Children Prioritize Age over Gender when Evaluating Adults' Technological Knowledge

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Abstract

The current study examines 120 5 to 10-year-old children's beliefs about adults' abilities to use and fix tablet technology when those adults belong to varying gender (man, woman) and age (young, old) categories. The results indicate that, overall, children appear to prioritize age over gender when judging adults' technological knowledge, with children choosing younger adults as more competent at using and fixing tablets than older adults. In addition, when evaluating adults of the same age category (e.g., a young man and a young woman), children show in-group gender-based preferences where girls choose women and boys choose men. This in-group preference is more pronounced in children's selections of adults when determining who would be better at fixing tablets than who would be better at using these devices. Implications for children's developing ability to consider intersectional identities based on gender and age, and for their STEM learning, are discussed.

Keywords: intersectionality; gender; age; technology; child development

Introduction

Children's learning is based largely on the information they receive from adults, particularly when they are learning about complex or unobservable systems (e.g., the shape of the Earth; Harris et al., 2018). By age three, children can draw inferences about an adults' knowledge and expertise and choose informants based on those inferences (Lutz & Keil, 2002). Adults' social categories (e.g., gender, race, age) guide young children's preferences for informants (Shutts, 2015) and children can take multiple social categories into account when making inferences about and forming beliefs about others (Heyman, 2009; Shutts, 2015). The current study explores how the intersection of two salient social categories – gender and age – among adults influences children's judgments of the adults' knowledge about technology.

Prior research in developmental science has examined children's social judgments when gender intersects with other marginalized identities like race (e.g., Lei & Rhodes, 2021) or social status (e.g., Shutts, 2015). By age four, children prioritize informants' gender over other social categories like race, especially when learning about facts (Wiesman, Johnson, & Shutts, 2015) and novel objects (Shutts, Roben, & Spelke, 2010). However, there is limited work exploring the intersection of gender and age. Age is a more dynamic social category (i.e., children grow up to become teenagers) than gender and race, and, at the same time, it is outwardly visible. Anecdotally, children also seem to receive substantial input about age and its relevance to the acquisition of knowledge (e.g., hearing "this movie is for grown-ups"). Moreover, by age four, children understand that knowledge increases with age and that older people know more than younger people (Taylor, Cartwright & Bowden, 1991; Wimmer, Hogrefe, & Perner, 1988).

When evaluating child targets, children ages 6-7 believe that boys are better than girls at games that require them to be "really really smart" (Bian, Leslie, & Cimpian, 2017). Children may apply these gendered beliefs to knowledge about science, technology, engineering, and mathematics (STEM) fields. For example, by elementary school, girls rate their own mathematical abilities to be lower than that of boys and they believe that boys are better at mathematics than girls (Cvencek, Meltzoff, & Greenwald, 2011; Fredricks & Eccles, 2002). Beginning at age five, both boys and girls report that boys are better at using computers and building machines than girls (McGuire et al., 2022), and, by age six, children say that girls are less interested in robotics and computer science than boys (Master, Meltzoff, & Cheryan, 2021). These beliefs about machines and computer science may extend to technology in general, such that children may perceive men to be more knowledgeable than women about technology.

Additionally, children develop stereotypes about who can be good at a specific field (e.g., STEM) as they witness inconsistent gender roles in society (see Eagly & Wood's social role theory, 2012). For example, when judging adults' competence in STEM and non-STEM professions, children ages 5-9 view men as more competent than women at STEM professions and perceive men and women to be equally competent in non-STEM professions (Shenouda, Patel, & Danovitch, 2024). One such STEM domain where women consistently remain underrepresented is computer science (National Center for Science and Engineering Statistics, 2023). Thus, children may come to view men as more competent than women at using computers and other modern technology. There is also a common popular perception among adults that younger adults know more about technology than older adults (Vaterlaus, Jones & Tulane,

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2015), yet it is not clear if children hold this stereotype as well.

