

Stage 1 Registered Report: Parental and Children's Religiosity in Early Childhood: Implications for Transmission

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Abstract

Religiosity in early childhood is an important, but underexamined, area of research, particularly in terms of parental influence. This study examines potential 'transmission enhancers' in the association between parental and children's religiosity in early childhood, ages 3 to 6. Overall, we hypothesize that parental religiosity will be positively associated with children's religiosity. We examine religiosity through three dimensions: religious social identity, prayer, and God concept. We further test four potential moderators which can enhance the association between parental and child religiosity, i.e., transmission. We consider one child variable (i.e., child age) and three familial variables (i.e., internalized parental religious motivation, credibility-enhancing displays, and active parental-child involvement). We expect that child age, internalized parental religious motivation, active parental-child involvement, and credibility-enhancing displays will strengthen the association between parental and children's religiosity. However, for parents with lower religiosity, we hypothesize that none of these variables will moderate the link to child religiosity. Implications of transmission enhancers in the context of family religiosity will be discussed.

Keywords: religiosity; early childhood; self-determination theory; religious motivation; credibility-enhancing displays; active parental-child involvement; religious transmission; religious social identity; prayer; God concept.

Introduction

There is a significant association between parental and children's religiosity from middle childhood to emerging adulthood (Stearns & McKinney, 2019b). Yet, this association in early childhood is relatively under-studied (Zammit & Taylor, 2023). In part, studying religiosity in the early years poses methodological challenges as such development co-occurs with significant cognitive, linguistic, and social development (e.g., Boyatzis, 2005; Nyhof & Johnson, 2017). However, between ages 3-6, children develop understanding of key religious concepts such as symbols (e.g., Connolly et al., 2002), prayer (e.g., Phelps & Woolley, 2001), and God (e.g., Barrett et al., 2001). Given the scarcity of research on this age group, important empirical questions about the possible transmission enhancers of the association between parental and children's religiosity remain. First, which dimensions of parental religiosity influence children's religiosity? Second, which factors enhance this transmission? We investigate the distinct associations between different dimensions of parental religiosity, such as religious social identity, prayer, and God concept. We further examine how child and family factors (e.g., child age, internalized religious motivation, active parental-child involvement, and credibility-enhancing displays) might strengthen this association. Understanding the development of religiosity in early childhood may have implications across the lifespan (Jung, 2018), and for families with different religious motivations (Neyrinck et al., 2005), in particular, in societies that have compulsory religious education (Faas et al., 2016).

Dimensions of Religiosity

Religious development has been defined as "the child's growth within an organized community that has shared narratives, practices, teachings, rituals, and symbols in order to bring people closer to the sacred and to enhance one's relationship to community" (Boyatzis, 2005, pg. 125). This definition highlights the importance of the community

through shared practices carried out. Rooted in this definition, this study will focus on religiosity through three dimensions: religious social identity, prayer practices and rituals, and the God concept. This study examines the association of these dimensions between parents and their children (H₁).

Religious Social Identity

Group belonging determines the individual's identity and life experiences (Tajfel & Turner, 1979). The social identity approach shifts the focus to a group, rather than an individual (Hogg & Abrams, 1998). The group provides a representation of who an individual is and how she/he should behave (Hogg & Abrams, 1998). Strength of religious social identity, for example, is linked with higher religious participation (Greenfield & Marks, 2007). Church attendance, such as going to mass, was linked with stronger religious social identity among Catholic mothers in Northern Ireland (Goeke-Morey et al., 2015). Religious social identity, however, is represented by more than participation, but also other forms of group markers, such as symbols (Taylor et al., 2021).

