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What is This?
Heralding the Authoritarian? Orientation Toward Authority in Early Childhood

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Abstract
In the research reported here, we examined whether individual differences in authoritarianism have expressions in early childhood. We expected that young children would be more responsive to cues of deviance and status to the extent that their parents endorsed authoritarian values. Using a sample of 43 preschoolers and their parents, we found support for both expectations. Children of parents high in authoritarianism trusted adults who adhered to convention (vs. adults who did not) more than did children of parents low in authoritarianism. Furthermore, compared with children of parents low in authoritarianism, children of parents high in authoritarianism gave greater weight to a status-based “adult = reliable” heuristic in trusting an ambiguously conventional adult. Findings were consistent using two different measures of parents’ authoritarian values. These findings demonstrate that children’s trust-related behaviors vary reliably with their parents’ orientations toward authority and convention, and suggest that individual differences in authoritarianism express themselves well before early adulthood.

Keywords
authoritarianism, selective trust, epistemic trust, parent-child correspondence, early childhood, individual differences, values, personal values, heuristics, learning, childhood development

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Do individual differences associated with authoritarianism express themselves in early childhood? Traditional accounts suggest that they do not; rather, authoritarian values are assumed to crystallize in early adulthood along with other sociopolitical orientations (e.g., Altemeyer, 1998). Departing from this perspective, we argue that individual differences reflecting authoritarian tendencies exist well before early adulthood and that, among young children, these individual differences are expressed as a greater responsiveness to cues of status and of deviance when determining whom to learn from. Specifically, we predicted that children of parents high (vs. low) in authoritarian values should (a) be more discriminating in trusting (i.e., choosing to learn from) adults who had previously demonstrated conventional word labeling versus adults who had used blatantly nonconventional word labels and (b) give greater weight to a status-based “adults are to be trusted” heuristic in trusting an ambiguously conventional adult. To examine these predictions, we looked at authoritarianism-consistent patterns of deference to convention and authority in early childhood in a sample of 3- to 4-year-olds and their parents. In the following sections, we outline our theory and predictions.

The Origins of Authoritarianism
A long line of research shows that adults who are high in authoritarianism—a general tendency to submit to established authority and social convention—show greater ethnocentrism, xenophobia, political intolerance, and prejudice (Adorno, Frenkel-Brunswik, Levinson, & Sanford, 1950; Altemeyer, 1996, 1998; Duckitt, 2001; Jost,
Glaser, Kruglanski, & Sulloway, 2003; Stenner, 2005). It is not surprising, then, that researchers concerned with sociopolitical orientations have long been interested in the origins of authoritarianism. The pioneering work of Adorno et al. (1950) proposed a psychodynamic explanation based on children’s repressed and projected hostility toward their strict and punitive parents. In light of weak empirical support for this account and a general loss of interest in psychodynamic approaches (for a review, see Brown, 1965), later researchers—most notably, Altemeyer (1988, 1996)—have argued for a social-learning explanation. This perspective points to a consistently strong correlation between young adults’ and their parents’ levels of authoritarianism (e.g., Altemeyer, 1996, 1998; see also Duriez & Soenens, 2009; Peterson, Smirles, & Wentworth, 1997). From a very different perspective, research in behavior genetics has also highlighted within-family consistency in levels of authoritarianism among adults, with twin studies suggesting a considerable level of heritability in authoritarianism (Ludeke & Krueger, 2013; McCourt, Bouchard, Lykken, Tellegen, & Keyes, 1999).

Despite this consistent interest in the genetics of authoritarian tendencies and parent-child similarities in authoritarianism, research on the topic has rarely examined or even anticipated early-childhood manifestations of authoritarianism. In part, this limited interest in childhood expressions of authoritarianism is due to early failures to find support for Adorno et al.’s (1950) psychodynamic hypotheses about the childhood origins of authoritarianism (Brown, 1965). In addition, it can be traced to a more recent tendency to conceptualize authoritarianism as a learned sociopolitical orientation that—like other political predispositions (Niemi & Hepburn, 1995)—does not crystallize prior to early adulthood (Altemeyer, 1981, 1998; see also Sears & Levy, 2003).

