

# Should Leaders Conform? Developmental Evidence From the United States and China

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Leadership is inextricably embedded in human groups. One central obligation of leaders is to embody the identity of their group by acting in line with group norms. Yet little is known about how leadership and conformity are initially associated in people's minds, how this association develops in childhood, and how cultural values shape this association. The present research tested 4- to 11-year-olds in the United States and China to address these questions by comparing children's evaluations of a leader's versus an ordinary group member's nonconformity. In Experiments 1 and 3 ( $N = 114$  and  $116$ , respectively), children saw two novel groups engage in distinct behaviors (e.g., listening to different kinds of music). A leader or a nonleader acted against their respective group norms. Next, children provided evaluations of the nonconformity. In both populations, whereas younger children (4- to 7-year-olds) evaluated the leader's nonconformity more positively relative to the nonleader's, older children (10- to 11-year-olds) evaluated the leader's nonconformity more negatively. Notably, children in China developed more negative attitudes toward a leader's nonconformity than children in the United States. Experiment 2 ( $N = 66$ ) ruled out the possibility that younger children's favorable evaluations of the leader's nonconformity stemmed from their general positivity toward leaders. Taken together, children in the two countries gradually conceptualize leaders as central group members and expect them to follow group norms. These findings contribute to theories on early leadership cognition and highlight the importance of taking a cross-cultural approach to understand its development.

## Public Significance Statement

Every now and then, leaders ranging from chief executive officers to presidents, violate their respective group norms, resulting in serious transgressive acts and group malfunction. Does leadership provide freedom to deviate, or should leaders follow group norms? We addressed this question in childhood to explore the early representation of leadership and conformity. Our studies asked 4- to 11-year-old children to evaluate nonconforming behaviors performed by a leader or an ordinary group member. We found that younger children granted more tolerance toward a leader's deviance than a nonleader's, whereas children at age 10 began to disapprove the leader's nonconformity. This pattern held in two different countries, the United States and China, although children in China developed more negative attitudes toward a leader's norm violations. These results suggest that following group norms is a critical aspect of leadership that takes root in childhood and may hold across societies.

**Keywords:** leadership, norm violation, prescriptive evaluation, development, cross-cultural

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The data, syntax, and study materials for the experiments are available on Open Science Framework: <https://osf.io/w5ptq> (Tian & Bian, 2022). Some of

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When you were made a leader, you weren't given a crown, you were given the responsibility to bring out the best in others. (Jack Welch, CEO of Former General Electric [GE])

Leadership is inextricably embedded in groups throughout the history and across all human cultures. Leaders are privileged in social ranks within groups, yet leaders are also members of the groups they lead (e.g., A basketball captain both leads the team and is a team member). From early in life, children identify social groups and expect group members to follow their respective ingroup norms (e.g., [Bian & Baillargeon, 2022](#); [Cooley & Killen, 2015](#); [Roberts et al., 2017](#); [Schmidt et al., 2012](#)). However, group leaders in the real world, ranging from chief executive officers to presidents, commit norm violations every now and then, resulting in serious transgressive acts and group malfunction ([Carreyrou, 2018](#); [Ditrich et al., 2019](#)). How does leadership and conformity initially represent in people's minds? Do young children expect leaders to conform? Early beliefs about leadership and conformity may guide children's elections of leaders and their own leadership strategies, which is likely to be carried into adulthood influencing future leadership sphere. Here, we investigated early representation of leadership in group contexts, as indexed by children's evaluations of leaders' (vs. nonleaders') nonconformity. We tested children from two cultural contexts, the United States and China, to examine the influence of cultural values on early developing concepts of leadership.

As early as infancy, children attend to a number of cues to make inferences of hierarchical relations among individuals ([Brey & Shutts, 2015](#); [Charafeddine et al., 2015](#); [Enright et al., 2020](#); [Gazes et al., 2017](#); [Gülgöz & Gelman, 2017](#); [Heck, Bas, & Kinzler, 2022](#); [Mandalaywala et al., 2020](#); [Mascaro & Csibra, 2012](#); [Pun et al., 2016](#); [Terrizzi et al., 2019](#); [Thomsen et al., 2011](#); [Zhang et al., 2021](#)). Infants expect a larger character to win in a conflict with a smaller character ([Thomsen et al., 2011](#)) and members of numerically larger groups to prevail over members of numerically smaller groups ([Pun et al., 2016](#)). Infants in the second year of life recognize individuals who exert influence over others as leaders and expect them to rectify unfair distributions of resources ([Stavans & Baillargeon, 2019](#)). By preschool age, children infer that individuals who provide instructions as opposed to seeking information are more likely to be "in charge" ([Brey & Shutts, 2015](#)) and that members of numerically smaller groups are more likely to be leaders ([Heck, Bas, & Kinzler, 2022](#)).

Recent research further suggests that children distinguish between at least two different forms of hierarchical relations (see [Heck, Shutts, & Kinzler, 2022](#) for a review): dominance-based and prestige-based ([Cheng et al., 2013](#); [Hawley, 2015](#); [Henrich & Gil-White, 2001](#)). These two types of hierarchical relations are also referred to as "power-based" and "status-based," respectively ([Anicich et al., 2016](#); [Hays & Bendersky, 2015](#); [Magee & Galinsky, 2008](#)). In dominance-based hierarchies, the dominant often achieves their own goals at the expense of others in a zero-sum interaction via physical coercion or intimidation ([Savin-Williams, 1979](#); [Van Vugt & Smith, 2019](#)). In contrast, in prestige-based or leadership-based hierarchies, high-rank individuals are often acknowledged as leaders who acquire status through others' respect and admiration ([Henrich & Gil-White, 2001](#); [Rai & Fiske, 2011](#)). Infants in the second year of life readily distinguish dominant characters from leaders, such that they expected followers to obey a leader's order even when they were absent, but to reject a bully's order in their absence ([Margoni et al.,](#)

2018). This distinction seems to be strengthened over development ([Heck, Bas, & Kinzler, 2022](#); [Kajanus et al., 2020](#)). For example, although children as young as age five inferred that followers would approach a prestigious character and avoid a dominant character, the ability to make these distinctive inferences improved with age ([Kajanus et al., 2020](#)).

Our experiments built on these findings in a new direction to determine whether and when children expect leaders to comply with group norms. As noted above, past work on early leadership cognition has primarily focused on the status differences between leaders and followers, overlooking the fact that leaders are also group members by nature. It is plausible that children in such scenarios perceive leaders solely as high-status individuals rather than being part of their respective groups. However, being a group member is an essential element of being a leader, thus early leadership cognition is likely to be informed by recognizing a leader's identity as a group member. By including this crucial missing piece in the present studies and examining children's evaluations of a leader's nonconformity, we can provide a more complete picture of early representations of leadership. A developmental approach can reveal how leadership is initially represented in people's minds, as well as *when* and *how* children develop a more sophisticated understanding of leadership to encompass its group-related characteristics. Because early intuitive theories and societal input interact with one another in complicated ways in adults' minds ([Shtulman & Lombrozo, 2016](#)), studying children developmentally provides a unique lens into the mechanisms shaping leadership cognition. More broadly, group memberships and hierarchical relations are two basic relational forms working together to structure human life ([Baillargeon et al., 2015](#); [Garfield et al., 2019](#); [Rai & Fiske, 2011](#)), yet most developmental research to date has examined children's reasoning about groups or leadership separately. By investigating children's beliefs about leaders' behaviors in group contexts, our research speaks to children's cognitive capacity of considering two relational forms simultaneously to navigate their social environments.