Religious social identity has been studied through symbols since it is not perceptually different for young children (Taylor et al., 2020). Symbols act as non-verbal testimony indicating what is valued or not in a society, helping children to process and visualize unseen entities (Harris & Koenig, 2006). Symbols that have a shared meaning are objectified through worship (Boyatzis, 2005). The cases of a Muslim teacher's right to wear a hijab and the right to display crucifixes in the classroom appearing in the European Court of Human Rights, reflect the importance of religious symbols in childhood and in education (Fancourt, 2021). Moreover, children can identify ingroup symbols before they can fully explain the symbols' meaning (Connolly et al., 2009). Studying religious development through symbol awareness offers an age-appropriate

measure, and is consistent with broader theories of children's social identity development (e.g., Nesdale, 2004). A meta-analysis shows an association between parental and children's religiosity (Stearns & McKinney, 2019b). Given the link between parent and child social identities, more broadly, we expect religious social identity of parents and children to positively correlate. Complementing social identity and shared symbols, religiosity can also be assessed through prayer rituals and practices.

Prayer

Prayer can be both intrinsically motivated (e.g. through adoration; Laird et al., 2004) as well as externally motivated (to gain protection; Gorsuch & McPherson, 1989). When facing challenges, people often pray for three different reasons: deferred coping by giving control to God for a solution to their problem, collaborative coping with God and resolving the problem together, or self-directed coping where the person remains responsible, but God is acknowledged for his/her problem-solving skills (Pargament et al., 1988). Perceiving that God is responding to prayer is linked with religious belief and belief in God (Exline et al., 2021).

Understanding how prayer is transmitted from parents to their children involves studying how children understand prayer practice. Since prayer involves thinking or talking to an immaterial supernatural being, the process of prayer transcends the physical laws as it involves transfer of thoughts from one being to another (Phelps & Woolley, 2001). A study of this concept in early childhood found that children aged 5 showed fuller awareness of prayer than aged 3; most children aged 3-4 did not know how God listened to their prayer (Phelps & Woolley, 2001). Children in highly religious homes were more likely to be aware of prayer, while children from less religious families were more likely to accept diverse and at times ambiguous content of a prayer (Phelps & Woolley, 2001). Age-related findings on the concept of prayer have also varied, with some research not

finding the fuller understanding until age 9 or 10 (Long et al., 1967), with more recent studies replicating children's understanding of the concept of prayer in early childhood (Bamford & Lagattuta, 2010). Maternal religious coping, such as the use of prayer, has been positively linked with their child's relationship with God (Goeke-Morey et al., 2014)

Omnipresent God concept

God concept refers to an individual's beliefs about the traits of a divine figure, such as how the divine relates to, thinks and feels about humans (Davis et al., 2013). Personified (anthropomorphic) and impersonal (abstract) constructs of God have been studied through different concepts. The personified God is represented through concepts such as merciful and authoritarian God concept, while abstract representations include omniness, and supreme God concept (Johnson et al., 2019; Kunkel et al., 1999; Spilka et al., 1964; Wong-McDonald & Gorsuch, 2004). This study will focus on omniness, specifically on the omnipresent and a limitless God concept. The doctrine of omnipresence is related to eternity, which is timeless with an absence of succession (Stump, 2013). God's presence is not limited to the past, present, or future, so God can be in two places at the same time. In this way, limitless God concept was positively correlated to viewing God as personal, mystical and as a cosmic force, religious fundamentalism, religious commitment, God's engagement, individualistic spirituality and a relationship with God (Johnson et al., 2019). Thus, omnipresence portrays God as limitless, infinite, boundless and powerful.

In early childhood, three phases have been noted related to the development of the God concept (Nyhof & Johnson, 2017). At ages 3-4, the reality bias reflects children's thinking that everyone knows more than them, at ages 4-5 children tend toward anthropomorphic associations in which the fallibility of humans applies to God, and at ages 5-7 children start to understand the extraordinary mental capacities of God.

Regardless of their religious background, children age 4 are able to distinguish God's abilities from other agents, with this ability increasing with age (Nyhof & Johnson, 2017). Further distinguishing within early childhood, children age 5 understand more the supernatural powers of God than 3-year-olds (Barrett et al., 2001; Kiessling & Perner, 2014; Lane et al., 2010). Other tasks used in middle childhood, such as drawing God (Harms, 1944) or the house of God (Pnevmatikos, 2002), show children moving from a concrete (e.g., God as a human to God as part human living in heaven) to an abstract concept (e.g., God as a spirit). However, drawing studies in early childhood suggest that there is no variability across this age group (Konyushkova et al., 2016), noting children are in this 'fairy-tale' stage (Harms, 1944). Thus, given cognitive development related to the development of religious abstract concepts (Elkind, 1970; Goldman, 1965), we will use established scales related to the omnipresent God concept.

