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Transmission of Religiosity from Parent to Child: Moderation by Perceived Parental Psychopathology

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Transmission of religiosity from parent to child:

Moderation by perceived parental

psychopathology

By

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Parents influence their children's religiosity through many factors including parenting practices, parental religiosity, and parental psychopathology. Little research, however, has been conducted on how different parental psychopathologies, such as anxiety, depressive, and antisocial problems, affect the transmission of religiosity from parent to child. Participants reported the psychopathological behaviors of their parents via the Adult Behavior Checklist as well as personal and parental religiosity using a new religious scale. Structural equation modeling was used to measure whether parental psychopathology, parent gender, and participant gender would moderate the relationship between perceived parental and emerging adult religiosity. Results indicated that maternal interactions were significant for depressive and antisocial problems but gender analyses revealed that the interactions were significant only for females; similarly although no overall interaction occurred, the maternal interaction was significant for anxiety problems only for females when gender analyses were conducted. The results did not suggest a 3-way interaction among variables.

DEDICATION

This thesis is dedicated to my mother, who has always done everything she could to help me in my education, even if it mean suffering herself. She is everything a mother could ever be and I am incredibly grateful to have been gifted with her. I can only hope to make her proud of me.

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CHAPTER I

INTRODUCTION

Although many factors influence thoughts and behaviors, religiosity is one of the few that permeates nearly all aspects of individuals' lives. Indeed, 62% of people surveyed in North America believe in a god and 83% of those individuals reported that god holds a large importance in their lives (Egbert, Mickely, & Coeling, 2004). Moreover, other studies have shown that 95% of people in the United States believe in a supreme being and 40% go to religious services at least once a week (Gallop & Lindsay, 1999). Only a small amount of individuals, 6% in some studies (Gallop & Lindsay, 1999), claim they are not affiliated with a religious community. Even those people who do not claim to be religious often say that they are still spiritual (Hood, Hill, & Spilka, 2009). More recently, nationwide surveys have shown that 85% of people believe in God and 11% believe in some type of higher power (Pew Forum on Religion and Public Life, 2005). Thus, religion is a part of the majority of people's lives.

Parental factors like parenting practices, parental religiosity, and parental psychopathology all influence the religiosity of their children (Myers, 1996; Assor, Cohen-Malayev, Kaplan, & Friedman, 2005; Jacobs, Miller, Wickramaratne, Gameroff, & Weissman, 2012). In fact, in a study of young mothers and their young children, maternal depression inhibited whether or not children reflected the same importance on religion that their mothers did (Jacobs et al., 2012). The current study expanded upon

this literature by examining how other perceived parental psychopathologies, namely anxiety, depressive, and antisocial problems, affect the transmission of religiosity from parent to their emerging adult children. Additionally, most studies only examine maternal influences and the current study included both maternal and paternal variables concerning psychopathology and religiosity.

Parental and Child Religiosity

Although childhood, adolescence, and adulthood have been well studied, emerging adulthood is a relatively new area which needs to be explored further. Emerging adulthood was first identified by Arnett (2000) who described this developmental phase as the time after adolescence but before adulthood, generally encompassing the ages of 18 to 25 years. During this period, individuals often strive to develop their own identities, particularly in the areas of work, romance, and world-views. Indeed, emerging adulthood is an important period of development as it is also a time when many individuals engage in risky behaviors (Mackenzie et al., 2001; Zakletskaia, Wilson, & Fleming, 2010). Furthermore, given that religiosity is an influential part of most individuals' identity, they are likely to determine and refine their religious views at this stage of life.

Many influences impact the religiosity of emerging adults, specifically the religiosity of their parents. Some researchers have suggested that spiritual development occurs during a critical period for children at a young age, pointing to the influence of what they observe in their parents during childhood (Garbarino & Bedard, 1996). Smith and Snell (2009) also determined that the practices of individuals' upbringing continue from adolescence into emerging adulthood. Spilman, Neppl, Donnelan, Schofiend, and

Conger (2012) found that parental religiosity during their children's adolescence was positively correlated to the adolescents' religiosity, which likewise predicted religiosity in emerging adulthood; religiosity also was associated with the quality of family relationships. Indeed, studies have shown that parents exert a lasting imprint on the religious ideologies and commitments of their children (Glass, Bengtson, & Dunham, 1986; Myers, 1996, 2004) and that a majority of American teens prefer to adopt the religious traditions of their parents rather than seek out other religions (Smith, 2005).

In fact, parental religiosity has been found to be the strongest predictor of personal religiosity (Myers, 1996). This relationship is especially true for emerging adults as both parent-child relationships and religious issues often are revisited during this period; similarly, it is a time when individuals investigate the world around them and develop their own perspectives on life (Barry, Nelson, Davarya, & Urry, 2010). Specifically, mothers' religious affiliation, attendance, and ideology during their children's childhood served as predictors for religious ideology during emerging adulthood (Pearce & Thornton, 2007). Additionally, perceived similarity to parents' religious beliefs, faith support, and attachment to fathers predicted emerging adult religiosity (Leonard, Cook, Boyatzis, Kimball, & Flanagan, 2012). This relationship was especially true for father-daughter dyads as father attachment predicted female but not male orthodoxy.

Another important predictor of children's religiosity is how often parents attend church (Bader & Desmond, 2006; Bao, Whitbeck, Hoyt, & Conger, 1999). Bader and Desmond (2006) found that adolescents were most likely to attend church when their parents attended church and also believed that religion was important. The importance of

religious activities such as church are emphasized given the three main mechanisms by which parents transmit their beliefs to their children: (1) socialization through training and instruction, (2) social learning, (3) and status inheritance through which parents place their children in social roles (Acock & Bengtson, 1980). The physical act of going to church is likely a very salient socialization technique with clear social roles.

Theory

Developmental theory is important to consider given that it is during the initial developmental years that individuals learn the behavior of their parents as they observe religiosity in the home (Barry et al., 2010). Additionally, during adolescence, individuals reflect on the experiences they had in childhood and also start to develop their identity and relationships (Erikson, 1968; Fowler & Dell, 2006). Adolescence is even described as a phase when individuals begin to view religious scriptures as more figurative and symbolic and less literal (Fowler, 1991). The development which begins in adolescence continues into emerging adulthood and helps to determine who an individual will become in adulthood; this evolution is especially true for religiosity. Given that individuals explore their identity during emerging adulthood, this period is often a time when they reevaluate their religious beliefs and finally have the freedom to act on their beliefs, such as going to church or not (Barry et al., 2010). Based on what individuals have experienced themselves and observed from others, emerging adults examine the world around them and develop their own world view (Barry et al., 2010).