To better understand the cognitive mechanisms behind how individuals evaluate targets with intersectional identities, Petsko, Rosette, and Bodenhausen (2022) propose a lens switching dynamic according to which, when evaluating intersectional targets (e.g., old women and young men), perceivers view them based on which lens is made more salient. For example, when categorizing women based on age, the lens of age comes into focus and the lens of gender falls out. However, it is possible for the lens to be intersectional as well. For example, work with White American adults shows that participants are faster at applying stereotypes (e.g., associating old women with church and young men with fraternities) when they view those adults through an intersectional lens than a singular lens of gender or age (Petsko et al., 2022). When looking at science related stereotypes, American adults implicitly associate men with science and women with liberal arts when the lens of gender is made more salient, but they do not extend this stereotype when they attend to the lens of age (Petsko et al., 2022). Similarly, when judging Black and White men's and women's science knowledge, children ages 5-8 primarily used the lens of gender rather than race (Patel, Danovitch, & Noles, 2024). In that work, children also showed in-group gender preferences that increased with child age. The current study extends research on children's perception of intersectionality to the domain of technology and looks at whether children ages 5 to10 show developmental changes in reliance on one social category (i.e., gender or age) or intersecting categories (i.e., gender and age) when evaluating adults' technological knowledge.

Current Study

The current study focuses on children's perceptions of older and younger adults' technology-related knowledge because although young children believe that an individual's knowledge increases with age, this belief can vary based on the domain. For example, children ages 3 to 5 direct questions about toys to a child informant and questions about the nutritional value of food to an adult informant (VanderBroght & Jaswal, 2010). Furthermore, contrary to the belief that older adults do not want to or cannot use technology, American adults ages 65-90 are as likely to use the internet and technological devices as their younger counterparts ages 18-28 (Horrigan, 2003). That said, age is related to the rate and purpose of technology use. For example, younger adults use the internet more frequently and for wider variety of reasons (e.g., banking, shopping, education) than older adults (Olson et al., 2010). The current study measures children's perceptions of adults' competence at using and fixing tablet technology because, similar to children and young adults, older adults use and are familiar with tablets (Anderson & Perrin, 2017).

To measure children's beliefs about adults' knowledge, our methods include forced-choice tasks where children select the most knowledgeable adult at using and fixing tablet technology. This direct comparison between adults holding different visible gender *and* age identities allows us to examine children's beliefs using an intersectional lens. Furthermore, to test the possibility that children hold a general belief that men are better than women at fixing things, or that older people are more knowledgeable than younger people, we compared children's judgments of adults' capacity to repair a digital device (i.e., a tablet) with their judgments of adults' capacity to repair familiar analog household appliances (e.g., a refrigerator). In an additional exploratory measure, children also ranked four adults belonging to each combination of gender and age categories with respect to their ability to set up, use, and fix a *novel* digital device. This task was designed to provide insight into whether children's judgments about new, unfamiliar digital technologies are similar to their judgments about existing, familiar technology.

Method

Participants

Participants were 120 children ages 5-10 (M_{age} = 7.99 years; range = 5.05 – 10.99 years; 61 girls, 59 boys), out of which 111 children were described by their parent as White and eight were described as mixed race. One parent did not report their child's race. Three children were reported to be Hispanic, 116 were reported to be non-Hispanic, and one parent did not report their child's ethnicity. According to an a priori power analysis conducted using G*Power (Faul et al., 2007) using a medium odds ratio of 3 with a .5 probability of H_0, the sample size necessary to achieve a power of .8 is 119 participants at the standard .05 alpha level for a binomial distribution. Chen, Cohen, and Chen (2010) suggest 3.47 as a medium odds ratio which is equivalent to a medium effect size based on Cohen's d; however, we wanted to take a more conservative approach and thus used 3 as our odds ratio. Children were recruited through a lab database, social media, and at schools. Eight children participated online via video conferencing software and 112 children participated in person in the lab or at their school in [blinded for review], United States. Three additional children were excluded due to experimenter error and another three were excluded due to their inability to complete the study. Data were collected between November 2023 and May 2024. All procedures were approved by University of Louisville's Institutional Review Board.

Materials

Adult Faces Photos of young men and women in their 20s (M_{age} = 25.46 years, *SD* = 2.83) identifying as White with neutral facial expressions were obtained from the Chicago Face Database (Ma, Correll, & Wittenbrink, 2015). Pairs of faces were created for each part of the study and were matched on (1) age, (2) attractiveness, and (3) masculinity/femininity, based on the norming data. Corresponding photos of old men and women were generated by running the photos of the young men and women selected from the Chicago Face Database through the "old" filter on FaceApp (FaceApp Technology Limited, 2023). To confirm that the images generated by FaceApp appeared older than the original Chicago Face Database images, 15 adults ages 18-25 were asked to estimate the age in years of the people in the images. Adults judged all of the images intended to represent older people to be in their 70s or 80s (M_{age} = 75.6 years; *SD* = 4.96).