Previous research on children's group cognition shows that from early on, children learn, obey, and enforce group norms. In first-party tasks, children act in accordance with group norms ([Corriveau et al., 2009](#); [Corriveau & Harris, 2010](#); [Fusaro & Harris, 2008](#); [Haun & Tomasello, 2011](#); [Legare et al., 2015](#); [Walker & Andrade, 1996](#)). For example, 4-year-olds accepted an incorrect answer after being informed that their ingroup members agreed to the answer unanimously ([Haun & Tomasello, 2011](#)). In third-party tasks, children believe that members of a group should conform to their respective group norms and negatively evaluate nonconforming members ([Bian & Baillargeon, 2022](#); [Cooley & Killen, 2015](#); [Roberts et al., 2017](#); [Schmidt et al., 2012](#)). For example, when children were introduced to two novel groups displaying distinct group norms, they disapproved members who violated their ingroup norms ([Roberts et al., 2017](#)). The preceding results highlight a general tendency to enforce group norms in early childhood. Open questions concern whether children perceive a leadership-based hierarchical landscape within a group and enforce norms on group leaders.

Because of the scarcity of developmental data on this topic, we look to adults' judgments of leaders' nonconformity, which has yielded mixed results. On the one hand, adults grant leaders with more tolerance to deviate from group norms in some contexts ([Abrams et al., 2008](#); [S. T. Fiske, 2010](#); [Hollander, 1958](#)). This increased tolerance toward leaders could be driven by two considerations. First, leaders have gained more privilege by assuming the leadership role (even

though they may acquire the role via respect and admiration). This increased privilege may permit leaders to deviate, both in their own eyes and in others' eyes (Blader et al., 2016; Galinsky et al., 2008). Second, being innovative is often perceived as a positive and sometimes essential attribute of effective leadership (Fielding & Hogg, 1997; de Moura et al., 2011). Leaders under some circumstances are supposed to challenge the existing system and forge an innovative path that is different from established norms. For example, adults evaluated a *future* leader's nonconformity more favorably relative to an ordinary group member's violation of norms (Abrams et al., 2008).

On the other hand, a large body of findings suggests that adults expect leaders to adhere to group norms. For example, adults expressed stronger affection and more respect to leaders who represented group values than deviant leaders (Hains et al., 1997; Platow & van Knippenberg, 2001). Similarly, psychology undergraduate students provided more negative evaluations of a nonconforming leader, Chair of the Psychology Society, than a nonconforming student (Abrams et al., 2008; see also de Moura et al., 2011). These findings align with the social identity theory of leadership (Hogg & van Knippenberg, 2003), which indicates that leaders are exemplars of their respective groups and thus are expected to act in accordance with group norms (Eagly et al., 1995; A. P. Fiske, 1992).

Although no studies have directly examined early beliefs about leaders' adherence to group norms, developmental research provides distant support suggesting that children may shift from tolerating leaders' nonconformity to protesting it. Infants expect individuals with privileged influence to achieve their own goals at the expense of sacrificing others' goals (Thomsen et al., 2011). However, 5-year-old children expect a leader to contribute more resources than a non-leader in collaborative contexts (Stavans & Diesendruck, 2021), suggesting that children gradually attribute stronger responsibilities rather than increased entitlement to leaders. These findings accord with the changes in children's own leadership behaviors, such that they become more likely to employ prosocial and cooperative strategies to elicit respect from others in order to gain leadership over elementary school years (Hawley, 1999, 2002; also see Redhead et al., 2019). Thus, children may gradually recognize conformity is a crucial aspect of leadership and expect leaders to follow group norms. As a result, they would become increasingly negative about a leader's violations of group norms with age.

The present research took a cross-cultural approach to examine this possibility by including children from China and the United States. Social psychological research on leadership has been primarily focused on adults in Western cultures (Avolio, 2007), making it difficult to identify cultural mechanisms underlying leadership cognition. Exploring how children in different cultural contexts construe leadership will shed light on how cultural values give rise to nuanced expectations of leader actions across development. A common framework that has been widely used to characterize cultures is "individualism" v.s. "collectivism" (e.g., A. P. Fiske et al., 1998; Markus & Kitayama, 1991; Triandis, 1995). Specifically, Western cultures including the United States, are described as more individualistic, such that they value autonomy and independence, and promote self-expression and independent self-concepts. In contrast, Eastern Asian cultures including China, are described as more collectivistic, such that they value social relations and foster relatedness and responsibilities to the community.

This overall characterization is overly simplistic as independence and interdependence often coexist in most cultures, cultural values

are dynamic rather than static, and there are large variations within societies (Oyserman et al., 2002; Raeff, 2010; Talhelm et al., 2014). However, this framework has guided much of the cross-cultural work on leadership cognition (Kajanus et al., 2020; Stamkou et al., 2019; Zhong et al., 2006). In line with an emphasis on independence, leaders in Western cultures are expected to blaze the trail by introducing and implementing positive innovations (Bray et al., 1982; Grint, 2005). In contrast, Eastern Asians expect leaders to take care of the community and protect group identity (Menon et al., 2010). For example, Eastern Asians held more favorable attitudes toward leadership that prioritized group protection than Westerners (House et al., 2004). Similarly, leaders who violated norms were more likely to lose followers' support and eventually their status in interdependent than independent cultures (Stamkou et al., 2019). These cultural values may be reflected in socialization processes in children's home and school environments (Tamis-Lemonda et al., 2008) that can shape children's leadership beliefs. For example, adults from the United Kingdom encourage their children to stand up for themselves to win high social status, whereas Chinese parents and teachers praise children who hold back their ideas and yield to others, especially those in lower rank to children themselves (Kajanus et al., 2020). From this perspective, relative to children in the United States, children from China might be especially likely to believe that leaders should follow group norms and thus provide more negative evaluations of a leader's nonconformity.

To sum up, the present research was designed to address three interrelated questions: (a) Do children believe that leaders should conform? Specifically, how do children evaluate leaders' (vs. non-leaders') norm violations? (b) How does children's prescriptive evaluation of leaders' nonconformity unfold across development? (c) What are the differences and similarities in U.S. and Chinese children's evaluations of leaders' nonconformity? We tested 4- to 11-year-old children from the United States and China for several important reasons. As noted earlier, children as young as age four show robust sensitivity to leadership markers. Moreover, cultural values seem to shape children's reasoning about social ranks in this age range. When asked whether a prestigious character or a subordinate would win a resource conflict, 5- to 7-year-olds showed no preference; 9- to 12-year-old children from the United Kingdom predicted the prestigious character would win, whereas children in China demonstrated awareness that the prestigious character may yield (Kajanus et al., 2020), aligning with their respective cultural value systems.

We employed a minimal-group paradigm (e.g., Dunham et al., 2011; Roberts et al., 2017; Tajfel et al., 1971) and introduced children to two novel groups displaying distinct group norms. Children provided prescriptive evaluations of nonconforming behaviors performed by either a group leader or an ordinary group member. Presenting two groups at the same time highlights the non-conformist's group membership. This paradigm has been used in past work with 4- to 13-year-olds from the United States and China (Roberts et al., 2018) to assess their reasoning about group norms. Using the same paradigm across a similar age span allows us to conduct a systematic, closely matched comparison of children's construal of leadership and its relation to conformity. Evidence that children evaluate the leader's nonconformity more favorably than the nonleader's would indicate an association between leadership and privilege or distinctiveness. However, evidence that children evaluate the leader's nonconformity more

harshly than the nonleader's would indicate an association between leadership and greater responsibility to embody their group identity.