Another theory that explains the transmission of religiosity from one generation to the next is Bandura's social cognitive theory. This theory suggests that individuals learn from observing the behaviors of others and the consequences of that behavior. If the

individual sees positive consequences as a result of a behavior, the individual is more likely to carry out that behavior as well (Bandura, 2001). Indeed, social learning processes occur when children acquire the behaviors, values, and attitudes learned through direct training in the family (Grusec, 1992). Thus, when children observe that their parents are religious and that religiosity has a beneficial influence upon the lives of their parents, they are more inclined to model religiosity in their own lives.

Finally, the transactional model and family processes also may play a role in why the religiosity of individuals' parents influence their own religiosity (Flor & Knapp, 2001). Studies have found that the strongest predictor of adolescent religious views was parent modeling of religious behavior, showing that families indeed have a strong effect on religious development (Flor & Knapp, 2001). Additionally, positive parent-child relationships are important during emerging adulthood when children are exercising their new found independence (Assor et al., 2005; Myers, 1996). Goeke-Morey, Papp, and Cummings (2013) also found that as maternal religiosity increased, the family functioned better and parent-child attachment was improved; the association between parent-child attachment security and family stressors also was moderated by maternal religiosity. The association between positive parent-child relationships and the transmission of religiosity may suggest that a negative influence, such as parental psychopathology, may moderate this relationship.

Parental Psychopathology, Parenting, and Religiosity

Studies have investigated the role of maternal psychopathology on parenting practices. Lovejoy, Graczyk, O'Hare and Neuman (2000) determined from their meta-analysis that maternal depression was more strongly associated with negative parenting

behaviors than disengaged or positive parenting. Maternal depression and anxiety also have been associated with negative parenting behaviors such as aggression toward the child, over protectiveness, and coercive control (Caughy, Huang, & Lima, 2009; Cummings, Keller, & Davies, 2005; Neppl, Conger, Scaramella, & Ontai, 2009). When mothers display symptoms or diagnoses of psychopathology, they tend to be more detached in their parenting, such as being less affectionate, less structured, and spending less time with their children (Bailey, Hill, Oesterle, & Hawkins, 2009; Champion et al., 2009; Gerdes et al., 2007). Additionally, Gerlsma, Emmelkamp, and Arrindell (1990) found that mothers with phobic disorders tended to be less affectionate and displayed more maladaptive controlling behaviors toward their children.

Given that parental psychopathology can have a large influence upon parenting practices, it follows that it also has a hand in whether or not children adhere to the religiosity of their parents. Jacobs et al. (2012) found that in a sample of young mothers and children, maternal depression decreased the importance that children ascribed to religiosity, but not church attendance or denomination. Similarly, studies have shown that maternal depression can lessen the likelihood that adult offspring will acquire the religion of their parents in the domains of religious importance and church attendance (Gur, Miller, Warner, Wickramaratne, & Weissman, 2005). This attenuation of transmission of religiosity may be because depressed parents tend to be less involved with their children than nondepressed parents; indeed, when parents are depressed they are more likely to use harsher discipline practices more frequently and have less positive interactions with their children (Cummings, Keller, & Davies, 2005; Turney, 2011; Lovejoy et al., 2000). A gap in the literature exists, however, in that the effect of other

psychopathologies such as anxiety and antisocial tendencies on religious transmission have yet to be explored and that paternal effects have gone largely unexamined.

Gender

A final variable that helps to determine whether or not religiosity will be passed from parents to children is gender, both that of the parent and of the child. Historically, fathers are not often involved in psychological research, particularly in developmental and normative psychology (Phares, Lopez, Fields, Kamboukos, & Duhig, 2005). Although this trend is improving, it is a slow process. Although the argument can and has been made that mothers are the primary influence upon their children, this may not be the case, especially if the mother has psychopathological behaviors (Gere, Hagen, Villabo, Arnberg, Neumer, & Torgersen, 2013). Moreover, the majority of children under the age of 18 years in the United States live with both of their biological parents (Hofferth, Stueve, Pleck, Bianchi, & Sayer, 2002). Further, 72% of children who do not live with their biological fathers tend to at least have some paternal contact (i.e., at least yearly; Hofferth et al., 2002).

Studies have shown that fathers are important in child development. Reviews have found that fathers influence their children in nearly every factor studied, from social development to academic achievement, and even physical health; the strength of this influence is sometimes similar and sometimes different from the strength of the influence of the mother (Lamb, 2004; Tamis-LeMonda & Cabrera, 2002). Despite this importance, fathers continue to be largely neglected in developmental psychology research. Phares et al. (2005) conducted a review of 508 articles and found that 45% of studies only included mothers, 2% included only fathers, 25% analyzed mothers and fathers separately, and

28% included mothers and fathers but did not look at them separately. Unfortunately, this trend did not show marked difference from the review completed 13 years previously (Phares & Compas, 1992). The current study seeks to include paternal variables to combat this problem.

Admittedly, many studies suggest that mothers are the primary conductor of religiosity (Bao et al., 1999; Boyatzis, 2006; Gunnoe & Moore, 2002; Miller, Warner, Wickramaratne, & Weissman, 1997). In part, this relationship may be due to the fact that women tend to score higher on levels of spirituality and religiosity than men (Koenig, McCullough, & Larson, 2003; Spilka, Hood, Hunsberger, & Gorsuch, 2003). The father also may be important, however, as mothers are more likely to engage in conversations about religion when fathers are present as well (Boyatzis, 2006). Gunnoe et al. (1999) found that for adolescents, the religiosity of both parents was related positively to authoritative parenting, though only maternal religiosity was correlated negatively with authoritarian parenting styles.

The gender of the children also plays a role in their religiosity. Adolescent boys, for example, seem to be more heavily influenced by the religiosity of their parents (Flor & Knapp, 2001). Adolescent girls, on the other hand, have reported more intrinsic religiosity than boys (Henry, Plunkett, Robinson, Huey, & McMichael, 2009). Dickie, Ajega, Kobylak, & Nixon (2006) also found that sons who reported an increased closeness to their mothers similarly reported that they felt an increased closeness to god and greater religiosity; daughters, however, who were close to their mothers were only likely to feel an increased closeness to god but did not report more religiosity. Additionally, if mothers viewed god as loving, daughters were more likely to share this

view of god than if their fathers viewed god as loving; sons did not share this relationship (Hertel & Donahue, 1995).