However, the existence of early-childhood individual differences in the manifestations of authoritarianism may have been unduly dismissed. As noted previously, research indicates that authoritarianism may have a substantial genetic component, which raises the possibility that the authoritarian “phenotype” may have early-childhood expressions that cannot be captured by measures intended for adults. Moreover, researchers have begun to reconceptualize authoritarianism as a prepolitical psychological tendency to defer to authority and social convention, independent of its sociopolitical expressions and consequences and motivated by values emphasizing social conformity (Federico, Fisher, & Deason, 2011; Feldman, 2003; Stenner, 2005). Both of these developments leave room to wonder if individual differences are in fact apparent before early adulthood. Our goal in the present study was to explore this question by examining whether behavior indicative of a psychological predisposition toward authoritarianism consistent with parental values can be seen as early as the preschool years.

Authoritarianism and Selective Trust

But how might we detect early manifestations of authoritarianism in children that parallel their parents’ values? We believe that recent developmental research on “selective trust” in children provides a promising avenue. According to this literature, although children rely on others for much of their early learning (Csibra & Gergely, 2011), they are not indiscriminately credulous and are motivated to gain reliable, culturally appropriate knowledge (Koenig & Sabbagh, 2013). Accordingly, early on, children develop strategies for discriminating between different sources of information based on cues of subjective source relevance (Harris & Corriveau, 2011). Two strategies in particular stand out. First, children are more likely to trust new information provided by sources who reliably apply conventional, socially accepted labels to objects (Koenig, Clement, & Harris, 2004; Koenig & Harris, 2005). Second, children are more likely to trust new information from sources seen as having status, particularly adults (Jaswal, 2004; Taylor, Cartwright, & Bowden, 1991). These status cues are overridden when sources fail to reliably apply conventional labels (Jaswal & Neely, 2006). Indeed, theoretical models suggest that these cues of reliability and status may have deep roots in evolved social-learning mechanisms common to most human societies (Heinrich & McElreath, 2003).

Thus far, attentiveness to these two cues has been understood as a normative developmental process, without regard to individual differences. However, in adults, deference to convention and to those considered high in status are consistently stronger among those high in authoritarianism (Adorno et al., 1950; Altemeyer, 1996). Thus, to the extent that the authoritarian phenotype manifests itself in childhood in ways that parallel parental orientations, we argue that young children of authoritarian parents should rely more strongly on the aforementioned cues of reliability and status. Specifically, we hypothesized (a) that children of parents who are high (vs. low) in authoritarianism and related social-conformity values should be more sensitive to cues of conventionality—that is, they should trust adults who reliably apply conventional labels more than adults who do not; and (b) that children of parents high (vs. low) in authoritarianism and related social-conformity values should be more sensitive to adult status—that is, they should be more likely to trust an adult speaker in the absence of clear cues of conventionality. We tested...
these hypotheses in a sample of preschoolers and their parents.

Method

Participants

Participants were 3- and 4-year-old children (21 girls, 22 boys; mean age = 3.99 years, SD = 5.47 months; age range = 37–59 months) and one parent of each. Three participants were dropped: One was not a native English speaker, 1 did not want to play, and 1 was a twin of an earlier participant. Approximately 90% of the sample was Caucasian and 10% was of mixed ethnic backgrounds. All participants were of upper-middle-class socioeconomic status. Families were recruited from a database maintained by the University of Minnesota’s Institute of Child Development.

Procedure, materials, and measures

After parents gave informed consent, children joined the experimenter in a child-friendly space to complete a selective-trust game and a verbal-intelligence test while parents completed a survey in the back of the room. After the parents and children had completed these measures, they were thanked for their participation, and children received a small toy as a gift.

Selective-trust game. The selective-trust game had two parts. In the first, “familiarization” phase, children watched four short video clips of an unfamiliar adult labeling common objects (e.g., Fig. 1a).

