

Transgender and Cisgender Children's Stereotypes and Beliefs About Others' Stereotypes

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## Abstract

Early in childhood, children already have an awareness of prescriptive stereotypes— or beliefs about what a girl or boy should do (e.g., “girls should play with dolls”). In the present work, we investigate the relation between children’s own prescriptive gender stereotypes and their perceptions of others’ prescriptive gender stereotypes within three groups of children previously shown to differ in their prescriptive stereotyping—6-to-11-year-old transgender children ( $N = 93$ ), cisgender siblings of transgender children ( $N = 55$ ), and cisgender controls ( $N = 93$ ). Cisgender and transgender children did not differ in their prescriptive stereotypes or their perceptions of others’ prescriptive stereotypes, though the relationship between these variables differed by group. The more cisgender control children believed others held prescriptive stereotypes, the more they held those stereotypes, a relation that did not exist for transgender children. Further, all groups perceived the stereotypes of others to be more biased than their own stereotypes.

*Keywords:* gender stereotyping, prescriptive stereotypes, gender preferences, transgender children, middle childhood

By age 2, children appear aware of gender stereotypes (Eichstedt, Serbin, Poulin-Dubois, & Sen, 2002; Ruble, Martin, & Berenbaum, 2007) and by preschool they not only endorse these stereotypes but see them as prescriptive—believing that the world *should* align with gender stereotypes (Baker, Tisak, & Tisak, 2016). Initial evidence suggests that groups may differ in endorsement of prescriptive stereotypes. For example, in elementary years, transgender children endorse prescriptive gender stereotypes less than cisgender children (Olson & Enright, 2018). In the present work, we seek to replicate (or not) this difference, and test whether differences in transgender versus cisgender children’s perceptions of *others’* prescriptive gender stereotypes might reflect group differences in children’s own prescriptive stereotyping. Further, we explore whether children believe others have stronger or weaker prescriptive stereotypes than they themselves hold.

Socially-transitioned transgender children use binary pronouns and show preferences for toys and clothing that differ from the ones more often observed among children who share their sex assigned at birth. Such children are initially treated by others as one gender, defying stereotypes of that gender early in development, before transitioning to their current gender (Olson & Enright, 2018). Once transitioned, transgender children are likely perceived as gender-conforming and behaving consistently with stereotypes (Olson, Key, & Eaton, 2015).

Transgender children’s unique experiences with socially transitioning make understanding their reasoning about gender stereotypes particularly interesting, for several reasons. First, our theories about the development of gender stereotyping are based exclusively on cisgender and presumed-cisgender children (Ruble, Martin, & Berenbaum, 2007). The inclusion of transgender children can further our understanding of the ways that gendered behavior and thinking emerges throughout childhood, helping to ensure that our claims are

representative of diverse developmental trajectories (Dunham & Olson, 2016). Second, while transgender and cisgender children have shown preferences that are stereotypical of their own gender (Fast & Olson, 2018; Olson et al., 2015), recent work has suggested that transgender children may show less prescriptive gender stereotyping than cisgender children in middle childhood (Olson & Enright, 2018). Including transgender children in the present work provided an opportunity to address our first research question: do we replicate (or not) the observation that transgender children endorse prescriptive stereotyping less than cisgender children?

Further, we investigated *when* transgender and cisgender children might differ in prescriptive stereotyping. One possibility is that these groups differ in their perceptions, or in response to their understanding, of what others believe. Theories suggest that children's own gender stereotypes might be related to their knowledge of others' stereotypes (Bussey & Bandura, 1999; Liben & Bigler, 2002), meaning that children's perceptions of their social environments may play an important role in stereotype development. Given that transgender children have unique experiences that may occur as a result of being transgender (e.g., different socialization across time), it is possible that they think about gender stereotypes including others' beliefs differently or are influenced by those beliefs in different ways (Olson & Enright, 2018). In the present research, we therefore tested two additional research questions: do transgender and cisgender children differ in their beliefs about others' prescriptive stereotyping? And do children's perceptions of others' gender stereotypes moderate the relation between group membership and their own prescriptive stereotypes?