Current Study

The current study expanded upon previous literature by examining how the religiosity of emerging adults is influenced by the perceived psychopathology and religiosity of their parents. Symptoms related to anxiety, depressive, and antisocial problems were examined. Due to the fact that maternal influences have been most often studied, this study also examined how paternal variables affect emerging adults. The following hypotheses were made: (1) perceived parental religiosity would correlate positively with emerging adult religiosity; (2) perceived parental psychopathology (i.e., anxiety, depressive, and antisocial problems) would moderate the relationship between parental and emerging adult religiosity, in that increased parental psychopathology would lead to a decrease in the transmission of religiosity from parent to child; (3) parental gender would moderate the relationship between parental and emerging adult religiosity, with perceived maternal religiosity being a stronger predictor of personal religiosity than perceived paternal religiosity; (4) participant gender would moderate the relationship between perceived parental and emerging adult religiosity, with male participants reporting increased transmission of religiosity relative to female participants, and (5) that the interaction terms will be further moderated by participant gender; that is, a 3-way interaction was hypothesized. It should be noted that although prior research supports hypotheses 3 and 4 (Flor & Knapp, 2001; Bao et al., 1999; Boyatzis, 2006), other research has found contradicting results suggesting that the father-daughter dyad had

stronger transmission of religiosity (Dickie et al., 2006; Leonard et al., 2012; Stearns & McKinney, submitted for review).

CHAPTER II

METHODS

Participants

The sample (N = 435; 295 female, 122 male) consisted of emerging adults aged 18 to 25 years (M = 20.62, SD = 1.76) who were attending a large Southern university. Participants received 1 credit to apply toward a class of their choosing for their participation. Participants identified their race as Caucasian (66.0%), African-American (25.4%), Latino (2.2%), Asian (4.1%), or Other (2.6%). A high percentage of participants reported being Christian-other (46.0%), whereas others were Baptist (16.8%), Catholic (9.0%), Protestant (4.1%), Atheist (4.1%), Other (3.4%), Methodist (3.2%), Neo-pagan (2.8%), and Spiritual (2.5%). The majority of participants reported that their parents had a Bachelor's degree (mother = 33.1%, father = 27.0%) or high school diploma (mother = 24.2%, father = 33.7%); other responses for maternal and paternal education included 18.6% and 16.6% who had a Master's degree, 16.2% and 13.3% who had an Associate's degree, 3.1% and 6.0% who had a Doctorate, and 4.8% and 5.0% Other, respectively.

Measures

Stearns-McKinney Assessment of Religious Traits

The Stearns-McKinney Assessment of Religious Traits (SMART) was developed as a new scale designed to measure various dimensions of religiosity (Stearns &

McKinney, in preparation). The overall scale includes 53 statements describing religious activities, feelings, and beliefs and is scored on a Likert scale from *0 = not true* to *7 = very true*. Factor analysis indicated a higher order Religiosity factor which consists of 5 lower order factors: Private Religiosity (e.g., *I try to live my life according to my religious beliefs*), Social Support (e.g., *I consider myself active in my faith or church*), Coping (e.g., *I find comfort in my religion or spirituality*), Conviction (e.g., *I will always believe in a divine being/God*), and Extreme Religiosity (e.g., *I strictly follow my religious beliefs in regard to my appearance)*. Factor loadings of the 5 factors onto the overall Religiosity factor ranged from .75 to .99 and item loadings onto each of the 5 factors ranged from .63 to .84. Validity has been demonstrated by comparing the SMART with several established scales including the Religious Well-Being scale, the Santa Clara Strength of Religious Faith scale, and the intrinsic subscale of the Religious Orientation Scale-Revised (Paloutzian & Ellison, 1982; Plante & Boccaccini, 1997; Gorsuch & McPherson, 1989). Strong correlations among the overall religiosity scale of the SMART and the other scales ranged from .70 to .77 and from .50 to .76 with a mean of .67 for the five factors, indicating good convergent validity.

Adult Behavior Check-List

The Adult Behavior Check-List (ABCL; Achenbach & Rescorla, 2003) consists of 123 statements used to assess the internalizing and externalizing behaviors of others over the past 6 months. The ABCL problem behaviors are scored with *0 = not true*, *1 = somewhat or sometimes true*, and *2 = very true or often true*. Factor analysis has determined that the ABCL's statements constitute eight syndrome scales: the Withdrawn, Somatic, and Anxious/Depressed scales load on the Internalizing Problems scale and the

Rule-Breaking Behavior, Aggressive Behavior, and Intrusive scales load onto the Externalizing Problems scale. Among the factors on the ABCL's are DSM oriented subscales consisting of items that experts from many cultures identified as being very consistent with DSM-5 categories; the current study used the DSM oriented subscales for depressive, anxiety, and antisocial problems in this study. Internal consistency alphas for all eight identified factors have ranged from .87 to .93 in past studies, and the alphas for the depressive, anxiety, and antisocial behaviors factors ranged from .88 to .92 (Achenbach & Rescorla, 2003; Rescorla & Achenbach, 2004). Test-retest reliabilities of the eight factors have a mean score of .86 and the three factors used in the current study had a mean score of .89 (Achenbach & Rescorla, 2003). Cross-informant correlates ranged from .30 to .79, with a median of .42, which indicates that the measure can be used to report the behaviors of others (Achenbach & Rescorla, 2003).

Procedure

Upon approval by the university IRB, the questionnaires were posted to SONA Systems, an online survey system. Participants read about the study through the online Participant Research Pool (PRP) system where they were told that the survey contains questions about the religious beliefs and behaviors of themselves and their parents and that it would take approximately 1 hour to complete. Participants who then choose to take part in the survey provided informed consent by reading the consent form on the first page of the survey and clicking "yes." Upon agreeing to the consent form, they first completed a brief demographics questionnaire and then the other measures in a randomized order. Participants rated their own religiosity and perceptions of maternal and paternal religiosity on the Religiosity Scale and perceptions of maternal and paternal

psychopathology on the ABCL. Participants first completed the measures in reference to themselves, then in reference to their mother and finally to their father. After the participants completed the entire questionnaire, they received a short debriefing form. On this form, they were told about the purpose of the study and information about psychological services at Mississippi State University.

Planned Analyses

Structural equation modeling was conducted using AMOS 23.0. Latent variables included perceived maternal religiosity, paternal religiosity, and emerging adult religiosity. Observed variables included perceived maternal and paternal anxiety, depressive, and antisocial problems, and were examined using three different models, one for maternal and paternal anxiety problems, one for maternal and paternal depressive problems, and one for maternal and paternal antisocial problems. The maximum likelihood method of covariance structure analysis was used. Model fit was examined with the comparative fit index (CFI), Tucker-Lewis Index (TLI), standardized root mean square residual (SRMR), and root mean square error of approximation (RMSEA). According to Hu and Bentler (1999), CFI and TLI values > .90 and > .95, SRMR values < .10 and < .08, and RMSEA values < .08 and < .06 indicate acceptable and good model fit, respectively.

Hypothesis 1 was tested by examining the correlations among observed variables. Hypothesis 2 was tested by examining interaction effects. Interaction terms included perceived maternal religiosity x maternal anxiety, depressive, and antisocial problems for a total of three maternal interactions, and the same terms were used for paternal

interactions, totaling six interaction terms altogether. Significant interaction terms were interpreted by plotting them using simple slope analyses at +/- 1 *SD*.