In the second, “test” phase, children watched four short video clips of the same speaker introducing novel objects (e.g., unusual kitchen gadgets) and labeling them (e.g., “modi,” as in Fig. 1b). After each new label was given, children were presented with an image of the novel object (in the absence of the speaker) and were asked whether the label provided by the speaker was the correct label for the object: “She says that's a(n) X—what do you think, is that a(n) X?” Three iterations of this game were played. In each, children viewed a different speaker in the familiarization phase: (a) one who labeled each of four familiar objects using conventional terms (e.g., labeling a shoe a “shoe”; conventional speaker); (b) one who labeled two of the four familiar objects conventionally and the other two unconventionally (e.g., calling a shoe a “ball”; ambiguous speaker); and (c) one who labeled all four objects unconventionally (unconventional speaker). Each of the speakers labeled different common and novel objects. In describing this game, it is important to emphasize that the adult speakers were strangers to the children and that they never interacted with them in person; they were seen only on video. Moreover, when the children gave their responses, neither the speaker nor an image of the speaker was present. This minimized the possibility that the children were merely demonstrating external compliance with authority as opposed to epistemic trust.

Measures. Inter correlations between key variables are shown in Table 1.

Fig. 1. Examples of (a) familiarization-phase and (b) test-phase stimuli.
To control for variation in children’s verbal intelligence, we administered the verbal subtest of the Stanford-Binet Intelligence Scales for Early Childhood (Roid, 2003), which asks children to label objects or actions, describe images of situations, and define words. Scores reflect the number of points earned on this task based on a standardized rubric ($M = 16.41$, $SD = 4.61$).

**Children’s gender.** Child gender was dummy-coded ($0 = male$, $1 = female$).

**Parents’ authoritarian predisposition.** Parents were asked to indicate in four forced-choice items which of two child-rearing values (authoritarian and nonauthoritarian) they found more important (Feldman & Stenner, 1997; Stenner, 2005). The value pairs were “independence” versus “respect for elders,” “obedience” versus “self-reliance,” “curiosity” versus “good manners,” and “being considerate” versus “[being] well-behaved.” After scoring (authoritarian response = 1, nonauthoritarian response = 0), responses were summed and then recoded to run from 0 to 1, with higher scores indicating a stronger authoritarian predisposition ($M = .39$, $SD = .28$).

**Parents’ social-conformity values.** Recent work has suggested that authoritarianism may be conceptualized as a generalized motive for social conformity (Feldman, 2003; Stenner, 2005). Therefore, we also administered a measure of social-conformity values to provide convergent evidence for any authoritarianism-related findings. Parents were asked to indicate in 17 forced-choice items which of two statements—one prioritizing social conformity (scored 1) and one prioritizing personal autonomy (scored 0)—they agreed with more (example pair: “Society should aim to protect citizens’ right to live any way they choose” vs. “It is important to enforce the community’s standards of right and wrong”). Responses were summed and then recoded to run from 0 to 1, with higher scores indicating greater conformity ($M = .36$, $SD = .17$).

### Results

**Parental orientations, speaker conventionality, and children’s trusting responses**

Our first hypothesis is that the tendency for children to selectively trust conventional speakers more than unconventional ones will be stronger among children whose parents are higher in authoritarianism and social-conformity values. To examine this prediction, we used a multilevel modeling approach. We treated the counts of trusting responses for the conventional speaker and for the unconventional speaker as separate observations, which gave us two observations per participant. Within this structure, speaker conventionality was represented using a dummy variable ($0 =$ unconventional, $1 =$ conventional). Because the dependent measure was the number of trusting responses across four trials for each of the two speakers, mixed-model binomial logistic regression was used to analyze the data. To reflect the non-independence of observations within each participant, the intercept was allowed to randomly vary across participants. Because our hypothesis assumes that the impact of speaker conventionality should vary across participants as a function of parental orientations, we also allowed the slope for speaker conventionality and the covariance between this slope and the intercept to vary randomly.