Finally, while the developmental literature has examined children's prescriptive gender stereotypes (e.g., Koenig, 2018; Martin, 1990; Patterson, 2012; Sullivan, Moss-Racusin, Lopez, & Williams, 2018), children's perceptions of other people's prescriptive gender stereotypes and

their relation to their own prescriptive gender stereotypes is unknown. One possibility that we test in the current research is that children perceive others to be more biased than themselves. In the adult literature, people often believe others hold stronger stereotypes than they endorse themselves (Gómez, 2002; Rettew, Billman, & Davis, 1993). In the developmental literature, similar kinds of effects in other domains have been observed, including in the domain of gender-based bias (Elashi & Mills, 2015; Hagá, Olson, & Garcia-Marques, 2018). Thus, in the current work, our fourth research question investigated whether children believe that others hold stronger prescriptive gender stereotypes than they do.

### **The Current Study**

We address these questions in a group of 6-11 years old children. This age group was the focus of the present work because of the previously observed transgender vs. cisgender difference (Olson & Enright, 2018) in 6-8 year-old children, and because of age groups in studies observing differences in children's distinctions between their own bias and other's bias (e.g., 7-11 year-old children in Elashi & Mills, 2015). Children at these ages are known to have advanced theory of mind skills, allowing them to think about the beliefs of others (e.g., Bock, Gallaway, & Hund, 2015), and they have the verbal comprehension to understand the questions and response options provided. Finally, these years are a time when children demonstrate gender stereotyping on traditional measures.

While investigating our primary research questions, we also assessed children's own gender-typed preferences, a common correlate of gender stereotyping (e.g., Bian, Leslie, & Cimpian, 2017; Martin & Little, 1990; Miller, Trautner, & Ruble, 2006). Studies have found, for example, that children who believe girls like "feminine" activities more and boys like "masculine" activities more, themselves prefer the activities associated with their own gender

(Liben & Bigler, 2002). While previous studies suggest transgender and cisgender children do not differ in their preferences (e.g., Olson et al, 2015; Fast & Olson, 2018), this study presented another opportunity to test this question, to assess whether stereotypes and preferences are correlated in transgender children as they have been reported to be amongst cisgender children (e.g., Martin & Little, 1990), and to examine whether perceptions of others' stereotypes is also moderating the relationship between group membership and preferences.

One final feature of the present study that is notable, is the inclusion of cisgender siblings of transgender children. Siblings are important to include because they share much of their social environment (e.g., families, communities) with the transgender group, yet do not have the same experience with gender. Past community-based research with transgender children and their siblings has found that they often live in families that report being more politically liberal (Fast & Olson, 2018; Olson & Enright, 2018), meaning that they may hear fewer stereotypical messages about gender at home (Barnes & Cassese, 2017), than other children. Insofar as differences are observed between cisgender controls and transgender children, siblings can provide a clue about whether explanations for this difference could have to do with differences between families and/or differences between being transgender and cisgender.

## **Method**

### **Participants**

This study is part of a larger longitudinal study of development among transgender youth. Participants in the current study were age 6-11 at the time of data collection (February 2017 to June 2018).<sup>1</sup> There were three groups of participants in this study: (a) socially-transitioned transgender children who use binary pronouns in everyday life that do not align with their assigned sex (e.g., a child assigned male at birth who goes by “she/her” pronouns; henceforth,

*transgender*), (b) cisgender siblings of transgender children (henceforth, *siblings*), and (c) unrelated, cisgender children paired for gender and age with the transgender children (henceforth, *controls*). Because transgender children are a hard-to-reach population, estimating a sample size in advance was impossible. Thus, our sample size was determined by the number of participants we could recruit in this time period rather than by a target sample size. Importantly, at the time data collection was stopped, no one had analyzed the data and therefore the stopping decision was data-independent. In line with lab protocol ([https://osf.io/duy7b/?view\\_only¼226792040da6470d9dbb6396eb3fc1ae](https://osf.io/duy7b/?view_only¼226792040da6470d9dbb6396eb3fc1ae)), we report every 6- to 11-year-old transgender child who was given the present measures, their matched controls, and siblings of transgender children who participated during the recruitment period. See Table 1 for participant demographics.