Pairwise parameter comparisons, a statistical test comparing the difference between path coefficients, were used to test hypotheses 3, 4, and 5. This comparison produces a *Z* score indicating the statistical difference between two path coefficients (Byrne, 2013). Specifically, male and female as well as maternal and paternal path coefficients were compared to determine relationships moderated by gender. Analyses were first conducted with the overall sample and then separately for males and females to determine any gender differences.

CHAPTER III

RESULTS

See Table 1 for descriptive statistics and correlations for observed variables based on the overall sample. Table 2 shows descriptive statistics and correlations divided by gender. The original measurement model with latent perceived religiosity variables as described above and shown in Figure 1 provided acceptable model fit (SRMR = .09, CFI = .97, TLI = .96, RMSEA =.08). All factor loadings except paternal conservatism (.32) exceeded .79 (all *p*s < .001), indicating convergent validity.

Anxiety Problems Analyses

Upon specifying an appropriate measurement model, the structural model as shown in Figure 2 was tested and provided acceptable model fit (SRMR = .09, CFI = .96, TLI = .95, RMSEA = .08). Figure 2 displays path coefficients among variables used to test hypothesis 1. Confirming hypothesis 1, results indicated that both perceived maternal and paternal religiosity shared a positive association with emerging adult religiosity.

Hypothesis 2 stated that perceived parental religiosity and anxiety problems would moderate the relationship between parental and emerging adult religiosity. Hypothesis 2 was not confirmed in that neither the perceived maternal religiosity x maternal anxiety problems interaction nor the perceived paternal religiosity x paternal anxiety problems interaction was significant. Additionally, regarding hypothesis 3,

results showed that although not statistically significant, perceived maternal religiosity was a stronger predictor of emerging adult religiosity than perceived paternal religiosity.

Hypothesis 4 stated that emerging adult gender would moderate the relationships between perceived parental and emerging adult religiosity; the results supported the hypothesis for both maternal and paternal religiosity paths. Specifically, perceived maternal religiosity predicted emerging adult religiosity in males stronger than in females ($Z = 2.72$, $p = .006$). On the other hand, perceived paternal religiosity predicted emerging adult religiosity stronger in females than in males ($Z = 1.65$, one-tailed $p = .049$).

Finally, hypothesis 5 suggested that the interaction terms would be further moderated by participant gender; that is, a 3-way interaction was hypothesized. The results did not indicate a 3-way interaction for emerging adult gender.

Further analyses indicated perceived maternal religiosity shared a positive association with emerging adult religiosity in females and males, but perceived paternal religiosity was associated with emerging adult religiosity for females only. Moreover, for females the perceived maternal religiosity x maternal anxiety problems interaction was significant when using a one-tailed test (Figure 5); pairwise parameter comparisons showed no significant difference between males and females regarding the perceived maternal religiosity x maternal anxiety problems interaction term. Results still showed no moderation for the paternal variables when female and male participants were examined separately.

Depressive Problems Analyses

The structural model as shown in Figure 3 was tested and provided acceptable model fit (SRMR = .09, CFI = .96, TLI = .95, RMSEA = .07). Figure 3 displays path

coefficients among variables used to test hypotheses 1. Confirming hypothesis 1, results indicated that perceived maternal and paternal religiosity shared a positive association with emerging adult religiosity.

Hypothesis 2 stated that perceived parental religiosity and depressive problems would moderate the relationship between parental and emerging adult religiosity. Hypothesis 2 was partially confirmed in that the perceived maternal religiosity x maternal depressive problems interaction was significant. Results showed no moderation for the paternal variables. Regarding hypothesis 3, results showed that perceived maternal religiosity was a stronger predictor of emerging adult religiosity than perceived paternal religiosity using a one-tailed test ($Z = 1.69$, $p = .045$).

Additionally, hypothesis 4 stated that emerging adult gender would moderate the relationships between perceived parental and emerging adult religiosity; the results supported the hypothesis for the maternal religiosity path only. Specifically, perceived maternal religiosity predicted emerging adult religiosity in males stronger than in females ($Z = 2.80$, $p = .005$).

Finally, hypothesis 5 suggested that the interaction terms would be further moderated by participant gender; that is, a 3-way interaction was hypothesized. The results did not indicate a 3-way interaction for emerging adult gender.

Further analyses indicated that perceived maternal religiosity shared a positive association with emerging adult religiosity in females and males, but perceived paternal religiosity was associated with emerging adult religiosity for females only. Additionally, for females the perceived maternal religiosity x maternal depressive problems interaction was significant but not for males (Figure 6); pairwise parameter comparisons did not

determine this difference to be significant. Results still showed no moderation for the paternal variables when the sample was separated into males and females.

Antisocial Problems Analyses

The structural model as shown in Figure 4 was tested and provided acceptable model fit (SRMR = .09, CFI = .96, TLI = .95, RMSEA = .08). Figure 4 displays path coefficients among variables used to test hypotheses 1. Confirming hypothesis 1, results indicated that both perceived maternal religiosity and paternal religiosity shared a positive association with emerging adult religiosity.

Hypothesis 2 stated that perceived parental religiosity and antisocial problems would moderate the relationship between parental and emerging adult religiosity. Hypothesis 2 was partially confirmed in that the perceived maternal religiosity x maternal antisocial problems interaction was significant. Results showed no moderation for the paternal variables. Regarding hypothesis 3, results showed that perceived maternal religiosity was a stronger predictor of emerging adult religiosity than perceived paternal religiosity, though not a statistically significant difference.

Additionally, hypothesis 4 stated that emerging adult gender would moderate the relationships between perceived parental and emerging adult religiosity; the results supported the hypothesis for the maternal religiosity path only. Specifically, perceived maternal religiosity predicted emerging adult religiosity in males stronger than in females ($Z = 2.64$, $p = .008$).

Finally, hypothesis 5 suggested that the interaction terms would be further moderated by participant gender; that is, a 3-way interaction was hypothesized. The results failed to indicate a 3-way interaction for emerging adult gender.

Further analyses indicated that for females the perceived maternal religiosity x maternal antisocial problems interaction was significant but not for males (Figure 7), though pairwise parameter comparisons did not show a statistical difference. Results still showed no moderation for the paternal variables for either males or females.

CHAPTER IV

DISCUSSION

The current study examined the role of perceived parental psychopathology in the transmission of religiosity from parents to children in emerging adult males and females. Hypothesis 1 was supported by the results as both perceived maternal and paternal religiosity were positively related to emerging adult religiosity. This result is supported by previous research indicating that perceived parental religiosity has a strong effect on emerging adult religiosity (Pearce & Thornton, 2007; Smith & Snell, 2009; Stearns & McKinney, submitted for publication).

