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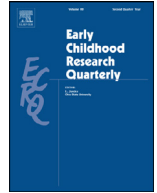
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Fathers, faith, and family gender messages: Are religiosity and gender talk related to children's gender attitudes and preferences?

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ABSTRACT

This study examines the links between parents' religiosity, the way parents implicitly talk about gender with their preschoolers, and children's gender attitudes and preferences. Additionally, we focused on the degree to which parents' gender talk mediates the relation between religiosity and children's gender attitudes and preferences. In a sample of 134 families (81 in which at least 1 parent was Christian) with a child aged 4–6 years, we observed both parents' gender talk while discussing the Gender Stereotypes Picture Book with their child. Fathers and mothers filled out a questionnaire to examine the importance of religion in their daily life and children were interviewed about their gender stereotypical attitudes and personal preferences for gender-typed occupations. Our study revealed that when parents are more religious, their children have more stereotypical gender attitudes. Although we found no significant mediation, we did find evidence for a specific role of (religious) fathers when it comes to communicating gender messages. That is, parents' level of religiosity was positively related to fathers', but not to mothers' gender talk. Additionally, only fathers' gender talk was positively associated with their children's gender attitudes. Our results illustrate the unique role fathers can play in children's gender development.

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1. Introduction

Individual variations in children's stereotypical gender attitudes and preferences are at least in part due to characteristics of the family. One salient family characteristic is religiosity, which has been shown to play a central role in establishing and reinforcing traditional gender role beliefs and practices within the family (e.g., Diehl, Koenig, & Ruckdeschel, 2009; Inglehart & Norris, 2003; Read, 2003). There is evidence that children learn traditional gender role beliefs in the family context in part through the way parents talk about gender (Endendijk, Groeneveld, & Mesman, 2018; Liben & Bigler, 2002). However, parents' religiosity has not yet been examined in relation to parents' gender talk and young children's gender attitudes and personal preferences. Moreover, the scarce literature on parents' gender talk has only made use of dyadic parent-child interactions (mostly mother-child) which does not capture other, frequently occurring types of interactions within

the family system (e.g., triadic interactions) that also include fathers (Whitchurch & Constantine, 1993). Therefore, we examined whether fathers' and mothers' gender talk during a triadic family interaction mediates the relation between parents' religiosity and children's gender attitudes and preferences.

In early childhood, parents are generally the main socializing agents for their children's developing concepts about gender (Lindsey, 2015). Theory and research suggest that religiosity plays a central role in establishing and reinforcing traditional gender role beliefs and practices in the family (e.g., Diehl et al., 2009; Inglehart & Norris, 2003; Read, 2003). The main religious ideology in the Netherlands is Christianity, with a quarter of people identifying with a Catholic denomination and 15% with a Protestant denomination (Schmeets, 2018). In contrast to the United States, there has been a decline in church attendance over the years in the Netherlands due to secularization (Inglehart & Norris, 2003; Schmeets, 2018). However, religious values and beliefs may persist in everyday life (Inglehart & Norris, 2003). A large body of work from different disciplines indicates that most religious denominations (e.g., Christianity, Islam, Judaism), implicitly or explicitly, hold

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patriarchal gender norms and continue to value traditional gender roles within the family, with the man as the main breadwinner and the woman as the homemaker (Inglehart & Norris, 2003). It should be noted, however, that even within conservative denominations (e.g., evangelical Christians) more liberal subcultures exist (Gay, Elison, & Powers, 1996). Regardless of the religious denomination to which people belong, the level of religiosity is related to how strictly people conform to traditional gender norms (Diehl et al., 2009; Read, 2003). The more religious people are, as assessed in populations with different religious denominations, the more traditional the gender role attitudes and practices (e.g., Diehl et al., 2009; Inglehart & Norris, 2003; Read, 2003). It is conceivable that children's gender attitudes may vary depending on their parents' level of religiosity, but results to date have been mixed. Some survey-based studies from the United States and Germany among adolescents and young adults, both with and without a migrant background, found no distinct relation between parental religiosity and offspring gender attitudes (e.g., Bettencourt, Vacha-Haase, & Byrne, 2011; Kretschmer, 2018). However, other studies, again from the United States and Germany, did find that the level of religiosity of parents was related to more stereotypical gender attitudes of their adolescent children, both with (Idema & Phaet, 2007) and without a migrant background (Myers & Booth, 2002). We could not detect clear differences between the studies that did and did not find an effect of religiosity in terms of sample, method, or analytical strategy, that could account for these mixed findings. In this study, we aim to shed more light on the possible role of parents' religiosity in the development of gendered norms and preferences in children by examining one of the plausible mechanisms through which parents transmit their societal attitudes to their children (i.e., via gender talk), and by zooming in on a specific area that is surrounded by gender stereotypes, namely professional occupation.

In general, the link between parents' and children's gender attitudes is weak (Tenenbaum & Leaper, 2002). As Leaper and Friedman (2007) mention, this might be because attitudes are transferred indirectly: they have to be communicated in order for children to learn them. The Gendered Family Process Model (Endendijk et al., 2018) comprehensively explains that gender attitudes of parents are transmitted through their gender socialization practices. Parents' gender socialization practices can be roughly divided in the following categories of behavior: (1) creating a gendered environment; (2) modeling gendered behaviors, interests, and emotions, (3) direct instruction, and (4) gender-differentiated parenting (see Endendijk et al., 2018 for an elaborate explanation of these practices). Language plays a central role in several parental gender socialization practices, such as reinforcing gender-typed behaviors and emotions (e.g., more often stimulating playing house or talking about sad feelings with girls than with boys) or giving instructions about gender-stereotypical social norms (e.g., "you're a tough boy, no need to cry" or "you should wear a cute dress to that party" to a girl; Blakemore, Berenbaum, & Liben, 2009; Endendijk et al., 2018). According to the Sapir-Whorf hypothesis, language influences how children interpret the world (Kay & Kempton, 1984). In this study, we focus on the degree to which parents implicitly talk about gender as a possible gender socialization route that shapes children's developing gender attitudes and preferences. Specifically, we examine children's gendered attitudes toward and personal preferences for stereotypically masculine (e.g., mechanic) and feminine professions (e.g., nurse). This topic is of particular interest in the Netherlands, where this study was carried out, as gender segregation in terms of enrollment in different study fields and participation in different areas of the labor market is relatively high in this country compared to other West-European countries. For example, Dutch women remain strongly underrepresented

in the field of science, technology, engineering, and mathematics (STEM; Vinkenburg, 2019).