Table 1  
Background and demographic characteristics

	Transgender Children	Siblings	Control Children
Participants <i>N</i>	93	55	93
Age <i>M (SD)</i>	8.1 (1.7)	8.5 (1.6)	8.1 (1.7)
Ethnicity			
White/European	68.9%	71.4%	57.3%
Hispanic/Latino	5.6%	6.1%	2.4%
Black/African	2.2%		1.2%
Asian	2.2%		7.3%
Multiethnic	21.1%	22.5%	31.8%
Income			
\$25,001-50,000/year	4.3%	7.7%	4.5%
\$50,001-75,000/year	7.6%	9.6%	11.4%
\$75,001-125,000/year	9.8%	7.7%	27.3%
Greater than \$125,000/year	78.3%	75%	56.8%
Parent Political Orientation <i>M (SD)</i>	1.81 (.83)	1.80 (.77)	2.27 (1.22)

*Note:* Political orientation scores range from 1 to 7, with higher numbers representing greater conservative orientation.

**Socially-transitioned transgender children.** Families with transgender children were recruited for the larger longitudinal study via online and in-person support groups for gender diverse children, at summer camps and conferences and through word-of-mouth. The research team traveled throughout the United States and Canada to meet with families of socially-transitioned transgender children. They often met families in their homes, private rooms of local community centers, or hotels—though some transgender children were tested in a research lab. The transgender children had already socially-transitioned at the time of participation. Ninety-three transgender children ( $M=8.11$  years,  $SD=1.66$ ) participated, including 69 transgender girls and 24 transgender boys. <sup>2</sup>

**Cisgender siblings of transgender children.** The cisgender sibling closest in age (when possible) to each transgender child was recruited to participate. Importantly, we included all cisgender siblings between the age of 6 and 11 years old irrespective of whether their transgender sibling had completed the same measure (e.g., if the transgender sibling was 3 years old and too young to complete the measure, the 6-year-old cisgender sibling would still be included; see OSF lab protocol). This criterion allowed us to recruit a larger sample of siblings than if we only included siblings who had a transgender sibling in this sub-study. Fifty-five cisgender siblings of transgender children ( $M=8.46$  years,  $SD=1.62$ ) participated, including 36 boys and 19 girls, of which 39 were siblings of transgender children also included in the study.

**Cisgender age- and gender-matched control children.** A group of cisgender children were recruited as matched controls of the transgender children. Control children were matched within four months of age to the transgender child and were matched by gender, such that a transgender girl—an assigned male who lives as a girl—would be paired with a cisgender girl (see OSF lab protocol). These children were recruited through a database of families in the

Pacific Northwestern United States who expressed interest in research and were all tested in a research lab. Ninety-three cisgender controls ( $M=8.05$  years,  $SD=1.72$ ) participated, including 24 boys and 69 girls.

### **Measure and Procedure**

After obtaining parental consent and child verbal assent, a researcher administered the measure verbally. Children stated their answers or pointed to a marked response sheet. Parents provided written demographic information simultaneously. At the same visit, participants and their parents completed many other measures as this is part of a larger, longitudinal project. These measures included a core battery of measures that children complete during each visit (e.g., self-esteem, gender identification, peer and object preferences, gender similarity to girls and boys, a gender-identity IAT, and for the 9-11-year-old children, an assessment of mental health). In addition to the core measures, the battery includes measures that are administered for a limited period of time to answer stand-alone research questions. The current measure was one of those stand-alone measures. Data were collected for all children who were participating in the study. None of the other measures given to these participants during this testing session involved assessment of gender stereotypes. Additional measures conducted in the same session are reported in other papers (e.g., Gulgoz, Gomez, DeMeules, & Olson, 2018; Olson & Enright, 2018). Participants received \$10 compensation, and children received an additional toy or gift card.

Participants completed a task adapted from Liben and Bigler (2002) to assess their prescriptive gender stereotypes, preferences for gender-related activities, and perceptions of other's prescriptive gender stereotypes. For each question, the researcher told participants that they would hear eight activities that people can do. Of the activities, four were stereotypically

“feminine” activities (e.g., help cook dinner) and four were stereotypically “masculine” activities (e.g., play baseball). The researcher first assessed children’s *personal prescriptive stereotypes* by asking, “who *should* do each activity?” Participants stated their responses for each activity using the following choices: only girls, mostly girls, both boys and girls, mostly boys, or only boys. Next, the researcher asked the children, “how much would *you like* to do each activity?” Participants stated their *preferences* for each activity using the following choices: “I would really like to do it,” “I would like to do it,” “I am not sure if I would like to do it,” “I would not like to do it,” or “I would really not like to do it.” Finally, the researcher asked the children, “what do *most people think* about who should do each activity?” to assess children’s *perceptions* of others’ prescriptive stereotypes. Participants indicated their responses using the same scale as in the first question. The last question was an addition to the Liben and Bigler measure; the exact activities and the response choices differed as well, though the first two questions and the basic design closely mirrored the original measure. The researcher assessed perceptions last to ensure that children’s perceptions of others’ stereotypes would not prime their responses.