Hypothesis 2 was not supported by the results in regard to perceived anxiety problems, as perceived anxiety problems did not moderate the relationship between parental and emerging adult religiosity. This result is surprising given that previous studies have shown that increased parental anxiety has been associated with negative parenting behaviors which would be likely to decrease the transmission of religiosity from parent to child (Caughy et al., 2009; Cummings et al., 2005; Neppl et al., 2009). Hypothesis 2 was partially supported by the results for perceived depressive and antisocial problems, as perceived depressive and antisocial problems moderated the relationship between maternal, but not paternal, and emerging adult religiosity. Given that most studies have shown that mothers are the primary transmitter of religiosity from parent to child, it is not surprising to see that the maternal interactions were significant

and the paternal ones were not (Bao et al., 1999; Boyatzis, 2006; Gunnoe & Moore, 2002; Miller et al., 1997). These results also support previous research as studies have indicated that maternal depression lessens the importance children place on religiosity and hinders the transmission of religiosity from parent to child (Gur et al., 2005; Jacobs et al., 2012). Similarly, other psychopathological diagnoses and symptoms are associated with detached parenting which is likely to result in decreased parent-child communication which negatively influences the transmission of religiosity (Bailey et al., 2009; Champion et al., 2009; Gerdes et al., 2007).

Regarding hypothesis 3, perceived maternal religiosity was a statistically stronger predictor than perceived paternal religiosity of emerging adult religiosity in only the depressive problems model. Although the pairwise parameter comparison was only significant in the case of depressive problems, the results of all 3 models were in the same direction (i.e., perceived maternal religiosity was a stronger path than perceived paternal religiosity when predicting emerging adult religiosity). These results are consistent with previous research which has indicated maternal religiosity is a stronger influence than paternal religiosity on their children, likely as a result of mothers being viewed as the primary caregiver and spending more time with the children (Boyatzis, 2006; Gunnoe & Moore, 2002).

Hypothesis 4 was supported as emerging adult gender moderated the relationship between perceived parental and emerging adult religiosity; specifically, in all three models perceived maternal religiosity predicted emerging adult religiosity in males stronger than in females. Conversely, regarding only the perceived anxiety problems model, perceived paternal religiosity predicted emerging adult religiosity stronger in

females than in males. Although not significant in the perceived depressive and antisocial problems models, the results still indicated the trend of the importance of a father-daughter dyad (i.e., that paternal religiosity predicts emerging adult religiosity stronger in females than in males). These results support previous literature suggesting that parent-child gender dyads are important in the transmission of religiosity. For example, several previous studies have found that the father-daughter bond may facilitate the transmission of religiosity (Halgunseth, Jensen, Sakuma, & McHale, 2015; Stearns & McKinney, submitted for publication). This association may be a result of many studies showing that females are more religious in general, thus boosting the transmission of religiosity within the father-daughter dyad (Boyatzis, 2006). Moreover, fathers and daughters may have a special bond which helps to increase emerging adult religiosity; perhaps this bond is due to decreased conflict during the teenage years between fathers and daughters, in comparison to mothers and daughters, and a less competitive relationship than fathers and sons experience (Nielsen, 1996; Shulman & Krenke, 1996; Snarey, 1993). Some researchers even have suggested that fathers have a strong influence upon daughters' ability to trust, which is likely to have an influence upon their belief in a paternalistic deity (Erickson, 1998; Flouri, 2005).

Additionally, previous studies have shown evidence that the mother-son relationship influences the transmission of religiosity as prior research has suggested that sons, but not daughters, who reported an increased closeness to their mothers similarly reported that they felt an increased closeness to god and greater religiosity (Dickie et al., 2006). Some research also has shown that sons, specifically adolescent boys, are more likely to be influenced by the religiosity of their parents (Flor & Knapp, 2001).

Finally, regarding hypothesis 5, gender did not statistically moderate any of the interaction terms; thus no 3-way interaction for emerging adult gender occurred. The hypothesis that the interaction terms would differ according to emerging adult gender was based on previous research which has shown a difference in the transmission of religiosity from parent to child among males and females (Flor & Knapp, 2001; Stearns & McKinney, submitted for publication). Unfortunately, only two previous studies have examined the moderating effect of parental depression on child religiosity and none have explored the effects of anxiety or antisocial behaviors on child religiosity (Gur et al., 2005; Jacobs et al., 2012). Given the tentative nature of hypothesis 5, the direction of the expected gender difference was not hypothesized and it is hard to speculate how or why the interaction between parental psychopathology and religiosity did not differ by child gender.

Moreover, the perceived maternal religiosity x maternal anxiety problems, maternal religiosity x depressive problems and maternal religiosity x antisocial problems interactions were significant for females but not for males (Figures 5, 6 and 7, respectively). Although pairwise parameter comparisons did not determine these differences to be statistically significant as described above, finding statistically significant effects for females but nonsignificant effects for males suggests actual gender differences (i.e., the effect occurs in females but not males), lending support to moderation by participant gender at a conceptual if not statistical level. Based on these results, females scored lower on religiosity when maternal religiosity was lower, regardless of maternal psychopathology. When maternal religiosity was high, however, females scored higher in religiosity in general, compared to lower maternal religiosity,

and they were particularly higher when maternal psychopathology was lower, relative to higher maternal psychopathology. Additionally, when perceived maternal psychopathology was lower, males and females scored similarly on religiosity (i.e., lower perceived maternal religiosity was associated with lower emerging adult religiosity, and higher perceived maternal religiosity was associated with higher emerging adult religiosity); thus, maternal psychopathology did not appear to have much of an effect when it was lower. When perceived maternal psychopathology was higher, however, male and female effects experienced a crossover effect. That is, compared to females, males were lower in religiosity when maternal religiosity was lower but they were higher when maternal religiosity was higher.

These results are supported by previous research finding that maternal depression hindered the transmission of religiosity from mother to child (Gur et al., 2005; Jacobs et al., 2012). Additionally, it is not surprising that females would be more affected by the interaction of maternal religiosity and psychopathology than sons given that females have been shown to be more influenced by the religiosity of their parents and females tend to be more religious in general (Pearce & Thornton, 2007; Smith & Snell, 2009; Stearns & McKinney, submitted for publication). Although it was expected that the paternal interactions would be significant as other studies have shown paternal variables to be important in the transmission of religiosity (Halgunseth et al., 2015; Stearns & McKinney, submitted for publication), the current study likely found no results as this particular sample displayed low (if present) associations between perceived paternal religiosity and emerging adult religiosity. For example, paternal path coefficients ranged from .09 to .23, whereas maternal path coefficients ranged from .35 to .58.