Procedure

Children were tested individually by an experimenter presenting as a woman and as White, Black, or South Asian. Children completed the competence task first, followed by the troubleshooting task and then the novel device task.

Competence Task Children completed six trials involving pairs of photos of two adults belonging to different gender (man/woman) and age (old/young) categories. An image of a generic tablet similar to an iPad with a blank screen was also presented above the images of the adults (see Figure 1). For each pair, children indicated who would be more competent at different aspects of using tablets (e.g., "Who would be better at checking how much battery is left?"). Six counterbalanced orders were created such that a pair from each gender and age category was paired with a different question in each order and appeared in a different position on the screen (i.e., left versus right).

Figure 1: Example of images shown on the screen during the competence task. (Note that AI-generated images are used here for publication purposes only to represent images of real people used in the study.)

Troubleshooting Task Children completed 12 trials, with six questions about fixing tablets (e.g., "Someone is listening to music, but the sound is not working. Who would be better at getting it to work?") and six questions about fixing analog household appliances (e.g., "Someone wants to use the dishwasher, but the water is leaking. Who would be better at getting it to work?"). Each tablet question was presented with the tablet image from the competence task and the appliance questions were accompanied by images of the appliance (with no digital components or touchscreens visible). Six counterbalanced orders were created such that a person from each gender and age category appeared in a different position in each order. The adult faces paired with the household items were the same as the ones used in the competence task.

Novel Device Task Children were shown an image of a cardboard box and were told, "There is a new device inside this box which uses electricity and connects to the internet, and no one has ever used this device before". Children were then asked to select which of four people, each representing a different age and gender category, would best at setting up the new device. After making their initial choice, the image of the person they selected disappeared from the screen and children were prompted to select the best person out of the remaining choices (e.g., "Now who do you think would be the best at setting up this new device?"). This process was then repeated to select the third best person. After making their selections about setting up the new device, children were then prompted following the same procedure to indicate their judgments of the four people's capacity to use and to fix the new device. The adult faces used in this task were different from the previous two tasks and four unique sets of faces were used for the set-up, use, and fix trials. Six counterbalanced orders were created such that a person from each gender and age category was paired with a different trial and appeared in a different position on the screen.

Results

To examine children's selections in the competence and troubleshooting tasks, chi-square goodness of fit tests were performed. A series of binomial logistic regression and chi-square analyses were then used to examine the frequency with which children selected adults representing a gender and age category over the other adults. To better understand how the forced-choice comparison influenced children's selections, we ran four different sets of analyses looking at selections of the young man, young woman, old woman, and old man, respectively, with child age (continuous) and child gender (girl, boy) as predictors using jamovi version 2.3 (The jamovi project, 2022).

Competence Task

Examining differences in children's selections when judging adults' competence at using a tablet revealed a significant difference in children's preferences based on adult gender and age together, $\chi^2(3) = 150$, $p < .001$. Children across the age range chose young men (38%) and young women (35%) at similar rates and chose old women (14%) and old men (13%) at much lower rates.

For the selection of the young man, young woman, and old woman over the other person in the pair, a binomial logistic regression did not show any significant main effects or interactions with child age and child gender as predictors (ps > .225). For the selection of the old man over the other adults, there was a significant main effect of child gender, B = 3.33, SE = 1.18, 95% CI [2.75, 284.5], p = .005, but not child age (p = .26). Follow-up chi-square comparisons showed a significant difference between boys' and girls' selections when the old man was paired with the old woman, $\chi^2(1)$ = 7.477, p = .006. Girls chose the old woman more often than the old man, and boys chose the old man more often than the old woman. There was also a significant interaction between child age and child gender, B = -.35, SE = .14, 95% CI [.53, .94], p = .015. With increasing age, boys chose the old man in a smaller proportion of trials than girls chose the old man.

Troubleshooting Task

Tablet Technology A chi-square goodness of fit test revealed a significant difference in children's judgments of adults' ability to fix a tablet based on adult gender and age together, $\chi^2(3)$ = 150, p < .001. Children chose young men (36%) and young women (34%) at similar rates, with lower rates for old men (17%) and old women (13%).

Preliminary analyses looking at children's judgments of adults' ability to fix a tablet revealed no significant interactions for child age and child gender with children's selections for all four adult categories. Thus, the interaction term was not included in the models for subsequent analyses.