## Experiment 1

Experiment 1 examined whether children in the United States would consider leadership in their evaluations of nonconformity. Specifically, we recruited 4- to 11-year-old children from the United States and measured their prescriptive evaluations of nonconforming behaviors performed by a group leader or an ordinary group member.

## Method

### Power Analysis

We conducted a priori power analysis (G\*Power 3.1; [Faul et al., 2007](#)) for a regression model with three predictors (i.e., participant age, condition, and their interaction). Based on previous studies published on this topic (e.g., [Roberts et al., 2017](#)), we specified a small-to-medium effect size ( $f^2 = 0.1$ ) with alpha set at .05. The analysis suggested that the minimum number of participants was 114 to provide 80% power to detect significant predictors.

### Participants

Four- to 11-year-old children ( $N = 114$ ,  $M = 7.85$ , standard deviation [ $SD$ ] = 2.16; 56 girls and 58 boys; 61 four- to 7-year-olds and 53 eight- to 11-year-olds) were recruited from the lab database and through the Children Helping Science platform ([childrenhelpingscience.com](#)). Children were from diverse geographic locations in the United States, though we did not formally collect their geographic information.

Prior to the testing session, parents completed an optional demographic questionnaire reporting their child's gender (a free-response box), race/ethnicity, their family income (a free-response box), and primary caregivers' highest level of education. For child's race/ethnicity, parents were provided with six options: American Indian or Alaskan Native, Asian or Pacific Islander, Black or African American, Latino/Hispanic, White American (not of Hispanic origin), and other. If parents chose other, they had the option to specify their child's race/ethnicity in a free-response box. For primary caregivers' highest level of education, parents were provided with six levels to choose from: less than a high school diploma, high school diploma, associate's degree, bachelor's degree (B.A., B.S.), master's degree (MA, M.S.), and professional degree (MD, PhD, etc.).

Ethnicity information was available for 93.9% of our participants. Of these children, 58.9% were White American, 27.1% were Asian American/Pacific Islander, 5.6% were Latino/Hispanic, 1.9% were Black/African American, 1.9% were American Indian or Alaskan, and 4.7% were Multiracial American/Other. Family income information was available for 83.3% of participants. The median household income of these participants was \$115,000 (middle class). According to the economic class categories based on annual household income ([World Economic Forum, 2022](#)), the majority of children came from middle-class families (61.1%), with 12.6% from lower class, and 26.3% from upper class. Parental education information was available for 92.1% of participants. Of these participants, 86.7% have parents holding at least a bachelor's degree. Five additional children were tested but excluded from the final sample because they failed the comprehension check questions (see

below). The research project was approved by the Institutional Review Board at the University of Chicago.

## Materials and Procedure

Due to the COVID-19 pandemic, we conducted this and the following experiments online via Zoom (Experiments 1 and 2) or Tencent Meeting (Experiment 3). In all studies, parents completed an online consent form prior to the testing session, and children provided oral assent. Next, an experimenter asked the parent to remain silent during the study, shared her screen, videotaped the sessions, and recorded children's responses in a Qualtrics survey. At the end of the sessions, children were debriefed and thanked for their participation with a \$5 Amazon gift card.

Participants received either a leader or a nonleader condition. In both conditions, children were introduced to two novel groups simultaneously, each of which consisted of three individuals with identical body size. Group membership was marked by distinct outfits (i.e., green stripes, orange triangles) and category labels (i.e., hibles, glerks). Whether hibles were shown on the left or the right side of the screen was counterbalanced. Children were asked to label the two groups to ensure that they could identify the two groups correctly. This minimal-group paradigm was adapted from [Roberts et al. \(2017\)](#).

Next, a target individual who belonged to either the hible or the glerk group (counterbalanced) was present between the two groups. For ease of communication, we use hible in our descriptions. In the leader condition, the target hible was of 1.5 times the body size as other hibles. The experimenter described the target hible as being the leader of the group, "This hible is powerful and in charge of other hibles. Every day, this hible decides how many cookies to give to other hibles." Past work has demonstrated that children infer leadership from physical size and decision-making power ([Enright et al., 2020](#); [Stavans & Baillargeon, 2019](#)).

The nonleader condition was identical with two exceptions. First, the target hible was of the same body size as other hibles. Second, the experimenter described the target hible as an ordinary group member, "This hible has the same power as other hibles. Every day, this hible and other hibles, receive cookies to eat." To assess and reinforce children's understanding of the key information, we asked two comprehension questions (i.e., "Do you think this hible is in charge?" "Do you think other hibles listen to this hible?"). Correct answers were provided after children responded (yes/yes for the leader condition, no/no for the nonleader condition). Five children failed both comprehension checks and were excluded from the final sample.

## Evaluations

Next, children in both conditions received three trials in random order. In each trial, the two groups performed different actions in the domain of music, language, or activities. We chose these actions because they are arbitrary and morally neutral, which allows us to assess children's general evaluations of norm violations. The actions matched with the group in color (e.g., orange outfits corresponded with an orange musical note). This display allowed children to recognize the behavioral norms established in the two groups. Critically, the target hible engaged in behaviors violating the hibles' norms (e.g., the target hible is listening to music more typical



of glerks). We then asked children to evaluate the target hibble's nonconformity (e.g., "Is it good or bad for this [powerful] hibble to listen to this kind of music?"). These questions had been used in past research to elicit children's prescriptive evaluations (e.g., [Bian & Markman, 2020](#)). Children answering "good" were then asked, "Is it a little good, pretty good, or very, very good?" with a scale showing three increasingly smiley faces. Children answering "bad" were then asked, "Is it a little bad, pretty bad, or very, very bad?" with a scale showing three increasingly frowny faces. Overall, these questions were rated on a 6-point scale (1 = *very, very bad* to 6 = *very, very good*).

### Explanations

After evaluating each of the nonconforming behaviors, children were asked to provide justifications. We coded these justifications to probe the reasoning underlying children's prescriptive evaluations of nonconformity. Informed by past work ([Roberts et al., 2017](#)), we reasoned that a tendency to focus on (a) group or (b) individual differences was likely to guide children's judgments of nonconforming behaviors. Based on this theoretical framework, explanations were coded into two categories: (a) group-based (e.g., "That's what the glerks listen to," "The leader should be loyal to other hibbles") and (b) individual-based (e.g., "Because he loves to," "The leader can do whatever he wants"). In each trial, participants received 1 in each category if they provided explanations related to the respective theme and 0 otherwise. The first author and an independent coder who was blind to the hypotheses conducted the coding (Cohen's  $\kappa = 0.91$  and  $0.93$  for group-based and individual-based explanations, respectively). Disagreements were resolved by discussion. We calculated the number of trials that each type of explanation was provided; thus, each participant received two explanation scores (i.e., group-based, individual-based).

### Transparency and Openness

The materials for this experiment, and the data and syntax for all three experiments, are available on Open Science Framework: <https://osf.io/w5ptq> ([Tian & Bian, 2022](#)). This experiment and the following experiments were not preregistered.