Further gender analyses indicated perceived maternal religiosity shared a positive association with emerging adult religiosity in females and males, but perceived paternal religiosity was associated with emerging adult religiosity for females only in the perceived anxiety and depressive problems models. In the perceived antisocial problems model, both perceived maternal and paternal religiosity was associated with female and male religiosity. As stated above, these results are consistent with previous research which has shown that parental religiosity, particularly maternal religiosity, has a large influence on both daughters and sons (Pearce & Thornton, 2007; Smith & Snell, 2009; Stearns & McKinney, submitted for publication).

Implications for Research and Practice

Given the results of the current study, gender, perceived parental religiosity, and perceived parental psychopathology clearly have a strong influence upon the religiosity of emerging adults. Researchers still have much ground to explore in an effort to specify what mechanisms are causing differential results regarding gender. Specifically, it is important to examine why perceived parental psychopathology hindered the transmission of religiosity for some dyads but not others. Additionally, researchers should examine why perceived paternal religiosity has a stronger influence on females than males and what makes the father-daughter dyad so strong regarding transmission of religiosity. Similarly, it would be interesting to investigate the mother-son dyad and its implications for the transmission of religiosity

The implications stemming from this and previous studies involve the ramifications of perceived parental religiosity and parental psychopathology on personal religiosity. As researchers continue to explore how parental psychopathology affects

their children, it is important to see how these effects extend into emerging adulthood. By understanding the effects of parental psychopathology, researchers can help parents to understand better the importance of getting psychological treatment when necessary. Given that increased religiosity has been associated positively with many mental health outcomes, parents who foster religiosity in their children may help to provide a better future for their children, particularly if the parents themselves have poor mental health (Blando, 2006; Brewer-Smyth & Koenig, 2014; Faigin & Pargament, 2011; Koenig, 2001). Admittedly, the current study found that parents with poor mental health might have more trouble fostering religiosity in their children so it is suggested that these individuals might do well to seek outside religious help, such as through a church, or outside mental health help, such as through a licensed professional.

Moreover, parents and children may benefit from the parents seeking psychological help when appropriate. For example, parents may seek their own treatment from licensed professionals. Additionally, churches also could aid parents by reducing stress by appealing to the parents' religiosity and faith in a higher being; indeed, religiosity has been found to be a protective factor against poor mental health (Pitel et al., 2012). Churches also could make recommendations for parents with suspected psychological problems to seek help from a licensed professional. Finally, emerging adults could encourage their parents to seek psychological help when appropriate. Moreover, college campuses (e.g., church groups and counseling services) could help students to identify when their parents should seek psychological help and provide the support to do so.

Limitations

This study must be viewed in the context of its limitations, such as using a college sample. Although a college sample allows for the acquisition of emerging adults, and college is typically representative of emerging adulthood, it is a subsection of emerging adults and may not represent the population at large. Researchers have argued, however, that emerging adulthood is particularly found in college samples due to the transition from adolescence to young adulthood that individuals experience during their college years (Arnett, 2000). Additionally, the study asked participants to indicate the religiosity and psychological problems of their parents through their perspective, and a shared-method bias may exist due to relying on a single informant. Further, participants, for example, with mental health problems of their own may view their parents as having more problems merely as a result of their own mental health problems. Studies have shown, on the other hand, that children's perceptions of their parents may be just as important as reality (Finley, Mira, & Schwartz, 2008; Yahav, 2006). Thus, how the participants perceive their parents' religiosity may provide unique information relative to parents' reports. Finally, due to the cross-sectional nature of the study, causality and direction of effects cannot be determined; theory and prior research, however, support the directions examined here (e.g., Okagaki & Bevis, 1999).

Conclusion

The current study demonstrated the influence of perceived parental religiosity and parental psychopathology upon emerging adults' religiosity. Given that many previous studies have indicated that religiosity can serve as a protective element and personal religiosity is highly correlated with parental religiosity, it is important to identify factors

which either facilitate or hinder the transmission of religiosity from parent to child. Although beyond the scope of this paper, more research needs to be done regarding parental psychopathology and its effects on parent-child interactions and the parent-child relationship. Moreover, the current study highlighted that gender differences play an important role in whether or not perceived parental religiosity and parental psychopathology will have an effect upon the religiosity of children. A meta-analysis examining gender findings involving religiosity and the transmission of religiosity from parent to child would be helpful in determining differential gender results. Similarly, researchers should examine the uniqueness of specific dyads (e.g., father-daughter, mother-son) and what makes them important regarding transmission of religiosity.

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APPENDIX A

TABLES AND FIGURES

Table A1

Correlations among Indicator Variables Based on Overall Sample

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.
1. M Private	1																				
2. M Coping	.92	1																			
3. M SS	.86	.87	1																		
4. M Con	.88	.88	.79	1																	
5. M Cons	.80	.78	.82	.72	1																
6. EA Private	.49	.47	.48	.47	.49	1															
7. EA Coping	.49	.49	.48	.48	.48	.96	1														
8. EA SS	.48	.45	.50	.42	.51	.93	.91	1													
9. EA Con	.48	.48	.48	.51	.47	.91	.92	.83	1												
10. EA Cons	.41	.39	.46	.34	.58	.80	.78	.86	.71	1											
11. P Private	.34	.34	.30	.32	.29	.39	.37	.38	.37	.32	1										
12. P Coping	.26	.26	.22	.27	.26	.27	.27	.29	.26	.22	.79	1									
13. P SS	.34	.36	.28	.37	.28	.35	.36	.36	.36	.28	.72	.80	1								
14. P Con	.37	.38	.34	.39	.36	.39	.38	.39	.38	.33	.75	.79	.87	1							
15. P Cons	.46	.46	.51	.37	.57	.41	.39	.47	.34	.52	.23	.16	.25	.30	1						
16. M Anx	-.11	-.23	-.15	-.10	-.16	-.16	-.18	-.21	-.13	-.17	ns	ns	ns	ns	-.14	1					
17. P Anx	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	.13	.13	.22	.18	ns	.11	1				
18. M Dep	-.27	-.33	-.31	-.33	-.25	-.25	-.28	-.24	-.26	-.18	-.16	-.10	-.19	-.18	-.17	.70	ns	1			
19. P Dep	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	.13	.11	.21	.16	ns	.16	.75	ns	1		
20. M AntiS	-.29	-.33	-.29	-.35	-.21	-.21	-.24	-.18	-.22	-.11	-.18	-.13	-.25	-.21	-.11	.58	ns	.83	ns	1	
21. P AntiS	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	.11	ns	ns	.25	.71	.19	.80	.14	1

Note. All *p*s < .05 unless noted as ns.