For personal prescriptive stereotypes and perceptions items, feminine activities were recoded such that higher numbers represented more gender stereotype consistent responding (the measure was already arranged that way for masculine activities). The eight items were averaged to create composites henceforth termed *personal prescriptive stereotyping score* ( $\alpha = .73$ ) and *perceptions of prescriptive stereotyping score* ( $\alpha = .74$ ). For the stereotype preferences items, items were recoded such that higher numbers indicated greater liking of gender-stereotypic activities. For example, for the item “play baseball,” boys’ scores were recoded such that higher numbers indicate greater liking of the activity; conversely, for the item “help cook dinner,” girls scores were recoded such that high numbers indicate greater liking of the activity. These items

were then averaged to create a *preference score* ( $\alpha = .43$ ; this low reliability is discussed further in the discussion). One transgender participant did not complete the stereotype perceptions measure and was excluded from analysis for this measure but was included in the other analyses. All other participants completed all task items.

## Results

Our analysis plan was not preregistered and the decision to run some analyses (i.e., regression) was made in response to reviewer feedback. For these reasons the results should be interpreted with caution, seen as data-dependent, and exploratory. We report 95% confidence intervals throughout the results.

Table 2  
Prescriptive stereotyping, perceptions, and preferences means

	<i>M</i>	<i>SD</i>	<i>N</i>
Prescriptive Stereotyping			
Transgender	3.49	.48	93
Sibling	3.47	.46	55
Control	3.63	.46	93
Overall	3.54	.47	241
Gender Preferences			
Transgender	3.37	.51	93
Sibling	3.29	.66	55
Control	3.37	.53	93
Overall	3.34	.57	241
Perceptions of Stereotypes			
Transgender	4.21	.59	92
Sibling	4.22	.58	55
Control	4.16	.49	93
Overall	4.19	.55	241

Note. Prescriptive stereotyping and perceptions of others' stereotypes scores range from 1 to 5, with higher numbers representing more gender-consistent stereotypes. Gender-related preferences scores range from 1 to 5, with higher numbers representing more liking of gender-consistent activities.

### Are there group differences in stereotyping and preferences?

**Prescriptive stereotyping.** One-sample *t*-test comparisons to the midpoint of the scale (3, indicating no endorsement of stereotypes or counter-stereotypes) revealed that participants in all groups hold prescriptive gender stereotypes: transgender,  $t(92) = 9.85, p < .001, d = 1.02$ , 95% CIs [.39, .58]; siblings,  $t(54) = 7.52, p < .001, d = 1.01$ , 95% CIs [.34, .59]; controls,  $t(92) = 13.29, p < .001, d = 1.38$ , 95% CIs [.54, .72]. Although average gender stereotyping scores appeared to be higher among the cisgender control group compared to the transgender and cisgender sibling groups, this difference between groups was not significant, according to a one-way ANOVA,  $F(2, 238) = 3.0, p = .052, \eta_p^2 = .02$  (transgender vs. control,  $p = .091$ , 95% CI [-.02, .30], transgender vs. sibling,  $p = .97$ , 95% CI [-.17, .20], sibling vs. control,  $p = .11$ , 95% CI [-.35, .03]).<sup>3</sup> See Table 2 for means and standard deviations by participant group.

In addition to more traditional null hypothesis testing, we calculated Bayes factors (BF01) to estimate the strength of evidence regarding our null findings (Kruschke & Liddell, 2018). These Bayes factors specify how much more likely it is that participant group has null influence on children's responses than it is that participant group has some alternative influence on children's responses (Wagenmakers et al., 2018). We calculated Bayes factors using JASP (2017) statistical software. Following guidelines from Lee and Wagenmakers (2014), we found weak evidence in favor of the null hypothesis. Results indicate that the null hypothesis was only 1.54 times more likely than the alternative hypothesis, suggesting that we cannot have strong confidence in the null result.