## Results and Discussion

### Evaluations

The primary goal of this experiment was to examine whether and how children consider leadership in their evaluations of nonconformity. Preliminary analyses of the data revealed no significant interaction of condition with participant gender or the nonconformist's group label, we thus collapsed the data across these factors. We submitted children's evaluation scores to a mixed-effects ordinal logistic regression model, with condition (leader vs. nonleader), age (continuous), and their interaction as fixed effects and random intercepts for participant and trial (music, toy, language). The analyses yielded a significant Condition  $\times$  Age interaction,  $\chi^2(1) = 12.81$ ,  $p < .001$ , Cohen's  $\omega = 0.34$ . Children evaluated the nonleader's nonconformity more positively with age,  $\chi^2(1) = 5.26$ ,  $p = .022$ , Cohen's  $\omega = 0.31$  ([Figure 1](#), left), which was consistent with past studies on children's evaluations of an ordinary group member's deviance ([Roberts et al., 2017](#)). In contrast, children's evaluations

of the leader's nonconformity became more negative with age,  $\chi^2(1) = 7.93$ ,  $p = .005$ , Cohen's  $\omega = 0.37$  ([Figure 1](#), left). Neither the main effect of age— $\chi^2(1) = 0.93$ ,  $p = .334$ , Cohen's  $\omega = 0.09$ , nor the main effect of condition— $\chi^2(1) = 1.54$ ,  $p = .215$ , Cohen's  $\omega = 0.12$ , reached significance.

As supplementary analyses, we performed a mixed-effects linear regression model with identical predictors to explore the precise age at which children began to draw distinct evaluations of the leader' versus the nonleader' nonconformity. We adopted the Johnson–Neyman "regions of significance" approach ([Johnson & Neyman, 1936](#)). Children provided more positive evaluations of the leader's than the nonleader's nonconforming behaviors until 7.4 years of age ([Figure 1](#), right). Children between the ages of 7.4 and 10.4 provided similar evaluations of the leader' and nonleader's nonconformity. However, starting at 10.4 years of age, children evaluated the leader's nonconformity more harshly. These results suggest that older children ascribe group-based responsibilities to leaders, expect them to comply with group norms, and thus judge their nonconforming behaviors more negatively.

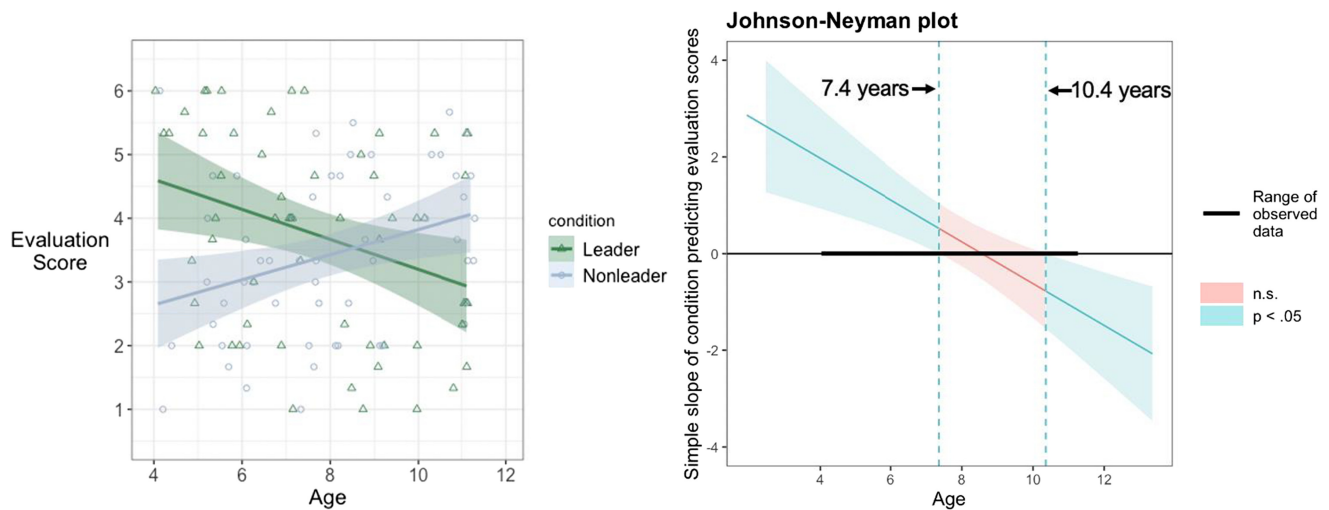
### Explanations

Children's explanation scores were submitted to an ordinal logistic regression model, with explanation category (group-based vs. individual-based), condition (leader vs. nonleader), age (continuous), plus all possible interaction terms as predictors. The three-way interaction was significant,  $\chi^2(1) = 8.81$ ,  $p = .003$ , Cohen's  $\omega = 0.28$ . In line with our prediction that children gradually associate leaders with their respective groups, children in the leader condition became more likely to justify their evaluations by appealing to group-based reasons with age,  $\chi^2(1) = 6.67$ ,  $p = .010$ , Cohen's  $\omega = 0.34$ , whereas their tendency to appeal to individual differences did not vary by age,  $\chi^2(1) = 0.01$ ,  $p = .937$ , Cohen's  $\omega = 0.01$ . In contrast, children in the nonleader condition became more likely to appeal to individual differences with age,  $\chi^2(1) = 4.10$ ,  $p = .043$ , Cohen's  $\omega = 0.27$ , whereas their group-based explanations did not change by age,  $\chi^2(1) = 2.14$ ,  $p = .143$ , Cohen's  $\omega = 0.20$ .

### Moderated Mediation

To further explore whether children's evaluations of leaders' nonconformity were related to their tendency to perceive leaders as representative group members, we performed a conditional process analysis using Model 7 of the PROCESS macro ([Hayes, 2017](#)) in R. Specifically, we expected that children's growing negativity about a leader's nonconformity was due to their increased tendency to apply a group-based (vs. an individual-based) lens to conceptualize leadership. In contrast, this indirect effect should be reversed or absent for children in the nonleader condition.

We first calculated a difference score in children's explanations reflecting their likelihood to appeal to group-based than individual-based justifications. We also calculated an average evaluation score across three trials. Age was entered into the moderated mediation model as the independent variable, with explanation as the mediator and evaluation as the dependent variable; Condition was entered as the moderator ([Figure 2](#)). Consistent with our prediction, this analysis revealed significant condition-moderated effects,

**Figure 1***Evaluations of Nonconformity in Experiment 1 (Children in the United States)*

*Note.* Left: The association between age and evaluation scores (from 1 = very very bad to 6 = very very good) by condition. The lines show the predicted values from a linear regression model predicting children's evaluation scores from age; the circles and triangles represent the data of individual participants; the shaded areas represent 95% confidence interval. Right: The Johnson–Neyman plot of Experiment 1. The line reflects differences in simple slopes of conditions predicting participants' evaluation scores as a function of participant age. See the online article for the color version of this figure.

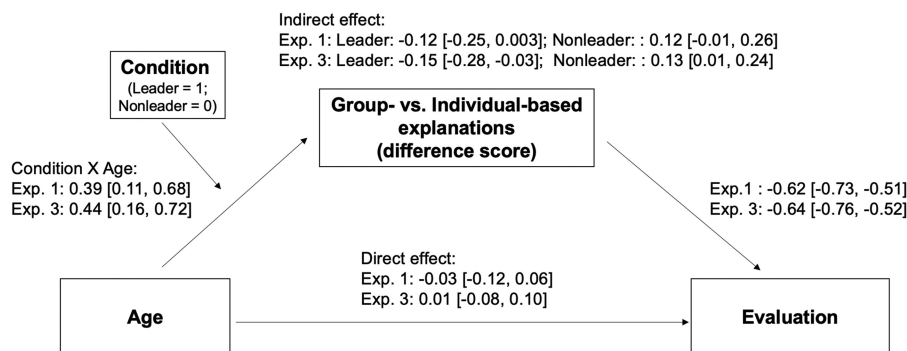
index =  $-0.24$ , standard error ( $SE$ ) =  $0.10$ , 95% confidence interval ( $CI$ ) [ $-0.44$ ,  $-0.06$ ]. In the leader condition, there was a marginal significant indirect effect of age on evaluation via explanation, indirect effect =  $-0.12$ ,  $SE = 0.06$ , [ $-0.25$ ,  $0.003$ ], suggesting that children's increasing disapproval of a leader's nonconformity was related to their increased tendency to perceive leaders as central group members. In the nonleader condition, the indirect effect was marginally significant but in the opposite direction, indirect effect =  $0.12$ ,  $SE = 0.07$ , [ $-0.01$ ,  $0.26$ ]. Because of children's increased awareness of ordinary group members' individual differences, they provided more license to a nonleader's nonconformity with age.

