was unidentifiable. For *Helper*, 49% of children drew a man, 48% of children drew a woman, and 3% drew someone/something whose gender was unidentifiable.

To contrast children's likelihood of drawing someone from their gender-ingroup as *Leader*, *Helper* and *Scientist*, we constructed a

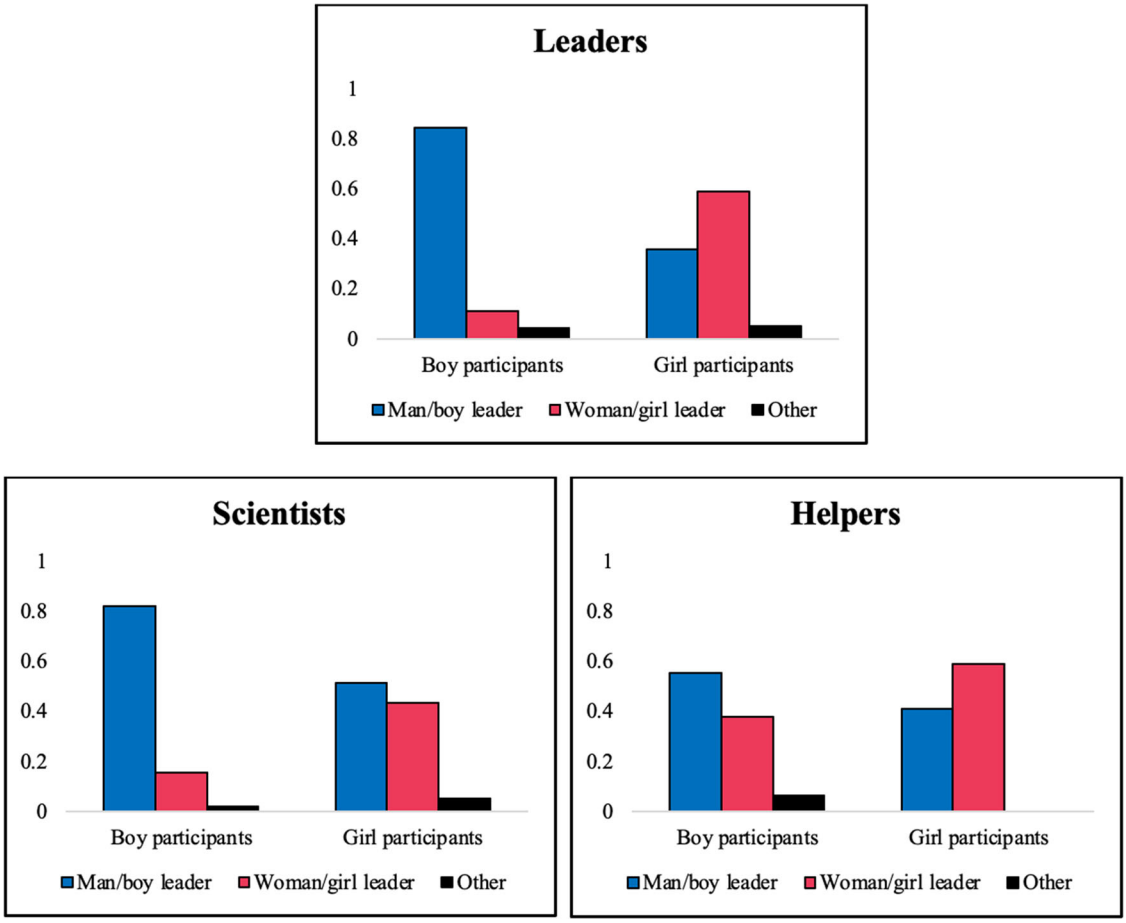

FIGURE 4 Drawings of Leaders, Scientists, and Helpers, by participant gender in Experiment 2.
Note: The observed proportion of boy and girl participants who drew men, women or other as leaders (top), scientists (bottom left), and helpers (bottom right)

generalized linear mixed effects model with a binomial distribution and a random intercept for each participant, with drawing type (*Leader*, *Helper*, *Scientist*), participant age, and participant gender as predictors (additionally considering these factors' interactions). There was a significant interaction between participant gender and age (likelihood ratio test: $\chi^2(1) = 4.77$, $p = 0.029$). With age, girls, but not boys, were decreasingly likely to draw someone from their gender-ingroup.