**Perceptions of others' prescriptive stereotypes.** One-sample *t*-test comparisons to the midpoint (3, indicating no endorsement of stereotypes or counter-stereotypes) indicated that

participants in each participant group perceived others as holding prescriptive gender stereotypes: transgender,  $t(91) = 19.81, p < .001, d = 2.07, 95\% \text{ CIs } [1.08, 1.33]$ ; siblings,  $t(54) = 15.49, p < .001, d = 2.09, 95\% \text{ CIs } [1.06, 1.37]$ ; controls,  $t(92) = 22.71, p < .001, d = 2.36, 95\% \text{ CIs } [1.06, 1.26]$ . The three participant groups did not significantly differ on their perceptions of others' gender stereotypes, as indicated by a one-way ANOVA,  $F(2, 237) = .210, p = .811, \eta_p^2 = .002$ , (transgender vs. control,  $p = .86, 95\% \text{ CI } [-.23, .15]$ , transgender vs. sibling,  $p = .93, 95\% \text{ CI } [-.23, .21]$ , sibling vs. control,  $p = .84, 95\% \text{ CI } [-.17, .27]$ ). Our Bayesian analyses indicated that the null hypothesis was 18.2 times more likely than the alternative hypothesis for children's perceptions of others' stereotyping. This result suggests that we can have high confidence that there are no differences between groups.

**Gender-related preferences.** In all groups, one-sample  $t$ -test comparisons to the midpoint of the scale (3) revealed that participants indicated, on average, favoring the activities associated with their gender: transgender,  $t(92) = 4.22, p < .001, d = .44, 95\% \text{ CIs } [.15, .42]$ ; siblings,  $t(54) = 5.18, p < .001, d = .70, 95\% \text{ CIs } [.23, .51]$ ; controls,  $t(92) = 7.12, p < .001, d = .74, 95\% \text{ CIs } [.27, .48]$ . Transgender, cisgender sibling, and cisgender control participants did not differ on their preferences for gender stereotypical activities associated with their gender as indicated by a one-way ANOVA,  $F(2, 238) = .626, p = .536, \eta_p^2 = .03$  (transgender vs. control,  $p = .56, 95\% \text{ CI } [-.11, .29]$ , transgender vs. sibling,  $p = .67, 95\% \text{ CI } [-.31, .14]$ , sibling vs. control,  $p = .99, 95\% \text{ CI } [-.23, .28]$ ). Our Bayesian analyses indicated that the null hypothesis was 12.56 times more likely than the alternative hypothesis for children's gender-related preferences, meaning that we can have high confidence in the null finding.

Table 5  
Results of moderation analyses

Variable	Prescriptive Stereotyping		Preferences	
	$\beta$	<i>SE</i>	$\beta$	<i>SE</i>
Trans vs. Control	.143*	.068	.093	.085
Trans vs. Sibling	-.024	.079	.094	.098
Stereotype Perceptions	-.109	.083	-.058	.103
TransControlXPerceptions	.325*	.128	.051	.160
TransSiblingXPerceptions	.075	.136	-.088	.170

*Note.* Transgender children were the reference category in group comparisons. Variables were centered prior to analysis. \* $p < .05$