For the selection of the young man over the other adults, there was a significant main effect of child gender, B = .52, SE = .24, 95% CI [1.06, 2.7], p = .028, but not child age (p = .227). Boys chose the young man in a significantly greater proportion of trials than girls chose the young man. Follow-up chi-square comparisons for each combination of the young man and the comparison adult indicated a significant difference in boys' and girls' selection of the young man versus the young woman, $\chi^2(1)$ = 5.945, p = .015. In these trials, boys chose the young man more often than the young woman and girls chose the young woman more often than the young man.

For the selection of the young woman over the other adults, there was a significant main effect of child gender, B = -.73, SE = .23, 95% CI [.30, .75], p = .001, but not child age (p = .552). Girls chose the young woman more often than boys chose the young woman. Follow-up chi-square comparisons revealed a significant difference in boys' and girls' selection of the young man and young woman (see above) and the young woman and the old man, $\chi^2(1)$ = 5.10, p = .024. Girls selected the young woman more often than the old man and boys selected the old man more often than the young woman.

For the selection of the old woman over the other adults, a binomial logistic regression indicated no significant main effects of child gender or child age (ps > .445).

For the selection of the old man over the other adults, a binomial logistic regression revealed a significant main effect of child age, B = -.13, SE = .07, 95% CI [.77, .99], p = .041, but not child gender (p = .125). With increasing age, both boys and girls selected the old man in a smaller proportion of trials.

Household Appliances A chi-square goodness of fit test revealed a significant difference in children's judgments of adults' ability to fix household appliances based on adult gender and age together, $\chi^2(3)$ = 50.4, p < .001. Children selected young men (34%) most frequently, followed by young women (27%) and old men (23%), and then old women (16%).

For the selection of the young man over the other adults, results from a binomial logistic regression indicated no significant main effects or interactions for child age and child gender (ps > .252).

For the selection of the young woman over the other adults, there was a significant main effect of child age, B = -.37, SE = .10, 95% CI [.57, .84], p < .001, and child gender, B = -2.9, SE = 1.07, 95% CI [.007, .50], p = .007. Follow-up chi-square comparisons for each combination of the young woman and the comparison adult indicated a significant difference in boys' and girls' selection of the young woman and young man, $\chi^2(1)$ = 3.944, p = .047. Children showed an in-group gender-based preference where girls selected the young woman over the young man more frequently than boys did and vice versa. Likewise, older children selected the young woman less frequently than younger children did. There was also a significant interaction between child age and child gender, B = .30, SE = .13, 95% CI [1.05, 1.75], p = .02. With increasing age, girls chose the young woman in a significantly smaller proportion of trials than boys did.

For the selection of the old woman over the other adults, a binomial logistic regression revealed no significant main effects or interactions for child age and child gender (ps > .481).

For the selection of the old man over the other adults, a binomial logistic regression revealed a significant main effect of child age, B = .19, SE = .09, 95% CI [1.00, 1.44], p = .04, and child gender, B = 2.90, SE = 1.03, 95% CI [2.39, 136.63], p = .005. Older children and boys were more likely to choose the old man than younger children and girls. There was also a significant interaction between child age and child gender, B = -.034, SE = .13, 95% CI [.55, .90], p = .007. With increasing age, boys selected the old man in a smaller proportion of trials than girls did.

Novel Device

Friedman's analysis of variance (ANOVA), a non-parametric rank test for ordinal level data in a repeated-measures design (Friedman, 1937), was used to conduct analyses to examine children's overall rankings of the best adult at setting up, using, and fixing a novel device (3 = *first choice*, 2 = *second choice*, 1 = *third choice*, 0 = *never chosen*) using SPSS version 29 (IBM Corp., 2022)

Generalized Estimating Equations (GEE; Liang & Zeger, 1986; Zeger & Liang, 1986) in SPSS version 29 were used to further evaluate children's ranking of the best adult (3 = *first choice*, 2 = *second choice*, 1 = *third choice*, 0 = *never chosen*). The GEE approach evaluates rank-order data in a repeated-measures design and does not require normally distributed data. Child age (continuous) and child gender (girl, boy) were included in the GEE models to predict children's rankings.