Parents' gender talk conveys both implicit and explicit messages about how boys and girls should behave (Gelman, Taylor, & Nguyen, 2004). An example of gender talk is contrasting boys and girls in line with stereotypes (e.g., "boys are better at math than girls"), which explicitly emphasizes a distinction between men and women. These explicit gendered messages from parents are uncommon in societies that hold gender equality in high regard, such as west-European countries, so that subtle and unconsciously transmitted gender messages are more common than explicit ones (Mesman & Groeneveld, 2017). Several studies have used book reading tasks to study subtle parental gender talk while discussing pictures displaying gendered activities (both stereotypical and counter-stereotypical; DeLoache, Cassidy, & Carpenter, 1987; Endendijk et al., 2014; Friedman, Leaper, & Bigler, 2007; Gelman et al., 2004). For instance, parents used stereotypical gender labels to describe gender-neutral characters involved in feminine or masculine activities (e.g., "he is throwing snowballs" or "she is cooking" about gender-neutral characters; DeLoache et al., 1987; Endendijk et al., 2014). Additionally, mothers more often gender labeled men in stereotypical activities (e.g., man chopping wood) than women in stereotypical activities (e.g., woman cheerleading; Gelman et al., 2004), implicitly communicating that masculine activities are especially appropriate for men only. Further, mothers evaluated stereotypical activities more positively than counter-stereotypical activities (Endendijk et al., 2014). Thus, parents implicitly convey a gendered message using different types of gender talk.

Only a few studies have examined to what extent parents' gender talk is related to children's developing concepts about gender. Although Gelman et al. (2004) showed a similarity between mothers' and children's gender talk, they did not address whether mothers' gender talk was related to children's more general gender attitudes and preferences. Studies examining related processes do provide insights relevant to the question of parents' gender talk in relation to children's gender attitudes. For example, more frequent home-observed parental responses to sex-typed play with toys of 18-month-old children is related to an earlier ability in their children to use gender labels for pictures of boys and girls and an increased level of gender-typed play at 27 months of age (Fagot & Leinbach, 1989). In addition, college and secondary school students with currently more traditional gender role beliefs toward how men and women should behave, recall receiving more traditional implicit and explicit gender messages from their parents in their childhood (Epstein & Ward, 2011). Moreover, children who are linguistically made aware of gender categories within the classroom (e.g., "Good morning, boys and girls"), develop stronger gender stereotypes (Hilliard & Liben, 2010). These findings suggest that gender talk has an effect on children's gender attitudes.

Parents' gender talk may serve as a mediator in the relation between parents' level of religiosity and children's gender attitudes and preferences. As stated previously, parents' own values and attitudes need to be communicated before children can adopt them (Leaper & Freedman, 2007). This points to a mediating model: from parental religiosity (and related gender attitudes) to parental communications about gender to child gender attitudes. There is evidence for the starting point of this model that religious parents have more traditional gender role beliefs (e.g., Diehl et al., 2009; Inglehart & Norris, 2003; Read, 2003). Relatedly, there is some evidence for the first step of the suggested mediation model—from parental religiosity to their communication about gender to their children (e.g., Afifi, Joseph and Aldeis, 2008; Schnabel, 2017), as well as for the second step—from parental gender socialization to children's gender attitudes (Endendijk et al., 2018; Liben &

Bigler, 2002). However, these elements have to date not been analyzed together in one model to test mediation.

The associations between parents' religiosity, parents' gender talk, and children's gender attitudes and preferences may differ for boys and girls. A previous study found that fathers who value religious socialization have sons who are more conservative, but not daughters (Idema & Phalet, 2007). When looking at gender stereotypes, a large longitudinal Dutch study found that implicit gender stereotypes (measured with computer tasks) from mothers were related to their daughters' stereotypes, but not their sons' (Endendijk et al., 2013), while there were no associations between stereotypes of fathers and the stereotypes of their sons or daughters. In this research project, the gender picture book was also used to code fathers' and mothers' gender messages (Endendijk et al., 2014) (Endendijk et al., 2014). Although it was found that fathers with 2 sons communicated more implicit stereotypical messages about gender than fathers who discussed the book with 2 daughters or with a daughter and a son, links with (gender stereotypical) child outcomes were not studied. When looking at other aspects of parenting, paternal stereotypes were related to paternal behavior and child outcomes: When fathers' implicit attitudes toward gender roles were strongly stereotypical or strongly counter-stereotypical, paternal differential treatment of boys and girls was related to children's aggressive behavior 1 year later (Endendijk et al., 2016). In the current study, we test whether gender messages from fathers and mothers have a differential effect on boys' and girls' gender attitudes and preferences. For this reason, the mediation model is also tested for boys and girls separately.

Studies on the topic of religiosity, parents' gender talk and children's gender attitudes and preferences have fallen short when it comes to including fathers and families of young children, which is unfortunate for 3 reasons. First, there might be a specific role for religious fathers when it comes to communicating gender messages, because some denominations explicitly assign fathers to teach their children (boys in particular) about traditional gender ideology (Bartkowski and Xu, 2000). Conservative religious fathers are also more likely to teach their children about conforming to religious norms and values than mothers (Idema & Phalet, 2007). In general, fathers express more gender messages than mothers (Eagly, Wood, & Diekman, 2000; Hess, Ittel, & Sisler, 2014).

Second, gender talk has only been studied in dyadic parent-child interactions and mostly mother-child interactions. For example, Endendijk et al. (2014) used a within-families design, examining both fathers' and mothers' gender messages during separate home visits while discussing a gender picture book with their 2 children (one toddler, one preschooler). However, the family systems perspective emphasizes that subsystems within the family are interrelated and influence each other (Whitchurch & Constantine, 1993). For example, the way mothers and children interact with each other, is affected by the way mothers interact with their partners as well as father-child interaction patterns. Research shows that parents' behaviors and use of language indeed differ between dyadic and triadic interactions (Bingham, Kwon, & Jeon, 2013; de Mendonça, Cossette, Strayer, & Gravel, 2011). For instance, de Mendonça et al. (2011) found that father-child interactional synchrony was lower than mother-child synchrony during triadic, but not dyadic interactions. Triadic family conversations are likely to have a unique contribution to children's developing concepts about gender. Indeed, the importance of triadic observations of father, mother and child has been underscored when it comes to studying gender socialization within the family (Endendijk et al., 2018; Lindsey & Caldera, 2006). Such interactions offer a more diverse and complex social-emotional environment for children than dyadic interactions as they encompass 3 different subsystems of

the family system at once (father-child, mother-child, and father-mother) (Lindsey & Caldera, 2006).