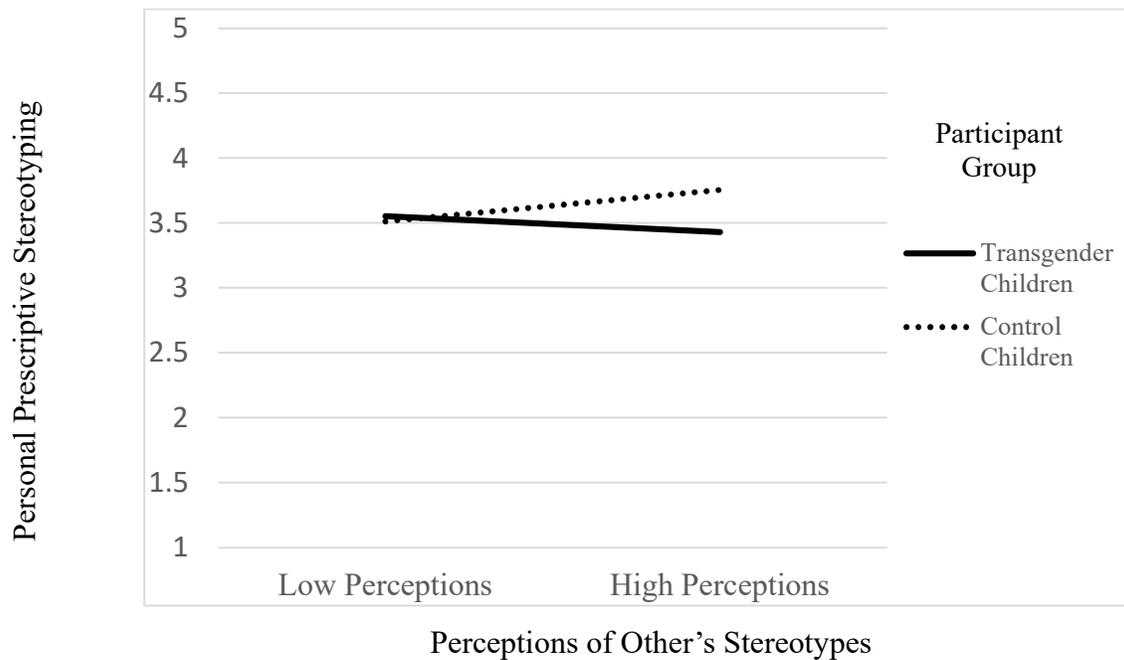


Figure 1. Interaction between participant group and perceptions of others' prescriptive gender stereotypes on children's personal prescriptive stereotyping.

Table 3  
Correlations between variables for the entire sample and for transgender participants

Variables	1	2	3	4
1. Prescriptive Stereotyping	–	.440**	.008	-.359**
2. Gender Preferences	.538**	–	-.063	-.198**
3. Perceptions of Stereotypes	-.134	-.051	–	.412**
4. Age	-.452**	-.262*	.402*	–

Note. Correlations for the entire sample ( $N=241$ ) are reported above the diagonal. Correlations for transgender children ( $N=93$ ) are reported below the diagonal.  
\*  $p<.05$  \*\*  $p<.01$

Table 4  
Correlations between variables for controls and siblings

Variables	1	2	3	4
1. Prescriptive Stereotyping	–	.357**	.234*	-.342**
2. Gender Preferences	.390**	–	-.007	-.152
3. Perceptions of Stereotypes	-.042	-.160	–	.384*
4. Age	-.210	-.166	.478**	–

Note. Correlations for cisgender control children ( $N=93$ ) are reported above the diagonal. Correlations for siblings ( $N=55$ ) are reported below the diagonal.  
\*  $p<.05$  \*\*  $p<.01$

### What is the relationship between prescriptive stereotyping, preferences, and perceptions?

See Tables 3 and 4 for the full correlation analyses. Our main findings are that personal prescriptive stereotyping and gender-related preferences were positively and significantly correlated in all groups. The only other significant association was a positive correlation between prescriptive stereotyping and perceptions of others' prescriptive stereotypes, but this relation was only significant in the control group.

**Regression analyses.** We conducted post-hoc regression analyses to examine whether the initially hypothesized group difference (transgender children, controls, siblings) in children's prescriptive stereotyping was moderated by perceptions of others' stereotypes (Model 1: simple moderation). Additionally, we examined whether perceptions of others' stereotypes moderated the relationship between participant group and prescriptive stereotyping. For all tests of moderation, we followed steps outlined in Hayes (2017) and used bias-corrected bootstrapping techniques with 5,000 samples in PROCESS software. Listwise deletion was used in all analyses. See Table 5 for results.

When examining children's prescriptive stereotyping as the outcome, the results for the model were significant albeit not particularly strong,  $R^2 = .05$ ,  $F(5, 234) = 2.52$ ,  $p = .030$ . We found a significant interaction between participant group and perceptions of others' stereotypes,  $\beta = .32$ ,  $SE = .14$ ,  $p = .012$ ; 95% CIs [.07, .58]. Simple slopes analyses indicated that this relationship was significant for transgender children and controls who perceive others as holding strong gender stereotypes. Transgender children one standard deviation above the mean on perceptions of others' stereotypes reported lower prescriptive gender stereotyping compared to cisgender control children who reported more prescriptive gender stereotyping,  $\beta = .32$ ,  $SE = .10$ ,  $p < .001$ ; CIs [.13, .52]. See Figure 1 for the interaction between participant group and perceptions of others' stereotypes. When examining children's gender-related preferences as the outcome, the results for the model were not significant,  $R^2 = .01$ ,  $F(5, 234) = .60$ ,  $p = .710$ .