EA = Emerging Adult; M = Maternal; P = Paternal; Private = Private Religiosity; Coping = Religious Coping, SS = Religious Social Support; Con = Religious Conviction; Cons = Religious Conservatism; Anx = Anxiety problems; Dep = Depressive problems; AntiS = Antisocial problems

Table A2

Correlations among Indicator Variables Based on Gender

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.
1. M Private	1																				
2. M Coping	.92	1																			
3. M SS	.86	.87	1																		
4. M Con	.88	.88	.79	1																	
5. M Cons	.80	.78	.82	.72	1																
6. EA Private	.49	.47	.48	.47	.49	1															
7. EA Coping	.49	.49	.48	.48	.48	.96	1														
8. EA SS	.48	.45	.50	.42	.51	.93	.91	1													
9. EA Con	.48	.48	.48	.51	.47	.91	.92	.83	1												
10. EA Cons	.41	.39	.46	.34	.58	.80	.78	.86	.71	1											
11. P Private	.34	.34	.30	.32	.29	.39	.37	.38	.37	.32	1										
12. P Coping	.26	.26	.22	.27	.26	.27	.27	.29	.26	.22	.79	1									
13. P SS	.34	.36	.28	.37	.28	.35	.36	.36	.36	.28	.72	.80	1								
14. P Con	.37	.38	.34	.39	.36	.39	.38	.39	.38	.33	.75	.79	.87	1							
15. P Cons	.46	.46	.51	.37	.57	.41	.39	.47	.34	.52	.23	.16	.25	.30	1						
16. M Anx	-.11	-.23	-.15	-.10	-.16	-.16	-.18	-.21	-.13	-.17	ns	ns	ns	ns	-.14	1					
17. P Anx	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	.13	.13	.22	.18	ns	.11	1				
18. M Dep	-.27	-.33	-.31	-.33	-.25	-.25	-.28	-.24	-.26	-.18	-.16	-.10	-.19	-.18	-.17	.70	ns	1			
19. P Dep	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	.13	.11	.21	.16	ns	.16	.75	ns	1		
20. M AntiS	-.29	-.33	-.29	-.35	-.21	-.21	-.24	-.18	-.22	-.11	-.18	-.13	-.25	-.21	-.11	.58	ns	.83	ns	1	
21. P AntiS	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	.11	ns	ns	.25	.71	.19	.80	.14	1

Note. All *p*s < .05 unless noted as ns. Correlations appear below the diagonal and are shaded for males and above the diagonal for females.
EA = Emerging Adult; M = Maternal; P = Paternal; Private = Private Religiosity; Coping = Religious Coping, SS = Religious Social Support; Con = Religious Conviction; Cons = Religious Conservatism; Anx = Anxiety problems; Dep = Depressive problems; AntiS = Antisocial problems.

Table A3

Mean, Standardized Mean, Standard Deviation, and Alphas of Indicator Variables

	α	*M*	*SM*	*SD*
1. Maternal Private	.99	69.92	5.38	19.95
2. Maternal Coping	.99	59.91	5.45	16.40
3. Maternal Social Support	.98	50.85	5.65	15.91
4. Maternal Conviction	.93	36.99	4.62	12.17
5. Maternal Conservatism	.93	36.99	4.62	12.17
6. Emerging Adult Private	.99	66.88	5.14	22.13
7. Emerging Adult Coping	.99	58.27	5.30	19.18
8. Emerging Adult Social Support	.98	48.90	5.43	16.79
9. Emerging Adult Conviction	.99	66.38	5.53	20.23
10. Emerging Adult Conservatism	.93	34.39	4.30	12.72
11. Paternal Private	.86	45.24	3.48	8.52
12. Paternal Coping	.89	38.39	3.49	7.87
13. Paternal Social Support	.88	37.95	4.22	6.91
14. Paternal Conviction	.89	43.53	3.80	8.10
15. Paternal Conservatism	.95	33.66	4.21	12.90
16. Maternal Anxiety Problems	.85	10.79		3.21
17. Paternal Anxiety Problems	.56	17.17		3.59
16. Maternal Depressive Problems	.93	18.29		5.26
17. Paternal Depressive Problems	.71	35.22		6.08
16. Maternal Antisocial Problems	.96	24.45		7.04
17. Paternal Antisocial Problems	.83	47.25		8.81

Note. SM = Standardized Mean.

Table A4

Correlations among Variables in Measurement Model Based on Overall Sample

Overall Model	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Maternal Religiosity	1								
2. Paternal Religiosity	.53	1							
3. EA Religiosity	.43	.43	1						
4. Maternal Anxiety	-.13	-.17	ns	1					
5. Paternal Anxiety	ns	ns	.19	.14	1				
6. Maternal Dep	-.32	-.27	-.20	.69	ns	1			
7. Paternal Dep	ns	ns	.18	.16	.75	ns	1		
8. Maternal AS	-.33	-.23	-.23	.58	ns	.83	ns	1	
9. Paternal AS	ns	ns	ns	.25	.71	.19	.80	.14	1

Note. All *p*s < .05 unless noted as ns.
EA = Emerging Adult; Anxiety = Anxiety problems; Dep = Depressive problems; AS = Antisocial problems.

Table A5

Correlations among Variables in Measurement Model Based on Gender

MGA Based on Gender	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Maternal Religiosity	1	.50	.42	-.11	ns	-.30	ns	-.32	ns
2. Paternal Religiosity	.65	1	.42	-.15	ns	-.25	ns	-.22	ns
3. EA Religiosity	.47	.42	1	ns	.27	-.14	.26	-.18	.18
4. Maternal Anxiety	-.16	-.26	-.22	1	.20	.71	.24	.61	.32
5. Paternal Anxiety	ns	ns	ns	ns	1	ns	.73	ns	.71
6. Maternal Dep	-.38	-.30	-.32	.65	ns	1	.12	.86	.22
7. Paternal Dep	ns	ns	ns	ns	.78	ns	1	ns	.81
8. Maternal AS	-.36	-.24	-.36	.51	ns	.78	ns	1	.15
9. Paternal AS	ns	ns	ns	ns	.71	ns	.79	ns	1

Note. All *p*s < .05 unless noted as ns. Correlations appear below the diagonal and are shaded for males and above the diagonal for females. EA = Emerging Adult; Anxiety = Anxiety problems; Dep = Depressive problems; AS = Antisocial problems.