Third, to our knowledge, research on parents' religiosity in relation to gender attitudes of children in early childhood is non-existent. Most research on this topic has been conducted with adolescents and their parents. This is surprising given that parents play a central role in learning about gender during this early period in which key milestones in the development of gender concepts are reached (Blakemore et al., 2009; Lindsey, 2015). During the preschool years, gender-stereotypical knowledge and attitudes about toys, personality traits, household tasks, and occupations increases (Blakemore et al., 2009; Signorella, Bigler, & Liben, 1993). In these preschool years, children also develop personal preferences regarding toys, activities, and occupations that are in line with their gender (Hilliard & Liben, 2010; Zosuls et al., 2009). In sum, there is a lack of knowledge about the role of religiosity in fathers, their gender talk in triadic parenting situations, and the gender attitude development of young children.

The current study examines the links between parents' religiosity, parents' gender talk, and children's gender attitudes and preferences in the Netherlands. Specifically, we aim to unravel part of the route through which level of religiosity shapes the development of more traditional views on gender roles. We do this by testing a mediation model in which parents' religiosity is associated with preschoolers' gender attitudes and preferences through fathers' and mothers' gender talk (Fig. 1). In addition, we observe both fathers' and mothers' gender talk in a triadic, instead of a dyadic interaction, to gain more insight in this commonly occurring but to date neglected type of family interactions. With respect to gender ideology in the Netherlands, liberal values are prevailing, female participation in the labor market is relatively high and fathers are generally involved in childcare (Devreux, 2007). Despite this progress, women are still working fewer hours than men and spend more time on caregiving tasks (Portegijs & Van den Brakel, 2018). Studying religiosity in relation to parents' gender talk and children's gender attitudes and preferences in the Netherlands, might provide a piece of the puzzle as to why gender inequality persists and how it is transmitted across generations in a society that values gender equality.

Based on the literature, we tested 5 hypotheses: (1) parents' religiosity is positively associated with their children's gender attitudes and preferences; (2) parents' religiosity is positively related to their gender talk; (3) fathers' and mothers' gender talk is positively associated with their children's gender attitudes and preferences; (4) fathers' and mothers' gender talk partially mediates the relation between parents' religiosity and children's gender attitudes and preferences; (5) regarding our first 3 hypotheses, the associations are stronger for fathers than for mothers. All associations are examined for boys and girls separately, to explore differences in the association of gender talk by fathers and mothers and gender attitudes of boys and girls.

2. Material and methods

2.1. Sample

This study is part of the cross-sectional research project Tomboys and pansies, which examines culture-specific and culture-general messages young children receive from their mothers and fathers about gender (non)conformity. This project included 144 two-parent families divided into 3 groups based on their self-identified religious affiliation: (1) 49 families with 2 Christian parents, (2) 32 families with 1 Christian parent and 1 non-religious parent, and (3) 63 families with 2 non-religious parents. All Catholic and Protestant denominations were considered Christian.

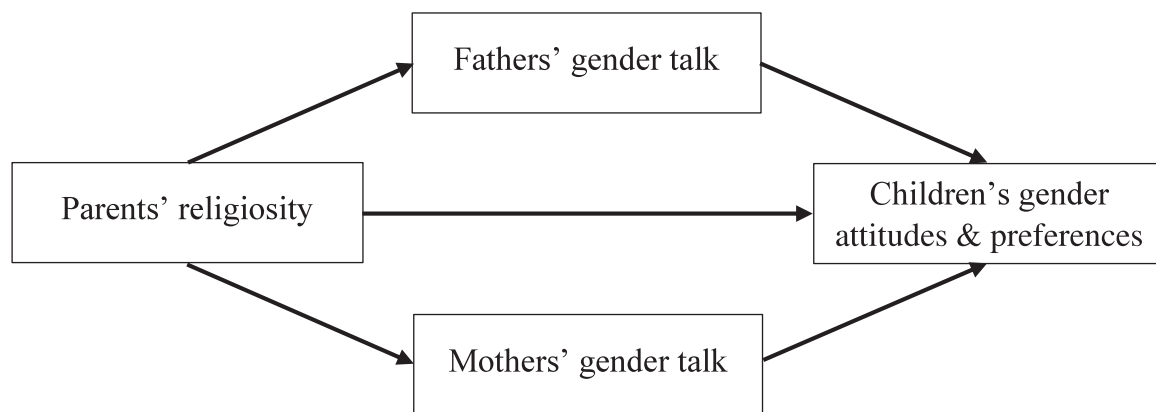


Fig. 1. Theoretical framework of associations between parents' religiosity, fathers' and mothers' gender talk, and children's gender attitudes and preferences, moderated by sex of the child.

Families with a preschooler in the Western region of the Netherlands were recruited using 2 methods. First, a Facebook advertisement was placed between November 2016 and December 2016 with information about the study and contact details of the research team. Second, between December 2016 and July 2017, 6392 families selected from municipality records were invited by post to participate in the study. All families were visited between December 2016 and July 2018. Families were eligible to participate if the child was between 4 and 6 years of age at the time of recruitment. Families were included if the parents were born in the Netherlands, or in another Western country in which Christianity is the predominant religion, or if the parents were adopted and grew up in the Netherlands. Only heterosexual biological-, step-, foster-, or adoptive parents that were involved in the child's life before the child's first birthday and living in a 2-parent household were eligible for participation. Families were asked to participate in one home visit including both parents and their preschooler. In addition to the home observations, participation in the study included computer testing and filling out questionnaires.

For the current study, families were excluded from analyses when they did not discuss the Gender Stereotypes Picture Book in Dutch or English ($n = 4$), or when the child was not interviewed to assess the child's gender attitudes and preferences ($n = 6$). This led to a final sample of 134 families. Fathers were between 28 and 66 years old ($M = 38.41$, standard deviation [SD] = 5.99) and mothers were aged between 25 and 48 years ($M = 35.79$, SD = 4.78). The children were on average 5 years old (SD = 0.70, range 3.87–6.75). Almost half of the children were girls (48.5%). The majority of the children had one or more siblings (84.3%). Most of the parents had finished academic or higher educational schooling (fathers: 59.0%, mothers: 65.0%). Most of the participating parents were married, had a registered partnership or cohabitation agreement (97.7%).

2.2. Procedure

Each family was visited once when father, mother, and the child were present. Before each home visit, both parents were asked to individually complete a set of digital questionnaires. During the home visit, dyadic and triadic parent-child interactions were filmed, parents and child were interviewed, and computer tasks were administered to the parents and child. The participating families received 20 Euros and a small present for their child. All visits were conducted by pairs of trained graduate or undergraduate students. Written informed consent was obtained from all families. Ethical approval for this research was provided by the Research Ethics Committee of the Institute of Education and Child Studies of Leiden University (ID: ECPW2016/136).