### **Do children see others as more biased than they are?**

For all groups, the results of paired-samples t-tests showed that participants rated others as holding stereotypes more than they did, transgender:  $t(91) = 8.56$ ,  $p < .001$ ;  $d = .89$ , 95% CIs [.55, .88]; siblings,  $t(54) = 7.32$ ,  $p < .001$ ,  $d = .99$ , 95% CIs [.54, .95]; controls,  $t(92) = 8.78$ ,  $p < .001$ ,

$d=.91$ , 95% CIs [.41, .65]. Our Bayesian analyses offered strong support that children perceived the prescriptive gender stereotypes of others to be more biased than their own stereotypes. The hypothesis that children perceived others as more biased was:  $7.2e^{10}$  times more likely than the null hypothesis for control children;  $2.9e^{10}$  times more likely than the null hypothesis for transgender children; and  $9.1e^6$  times more likely than the null hypothesis for siblings.

### **Discussion**

The current work did not replicate the observation that elementary-age transgender children show less prescriptive gender stereotyping than cisgender children (Olson & Enright, 2018). Further, our Bayes factor suggested we observed weak evidence in favor of the null hypothesis, meaning we cannot be confident that there are no differences between the groups. Together with past work (including with younger children, Fast & Olson, 2018), these results suggest that the issue of whether there are differences between transgender and cisgender children in terms of prescriptive gender stereotyping is unresolved. In every study, transgender samples showed lower mean level stereotype endorsement, but whether this difference was significant varied by study. A larger sample is likely needed to resolve this issue.

Despite a lack of a difference between groups, we saw some preliminary evidence that there could be different factors at play in the degree to which transgender and cisgender children endorse prescriptive stereotypes. We observed that controls who endorsed gender stereotypes also expected others to endorse them; a pattern we did not observe in the transgender sample. Results for controls fall in line with theory suggesting that children's own gender stereotypes might be related to knowledge of others' gender stereotypes (Bussey & Bandura, 1999; Liben & Bigler, 2002).

Aligning with these findings from these results from the bivariate correlations, we found that perceptions of others' prescriptive stereotypes moderated the relationship with group membership and one's own prescriptive stereotyping. For children who were high in perceptions of others' stereotypes, if they were cisgender this was associated with higher personal prescriptive stereotyping than if they were transgender. We must be cautious in interpreting the moderation results as the significance value suggests these findings may not be particularly robust. Nonetheless, if the results replicate, why might cisgender and transgender children who perceive others as endorsing gender stereotypes more show different patterns in their own stereotyping?

Although speculative, parents of transgender children may tailor transgender children's social experiences which could in turn influence children's own stereotyping. For instance, pilot research in our lab has found that many transgender children and their families openly discuss the fluidity of gender; findings may suggest that these families have nuanced conversations about gender beliefs and gender stereotypes, experiences that we speculate are less likely to occur in families with only cisgender children (Olson & Enright, 2018). As a result, transgender children may be aware of the gender stereotypes held by others due to parental socialization, yet their unique developmental experiences may lead these perceptions to be less connected and even inversely related to their own gender stereotyping.

Similar to our findings for prescriptive stereotyping, we found that transgender children did not differ significantly at the mean level from their cisgender peers (controls and siblings) on preferences for gender stereotypical activities and perceptions of others' stereotypes. Findings regarding activity preferences are consistent with past work that has found that socially-transitioned transgender children hold gender-based preferences for toys, clothing, and peers to

the same degree as cisgender children (Fast & Olson, 2018; Olson et al., 2015). Findings regarding the lack of difference in children's perceptions of others' stereotypes may have been observed because children of similar cultural environments are often thought to acquire similar gender stereotype knowledge throughout childhood (Trautner et al., 2005).

Importantly, we believe that including transgender children in basic psychological science can provide convergent or divergent evidence for theories in developmental social psychology (Martin, Ruble, & Szkrybalo, 2002). A theme in cognitive theories of gender development is that children use their knowledge of gender stereotypes for guiding their own behaviors (Martin, 1993). This suggests that children's knowledge of gender stereotypes—which are likely impossible to avoid during development—is predicative of their own stereotyping. However, evidence from the present work found that children's stereotyping and perceptions of others' stereotypes was positively associated *only* for control participants. The fact that there was no association in transgender children and their siblings indicates that gender stereotype development may not always be influenced by gender knowledge. Future research should examine why these variables are not correlated in transgender children and their siblings, to develop interventions that may reduce gender stereotyping in cisgender children.