Taken together, despite a general tendency to be more lenient with nonconformity with age, children from the United States gradually

judged a leader's violations of group norms more harshly. As reflected in children's justifications, disapproving a leader's nonconformity was in part due to children's increased tendency to conceptualize leaders as central group members.

## Experiment 2

In Experiment 1, 4- to 7-year-old children expressed more positive attitudes toward a leader's than a nonleader's nonconforming behaviors. This finding was open to an alternative explanation: Perhaps children of this age held a general positivity toward people of high social status (Chen et al., 2018; Shutts et al., 2011) and thus demonstrated favoritism in their evaluations. To address this alternative, children in Experiment 2 were asked to evaluate *conforming*

**Figure 2***Condition-Moderated Mediation of the Age Effect on Children's Evaluations of Nonconformity Through Their Explanations*

*Note.* We report unstandardized coefficients and 95% confidence intervals (in brackets).

behaviors conducted by either a group leader or an ordinary group member. We expected that young children's evaluative advantage for leaders' behaviors would be diminished such that there would be no condition difference.

## Method

### Power Analysis

In Experiment 1, the effect size of the condition difference among the 4- and 7-year-olds was 0.44 (Cohen's  $f^2$ ). Based on this effect size, we conducted a priori power analysis (G\*Power 3.1; [Faul et al., 2007](#)) for a regression model with three predictors (i.e., participant age, condition, and their interaction) with alpha set at .05. The analysis suggested that the minimum number of participants was 21 to provide 80% power to detect significant predictors. Nevertheless, we increased the sample size to 66 to be consistent with Experiment 1. To examine the statistical power of this sample to detect the effect of interest, we also performed a sensitivity analysis. Our hypothesis was that children would provide similar evaluations in the two conditions, thus we calculated the minimum effect size for the condition difference that our sample would allow us to detect in the context of this regression model. The sensitivity analysis indicated that a sample of 66 participants affords 80% power to detect small-to-medium condition effects (Cohen's  $f^2 = 0.12$ ).

### Participants

Four- to 7-year-old children ( $N = 66$ ,  $M = 6.14$ ,  $SD = 1.04$ ; 35 girls and 31 boys) were recruited from diverse locations in the United States, via the lab database and through the Children Helping Science platform ([childrenhelpingscience.com](#)).

Parents received the same demographic questionnaire as in Experiment 1. Race/ethnicity information was available for all the participants. In this sample, 81.8% were White American, 9.1% were Asian American/Pacific Islander, 4.5% were Hispanic/Latino, and 4.5% were multiracial American/other. Family income information was available for 81.8% of participants. The median household income of these children was \$115,000 (middle class). The majority of children (59.3%) came from middle-class families, with 13.0% of children from lower class and 27.8% from upper class. Parental education information was available for 97.0% of participants. Of these participants, 90.6% have parents who held at least one bachelor's degree. Six additional children were excluded from the final sample because they failed the comprehension check questions.

### Materials and Procedure

As in Experiment 1, children received either the leader or the nonleader condition. The materials and procedure were essentially identical to Experiment 1, except that the target hibble in both conditions acted in accordance with their group norms (e.g., The target hibble is listening to the same music as other hibbles). Children were prompted to provide explanations for their evaluations, yet we chose not to consider these justifications as we predicted that children would provide similar evaluations of conforming behaviors by a leader and a nonleader.

## Results and Discussion

As in Experiment 1, we submitted children's evaluation scores to a mixed-effects ordinal logistic regression, with condition (leader vs. nonleader), age (continuous), and their interaction as fixed effects and random intercepts for participant and trial (music, toy, language). There was no evidence for an interaction between condition and age,  $\chi^2(1) = 1.56$ ,  $p = .212$ , Cohen's  $\omega = 0.15$ . The effect of age was marginally significant,  $\chi^2(1) = 3.51$ ,  $p = .061$ , Cohen's  $\omega = 0.23$ , suggesting that children evaluated conforming behaviors slightly more positively with age. More relevant to our argument, children's evaluations of conformity did not differ by condition,  $\chi^2(1) = 0.10$ ,  $p = .750$ , Cohen's  $\omega = 0.04$ . This result was consistent with our prediction that children do not favor leaders over nonleaders when evaluating conforming behaviors (null hypothesis).

However, the alternative account on children's general favoritism toward leaders predicted that children in the leader condition would provide higher evaluations than children in the nonleader condition (experimental hypothesis). To further explore whether these negative results merely failed to reject the null hypothesis or in fact provided evidence for it, we calculated a Bayes factor (BF) using JASP ([JASP Team, 2021](#)). We first calculated the mean evaluation score across the three trials for each participant, and then conducted a Bayesian independent-samples  $t$  test that compared these scores by condition. According to conventional cutoffs, a BF above 3 indicates at least moderate support for a hypothesis ([Beard et al., 2016](#); [Jarosz & Wiley, 2014](#)). Our analysis yielded a BF of 3.70, suggesting that these data were over 3.70 times more likely to occur under the null as opposed to the experimental hypothesis.

These results speak against the possibility that younger children's favorable evaluations of leaders' nonconformity were simply due to their general positive views of individuals with high status. When leaders and nonleaders followed their respective group norms, 4- to 7-year-old children provided similar evaluations of their conformity.

## Experiment 3

In Experiment 3, we took a cross-cultural approach to examine how children growing up in the Chinese culture evaluate a leader's (vs. a nonleader's) violations of group norms. Similar to U.S. children, Chinese children of preschool age are sensitive to leadership markers ([Kajanus et al., 2020](#)). Past work with adults suggests that Chinese culture places emphasis on a leader's role in protecting group identities ([House et al., 2004](#)). Being socialized in this cultural context, we expected children in China to demonstrate earlier and/or stronger sensitivities to leaders' group-based responsibilities, such that they would evaluate a leader's nonconformity more negatively than children from the United States.

## Method

### Participants

Children aged 4 to 11 from China were included ( $N = 116$ ,  $M = 7.90$ ,  $SD = 2.15$ ; 60 girls and 56 boys; 62 four- to 7-year-olds and 54 eight- to 11-year-olds). Child participants were primarily recruited from a middle-sized city in China (Shijiazhuang, Hebei Province). Prior to the testing session, parents completed an optional demographic questionnaire reporting their child's gender (a free-response box), ethnicity (a free-response box), their family income (a free-response box),

and primary caregivers' highest level of education. For primary caregivers' highest level of education, parents were provided with six levels to choose from: less than a high school diploma, high school diploma, associate's degree, bachelor's degree (BA, BS), master's degree (MA, MS), and professional degree (MD, PhD, etc.). Ethnicity information was available for 77.6% of the participants. Of these children, 97.8% identified as Han, 1.1% as Man, and 1.1% as Hui. Family income information was available for 55.2% of participants. The median family income of these participants was 200,000 Chinese yuan (approximately \$31,000, middle class). Similar to the sample of Study 1, children primarily came from middle class (62.5%), with 7.8% from lower-class and 29.7% from upper-class families. Parental education information was available for 77.6% of participants. Of these participants, 61.1% participants have parents who held at least a bachelor's degree. Six additional children were excluded from the final sample because they did not complete the experiment (3), were distracted (1), or failed the comprehension check questions (2).