We first looked at trust as a function of speaker conventionality and parental authoritarianism. Two models were estimated. In the first, trust was regressed on the speaker-conventionality dummy and parental authoritarianism, along with two controls (verbal IQ and gender).

![Table 1. Intercorrelations Between Key Study Variables](ssis.sapub.com)
Heralding the Authoritarian

according to likelihood-ratio tests—Model 1: $\chi^2(1) = 77.60$; Model 2: $\chi^2(1) = 76.73$; both $p < .001$. Further likelihood-ratio tests indicated that the addition of random effects for the speaker-conventionality slope and the covariance between this slope and the intercept also improved model fit over and above an intercept-only random-effect specification—Model 1: $\chi^2(2) = 38.16$; Model 2: $\chi^2(2) = 31.79$; both $p < .001$.

Looking at the fixed effects in Model 1, we found only a main effect for speaker conventionality ($b = 4.48$, $p < .001$), such that children gave more trusting responses in reaction to the conventional speaker than the unconventional speaker (e.g., Koenig et al., 2004). More importantly, in Model 2, we found the predicted interaction between parental authoritarianism and speaker conventionality ($b = 7.16$, $p < .05$). To break this down, we looked at the simple slopes for speaker conventionality 1 standard deviation below the mean and 1 standard deviation above the mean of parental authoritarianism (Aiken & West, 1991). To make these estimates more comprehensible, we also computed predicted probabilities of a trusting response for each combination of the two parental-authoritarianism levels and the two speakers (see Fig. 2).

Among children of parents low in authoritarianism, trust was marginally higher for the conventional speaker than the unconventional speaker ($b = 2.21$, $p < .10$), amounting to an increase of .49 in the probability of a trusting response. Among children of parents high in authoritarianism, the effect of speaker conventionality was much stronger ($b = 6.22$, $p < .001$), amounting to an increase of .87 in the probability of a trusting response. Thus, although children of parents both low and high in

### Table 2. Results From Mixed-Model Binomial Logistic Regressions Predicting the Number of Trusting Responses From Parental Authoritarianism and Speaker Conventionality

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed effects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Verbal IQ</td>
<td>$-0.09 (0.13)$</td>
<td>$-0.11 (0.15)$</td>
</tr>
<tr>
<td>Gender</td>
<td>$0.21 (1.19)$</td>
<td>$0.21 (1.18)$</td>
</tr>
<tr>
<td>Speaker conventionality</td>
<td>$4.48*** (1.30)$</td>
<td>$4.21*** (1.09)$</td>
</tr>
<tr>
<td>Parental authoritarianism</td>
<td>$-1.27 (2.53)$</td>
<td>$-2.66 (2.40)$</td>
</tr>
<tr>
<td>Authoritarianism × Speaker Conv.</td>
<td>$-1.37 (0.85)$</td>
<td>$-1.39^* (0.84)$</td>
</tr>
<tr>
<td>Intercept</td>
<td>$-1.37 (0.85)$</td>
<td>$-1.39^* (0.84)$</td>
</tr>
<tr>
<td>Random effects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\sigma^2$ (intercept)</td>
<td>$8.62 (4.49)$</td>
<td>$8.99 (4.44)$</td>
</tr>
<tr>
<td>$\sigma^2$ (speaker Conv.)</td>
<td>$18.63 (10.17)$</td>
<td>$15.23 (7.51)$</td>
</tr>
<tr>
<td>$\sigma$ (intercept, speaker Conv.)</td>
<td>$-1.77 (5.76)$</td>
<td>$-2.91 (4.51)$</td>
</tr>
<tr>
<td>$-2 \log$-likelihood</td>
<td>206.13</td>
<td>201.40</td>
</tr>
</tbody>
</table>

Note: Values shown are unstandardized coefficients; the dependent variable is the number of trusting responses across four trials per within-subjects speaker condition. Standard errors are shown in parentheses. There were two responses (one per speaker) for each of 40 participants, for a total of 80 Level 1 units and 40 Level 2 units. Gender was coded as 0 for male and 1 for female; speaker conventionality was coded as 0 for unconventional and 1 for conventional.