### **Children's Gender Stereotypes and Perceptions of Others' Gender Stereotypes**

An additional question driving the current research was whether children perceived the prescriptive gender stereotypes of others to be more biased than their own prescriptive stereotypes. Consistent with the adult literature (e.g., Gómez, 2002; Rettew et al., 1993), we found that cisgender and transgender children believed others to have stronger prescriptive stereotypes than they themselves hold (Gómez, 2002; Rettew et al., 1993). These findings add to the developmental literature, which has mainly focused on personal endorsement of prescriptive

stereotypes (e.g., Fiske & Stevens, 1993; Friedman et al., 2007; Martin, 1995; Patterson, 2012; Rudman & Phelan, 2008). The current findings suggest that perceptions of stereotypes may be important in how children interpret their social environments, as children tend to perceive other people's stereotypes as more extreme than their own stereotypes.

Replicating decades of work (e.g., (Bian et al., 2017; Martin & Little, 1990; Miller et al., 2006), we also found that the more a child held prescriptive gender stereotypes, the more they showed gender-related preferences. This was true for transgender children, their cisgender siblings, and cisgender controls. These findings suggest that the relationship between stereotyping and preferences for socially-transitioned transgender children looks similar to children who have been born and raised as their current gender.

### **Limitations**

We acknowledge several limitations. First, it is difficult to assess how children interpreted the measure of perceptions used in this study. For example, did some children interpret “other people” as meaning the broader population or their immediate family members? Could differences in interpretation explain why this variable was not generally associated with children’s stereotypes and preferences? It is possible that children’s perceptions of *some* people’s stereotypes—such as their parents—are more closely aligned with their own personal beliefs and preferences than their perceptions of people’s beliefs in general.

A second limitation is that there was low reliability for the preference measure. Children, regardless of their gender, tended to rate all activities only slightly above the midpoint of the scale. Failing to find differences across items and little variation across participants were serious limitations to this measure. Future work would benefit by using different items.

While our sample size was large for a sample of hard-to-recruit transgender children, it was not large enough to be confident about whether the groups differed from one another on prescriptive stereotyping. A much higher-powered replication would be advised, particularly due to the mixed results across papers. A related limitation is that because of financial and time constraints, controls were recruited locally and participated in a research lab, whereas transgender children were recruited nationally and participated in various locations. We acknowledge that differences in testing location could potentially affect children's responses.

A final limitation is that there are unique characteristics in the sample of transgender children in this paper. Our participants are not racially or economically diverse, and their parents are generally liberal. It remains an open question how these results generalize to broader samples of transgender people. Interestingly, even in this sample, children believed that others held strongly stereotyped beliefs. Whether these findings generalize to children raised by people encouraging gender stereotyping or places with more conservative politics remains unknown.

### **Conclusion**

The present study indicates that while transgender and cisgender children did not differ in their prescriptive stereotypes or their perceptions of others' prescriptive stereotypes, the relationship between these variables may differ by group. Findings show that the more cisgender control children believed others held prescriptive stereotypes, the more they held those stereotypes; however, this relation was not observed in transgender children. Further, results suggest that cisgender and transgender children perceive others as having stronger biases than they do in the domain of prescriptive stereotyping. These findings add to our knowledge of prescriptive gender stereotyping in children with diverse experiences.

### Endnotes

1. One cisgender control was not yet 6 years old but is included because they were within 4 months of age of their transgender match.
2. Thirty-two transgender, 18 sibling, and 25 control participants completed a stereotype flexibility measure reported in previous research (Olson & Enright, 2018). For that measure, children were read a list of 15 activities (five “feminine” activities, five “masculine” activities, and five neutral activities) and indicated whether boys, girls, or both boys and girls should do the activities. On average, 26 months passed between when these participants completed the flexibility measure and they completed this measure. In our Supplement, we report the means and standard deviations of the present sample excluding the participants that were in that past work.
3. We calculated effect sizes using a spreadsheet made by Lakens (2013).

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