### Materials and Procedure

The materials and procedure were essentially identical to Experiment 1. The script was translated from English into Chinese by the first author and then back-translated into English by an independent, bilingual translator to ensure accuracy. Any discrepancies between the back-translated script and the original version were resolved through discussion.

As in Experiment 1, we coded children's justifications into two categories: (a) group-based and (b) individual-based. In each trial, participants received 1 in each category if they provided explanations related to the respective theme and 0 otherwise. The first author and an independent bilingual coder who was blind to the hypotheses conducted the coding (Cohen's  $\kappa = 0.83$  and  $0.87$  for group-based and individual-based explanations, respectively). Disagreements were resolved by discussion. The number of trials that each type of explanations was provided was calculated as explanation scores (i.e., group-based, individual-based).

## Results and Discussion

### Evaluations

We submitted children's evaluation scores to a mixed-effects ordinal logistic regression model, with condition (leader vs. nonleader), age (continuous), and their interaction as fixed effects and random intercepts for participant and trial (music, toy, language). Replicating Experiment 1, there was an interaction between age and condition,  $\chi^2(1) = 8.30$ ,  $p = .004$ , Cohen's  $\omega = 0.27$ . Similar to children from the United States, children from China evaluated a leader's nonconformity more negatively with age,  $\chi^2(1) = 3.77$ ,  $p = .052$ , Cohen's  $\omega = 0.25$  (Figure 3, left). Conversely, children judged a nonleader's violations more positively with age,  $\chi^2(1) = 4.74$ ,  $p = .029$ , Cohen's  $\omega = 0.29$  (Figure 3, left). Neither the main effect of age— $\chi^2(1) = 0.02$ ,  $p = .878$ , Cohen's  $\omega = 0.01$ , nor the main effect of condition— $\chi^2(1) = 0.91$ ,  $p = .340$ , Cohen's  $\omega = 0.09$ , reached significance.

Next, we explored the precise age at which children began to draw distinct evaluations in the two conditions with the Johnson–Neyman “regions of significance” approach (Johnson & Neyman, 1936). Children in China provided more positive evaluations of the leader's than the nonleader's nonconforming behaviors until 6.9 years of age (Figure 3, right). Children between the ages of 6.9 and 10.5 provided

similar evaluations of the leader's and the nonleader's deviance. However, starting at 10.5 years of age, children evaluated the leader's nonconformity more negatively than that of the nonleader.

### Explanations

Children's explanation scores were submitted to an ordinal logistic regression model, with explanation category (group-based vs. individual-based), condition (leader vs. nonleader), age (continuous), plus all possible interaction terms as predictors. The three-way interaction was significant,  $\chi^2(1) = 9.40$ ,  $p = .002$ , Cohen's  $\omega = 0.28$ . Similar to Experiment 1, children in the leader condition became more likely to justify their evaluations of nonconformity by appealing to group-based reasons with age,  $\chi^2(1) = 4.96$ ,  $p = .026$ , Cohen's  $\omega = 0.29$ , whereas their tendency to appeal to individual differences did not vary by age,  $\chi^2(1) = 0.43$ ,  $p = .511$ , Cohen's  $\omega = 0.09$ . In contrast, there was suggestive evidence that children in the nonleader condition became more likely to appeal to individual differences with age,  $\chi^2(1) = 3.24$ ,  $p = .072$ , Cohen's  $\omega = 0.24$ , and less likely to appeal to group-based explanations,  $\chi^2(1) = 3.28$ ,  $p = .070$ , Cohen's  $\omega = 0.24$ .

### Moderated Mediation

To test whether children's evaluations of leaders' nonconformity were related to their tendency to perceive leaders as representative group members, we performed a conditional process analysis using Model 7 of the PROCESS macro (Hayes, 2017) in R. Age was entered into the moderated mediation model as the independent variable, with explanation as the mediator and evaluation as the dependent variable; condition was entered as the moderator. Replicating Experiment 1, this analysis revealed condition-moderated effects, index =  $-0.28$ ,  $SE = 0.09$ , 95% CI [ $-0.45$ ,  $-0.11$ ] (Figure 2). In the leader condition, the indirect effect of age on evaluation via explanation was significant, indirect effect =  $-0.15$ ,  $SE = 0.06$ , [ $-0.28$ ,  $-0.03$ ]. This result suggests that children gradually held more negative attitudes toward a leader's nonconformity because of their increased tendency to conceptualize leaders as central group members. In the nonleader condition, the indirect effect was reversed, indirect effect =  $0.13$ ,  $SE = 0.06$ , [ $0.01$ ,  $0.24$ ]. Children appealed to more individual-based explanations when explaining an ordinary member's nonconformity, which led them to be more tolerant of the member's norm violations.

These results suggest that children in China, like children in the United States, with age become increasingly likely to perceive leaders as representative group members and believe that they should follow group norms; as a result, they evaluated leaders' nonconforming behaviors more harshly.

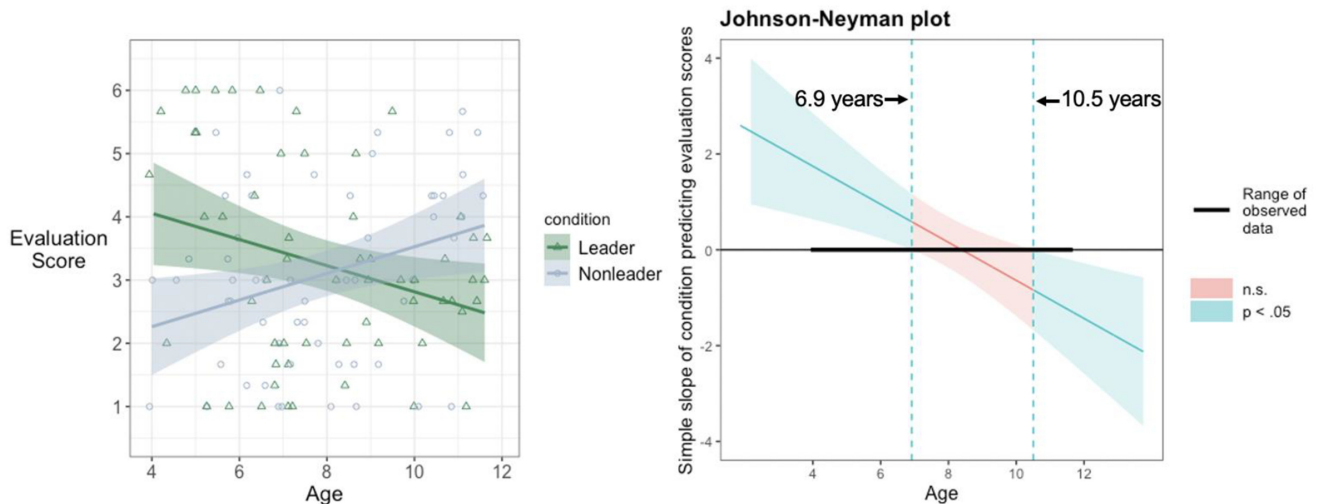
### Overall Analyses

We pooled the data from Experiments 1 and 3 to provide a systematic test of the cross-cultural similarities and variations in children's construal of leadership. Given this particular interest, we reported only the effects involving either condition or culture.