In addition to examining the association among parents and children for these three dimensions of religiosity, we will also consider four possible constructs that might moderate this association, in other words, transmission enhancers (for a comprehensive review on religious transmission, see Chamrathirong et al., 2013; Milevsky et al., 2008; Stearns & McKinney, 2019b).

Transmission Enhancers

Extending previous research, this study examines potential 'transmission enhancers', which may strengthen the influence of parental religiosity on children's religiosity in early childhood. More specifically, this association may be enhanced as children age (H₂), when parental view religiosity as an end in itself (H₃), through active parental-child involvement in religious activities promoting autonomy (H₄), and children exposed to religious beliefs through credibility-enhancing displays (H₅). We review the existing evidence for each of these potential transmission enhancers.

Child Age

Intergenerational transmission of beliefs may be strongest in early childhood when parents have a monopoly over the child's beliefs (Beit-Hallahmi & Argyle, 1997), with the religious influence of parents decreasing in adolescence (Day, 2022; Glass et al., 1986). In the early years, parents are typically the central authority figure in the child's life; children may identify with them, including around religion. Age 3 to 6 is also characterized by significant cognitive and social shifts; for instance, children become aware of social categories and group-based distinctions (e.g. Hailey & Olson, 2013; Killen et al., 2018). We predict that age will be a transmission enhancer in early childhood (H₂); in other words, there will be a stronger association of parental to children's religiosity among children aged 6 compared to those aged 3.

Internalized Parental Religious Motivation

Internalized motivation is linked to greater religiosity for an individual and across family members. For example, among adolescents, higher internalized religious regulation was positively correlated with religious importance and religious identity, while lower religious regulation was not (Hardy et al., 2022). Moreover, parents who have internalized religious motivation support their children to develop autonomy and demonstrate religious values as their way of life (Brambilla et al., 2015). This suggests that internalized parental religious motivation has a role in the association between parental and children's religiosity. Given that intrinsic motivation is particularly important in the early years (Deci & Ryan, 2000), we expect internalized parental religious motivation to moderate the transmission from parental to children's religiosity (H₃).

Active parental-child involvement

Religion is not only enacted on children (e.g., baptism of infants in Christianity, Mahoney et al., 2008), but also children may transform parental input and become active agents in religious transmission (e.g., Lawrence & Valsiner, 1993). For example, parental religious behaviours predict religiosity in children aged 10-12; this link was stronger in families that engaged in dyadic discussions as opposed to unidirectional discussion about religion (Flor & Knapp, 2001). This finding suggests religious autonomy and active involvement may be key to children's religiosity. In the early years, children may be given the choice to pray before a meal or bedtime, or to attend religious activities. Accordingly, we expect that active parental-child involvement in their religion will strengthen religious transmission (H₄).

Credibility-enhancing displays

How parents verbalize and model religious beliefs has implications for child religiosity. Children attend to credibility-enhancing displays by their parents such as watching them pray, attending church, and fasting (Henrich, 2009). The more costly the credibility-enhancing display is to the believer, the more commitment to that belief is shown. So, the greater the cost to the parent perceived by the child, the greater the influence on the learner. Credibility-enhancing displays involving action are better predictors of religiosity than verbalizations emphasizing the importance of religious behaviors (Lanman & Buhrmester, 2016). For example, children are more likely to imitate parents who pray, than children whose parents tell them about the importance of prayer. Transmission is enhanced if parents set an example through living their religion (Kelley et al., 2021). Thus, we expect that credibility-enhancing displays will enhance religious transmission (H₅).