Setting Up Device Results from Friedman's ANOVA showed a significant difference in children's mean knowledge rankings across all four adult categories, $\chi^2(3) = 83.587$, $p < .001$. Bonferroni-corrected post-hoc tests indicated that children ranked the young man significantly higher than the young woman, old woman, and old man (*p*s < .008). Children also ranked the old man significantly higher than the old woman ($p = .011$), but similarly as the young woman ($p = .086$).

The GEE model revealed a significant main effect of child gender on children's rankings for the young woman, $B = 4.05$, SE = 1.63, 95% CI [.85, 7.4], $p = .013$, and old man, $B = -3.13$, SE = 1.54, 95% CI [-6.14, -.12], $p = .041$, but not for rankings of the young man and old woman (*p*s > .366). Child age only had a significant main effect on children's ranking for the young woman, $B = .284$, SE = 1.63, 95% CI [.014, .554], $p = .039$, but not the young man, old woman, and old man (*p*s > .445). There was a significant two-way interaction between child gender and child age for rankings of the young woman, $B = -.451$, SE = .20, 95% CI [-.80, -.03], $p = .034$, and the old man, $B = .39$, SE = .19, 95% CI [.02, .76], p = .042 but not the young man and old woman (*p*s > .49). With increasing age, boys chose the young woman as the best at setting up a new device more often than girls did, and boys chose the old man less often than girls did. Boys and girls across the age range ranked the young man and old woman similarly.

Using Device Friedman's ANOVA showed a significant difference in children's mean knowledge rankings across all four adult categories, $\chi^2(3) = 111.549$, $p < .001$. Bonferroni-corrected post-hoc tests indicated that children ranked the young man significantly higher than the old woman and old man (*p*s < .001), but similarly as the young woman ($p = 1.00$). Children also rated the young woman significantly higher than the old woman and old man (ps < .001). Children ranked the old man and old woman ($p = .100$) similarly.

The GEE model showed a significant main effect of child gender on children's ranking for the old man, $B = -3.74$, SE = 1.7, 95% CI [-7.0, -.50], $p = .024$, but not the young man, young woman, and old woman (*p*s > .228). Boys were more likely to choose the old man as the best at using a new device than girls were. Child age had a significant main effect on children's ranking for the young man, $B = .51$, SE = 1.5, 95% CI [.23, .80], $p < .001$, and old man, $B = .-32$, SE = .15, 95% CI [-.60, -.03], $p = .031$, but not the young woman and old woman (*p*s > .742). With increasing age, children were more likely to choose the young man and less likely to choose the old man as the best at using a new device. Boys and girls across the age range ranked the young woman and old woman similarly. There was a significant interaction between child gender and child age for the ranking of the young man, $B = -.49$, SE = .20, 95% CI [-.90, -.85], $p = .018$, but not the young woman, old woman, and old man (*p*s > .056). With increasing age, boys were more likely than girls to choose the young man as the best at using a new device.

Fixing Device Freidman's ANOVA revealed a significant difference in children's mean knowledge rankings across all four adult categories, $\chi^2(3) = 65.362$, $p < .001$. Bonferroni-corrected post-hoc tests indicated that children ranked the young man significantly higher than old woman and the old man (*p*s < .001), but similarly to the young woman ($p = .368$). Children also ranked the young woman significantly higher than old woman and the old man (*p*s < .015). Children ranked the and old man and old woman similarly ($p = .056$).

The GEE model indicated no significant main effects of child gender (*p*s > .334) or child age (*p*s > .072) as well as no two-way interactions (*p*s > .357) on children's rankings for all four categories of adults.

Discussion

When children were asked who would be better at using and fixing technology, children ages 5 to 10 were more likely to prioritize adults' age over gender and to choose younger over older adults. This finding suggests that, similar to adults, children believe that younger people know more about technology than older people (e.g., Vaterlaus et al., 2015). However, when they chose between men and women belonging to the same age category, children seemed to use the lens of gender and showed in-group gender-based preferences where girls selected women and boys selected men more often. More specifically, when choosing between them, children viewed young men and young women as equally competent at using tablets, but they showed in-group gender-based preferences when determining who would be better at fixing tablets. This finding suggests that at least when judging young adults' technological knowledge and abilities, children differentiate based on the type of task at hand, i.e., using versus fixing tablets. One explanation for this difference may be related to children's experiences with devices such as tablets at home or at school where they may feel adept at using the device but may have to seek help from an adult when they encounter a problem while using it. Thus, children may judge fixing as a more difficult or complex activity than using a technological device. Prior work suggests that children also show similar in-group gender-based preferences when judging adults' STEM abilities and when seeking out scientific information from adults (see Master, 2021; Patel et al., 2024).