### Evaluations

We performed a mixed-effects ordinal logistic regression model with condition (leader vs. nonleader), age (continuous), and culture (United States vs. China), plus all possible interaction terms, as



**Figure 3***Evaluations of Nonconformity in Experiment 3 (Children in China)*

*Note.* Left: The association between age and evaluation scores (from 1 = *very very bad* to 6 = *very very good*) by condition. The lines show the predicted values from a linear regression model predicting children's evaluation scores from age; the circles and triangles represent the data of individual participants; the shaded areas represent 95% confidence interval. Right: The Johnson–Neyman plot of Experiment 3. The line reflects differences in simple slopes of condition predicting participants' evaluation scores as a function of participant age. See the online article for the color version of this figure.

fixed-effect predictors, and random intercepts for participant and trial (music, toy, language). There was a significant interaction between condition and age,  $\chi^2(1) = 20.40$ ,  $p < .001$ , Cohen's  $\omega = 0.30$ . With age, children evaluated a nonleader's deviant behaviors more positively,  $\chi^2(1) = 9.54$ ,  $p = .002$ , Cohen's  $\omega = 0.29$ , but they showed decreased positivity toward a leader's nonconformity,  $\chi^2(1) = 11.19$ ,  $p < .001$ , Cohen's  $\omega = 0.31$ . Importantly, neither the two-way interaction between culture and condition,  $\chi^2(1) = 0.02$ ,  $p = .894$ , Cohen's  $\omega = 0.01$ , nor the three-way interaction between these two factors and age,  $\chi^2(1) = 0.06$ ,  $p = .812$ , Cohen's  $\omega = 0.02$ , was significant. Thus, culture did not moderate the developmental course of children's sensitivity to leadership in their evaluations of nonconformity. Children in both cultures provided more negative evaluations of the leader's nonconforming behaviors over development.

However, this analysis revealed a main effect of culture,  $\chi^2(1) = 4.65$ ,  $p = .031$ , Cohen's  $\omega = 0.14$ , showing that children in the United States ( $M = 3.58$ ,  $SD = 1.44$ ) judged nonconforming behaviors more positively than children in China ( $M = 3.16$ ,  $SD = 1.50$ ). This pattern held in children's evaluations of leaders' (children in the United States:  $M = 3.74$ ; children in China:  $M = 3.24$ ) and non-leaders' nonconformity (children in the United States:  $M = 3.43$ ; children in China:  $M = 3.08$ ). These results were consistent with past work suggesting that children in China place a stronger emphasis on social conformity than children in the United States (Clegg & Legare, 2016; Roberts et al., 2018).

## Explanations

Children's explanation scores were submitted to an ordinal logistic regression model including culture (United States vs. China), explanation category (group-based vs. individual-based), condition (leader

vs. nonleader), age (continuous), plus all possible interaction terms as predictors. The analysis revealed an interaction between age and condition,  $\chi^2(1) = 4.20$ ,  $p = .040$ , Cohen's  $\omega = 0.14$ , which was qualified by a three-way interaction among explanation category, condition, and age,  $\chi^2(1) = 18.18$ ,  $p < .001$ , Cohen's  $\omega = 0.28$ . In line with previous results, children with age provided more group-based explanations— $\chi^2(1) = 12.69$ ,  $p < .001$ , Cohen's  $\omega = 0.33$ , but not individual-based explanations— $\chi^2(1) = 0.31$ ,  $p = .581$ , Cohen's  $\omega = 0.05$ , to justify their evaluations of a leader's nonconformity. However, when justifying their evaluations of a nonleader's nonconformity, children provided more individual-based explanations— $\chi^2(1) = 7.32$ ,  $p = .007$ , Cohen's  $\omega = 0.25$ , and fewer group-based explanations— $\chi^2(1) = 5.30$ ,  $p = .021$ , Cohen's  $\omega = 0.21$ . Culture did not moderate the effect of condition or any interactions involving condition, suggesting cross-cultural continuity in children's conceptualizations of leadership.

With respect to cross-cultural differences, there was an interaction between explanation category and culture,  $\chi^2(1) = 4.89$ ,  $p = .027$ , Cohen's  $\omega = 0.15$ . Relative to children in the United States, children in China provided slightly fewer individual-based explanations—China:  $M = 0.33$ ,  $SD = 0.77$ ; United States:  $M = 0.44$ ,  $SD = 0.81$ ;  $\chi^2(1) = 2.30$ ,  $p = .130$ , Cohen's  $\omega = 0.10$ —and more group-based explanations to justify their evaluations—China:  $M = 1.72$ ,  $SD = 1.24$ ; United States:  $M = 1.43$ ,  $SD = 1.23$ ;  $\chi^2(1) = 2.90$ ,  $p = .088$ , Cohen's  $\omega = 0.11$ . These cultural differences were consistent with past work (Markus & Kitayama, 1991) suggesting that children in Chinese cultural contexts place more emphasis on groups than on individuals than children in the United States.

Overall, these analyses revealed cross-cultural similarities and differences in children's reasoning about leadership and conformity. Children from both the United States and China changed from holding favorable views to holding negative attitudes about a leader's

nonconformity, yet children in China judged a leader's nonconformity more harshly than children in the United States, aligning with their respective cultural values.

### General Discussion

In human society, group membership and hierarchical relations are inextricably interwoven and jointly impact social cognition and group dynamics (Haidt & Graham, 2007; Rai & Fiske, 2011). One prominent hierarchical relation enacted in social groups is leadership (Hogg, 2001). Our present research provided initial evidence showing that perceiving leadership through a group-based lens takes root in childhood. Specifically, children integrate leadership information into their prescriptive evaluations of norm violations. Experiments 1 and 3 compared children's evaluations of nonconformity performed by a group leader or an ordinary group member in the United States and China. Results revealed cross-cultural similarities: Although children between ages four and eleven became increasingly tolerant of a nonleader's nonconformity, they held more negative attitudes toward a leader's nonconformity with age. More specifically, younger children (4- to 7-year-olds) provided more positive evaluations of the leader's than the nonleader's deviance, whereas older children (10- to 11-year-olds) showed the opposite pattern. Experiment 2 found that U.S. children between the ages of four and seven held similar positive attitudes about a leader's and a nonleader's conformity, ruling out the possibility that younger children's positive evaluations of the leader's nonconformity stem from their general positivity toward high-status individuals such as leaders.

This research speaks to children's ability to simultaneously factor two fundamental relational forms, hierarchical relations and group memberships, into their social judgments. Children do not perceive a uniform social landscape in which all ingroup members are equivalent. Instead, they detect an asymmetrical social landscape with some ingroup members possessing higher status via leadership roles than others. This abstract understanding of leadership within groups modifies young children's enforcement of group norms and guides them to apply different standards in evaluating nonconforming behaviors. This work sets a foundation for future research to shift from focusing on one relational form to integrating multiple social relations when investigating children's reasoning about social interactions.

These findings make notable contributions to our understanding of early construal of leadership in several respects. This research adds important knowledge to the *content* of early reasoning about leadership. Emerging literature has shown that children as early as infancy use a wide range of cues to infer leadership and hold certain expectations about the interactions between leaders and followers (Margoni et al., 2018; Stavans & Baillargeon, 2019). Yet, a crucial feature of leadership that has been overlooked in developmental research is that a leader is also a group member. We present the first investigation to explore whether children apply the psychology of group membership to understand leadership by investigating children's evaluations of a leader's nonconformity. Children in our studies became increasingly negative about a leader's nonconforming behaviors with age, suggesting that they gradually conceptualize leaders as prototypical group members who should follow their group norms and embody the group identity. These findings highlight the importance of considering the psychology of group

membership to enrich our theoretical analysis of leadership cognition in early life.