Current Study

This study contributes to the literature in four ways. First, it focuses on the association between parental and children's religiosity in the early years. Second, multiple reporters (i.e., parent and children; see Spilman et al., 2013) will report on their own religiosity, increasing validity (e.g., Crosby III & Smith, 2015; Kim et al., 2009). Third, the current study works with children directly; that is, it is not a retrospective study of the influence of parental factors on children's religiosity (e.g., Hardy et al., 2011; Pearce & Thornton, 2007; Schwartz, 2006). Fourth, it examines potential enhancers of religious transmission with the family. We formulated the following hypotheses: Parental religiosity will be positively associated with child religiosity (H₁), and this link will be strengthened for older children (H₂), parents with higher internalized religious motivation (H₃), in families with more active parent-child involvement (H₄), and when there are greater parental credibility-enhancing displays (H₅).

[Insert Figure 1 here]

Given that various studies have found different levels of religious transmission between mother's and father's religiosity (Dickie et al., 2006; Reinert & Edwards, 2009; Stearns & McKinney, 2019a), we control for parental gender. We will also control for demographic variables of religious affiliation, parental educational level, nationality, and developmental variables of child language/communication development and theory of mind. Data collection is expected to be completed by June 2023 (see project Timeline). The findings of this study have implications for understanding development of religiosity in early childhood.

Method

The present study examines the association between parental and children's religiosity,

moderated by child age, internalized parental religious motivation, active parental-child involvement, and parental credibility-enhancing displays in children aged 3-6. In a correlational design, parents will answer questions about the three dimensions of religiosity (religious social identity, prayer, and God concept), transmission enhancers (internalized parental religious motivation, active parental-child involvement, and credibility-enhancing displays), as well as covariates (demographics, and child's language/communication skills). Children will participate in tasks to assess their developing religious social identity, prayer, and God concept, as well as a covariate of theory of mind.

The social context

Catholicism is the majority religious background in Malta, a small island in the Mediterranean of 316 km² (Venice is 414.6 km², Boston is 232.1 km²). According to the constitution of Malta (Laws of Malta, Constitution articles 2 (1, 3)), Catholicism is taught in state (i.e., public) schools. Among Malta's 365 Catholic churches, religious attendance is rapidly declining (Archdiocese of Malta, 2018). Cultural changes, such as the introduction of divorce (2011), the legalization of same-sex marriage (2017), and the current planning for abortion (2022), overlap with increasing immigration (Giordmaina & Zammit, 2019). Despite these changes, Malta is a homogenic country with 93.9% of Maltese people identifying as Catholic (Sansone, 2018), i.e., the majority religion.

Participants

Participants will be recruited through state schools¹. Although compulsory education in Malta starts at age 5, over 90% of children ages 3-5 attend kindergarten in

¹ Children aged 3 – 5 in Malta attend non-compulsory kindergarten inside a school.

state schools, religious schools and private schools (EUROSTAT, 2021). Classes have a maximum of 15 students at age 3, 20 students at age 4, and 25 students at 5 years and over (Malta Ministry for Education and Employment, 2013). In each school, there are two to seven classes for each age group.

Inclusion criteria for the analysis will be between age 3 to 6 from the majority religion. That is, children from any background will be allowed to participate, but only the data from the majority Catholic sample will be included in the proposed analysis. The data from children with a low language and communication score will be excluded from analysis. Finally, anticipating a response rate of 30% of parental consent and a child assent of 90%, we will need to approach approximately 1,027 families to include 278 parental questionnaires and reach our final sample of 231 dyads for the proposed analysis (see power analysis below). Given the varying number of classes in each school, four to six schools will be recruited until the final sample size is reached.