$p < .10$. $^* p < .05$. $^{***} p < .001$.

Fig. 2. Predicted probability of a child’s trusting response as a function of parental authoritarianism and speaker conventionality. Predictions are based on estimates shown in Table 2.
authoritarianism trusted a conventional speaker more than an unconventional speaker, the effect was particularly pronounced for children of parents high in authoritarianism, as expected.

To replicate this finding, we repeated our analysis using a second authoritarianism-related measure: Feldman’s (2003) measure of social-conformity values. Model specification and estimation was identical to that reported above, except that conformity was substituted for authoritarianism. The results are summarized in Table 3.

Again, likelihood-ratio tests on the variance component for the intercept were significantly different from zero in both models—Model 1: $\chi^2(1) = 77.31$; Model 2: $\chi^2(1) = 77.93$; both $p < .001$. Moreover, the addition of random effects for the speaker-conventionality slope and the covariance between this slope and the intercept improved model fit over and above an intercept-only random-effect specification—Model 1: $\chi^2(2) = 38.10$; Model 2: $\chi^2(2) = 32.52$; both $p < .001$.

Turning to the fixed effects, we found only a main effect of speaker conventionality in Model 1 ($b = 4.50$, $p < .001$); as before, children were more trusting in reaction to the conventional speaker. In Model 2, we found the predicted interaction between speaker conventionality and parental social-conformity values ($b = 11.15$, $p < .05$). To unpack this, we looked at the simple slopes for speaker conventionality 1 standard deviation below the mean (low conformity) and 1 standard deviation above the mean (high conformity) of parental social-conformity values. We also computed predicted probabilities of a trusting response for each combination of the two parental-conformity levels and the two speakers (see Fig. 3).

Among children of parents low in social-conformity values, trust was higher in response to the conventional speaker than the unconventional speaker ($b = 2.62$, $p < .05$), for an increase of .56 in the probability of a trusting response. Among children of parents high in social-conformity values, the impact of speaker conventionality was even stronger ($b = 6.37$, $p < .001$), for an increase of .8 in the probability of a trusting response. Thus, although children of parents both low and high in social-conformity values responded to the conventional speaker with greater trust, the effect of speaker conventionality was larger for children of parents high in social-conformity values, as expected.

### Trust in ambiguously conventional speakers as a function of parental orientations

Our second hypothesis suggests that children of highly authoritarian or conformity-valuing parents will place more trust in an adult speaker whose level of conventionality is ambiguous than will children of parents who are low in authoritarianism or social-conformity values. To examine this, we looked at the relationship between parental authoritarianism and social-conformity values and trusting responses to the third speaker, who modeled conventional responses prior to half of the trust trials and unconventional responses prior to the other half. This trust count was regressed on each parental variable in a separate model, with verbal IQ and gender as controls. Binomial logistic regression was used to estimate the models. Results for authoritarianism are shown in the top half of Table 4.

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed effects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Verbal IQ</td>
<td>-0.10 (0.13)</td>
<td>-0.12 (0.13)</td>
</tr>
<tr>
<td>Gender</td>
<td>0.36 (1.12)</td>
<td>0.30 (1.14)</td>
</tr>
<tr>
<td>Speaker conventionality</td>
<td>4.50*** (1.32)</td>
<td>4.49*** (1.18)</td>
</tr>
<tr>
<td>Parental social-conformity values</td>
<td>-1.91 (4.09)</td>
<td>-4.14 (3.84)</td>
</tr>
<tr>
<td>Social Conformity × Speaker Conventionality</td>
<td>---</td>
<td>11.15* (5.39)</td>
</tr>
<tr>
<td>Intercept</td>
<td>-1.49† (0.80)</td>
<td>-1.52†(0.82)</td>
</tr>
<tr>
<td>Random effects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\sigma^2$ (intercept)</td>
<td>8.70 (4.50)</td>
<td>9.20 (4.52)</td>
</tr>
<tr>
<td>$\sigma^2$ (speaker conventionality)</td>
<td>18.57 (10.20)</td>
<td>15.51 (7.84)</td>
</tr>
<tr>
<td>$\sigma$ (intercept, speaker conventionality)</td>
<td>-1.74 (5.96)</td>
<td>-2.48 (4.55)</td>
</tr>
<tr>
<td>$-2$ log-likelihood</td>
<td>206.16</td>
<td>201.38</td>
</tr>
</tbody>
</table>