By taking a developmental approach, this work provides insights into *when* and *how* our reasoning about leadership develops to encompass leaders' group-related characteristics. Although older children showed a tendency to disapprove a leader's nonconformity, similar to adults (de Moura et al., 2011; Hollander, 1958; Yukl, 2010), younger children were more likely to approve it. What developmental mechanisms drive this change? One possibility is that children's conceptualizations of leadership mature over development to include more complex characteristics of leaders. Although children as early as infancy show some understanding of leadership (Margoni et al., 2018), this understanding undergoes a prolonged developmental trajectory and becomes more sophisticated over time (Heck, Bas, & Kinzler, 2022). Younger children may initially conceptualize leaders as individuals with privileged influence and thus provide more tolerance to a leader's nonconformity. However, as children's understanding of leadership becomes more complex, they gradually recognize leaders' group-based responsibilities, one of which is to embody the identity of their groups by following group norms. Children's explanations provided some initial evidence for this mechanism: With age, children became more likely to appeal to a leader's group membership to justify their evaluations of the leader's nonconformity.

A complementary possibility is that, whereas older children associate leadership with compliance more strongly, younger children attend to a leader's distinctiveness. In fact, studies with adults indicate that being normative and distinctive are two important features of leaders (Abrams et al., 2008). As Fielding and Hogg (1997) suggested, "leaders should adhere to group norms (e.g., Hollander, 1958) and be representative group members (e.g., Eagly et al., 1995, 1992), but that they should also be innovative and thus 'deviant' from the group (e.g., Bray et al., 1982; Hollander, 1958; see Levine, 1989)." Children may develop sensitivity to a leader's distinctiveness at an earlier age, resulting from their daily observations of authority figures' decision-making power at home and in preschool contexts. With socialization, they gradually recognize that leaders also conform to represent their community. A third possibility relates to children's increasing ability to attend to a person's multiple social identities. Younger children may have limited capacity so that they mainly focus on one particular identity (e.g., only seeing a leader as a leader), while older children can consider multiple identities (e.g., seeing a leader as both a leader and a group member) to construct their social beliefs. Indeed, recent development findings suggest that children attend to multiple social dimensions (e.g., race, gender) in forming their social assumptions (Lei et al., 2020) and this ability seems to improve with age (Shu et al., 2022).

Our studies also provide new insights into how cultural values may shape the developmental trajectory of leadership cognition, which was lacking in previous work (but see Kajanus et al., 2020). Replicating past work (Roberts et al., 2018), children from both China and the United States evaluated an ordinary group member's nonconformity more positively with age, suggesting that children become more aware of individual differences. Importantly, our work extends this past research by showing that children in China and the United States held more *negative* evaluations of a group leader's nonconformity with age. Around age 10, children began to evaluate a leader's nonconformity more harshly than a nonleader's. In addition, children from both cultures gradually provided

more group-based explanations to justify their evaluations of a leader's nonconformity. Thus, the notion that leadership embodies group norms may be consistent across cultures, reflecting the very nature of leadership that it is universally embedded in groups.

Despite these cross-cultural similarities, children in the two cultural contexts demonstrated several nuances in their evaluations of a leader's action. First, the transitional point at which children begin to associate leadership with conformity seems to vary across cultures. Among children in China, their favorable attitudes of a leader's nonconformity (6.9 years of age) came offline slightly earlier than children in the United States (7.4 years of age), suggesting that children in China may form an earlier link between leadership and conformity. Second, we found that children growing up in Chinese culture rated a leader's nonconformity more harshly than children growing up in the United States, which indicates that children in China associate leadership with conformity more strongly. Third, children in China were slightly more likely to appeal to group-based explanations than children in the United States, consistent with past studies indicating that cultural contexts prioritizing interdependence over independence encourage their young generation to value social conformity (Clegg & Legare, 2016). These results provide initial evidence showing that children's cognition about leadership is guided by the value systems of the cultures they are embedded in. It would be worthwhile for future studies to compare specific leadership practices across societies to identify the precise cultural pathways shaping children's beliefs about leadership.

### Constraints on Generality and Future Directions

Our findings mark an exciting first step in demonstrating how cultural values may influence children's reasoning about leadership and conformity. Future research should involve a broader range of cultural contexts to explore the generality of our results. Moreover, since there are notable local variations regarding the extent to which interdependence and independence are valued within a country (e.g., Talhelm et al., 2014), it is important to examine within-culture variations in children's leadership cognition. Recent work assessing children's cooperative behaviors provides initial evidence for within-culture variations in children's social behaviors. In particular, Kajanus et al. (2019) tested two groups of Chinese children from Nanjing China, and found that children attending a community school that values communal goals were more likely to reject resource allocations advantaging themselves than children from an elite university school emphasizing competition. In the present research, the Chinese children in Experiment 3 were recruited from Shijiazhuang, an urban region identified as relatively independent (Talhelm et al., 2014). It is possible that children from more interdependent regions would protest a leader's nonconformity more strongly. Similarly, the majority of children across all three studies were recruited from middle-class families, thus more evidence is needed to explore how children of other socioeconomic backgrounds reason about leadership and conformity.

Children's evaluations of leaders' nonconformity likely influence their beliefs about who can become leaders, who should be elected as leaders, as well as their own interactions with leaders. One direction worthy of further exploration is the impacts of a leader's nonconformity on early judgments of the leader's ability to represent their respective group as well as children's tendency to follow the leader's orders. It would also be interesting to explore how

children's beliefs about leaders' conforming responsibilities relate to their own leadership strategies. Are children who believe leaders should conform more likely to adopt prestige-based strategies such as cooperation to acquire leadership? These beliefs and behaviors may be carried into adulthood, further influencing important leadership decisions.

It would also be important to explore whether children consider different types of hierarchical relations in their evaluations of nonconformity. As noted earlier, representations of social ranks are relatively fine-grained even in young children, such that they distinguish leadership from dominance-based hierarchies (Enright et al., 2020; Kajanus et al., 2020; Margoni et al., 2018). Although children with age expect leaders to conform, they may not extend this expectation to a dominant ingroup member who gains its power via coercion. In addition, the motivation behind a leader's nonconforming behaviors may influence children's evaluations as well. Since one central responsibility of leaders is to take care of their group, we expect children to hold more negative attitudes when the leader breaks the law to pursue their self-interests, but children may grant leaders with more freedom as long as their nonconformity benefits the group.

Beyond the domain of group norms, another fruitful direction is to explore whether children expect leaders to adhere to moral standards. In the real world, leaders ranging from political arena to business settings sometimes commit unethical acts (Dubois et al., 2015; Piff et al., 2012). Studies on children's beliefs about leaders' morality are only emerging and provide conflicting results. One study finds that children become increasingly likely to predict someone in charge to be indifferent to others' needs (Terrizzi et al., 2020), whereas another studying finds that children expect leaders to rectify unfair resource allocations (Stavans & Baillargeon, 2019). More studies are needed to understand children's moral expectations of leaders to present a complete picture of the freedom and responsibilities that come along with leadership in children's minds.

To conclude, the present research highlights how considerations of leadership shape children's evaluations of nonconformity over development and across societies. Four- to 11-year-old American and Chinese children become more tolerant of an ordinary group member's nonconformity, yet their evaluations of a group leader's nonconformity decline over development. Our results provide the first evidence showing that children gradually conceptualize leaders as central group members and associate them with greater responsibilities to conform. From early in life, it is acknowledged that, "One who wears the crown, bears the crown."

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