2.3. Measures

2.3.1. Parents' religiosity

To measure the importance of religion in the daily life of the parents, the Practice and Belief Scale (PBS) was used (Holder, Coleman, & Wallace, 2010). This questionnaire consists of 10 items (e.g., "How often do you find strength and comfort in your religion?", "How often do you go to a place of worship such as a church?"). Fathers and mothers indicated the extent to which the items applied to them, using answer categories ranging from never (1) to often (4). A mean religiosity score was calculated for each parent. Parents who indicated that they did not have a religion, did not fill out the PBS and were given a score of 1 for their mean religiosity. There were 6 parents who indicated to be Christian, but did not fill out the PBS. Regression imputation was used to predict their missing scores. Only predictors with P values smaller than 0.05 were included, which were fathers' religiosity for the model of mothers' religiosity, and mothers' religiosity, children's age, and mothers' working hours for the model of fathers' religiosity. Fathers' and mothers' religiosity scores were significantly and strongly correlated ($r(132) = 0.78$, $P < 0.01$), and mothers ($M = 2.01$, SD = 1.23) were significantly more religious than fathers ($M = 1.77$, SD = 1.10), $t(133) = -3.64$, $P < 0.01$. For each family, a sum score was calculated using fathers' and mothers' mean religiosity scores. Higher scores indicate more religious practices and beliefs in everyday family life. The internal consistencies (Cronbach's alpha) were 0.97 for both fathers and mothers.

2.3.2. Stereotypical gender messages

An adapted version of the Gender Stereotypes Picture Book (Endendijk et al., 2014) was developed to elicit comments about gender during book reading. The book consists of 13 pictures without text or storyline, with drawings of boys, girls, and gender-neutral children alternately pictured in stereotypically masculine or feminine activities. The gender-neutral children were created in such a way that they could be interpreted as either a boy or a girl (i.e., ambiguous gender, clothes in neutral colors, half-long hair). The girls and boys were dressed in stereotypically masculine and feminine clothes. For the current study, we focused on 6 out of the 13 pictures to observe fathers' and mothers' implicit gender messages: 2 pictures with gender-neutral children in a feminine or masculine activity, 2 pictures showing boys or girls in gender stereotypical activities, and 2 pictures with boys or girls in a contra-stereotypical activity.

During a triadic observation, both parents were asked to talk about the Gender Stereotypes Picture Book with their child without further directives. This discussion took a maximum of 8 min-

utes. The session could be ended earlier if the parents and child had finished the book. An adapted version of the coding system of [Endendijk et al. \(2014\)](#) was developed by the first and second author and a Master student for coding parents' and children's stereotypical gender messages during book reading. In this adapted coding system, conversational turns (e.g., comment, remark, question) of each interaction partner were coded in consecutive order for the entire video. A conversational turn is bounded by the conversational turn of one of the other interaction partners. For example, consider the following conversation:

Father: "What do you see?"

Mother: "Yes, what do we have here?"

Child: "Boys playing football"

The question of the father is bounded by the question of the mother, which in turn is bounded by the child's answer (i.e., 3 conversational turns). On average, mothers had 49.4 conversational turns ($SD = 23.0$, range: 12–134), fathers displayed 40.4 turns ($SD = 24.6$, range: 0–169), and children had 52.1 conversational turns ($SD = 23.0$, range: 1–137). For this study, we focused on 3 aspects of stereotypical gender messages that were implicitly communicated: (1) *Use of gender labels* refers to using feminine labels (e.g., "her," "she," "girl," "Sandra") when talking about the picture with gender-neutral children in a feminine activity, or masculine labels (e.g., "his," "he," "boy," "Nick") when talking about the picture with gender-neutral children in a masculine activity. (2) *Evaluative comments* refer to positive evaluations about 2 pictures showing boys or girls in gender stereotypical activities (e.g., "Football is nice," "Her hair looks beautiful"), or negative evaluations about the 2 pictures with boys or girls in a contra-stereotypical activity (e.g., "Playing pirates is stupid," "Ugly dresses"). (3) *Involving the child* refers to relating the activity or appearance of the children in any of the 6 pictures to their child in a stereotypical way (e.g., "you like to cook too" to their daughter, or "you also have a pirate costume" to their son).

Each conversational turn that contained stereotypical gender labels, evaluative comments, and/or involvement of the child was counted. These conversational turns were summed to obtain a measure of fathers' and mothers' frequency of stereotypical gender messages. Parents with higher scores implicitly conveyed more stereotypical gender messages.

An expert score was determined for 32 observations based on the consensus between 2 coders (the first 2 authors and a Master student) who developed the adapted coding system. After training, 5 coders rated the remaining videos on family members' use of gender labels and evaluative comments. Additionally, transcriptions were made of the parts of the conversations that contained gender-relevant information. The expert score was used to calculate intercoder reliability based on 20 observations. Intraclass correlations (single rater, absolute agreement) ranged between 0.83 and 0.99 for gender labeling (label boy: 0.88–0.99, label girl: 0.84–0.98), and between 0.73 and 0.99 for evaluative comments (positive comments: 0.73–0.99, negative comments: 0.83–0.99). During the coding process, 11 observations were coded twice by separate coders and discussed to prevent coder drift. All families were coded by coders who had not visited the family at home to guarantee independent ratings. Subsequently, involving the child was coded based on the transcriptions by the second and third author and a research assistant, who had not visited the families. For this aspect, agreement between the coders was obtained for all transcriptions.

2.3.3. Children's gender attitudes and preferences

The short form of the occupation domain of the Preschool Occupations, Activities, and Traits scale (POAT; [Liben & Bigler, 2002](#)) was used to assess attitudes (POAT-AM subscale) and personal in-

terests (POAT-PM subscale) toward gender-typed occupations. Children were asked to respond to 14 occupations, including 6 stereotypically masculine occupations (e.g., truck driver, car mechanic), 6 stereotypically feminine occupations (e.g., florist, nurse) and 2 neutral occupations (e.g., baker). One item in the original short form is not applicable to the Dutch situation (cheerleader) and was therefore replaced by an equally feminine occupation (babysitter). In the Dutch language, many job titles have a female or male form. In order to avoid introducing gender bias in the interview questions, we gave a gender-neutral description of the occupation (e.g., "takes care of the babies and children when the father and mother are away"), without naming the occupation specifically. While describing the occupations, pictures of props were shown that are characteristic of the occupations (e.g., a feeding bottle and a crib for the babysitter).

To assess children's beliefs with regard to who 'should' perform the occupations (POAT-AM), children were asked: "This [picture] belongs to someone who [job description]. Who should do this job? Only men, only women, or both men and women?". Children could answer verbally or by pointing toward a card with a schematic picture of 2 men (only men), 2 women (only women), and both a man and woman next to each other. A stereotypic answer (i.e., "only women" for feminine occupations and "only men" for masculine occupations) was scored as 1, all other answers were scored as 0. A measure for children's attitudes toward gender-typed occupations was calculated by averaging the number of masculine occupations assigned to "only men" and feminine occupations assigned to "only women." Higher scores indicate greater stereotypical attitudes toward gender-typed occupations. The internal consistency (Cronbach's alpha) was 0.64.