Power Analysis

Power analysis was carried out for each moderator with varying effect sizes using G*power version 3.1.9.7 (Faul et al., 2009) in a fixed effects ANCOVA with main effects and interactions, an $\alpha = .05$, 7 covariates, and power = .90. Relevant to the direct effect, a previous meta-analysis of 30 studies found a large effect size of .53 ($\zeta = .53$, $r = .49$, $p < .001$) between parent and child religiosity in middle childhood, adolescence and emerging adulthood (Stearns & McKinney, 2019b). Thus, the estimated the final sample size of 231 parent-child dyads was estimated for $d = .25$ (medium effect size). This sample is also adequate to detect weak moderator effects (Champoux & Peters, 1987), represents 3.4% of the total population of children in kindergarten state primary schools ($N=6,855$) in the country of Malta (NSO Malta, 2021). This is an ambitious sample size for this age group in Malta (e.g., 175 children in Attard & Cordina, 1997; 105 children in Mizzi Harber & Grima, 1999).

Supporting this, additional power analyses were conducted for the four moderators. First, a sample size of 58 dyads for age as a moderator was calculated based on an interaction between age and marital adjustment. For example, age moderated the link from marital adjustment to child externalizing behaviors ($B = .52, p > .05$; Mahoney et al., 1997). Second, a sample size of 93 dyads for internalised religious motivation was estimated using effect size of .40, based on correlations with public religious involvement ($r = .39$ [CI .33, .46], $p < .001$), private religious involvement ($r = .50$ [CI .43, .57], $p < .001$) and religious identity ($r = .63$ [.56, .69], $p < .001$; Hardy et al., 2022). Third, a sample size of 54 dyads was calculated based on a medium effect size ($r = .54, p < .0001$; Flor & Knapp, 2001) to religious importance when children were actively involved. Finally, a sample size of 173 dyads for credibility-enhancing displays was estimated based on the link to religiosity in adulthood ($r = .29$ to $.59, p < .01$, Łowicki & Zajenkowski, 2019).

Procedure

The study will be approved by ### (removed university name to retain anonymity of authors) Ethics committee (Research Ethics Reference Number: ###). Permission from the school principal and parental informed consent will be gained prior to data collection. Children will also provide assent. Each school will be given \$150 book vouchers and parents will be given a \$5 book voucher as a token of appreciation; child participants will be given a certificate of participation and stickers. Deidentified data for this paper will be shared through Open Science Framework.

Translation and back-translation procedures will be performed for all the measures by different bilingual scholars to ensure the precise Maltese translation of the original meaning and cultural appropriateness of the measures is retained (Son, 2018). Translations will be revised to reflect a typical adult-child friendly conversation in their respective languages. The first author will pilot the child protocol with two children to

refine timing and instructions. The pilot will be recorded, with parental permission, and used for training purposes with the research assistants.

Through the class teachers, parents will be given a participation information sheet, consent form and QR code for the online questionnaire to complete at home. Consent forms will be returned via the child's teacher within two weeks. Parents may request a printed copy of the questionnaire. The questionnaire will consist of demographic data for the child and family, the religious internalization scale, the active parental-child involvement scale, the credibility enhanced display exposure scale, and the communication subscale of the CDC checklists and milestones. The questionnaire will take approximately 10-15 minutes to complete. Data collected in hard copies will be stored in a locked cabinet in a locked office. The original hard copies will be destroyed once deidentified data is entered for analysis.

The researchers will work one-to-one with the children² who have parental consent at school in a designated private room or quiet area of the school, adhering to public health guidelines. The child tasks will take 10-15 minutes and will be conducted in the child's preferred language. Tasks will be programmed in Qualtrics and collected using a password-protected tablet. Deidentified data files will be stored on Novell Drive (NetStorage) provided by ### accessed through Multi-Factor Authentication to secure and protect research data.

² In the case of COVID-19 school closure or restrictions of access to schools, the protocol for the child tasks is adaptable for online/sharing screen techniques as previously done at the ### Lab (removed name to retain anonymity of authors).

Materials and Measures

Parental Religiosity Measures

Parental's religiosity will be an average of the z scores for the following three dimensions: religious social identity, prayer, and God concept.

Parental religious social identity. Participants will report their religious affiliation then rate 5 items on 5 point scale from 1 (rarely) to 5 (very often) with a higher score showing higher religious social identity (Brown et al., 1986; Merrilees et al., 2013). For example, "Would you say you are a person who identifies with the (insert religious affiliation indicated, e.g., Catholic) community?" Cronbach's alpha will be reported.