When choosing between old men and women, children also showed in-group gender-based preferences for both tasks involving tablet technology: girls viewed old women as better at using and fixing tablets and boys showed the same pattern in favor of old men. However, this in-group preference diminished with age. In particular, with increasing age, boys chose the old man over the old woman less often. This finding suggests that children may think about the task differently when evaluating older adults' technological knowledge compared to younger adults' knowledge.

Children showed similar age-based preferences in their judgments of adults' abilities to fix analog household devices. In other words, children chose younger adults over older adults as being better at fixing both digital technologies and analog household appliances. One possible explanation for these findings is that children were treating younger adults as their in-group since they are closer in age to them than older adults. Children may have also believed that younger adults were more capable of fixing an item if they viewed fixing the item as requiring physical strength or agility. That said, with increasing age, girls also seemed to become more prone to the societal stereotype of men as more competent at fixing analog devices, with older girls choosing young women in a smaller proportion of trials than younger girls did.

Children also used the lens of age when evaluating adults' ability to set up, use, and fix, a novel technological device. Children showed clear preferences for the young man as being the best at setting up a new device compared to all the three other adults. This choice may reflect children's stereotypes of who they see around them as working with technology or as computer scientists. Furthermore, the younger children in our sample showed stronger in-group gender-based preferences than older children. With increasing age, boys also selected the young man as being the best at using a new device more often than girls did. However, when choosing who would be the best at setting up a new device, with increasing age, boys chose the young woman in a greater proportion of trials and chose the old man in a lesser proportion of trials than girls did. These findings suggests that, with increasing age, boys, but not girls, may be basing their judgments on the type of task at hand, i.e., setting up and using devices. However, this possibility needs further investigation. Children do not show any gender or age-based preferences when ranking adults on their ability to fix a novel device. One possibility for these inconsistent patterns in children's rankings may be because the current study only had one trial for each task. Children may have also been inconsistent due to their perceptions of the complexity of the novel device (see Ahl & Keil, 2017). For example, some children may have thought that the novel device involved complex, difficult to fix mechanisms whereas other children may have thought that it would be simple and easy to fix.

There are several additional limitations to the present research. First, our participants were predominantly White children from the United States who were identified as a girl or boy by their parents. Future research should include a more gender and racially diverse sample that is more representative of the world population. Furthermore, in the current study, we presented children with images of adults who identify as White and as binary (man or woman). In the real world, children encounter adults with varying racial/ethnic and gender identities which are likely to impact their judgments. Future research should consider showing children images of adults from other racial identities (e.g., Black, Latinx, Asian) or intersectional identities (e.g., White man and Black woman). Last, the current findings do not speak to the cognitive mechanisms underlying why children chose the younger adults more often than the older adults. To this end, in an ongoing follow-up study, we are looking at children's beliefs about younger and older adults' ability to fix modern technological devices (i.e., tablets, smartphones, computer) and analog devices that would be more familiar to older than younger people (i.e., typewriter, radio, tape recorder).

The current study is one of the first studies looking at how children take into account adults' intersectional identities based on gender and age and use them to evaluate those adults' technological knowledge. These findings have implications for our theoretical understanding of how children form and maintain stereotypes. For instance, the Stereotype Content Model (Fiske et al., 2002) suggests that social groups (primarily men and women) are stereotyped as competent to incompetent and from warm to cold. Generally, women are classified as being low in competence and high in warmth; however, our findings suggest that children may apply this stereotype toward women differently based on women's age (young versus old) and the domain (e.g., technology) in which their competence is being judged.

Moreover, our finding that children's judgments were based primarily on the adults' age suggest that children may be more motivated to learn about technology from younger than older adults. Furthermore, children's in-group gender-based preferences suggest that children may be more motivated to learn about technology from adults of their own gender. Existing evidence supports that learning from a gender-matched teacher may boost girls' participation in STEM as those teachers can serve as role models (see Gladstone & Cimpian, 2021). In addition, our findings suggest that if girls are encouraged to view themselves from an intersectional lens of age and gender where they see themselves as "young girls" rather than just "girls," it may further their interest in STEM and help them perceive themselves as being knowledgeable in STEM. Thus, future studies might explore how the ways in which children see intersectional identities can potentially be used to promote girls' participation in STEM.

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