To assess children's own interest in the occupations (POAT-PM), children were asked: "This [picture] belongs to someone who [job description]. How much would you like to do this job? Not at all, a little bit, or a lot?". Children could answer verbally or by pointing toward a card with a schematic picture of an empty glass, a half-full glass, and a full glass that reflect the answer categories of not at all (1), a little bit (2), or a lot (3). Consistent with [Liben and Bigler \(2002\)](#), 2 mean scores were calculated separately for masculine and feminine items. Higher scores reflect a higher personal interest in masculine or feminine occupations. As a consequence, sex of the child has to be taken into account to determine whether children have a higher stereotypical personal interest in masculine or feminine occupations. The internal consistencies (Cronbach's alpha) were 0.63 for the masculine items and 0.75 for the feminine items.

2.4. Data analysis

Prior to our main analyses, Pearson correlations were computed between parents' religiosity, fathers' and mothers' gender messages, and children's gender attitudes and preferences. These correlations were repeated separately for boys and girls. Additionally, we examined whether boys and girls differed on the main variables using independent samples *t*-tests.

To estimate the direct and indirect associations between parents' religiosity (predictor), fathers' and mothers' gender messages (mediators), and children's gender attitudes and preferences (outcome measures), we tested mediation models within a structural equation framework (SEM) using the package *lavaan* version 0.6-7 ([Rosseel, 2012](#)) in R version 4.0.2 ([R Core Team, 2020](#)). First, a multiple mediation model was run with parents' religiosity as the predictor, fathers' and mothers' gender messages as mediators, and children's gender attitudes (POAT-AM) as the outcome. For children's masculine and feminine preferences (POAT-PM), we did not perform this mediation model because without taking sex of the child into account it cannot be determined whether children have

Table 1
Correlations and Descriptive Statistics for all Study Variables ($n = 134$).

	1	2	3	4	5	M	SD
1. Parents' religiosity						3.78	2.20
2. Fathers' gender talk	0.17*					0.84	0.99
3. Mothers' gender talk	0.07	0.22*				1.19	1.41
4. Children's gender attitudes	0.24**	0.21*	0.03			0.51	0.21
5. Children's masculine preferences	-0.06	-0.05	-0.04	-0.16		2.12	0.50
6. Children's feminine preferences	0.16	0.20*	0.15	0.17	.07	2.10	0.60

Note. * $P < 0.05$. ** $P < 0.01$.

Table 2
Correlations between all study variables for boys below the diagonal ($n = 69$) and girls above the diagonal ($n = 65$).

	1	2	3	4	5	6
1. Parents' religiosity		0.10	0.09	0.17	-0.13	-0.01
2. Fathers' gender talk	0.21		0.40**	-0.00	0.04	0.13
3. Mothers' gender talk	0.01	-0.10		0.15	0.11	0.14
4. Children's gender attitudes	0.24	0.37**	-0.13		-0.19	0.24
5. Children's masculine preferences	0.17	0.04	-0.12	0.02		0.26*
6. Children's feminine preferences	0.13	0.11	0.05	-0.10	0.56**	

Note. * $P < 0.05$. ** $P < 0.01$.

a stereotypical preference. In the next step, we carried out 6 moderated multiple mediation models that allowed sex of the child to moderate the direct and indirect effects for children's gender attitudes (POAT-AM) and their own masculine and feminine preferences (POAT-PM), using a multiple groups approach (Shevlin et al., 2015). In other words, we performed separate multiple mediation models for boys and girls, with parents' religiosity as predictor, fathers' and mothers' gender messages as mediators, and each of the 3 outcome measures (i.e., children's gender attitudes, feminine preferences, and masculine preferences).

The Maximum Likelihood (ML) estimator was used to estimate the model parameters (Rosseel, 2012). Bootstrapping (10,000 replications) was used to calculate the standard errors and the test statistics, as recommended by Preacher, Rucker, and Hayes (2007). The models assume linear relationships, no direct causal links between fathers' and mothers' gender messages (i.e., the mediators), and no interaction between religiosity and the mediators. We replicated all models using the *mediation* package (Tingley, Yamamoto, Hirose, Keele, & Imai, 2014), which is based on weaker assumptions. The results of this replication were essentially the same and can be found in the Supplementary Material.

3. Results

3.1. Preliminary analyses

Bivariate correlations between the central variables are displayed for all children in Table 1, and separately for boys and girls in Table 2. Parents' religiosity was positively correlated with fathers' gender messages. Parents' religiosity and fathers' gender messages were positively correlated with children's gender attitudes. Parents' religiosity and their gender messages were not correlated with boys' or girls' masculine or feminine preferences. Interestingly, fathers' and mothers' gender talk were only positively related in families with a preschool daughter, not in families with a preschool son. These correlation coefficients differed significantly from each other ($z = -2.96, P < 0.01$).

Fathers of girls ($M = 1.03, SD = 1.12$) displayed more gender messages than fathers of boys ($M = 0.65, SD = 0.82$), $t(132) = -2.25, P < 0.05$. No differences were found between mothers of girls and mothers of boys. Boys and girls also differed from each other with respect to the 3 outcome measures. Girls ($M = 0.56, SD = 0.19$) reported more gendered attitudes than boys

($M = 0.46, SD = 0.22$), $t(132) = -2.68, P < 0.01$. Boys ($M = 2.32, SD = 0.44$) preferred masculine occupations more than girls did ($M = 1.91, SD = 0.48$), $t(132) = 5.15, P < 0.001$, and girls ($M = 2.46, SD = 0.48$) preferred feminine occupations more than boys did ($M = 1.77, SD = 0.50$), $t(132) = -8.19, P < 0.001$.