Parental prayer. The validated brief measure of perceived divine engagement and disengagement in response to prayer will be used (Exline et al., 2021). Participants will be asked "How often do you pray?" Parents can respond either: never (0), once in a while (1) or often (2) to the question, with a higher score showing higher prayer engagement. This is followed by the prompt: "When you pray, how often do you perceive or experience the following?" Four items from the divine engagement subscale will be listed (e.g., "received guidance from God *regardless of the matter you are praying for.*") and rated as never (1), rarely (2), sometimes (3), often (4), and always (5), with a higher score indicating more perceived divine engagement. Cronbach's alpha will be reported.

Parental God concept. The subscale of a limitless God from the LAMBI measure of omnipresent God representations will be used (Johnson et al., 2019). Parents will be asked to rate how much a list of 5 words (limitless, vast, immense, infinite, boundless) describes God based on their own experience and beliefs, as opposed to theologically correct beliefs. Parents will rate the words on a 7-point scale from 1 (strongly disagree) to 7 (strongly agree); higher scores indicate greater sense of limitless God. Cronbach's alpha will be reported.

Child Religiosity Measures

Children's religiosity will be an average of the z scores for the following three concepts: religious social identity, prayer, and God concept.

Children's religious social identity. Symbols depicting the Catholic religion, as the majority religion, and symbols of other religions will be used to measure children's religious social identity (adapted from Taylor et al., 2020). This task is engaging, yet simple enough for children at this age given their cognitive, linguistic, and physical (fine motor skills) abilities. A total of 10 pairs images of symbols representing different religious symbols, traditions, celebrations, and clothing will be randomly presented. Two symbols, one from the majority/one from another religion (e.g., cross and the Star of David), will be presented at a time on a tablet through Qualtrics. The order of the images in each pair will be counterbalanced across participants. The child will be asked to drag and drop one picture in each trial to a box labeled Catholic, which the researcher will read out loud. If the symbol is categorized with the correct label, a code 1 is given (e.g., a Catholic Church in the Catholic box.), otherwise a code 0 is given. The higher scores will indicate that the children have a greater awareness of ingroup religious symbols and thus a higher religious social identity. Cronbach's alpha will be reported.

Children's prayer. This measure is an adaptation of Long et al.'s (1967) and Phelps and Woolley's (2001) interview to explore the development of the prayer concept. Given the linguistic abilities of children in this age range, this will be a structured interview. Children will be shown a picture of a family engaged in prayer (picture 1). If the parents indicated that they are not religious, a picture of a family praying in majority religion (i.e., Catholic) will be used. Children will be asked to describe what is happening in the picture. If the child shows no understanding of what is happening in the photo, the

researcher will tell the child that the family is praying and a score of 0 will be given. If the child shows awareness of what a prayer is, a score of 1 will be given. This will be followed by a short, structured interview of 6 entity questions of prayer, 3 prayer request questions, 3 timing of prayer questions, a question about God's engagement, and 2 questions about outgroup prayer (Refer to supplementary material for scoring details). A higher total mean score will indicate a higher prayer concept. Cronbach's alpha will be reported.

Children's God concept. The God concept will be measured in three items through knowledge of the physical attributes of the omnipresence of God. The first item is adapted from Kiessling and Perner (2014) where the children are asked an open-ended question about knowledge of God. The second and third items of this task are adapted from Nyhof and Johnson (2017). These are closed-end questions measuring the child's knowledge that God can get in a closed box without opening it (item 2) and be in more than one place at the same time (item 3). The higher total score (range 0 to 3) reflects greater knowledge about God's supernatural ability of omnipresence (Refer to supplementary material for scoring details). Cronbach's alpha will be reported.

Transmission Enhancers

Transmission Enhancers will be measured through the child's age, parental internalized religious motivation, active parental-child involvement, and credibility-enhancing displays, which will be modeled as moderators.