Note: Values shown are unstandardized coefficients; the dependent variable is the number of trusting responses across four trials per within-subjects speaker condition. Standard errors are shown in parentheses. There were two responses (one per speaker) for each of 40 participants, for a total of 80 Level 1 units and 40 Level 2 units. Gender was coded as 0 for male and 1 for female; speaker conventionality was coded as 0 for unconventional and 1 for conventional.

perience
Greater parental authoritarianism was associated with a higher number of trusting responses to the ambiguously conventional adult speaker \((b = 1.85, p < .01)\) after the effects of the control variables were taken into account. For clarity, we also computed a first difference for parental authoritarianism, which indicated the simulated change in the probability of a trusting response associated with moving from the lowest to the highest value of authoritarianism (Long & Freese, 2005). This estimate indicated that such a move was associated with an increase of .43 in the probability of a trusting response (see Fig. 4a).

Results for parental social-conformity values are shown in the bottom half of Table 4. Like authoritarianism, parental social conformity was associated with greater trust in response to the ambiguously conventional speaker \((b = 2.97, p < .01)\), after the effects of the control variables were taken into account. For illustration, we also computed a first difference for parental conformity. This estimate indicated that moving from the lowest to the highest level of parental-conformity values was associated with an increase of .51 in the probability of a trusting response (see Fig. 4b). Thus, we found support for our second hypothesis: The more authoritarian a child’s parent is, the greater weight the child will attribute to a speaker’s adult status.

**Fig. 3.** Predicted probability of a child’s trusting response as a function of parental social-conformity values and speaker conventionality. Predictions are based on estimates shown in Table 3.

**Table 4.** Results of Binomial Logistic Regressions Predicting Trusting Responses to an Ambiguously Conventional Speaker From Parental Authoritarianism and Social-Conformity Values

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Authoritarianism model</th>
<th>Social-conformity model</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(b)</td>
<td>(b)</td>
</tr>
<tr>
<td>Verbal IQ</td>
<td>–0.09 (0.04)</td>
<td>–0.06 (0.04)</td>
</tr>
<tr>
<td>Gender</td>
<td>0.60 (0.37)</td>
<td>0.37 (0.34)</td>
</tr>
<tr>
<td>Parental authoritarianism</td>
<td>1.84** (0.69)</td>
<td>2.96** (1.10)</td>
</tr>
<tr>
<td>Intercept</td>
<td>–0.41 (0.26)</td>
<td>–0.27 (0.25)</td>
</tr>
<tr>
<td>(-2) log-likelihood</td>
<td>157.21</td>
<td>156.97</td>
</tr>
</tbody>
</table>

Note: The dependent variable is the number of trusting responses across four trials \((N = 40)\). Standard errors are shown in parentheses. Gender was coded as 0 = male, 1 = female.

\(\ddagger p < .10\)  \(\ddagger \ddagger p < .01\).
accepting information from conventional and high-status (i.e., adult) sources. This seems to foreshadow both the lack of openness and the greater reliance on heuristic processing shown by authoritarians in adulthood (Kemmelmeier, 2009). This is all the more impressive in light of the fact that the sources were strangers who had no relationship with the children, never interacted with the children, and were not present even in the form of an image when children gave their responses.

Finally, our research can also be distinguished from work on individual differences in children's willingness to internalize their caregivers' moral agendas (e.g., Kochanska, Koenig, Barry, Kim, & Yoon, 2010). Rather than focusing on the internalization of moral rules, we examined the relationship between parental values and children's willingness to learn from other adults in an epistemic sense. Further work should examine how parents express these values and how such expressions might shape children's learning in both the epistemic and the moral realms.