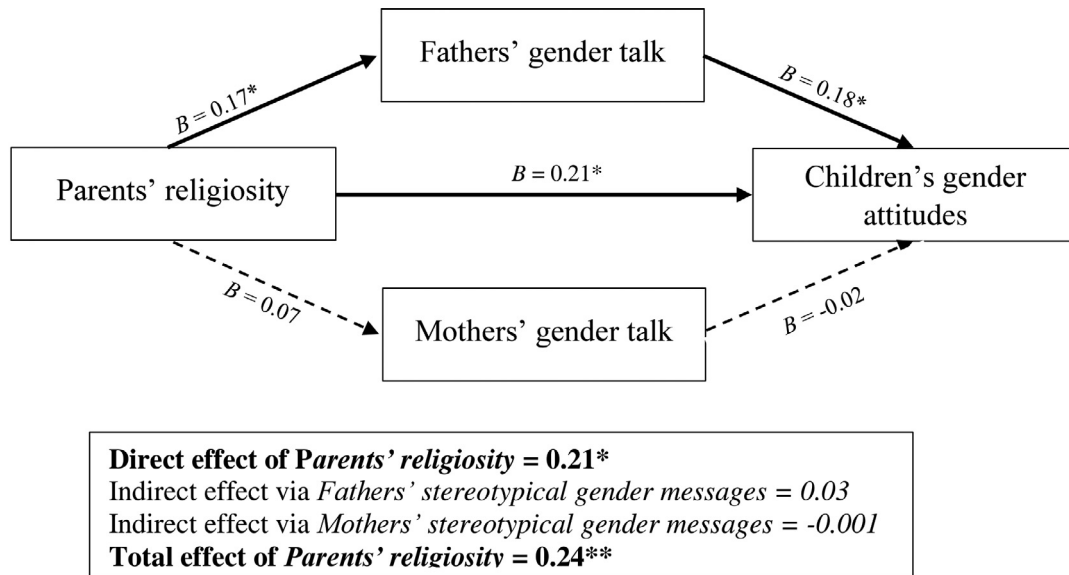
3.2. Multiple mediation models

The results from the multiple mediation model that estimated the direct and indirect links between parents' religiosity, fathers' and mothers' stereotypical gender messages and children's gender attitudes are presented in Fig. 2 and Table 3. We found that when parents are more religious, their children have more gendered attitudes. There was a significant association between parents' religiosity and fathers' gender messages, but not mothers' gender messages. We also found a significant association between fathers' gender messages and children's gender attitudes. Again, this association was not found for mothers' gender messages. Thus, we found some evidence that when parents are more religious, fathers convey more gender messages to their children, and when fathers convey more gender messages, their children have more gendered attitudes. However, we did not find that the association between parents' religiosity and children's gender attitudes was mediated by fathers' or mothers' gender messages. We found the same pattern of results for this main model when controlling for child age and age of the fathers and mothers.

To have an idea of whether the effects of parents' religiosity could be attributed in a larger extent to fathers' or mothers' religiosity, post hoc analyses were carried out. More specifically, separate mediation models were run for fathers and mothers, with their religiosity as predictor, their gender messages as mediator, and children's gender attitudes as outcome measure. Results suggested that the effect of parents' religiosity on children's gender attitudes was similar for fathers and mothers (both parents: $B = 0.21, P = 0.01$). The analyses did reveal that when fathers, but not mothers, were more religious, they seemed to convey more gender messages to their children (fathers $B = 0.17, P = 0.05$; mothers $B = 0.06, P = 0.49$).

3.3. Multiple mediation models for boys and girls

The results of the multiple mediation models for boys and girls separately are displayed in Table 4. The estimation of the direct



Note. Path coefficients are standardized regression weights with bootstrapped standard errors. Dotted lines indicate nonsignificant paths.
 * $p < .05$

Fig. 2. Multiple mediation model predicting children's gender attitudes from parents' religiosity through fathers' and mothers' gender talk ($n = 134$). Note. Path coefficients are standardized regression weights with bootstrapped standard errors. Dotted lines indicate nonsignificant paths. * $P < 0.05$.

Table 3
 Direct and indirect associations between parents' religiosity, fathers' and mothers' gender talk, and children's gender attitudes ($n = 134$).

	B	P
Direct effect of parents' religiosity → children's gender attitudes	0.21	0.01
Religiosity → fathers' gender talk	0.17	0.04
Religiosity → mothers' gender talk	0.07	0.44
Fathers' gender messages → children's gender attitudes	0.18	0.04
Mothers' gender messages → children's gender attitudes	-0.02	0.80
Indirect effect of fathers' gender talk	0.03	0.15
Indirect effect of mothers' gender talk	-0.001	0.88
Total effect	0.24	0.004
SE		
R ² indirect effect (fathers' gender talk)	0.03	
R ² indirect effect (mothers' gender talk)	0.01	
R ² total effect	0.09	

Note. The standardized coefficients are presented.

Table 4
 Direct and indirect associations between parents' religiosity, fathers' and mothers' gender talk, and children's gender attitudes, masculine preferences and feminine preferences, separately for boys ($n = 69$) and girls ($n = 65$).

	Children's gender attitudes				Children's masculine preferences				Children's feminine preferences				
	Boys		Girls		Boys		Girls		Boys		Girls		
	B	P	B	P	B	P	B	P	B	P	B	P	
Direct effect of parents' religiosity → outcome	0.17	0.11	0.16	0.21	0.17	0.16	-0.14	0.28	0.11	0.47	-0.02	0.88	
Religiosity → fathers' gender talk	0.21	0.07	0.1	0.44	0.21	0.06	0.1	0.45	0.21	0.06	0.1	0.45	
Religiosity → mothers' gender talk	0.01	0.94	0.09	0.49	0.01	0.94	0.09	0.5	0.01	0.94	0.09	0.5	
Fathers' gender talk → outcome	0.33	0.001	-0.09	0.57	-0.01	0.92	0	1	0.1	0.53	0.09	0.54	
Mothers' gender talk → outcome	-0.1	0.3	0.17	0.21	-0.13	0.34	0.12	0.39	0.06	0.62	0.11	0.42	
Indirect effect of fathers' gender talk	0.07	0.11	-0.01	0.65	0	0.92	0	1	0.02	0.55	0.01	0.64	
Indirect effect of mothers' gender talk	0	0.95	0.01	0.57	0	0.93	0.01	0.61	0	0.94	0.01	0.6	
Total effect	0.24	0.04	0.17	0.21	0.17	0.17	-0.13	0.31	0.13	0.35	-0.01	0.97	
		SE		SE		SE		SE		SE		SE	
R ² indirect effect (fathers' gender talk)	0.05		0.01		0.05		0.01		0.05		0.01		
R ² indirect effect (mothers' gender talk)	0		0.01		0		0.01		0		0.01		
R ² total effect	0.17		0.06		0.04		0.03		0.03		0.02		

Note. The standardized coefficients are presented.

paths between parents' religiosity and fathers' and mothers' gender messages is the same for each model and is therefore described first. Parents' religiosity was marginally associated with fathers' gender messages toward their sons, but not their daughters. No associations were found between parents' religiosity and mothers' gender messages toward their sons or daughters. With regard to the models predicting children's gender attitudes, although we previously found a significant direct effect of parents' religiosity on children's gender attitudes, this association was not significant anymore when analyzed separately for boys and girls. The results did indicate that when fathers conveyed more gender messages, their sons had more gendered attitudes, but not their daughters. And similar to the multiple mediation model for the entire sample, we did not find any significant indirect effects for boys or girls. Lastly, with regard to the models predicting boys' and girls' masculine preferences or feminine preferences from parents' religiosity through fathers' or mothers' gender messages, none of the direct or indirect paths were significant.