Parental internalized religious motivation. The religious internalization scale was adapted from Ryan et al. (1993) and Neyrinck et al. (2006). Parents will be asked to write a religious activity they perceive most helpful in expressing their religious belief attitude. This will be followed by 16 items assessing parental belief regulations (integrated,

identified, introjected and external) on a 4-point scale from 1 (not true at all) to 4 (very true), so that higher scores indicate more internalized parental religious motivation. An example of an item showing high internalization is “because it connects well with what I want in life” whilst an item low in internalization is “because others put me under pressure to do so.” Items 9 to 16 will be reversely scored. Cronbach’s alpha will be reported.

Active parental-child involvement. Seven items (adapted from Crosby III & Smith, 2015) will measure the extent to which parents actively involve their children in religious practices. Adaptations will be inclusive of different religions, for example, “Bible” will be adapted to “holy scripture”. Adaptations will be also carried out to allow for involvement through giving children a choice to be assessed e.g., “I pray with my child before bedtime” will be changed to “I let my child choose to say a prayer before bedtime.” Parents will be asked to respond on a scale from 1 (never) to 4 (very often), so that the higher the score, the higher the active religious engagement. Parents will be asked to tick ‘not applicable’ if the practice was not carried out. Item 4 will be reversely scored. Cronbach’s alpha will be reported, and exploratory factor analysis will be conducted.

Credibility-enhancing displays. This will be measured through an adaptation of the Credibility Enhanced Display Exposure scale (Lanman & Buhrmester, 2016). This scale was designed to be used by children retrospectively, to rate their perception of their primary caregiver/s’ religious behaviors. The seven items of this scale will be adapted so that parents can rate their own behavior, e.g. “To what extent did your caregiver(s) engage in religious volunteer or charity work” will be adapted: “How often do you engage in religious voluntary or charity work?” An 8th item adapted from the Duke University Religion Index (DUREL; Koenig & Büssing, 2010) measures how often parents spend time in private religious activities. All items will be scored on a seven-point scale ranging from 1 (not at all) to 7 (to a lot). Scores will be averaged so that higher scores indicate

more self-reported credibility-enhancing displays. Cronbach's alpha will be reported, and exploratory factor analysis will be conducted.

Covariates.

Parental gender, socioeconomic status, religious affiliation, parental education level, and nationality, all demographic variables, will be used as control variables. Given children's age, two developmental control variables will be used: child communication and theory of mind (see [supplementary material for a description for the covariates measures](#)).

Proposed Analysis

The z scores for parental and children's religiosity (i.e., measures for religious social identity, prayer, and God concept) will be calculated. Both the predictor and the moderators will be mean-centered to decrease the potential threat of multicollinearity. Table 1 will represent the means, standard deviations, ranges, and bicomrelations for all the study variables and controls. Maximum likelihood will be used to estimate all parameters. Recognizing the importance of the social context, exploratory factor analysis will be conducted on the following scales: internalized religious motivation, active parental-child involvement, and credibility enhancing displays.

[Insert Table 1 here]

Proposed Hypothesis testing.

The conceptual four moderators will be tested in one moderation analysis using Hayes' SPSS macro (Figure 2, Model 1: Hayes, 2018), with the [seven](#) control variables (parental

demographics: parental gender, socioeconomic status, parental education, religious affiliation, nationality, and child variables: communication assessment, and theory of mind). The model will control for the $\alpha = .05$ by simultaneously estimating each of the paths of interest. 95% confidence intervals will be reported.

[Insert Figure 2 here]

To examine our hypotheses, the z score of parental religiosity will be entered as the predictor, while child's age, internalized parental motivation, active parental-child involvement and credibility-enhancing displays will be entered as moderators, and the z score of child religiosity as the outcome. (Please refer to Figures 3 to 6 for the anticipated simple slopes.)

[Insert Figure 3 to 6 here]

Results

Discussion

Conclusions

Disclosure Statement

No potential conflict of interest was reported by the authors.

Acknowledgements

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Data Availability Statement

Data that support the findings of this study will be openly available at [#####](#) (removed link to retain anonymity of authors)

ORCID

(removed links to retain anonymity of authors)

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