More generally, the source of differences in selective trust and their association with variables such as parental authoritarianism merits further study. On the one hand, these differences might stem from genetic commonality between parents and children, as implied by work on the heritability of authoritarianism (Ludeke & Krueger, 2013; McCourt et al., 1999). On the other hand, other work has suggested that genetically inherited tendencies in the related domain of political conservatism do not emerge until after children leave home, with environmental forces being the main ideological influence prior to this (Hatemi et al., 2009). This, in contrast, suggests that our findings might reflect socialization. Of course, our findings might reflect a combination of both forces. Finally, greater discrimination between conventional and unconventional sources and greater deference to adults in the absence of clear conventionality cues could also reflect mechanisms that contribute to the long-term development and expression of authoritarianism in adults. That is, early differences in learning style—whether mediated by genes or socialization—may predispose some children more than others to accept "truths" from those who accurately adhere to convention or possess status, producing a cascade of experiences that encourage the emergence of the typical adult authoritarian phenotype. This suggests that authoritarianism may result not merely from what children learn throughout their childhood but also whom they agree to learn from.

Author Contributions
M. Reifen Tagar developed the study concept and led the project. All authors contributed to the study design. Testing and data collection were performed by K. E. Lyons and M. A. Koenig. M. Reifen Tagar performed all initial analyses, and C. M. Federico performed all advanced analyses. M. Reifen Tagar, C. M. Federico, and M. A. Koenig drafted the manuscript, and S. Ludeke and K. E. Lyons provided critical revisions. All authors approved the final version of the manuscript for submission.

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Declaration of Conflicting Interests
The authors declared that they had no conflicts of interest with respect to their authorship or the publication of this article.
Notes

1. Note that inaccurate labelers simultaneously deviate from the conventions of a given language community and are factually wrong in their statements. However, statements in language are true only because words within the statements are used conventionally: Word meanings do not have truth status independent of their conventional status (Lewis, 1969). Therefore, accuracy violations are necessarily violations of convention. Thus, our labeling of the responses as conventional or unconventional represents the notion that such responses are correct or incorrect vis-à-vis linguistic convention.

2. Two versions of the videos were created, with different adults serving as the different speakers (i.e., in Version A, the speaker wearing a green shirt was the conventional speaker, whereas in Version B, she was the unconventional speaker); video version was counterbalanced between subjects. The speakers were also presented in one of two orders: conventional, ambiguous, unconventional or unconventional, ambiguous, conventional. Inclusion of a dummy variable corresponding to the order manipulation in the models in Tables 2 and 3 did not change the key findings with respect to the interactions between parental orientations and speaker accuracy, so we omit the results of this model here for the sake of parsimony. These results are available upon request from the authors.

3. Binomial logistic regression is a variant of logistic regression used when the outcome is not “success” or “failure” on a single dichotomous binomial trial but, rather, a count or proportion of the number of successes across N binomial trials (Cook & Weisberg, 1999). In the present context, each decision by a child to trust or not trust an adult speaker in the test phase constituted a binomial trial, with four total trials in each condition; each trust response is counted as a “success.”

4. As numerous studies have demonstrated, authoritarianism is correlated with political conservatism (e.g., Altemeyer, 1996). To be sure that authoritarianism was not confounded with conservatism, we administered a 7-point scale of parental conservatism (from 1, very liberal, to 7, very conservative). We reran the models shown in Tables 2 and 3 with conservatism and a Conservatism × Speaker interaction included. These models revealed neither a significant main effect nor an interaction involving conservatism, and the key interactions between the authoritarianism variables and speaker condition remained significant. Similarly, we reran the models shown in Table 4 with the main effect of conservatism added. The coefficients for conservatism in these models were nonsignificant, and the coefficients for the authoritarianism variables remained significant. Thus, our key effects are robust.

References