4. Discussion

In this study we examined whether parents' religiosity and fathers' and mothers' gender talk during a triadic family interaction is associated with children's gender attitudes and preferences. We found that when parents are more religious, their children have more traditional gendered attitudes. We also found that parents' level of religiosity was positively correlated with fathers', but not with mothers' gender talk. Additionally, fathers' gender talk was positively associated with their children's gender attitudes. However, we did not find that the association between parents' religiosity and children's gender attitudes was mediated by parents' gender talk. In addition, we found that associations were more pronounced for sons than for daughters, although results for boys and girls separately failed to reach significance, perhaps due to the smaller subgroups. Finally, we did not find any relations between parents' religiosity or gender talk and children's personal preferences for occupations in their future life. This study contributes to the previous literature by focusing on families with young children instead of school-aged children and adolescents, and examining not only the role of the mother, but also of the father in children's development of gender attitudes and preferences. Finally, to our knowledge this study is the first examining implicit gender talk in triadic parent-child interactions, including both parents and their child.

Our findings suggest that when parents are more religious, their children have more gender stereotypical attitudes about occupations. In other words, children whose parents reported that religion plays a larger part in their daily life, more often believed that masculine occupations (e.g., truck driver) are for men only, and feminine occupations (e.g., nurse) are for women only. This finding offers support for theory and previous research stating and partially illustrating that a higher level of religiosity in family of origin stimulates the development traditional gender role beliefs in children through more traditional gender role attitudes and family practices (e.g., Diehl et al., 2009; Idema & Phalet, 2007; Inglehart & Norris, 2003). Our study adds to the literature by demonstrating that already in early childhood, children's gender attitudes vary depending on the extent to which religion plays a role in the daily life of their parents. However, we did not find any significant associations with boys' or girls' own preferences for occupations. Thus, when parents are more religious, their children are more likely to believe that certain occupations are in general meant for men or women only, but they do not (yet) generalize that to their own preference for a certain occupation in their future life.

There are several potential explanations for this partial confirmation of our hypothesis, which are all related to the young age

of the children, i.e., 4 or 5 years old. First, it is possible that the children were simply too young to have a distinct personal preference about occupations in their future life. Indeed, in their review Hartung, Porfeli, and Vondracek (2005) describe that children's career aspirations shift from fantasy-based occupations (e.g., good fairy) to reality-based occupations (e.g., teacher, nurse) during the primary school years. In addition, the stability in children's occupational aspirations increases with age. Nevertheless, children already have rudimentary knowledge of different types of occupations, and hold gender-stereotypical views on the suitability of professions at ages 3 to 5 (Hartung et al., 2005). Thus, although these young children already gained knowledge from their religious parents about prevailing gender attitudes, they might not have internalized these attitudes to their own preferences. Perhaps different results would have been obtained if we had asked children about preferences they can more easily relate to, such as gender-typed play activities. In the preschool years, children already show a higher preference to play with novel toys that are labeled as being for their own sex than to play with toys for the opposite sex (Bradford & Endsley, 1983; Martin, Eisenbud, & Rose, 1995). Thus, it is likely that young children's gender attitudes guide their play behaviors, which in turn may impact their skills and career choices in the future (Leaper, Farkas, & Brown, 2012; Martin & Dinella, 2012). For example, when a girl believes that being a car mechanic is for men only, she might avoid playing with cars or trucks which reduces her chances to develop technical skills, which in the end could impact her choice and capability for technical schooling.

Second, during the interview, we often noticed that children liked all occupations regardless of their gender. We indeed found that for both boys and girls there was a positive correlation between their preference for masculine and feminine occupations, instead of an expected negative correlation. In other words, when they had a higher preference for feminine occupations, they also had a higher preference for masculine occupations (and vice versa). It could be that at such a young age, children who preferred many masculine and feminine occupations have a liking for almost all occupations, whereas children who did not prefer many masculine or feminine occupations are not interested in occupations yet. Due to our limited statistical power, we were not able to correct the analyses regarding children's masculine preferences for feminine preferences, and vice versa. This may be a reason for not finding an association between parents' religiosity and children's preferences. On the other hand, we did find that on average boys liked masculine occupations more than feminine occupations, and girls liked feminine occupations more than masculine occupations, which is in line with what is expected and indicates our measure was valid. In addition, although it is often argued that gender attitudes about others shape children's personal preferences (e.g., Martin et al., 2002), empirical evidence is inconsistent (Halim & Ruble, 2010; Signorella, 1999). For example, a girl can hold strong gender attitudes about occupations for others (e.g., "fixing a car when it is broken is a job for men only"), but at the same time show a gender-inconsistent preference for the same occupation (e.g., "I would like to fix a car when it is broken"). Like Liben and Bigler (2002), we did not find robust evidence for a correlation between boys' and girls' general attitudes and their personal preferences about gender-typed occupations.

Third, the partial confirmation of our hypothesis could also imply that religious parents communicate messages about what is accepted with regard to gender roles of men and women in general, but at the same time let their children follow their own interests regardless of their gender. Thus, maybe different gender socialization routes are happening at the same time; one route for gender attitudes about others and one route for children's gender-typed interests. This could be especially true for preschool children who do not need to make educational choices yet. Parents' tendency to

steer children's interests toward gender-typed occupations might become more evident when children reach the age where they have to make academic and career choices. Although scarce, there is some longitudinal and cross-sectional evidence indicating that parents exert most influence on children's occupational interests during the elementary school years through their own occupation as well the expectations they hold toward their children (For a review, see Whiston & Keller, 2004). Future research could look into the extent to which parents are sensitive and accepting toward their children's gender contra-stereotypical preferences and interests but at the same time convey gender messages about others, whether this changes over time, and whether parents' religiosity plays a role.