There was also a significant interaction between participant gender and drawing type (likelihood ratio test: $\chi^2(2) = 8.23$, $p = 0.016$). We contrasted boys' and girls' likelihood of drawing someone who shared their gender within and across drawing types using R's emmeans package (Lenth et al., 2020) and Tukey corrections. Boys were more likely than girls to draw someone from their gender-ingroup for *Leader* (OR = 4.95, corrected-$p = 0.010$) and *Scientist* (OR = 7.30, corrected-$p < 0.001$). In contrast, girls and boys were equally likely to draw someone from their gender-ingroup for *Helper* (OR = 1.06, corrected-$p = 0.908$). Moreover, boys were more likely to draw men as leaders and scientists than as helpers (*Leader* vs. *Helper*, OR = 5.49, corrected-$p = 0.010$; *Helper* vs. *Scientist*, OR = 0.266, corrected-$p = 0.036$). In contrast, girls' likelihood of drawing women did not differ across the three drawings, corrected-p's > 0.291 (Figure 4; Table S7).

3.3 | Discussion

Children again drew men more often than women as leaders. Children also drew men more often than women as scientists but not as helpers. Boys were more likely than girls to draw people from their gender-ingroup as leaders and scientists. In contrast, boys and girls were equally likely to draw someone from their gender-ingroup as helpers. Thus, children evaluated each position through a lens sensitive to patterns of representation in the world.

4 | GENERAL DISCUSSION

When presented with two tasks to assess their leadership cognition, children in India demonstrated pro-male and pro-light-skin biases. In a novel Election Task, children conferred the position "president" to lighter-skinned South Asian and White boys. In a Drawing Task, children more often drew men than women as "leaders," and boys were more likely than girls to draw someone from their gender-ingroup. Whereas children over-picked lighter-skinned South Asian and White boys for President, they did not do so for the other classroom positions,

and children's tendency to draw men extended to their drawings of scientists but not helpers.

Gendered considerations of leadership emerged early in development. This finding is noteworthy given that India ranks seventh globally in number of years with a woman as head of state (World Economic Forum, 2021). Indeed, children in this sample lived in a state in which a woman, Jayaram Jayalalithaa, recently occupied the highest position of state government, serving six times for a total of 14 years. It was possible that women's visibility in the highest position of government would shield young children (who showed an ingroup gender bias) from forming an association between men and leadership. Yet, the present results suggest children may attend to broader cultural attitudes and patterns of underrepresentation. A complementary possibility is that even when women *are* leaders, they are perceived as exceptions to the norm or viewed through a gendered lens. For example, Jayalalithaa was commonly referred to as "Amma," meaning "mother."

Children's association of lighter skin with leadership is striking considering darker-skinned South Asians are the numerical majority in Chennai (Sarkar & Nandineni, 2018). Although children in this region may rarely interact with lighter-skinned South Asian or White individuals, children may absorb messages about fair skin through media and negative rhetoric surrounding darker skin (e.g., telling children not to play in the sun for fear of them becoming dark or explicitly commenting on skin-tone; Karan, 2008). By extending beyond Western samples (Amir & McAuliffe, 2020), the present findings extend research on race by highlighting skin tone as a social category marker that guides children's developing social cognition.

Understandably, developmental research conducted in the United States has primarily considered psychological conceptions of distinct racial group boundaries (e.g., Black, White; but see Dunham & Olson, 2016; Dunham et al., 2016). The present findings underscore the importance of considering the development of colorism, particularly across global contexts, and of understanding how children in India (and beyond) conceptualize skin tone. For instance, open questions include whether children construe lighter and darker skin tones as discrete categories or as existing along a continuum. In Hindi, "kala" translates to both Black and darker-skinned people and "gora" refers to both White and lighter-skinned people, pointing to potential areas of inquiry regarding whether children represent within-category variation in skin tone along the same continuum as they do Black and White race categories.

The present results also raise questions about children's leadership cognition. It remains unclear whether children's predictions reflected their own preferences or an awareness of others' preferences (e.g., voter bias). Relatedly, our findings revealed a disconnect between children's predictions and aspirations; boys and girls were equally likely to want to be President. Open questions involve when and how children's leadership attitudes inform their own aspirations. Other questions concern differences in the developmental trajectories of children's leadership concepts. Here, an association between leadership and lighter skin emerged earlier than an association between leadership and men. One possibility is that observing more variance in leader gender (vs. race/skin tone) buffered children from a gendered leadership cognition.

Future research could also explore the intersection of a broader range of social categories (e.g., religion, language; Ellwood-Lowe et al., 2020) and other aspects of children's identities (e.g., skin tone) in shaping leadership cognition. The present findings underscore that children's developing leadership cognition reflects intersectional considerations, and future research might unpack these patterns further (see also Ghavami et al., 2016; Santos & Toomey, 2018). In light of gendered and racial gaps in leadership, identifying the roots of leadership attitudes can contribute to an understanding of the mechanisms that shape these beliefs into adulthood.

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CONFLICT OF INTEREST

The authors have no conflicts of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the first author, RS, upon reasonable request.

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ENDNOTES

[1] The phrase "race/skin tone" encompasses the inclusion of Black, South Asian and White children, as well as lighter- and darker-skinned South Asian children

[2] For simplicity, we use "man" to denote drawings of boys and men and "woman" to denote drawings of girls and women.

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