Consistent with our expectations, the links between parents' religiosity, gender talk and children's gender attitudes were more apparent for fathers than for mothers. Despite mothers reporting to be more religious in everyday family life than fathers, we found some evidence for a specific role of (religious) fathers when it comes to communicating gender messages. More specifically, parents' religiosity was related to fathers' gender talk, but not mothers' gender talk, and only fathers' gender talk was associated with their children's gender attitudes. These results align previous studies that found that, in comparison with mothers, religious fathers are more involved in teaching children about traditional gender ideology (Bartkowski and Xu, 2000) and about conforming to religious norms and values more generally (Idema & Phalet, 2007). Our findings also support literature indicating that fathers in general stimulate more gender stereotypical behavior (Eagly et al., 2000; Hess et al., 2014) and could have more impact on children's gender development than mothers (e.g., Chaplin, Cole, & Zahn-Waxler, 2005; Endendijk et al., 2016). Perhaps fathers feel more inclined than mothers to pass down traditional gender norms to their children because stereotypes are stricter about male roles than about female roles (Hort, Fagot, & Leinbach, 1990; Koenig, 2018), which could be further reinforced when fathers value religious socialization (Idema & Phalet, 2007). The focus on traditional gender norms may lead religious fathers to convey implicit gender messages more frequently than mothers. This might be especially true for fathers of sons, because we found that fathers of preschool sons convey a higher frequency of gender messages when they are more religious, and a higher frequency of gender messages was related to more gendered attitudes of sons. Though it should be mentioned that the results for boys separately failed to reach significance. It could be that the gender messages from religious fathers make a bigger impression on boys than girls, not only because stereotypes about male roles are stricter than female roles (Hort et al., 1990), but also because children identify more with their same-sex parent (Martin, Ruble, & Szkrybalo, 2002). Our finding is also consistent with a previous study that found that fathers who value religious socialization have sons who are more conservative, but not daughters (Idema & Phalet, 2007).

It is important to note that some of the aforementioned findings were weak, possibly due to the limited sample size or examining separate subgroups (i.e., boys and girls). The restricted statistical power could also partly explain why we did not find that fathers' (or mothers') gender talk served as a mediator in the relation between parents' level of religiosity and children's gender attitudes and preferences. Another explanation could be that our picture book reading task was too short (i.e., maximum of 8 minutes) to fully capture the way parents talk about gender in daily life. Alternatively, not finding an indirect effect could mean that fathers' and mothers' implicit gender talk is not the main gender socialization practice that explains why parents' religiosity is related to children's developing gender attitudes. Perhaps other gender socialization practices are more important, such as the task division between parents and their working hours.

For instance, Diehl et al. (2009) found that more religious groups have a more traditional division of household tasks. Moreover, religiosity is linked to lower labor force participation in women (Besamusca, Tijdens, Keune, & Steinmetz, 2015; Khoudja & Fleischmann, 2015). Furthermore, the division of household tasks and mothers' work hours were predictors of children's gender-role attitudes (de Valk, 2008; Halpern & Perry-Jenkins, 2016). Thus, religious parents might model traditional gender role attitudes and behaviors to their children, through their task division and working hours, which could be looked into in future research.

The present study has some limitations. First, due to the cross-sectional design of this study no firm conclusion about the direction of effects can be drawn. However, longitudinal studies found that parents' religiosity predicted children's gender attitudes several years later (Myers & Booth, 2002; Thornton, Alwin, & Camburn, 1983). Moreover, the reverse direction theoretically seems less plausible (i.e., that young children's gender attitudes about occupations would influence parents' religiosity, or how often parents talk implicitly about gender). Second, our sample size limited the statistical power in our analyses (Fairchild & MacKinnon, 2009). The indirect effect had such a small value, given it was a multiplication of already small values for the separate paths, that our small sample size could have restricted statistical power to detect a small indirect effect. Similarly, multiple mediation models with the inclusion of covariates would have necessitated a larger sample size than ours. We therefore did not take into account more variables, such as the role of children's input during the conversation about the gender picture book or the role of children's sibling configuration. Examining the input of the child could shed further light on the surprising preliminary finding that fathers' and mothers' gender talk were only related in families who discussed the picture book with a preschool daughter, not in families with a preschool son. Perhaps fathers and mothers disagree more on the degree to which a boy should conform to prevailing gender norms as compared to a girl, because these norms are generally more rigid for males than for females (Koenig, 2018). Therefore, contra-stereotypical interests, preferences, and behaviors of boys could cause more discussion between parents. Furthermore, taking into account the role of children's sibling configuration is important because subsystems within the family are interrelated and influence each other (Whitchurch & Constantine, 1993). Specifically, the literature indicates that the gender combination of siblings in a family is associated with gender-related cognitions and behaviors of parents and children (Endendijk et al., 2018). In our study, most children had at least one sibling (83.5%), but we did not systematically sample families with different sibling gender combinations. In future research, a within-family comparison of sisters versus brothers may provide a more powerful test of the hypothesis that associations are stronger for sons than daughters. Third, the generalizability of our results is limited despite our efforts to include families with a wide range of educational backgrounds and religious affiliations. Specifically, more than half of the participating fathers and mothers had finished academic or higher vocational schooling. It is worth mentioning that the percentage of highly educated parents was lower than in most other studies in this field (e.g., Endendijk et al., 2014; Kulik, 2002). Nevertheless, as parent-child interactions and parents' gender stereotypes differ by social status and educational background (e.g., Endendijk et al., 2013; Martin et al., 2010), gender talk in the family context needs to be studied further in more diverse samples in terms of socioeconomic status.

5. Conclusion

To our knowledge, this is the first study to examine parents' religiosity in relation to fathers' and mothers' gender talk and chil-

dren's gender attitudes and preferences. In addition, we examined parents' gender talk in triadic parent-child interactions including both parents and their child, which is likely to offer a more diverse and complex social-emotional environment for children than dyadic interactions. Our results highlight a specific role of religious fathers in communicating implicit gender messages and the development of children's gender attitudes, underscoring the necessity to include fathers in addition to mothers in research on early child gender development. Follow-up studies should examine whether our detected effects continue to exist in the future behaviors, opportunities, and choices of children. In addition, there still is room for improvement in developing ecologically valid measurements of gender talk during family interactions. In conclusion, the present study advances our understanding of the role of structural family characteristics, such as religiosity, in the way parents and fathers in particular communicate implicit messages to their children, and in the development of children's own attitudes and preferences.

Author contribution

EEV carried out the data collection of the study, and coded the video materials. In addition, she took the lead in writing the manuscript.

LDP and MGG supervised EEV during the data collection period. LDP also coded the video materials. LDP and MGG discussed the analyses plan and the results with EEV and DDT and contributed feedback as well as pieces of text to the final manuscript. LDP took the lead in revising the manuscript after reviewers' feedback.

JM is the project leader, involved in developing the study and supervising EEV with regard to study design, analysis plan, and writing. JM provided extensive feedback on the manuscript multiple times throughout the writing process.

DDT conducted the analyses, and contributed to the result section.

Disclosures

None.

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Supplementary materials

Supplementary material associated with this article can be found, in the online version, at [doi:10.1016/j.ecresq.2021.10.002](https://doi.org/10.1016/j.ecresq.2021.10.002).

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