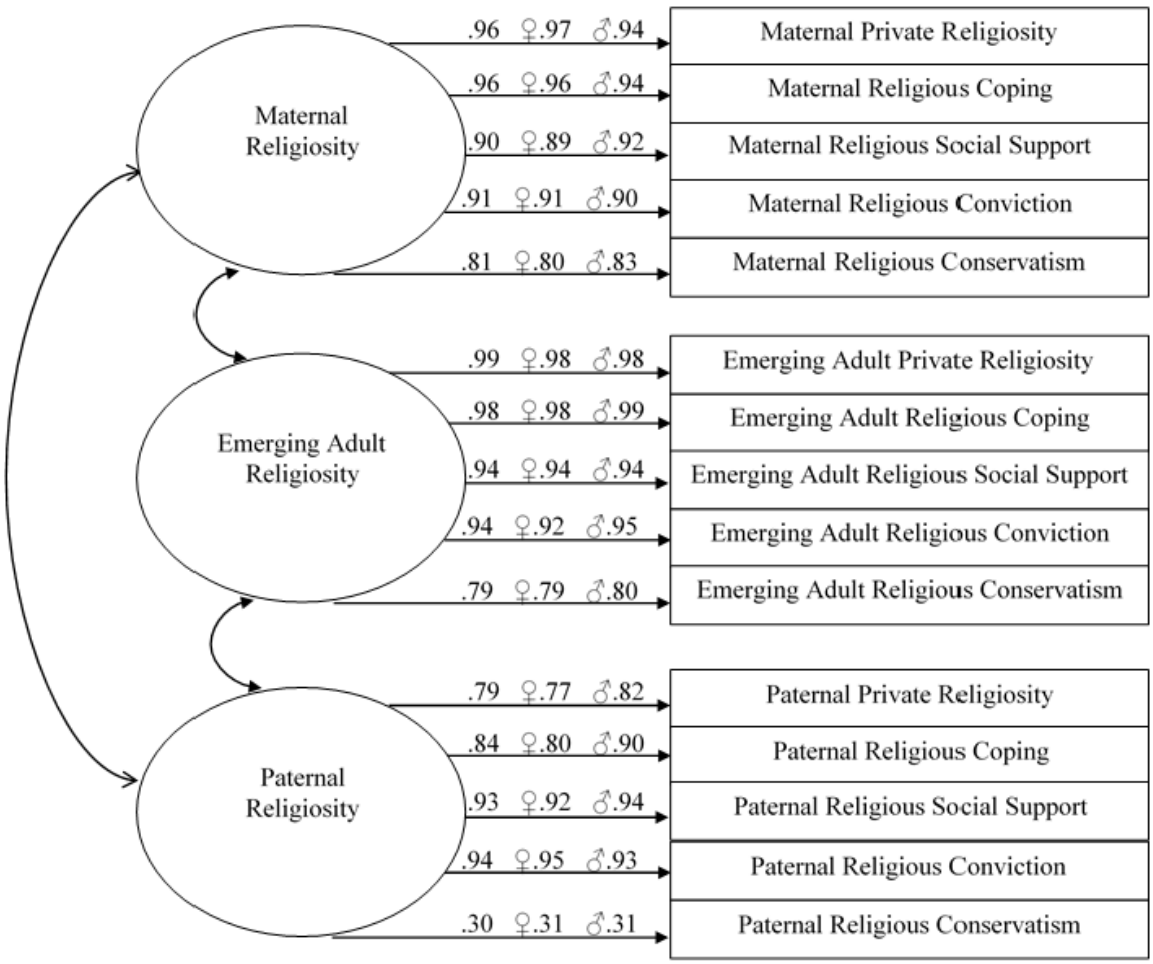

Figure A1. Measurement model factor loadings

Measurement model factor loadings (all *p*s < .001). The first loading to the left indicates the overall model; ♂ indicates males and ♀ indicates females for the multiple group analysis. Correlations among latent variables shown in Tables 7 and 8 and residuals omitted for clarity. Fit Indices for the overall model: SRMR = .10, RMSEA = .10, CFI = .96, TLI = .95. Fit Indices for the multiple group analysis: SRMR = .11, RMSEA = .08, CFI = .95, TLI = .94.

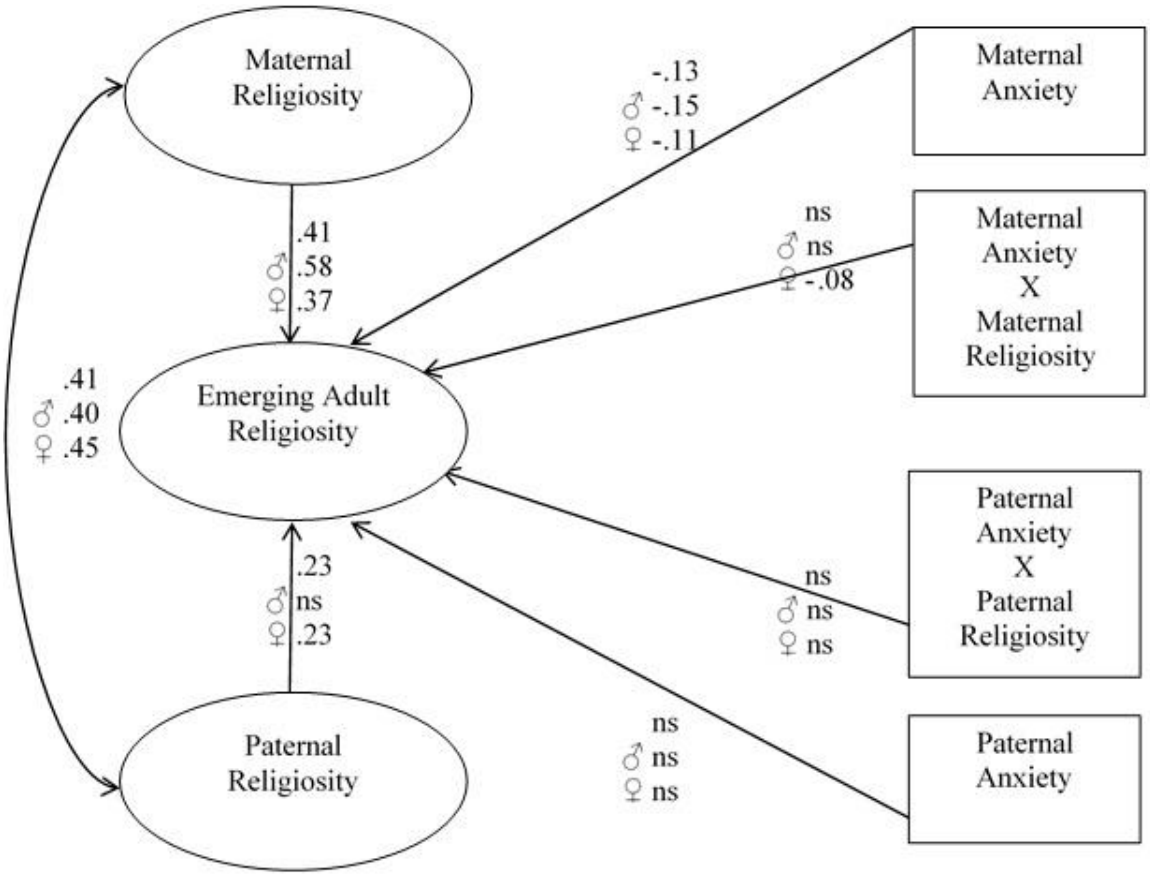

Figure A2. Structural model indicating moderation of religiosity transmission by parental anxiety problems.

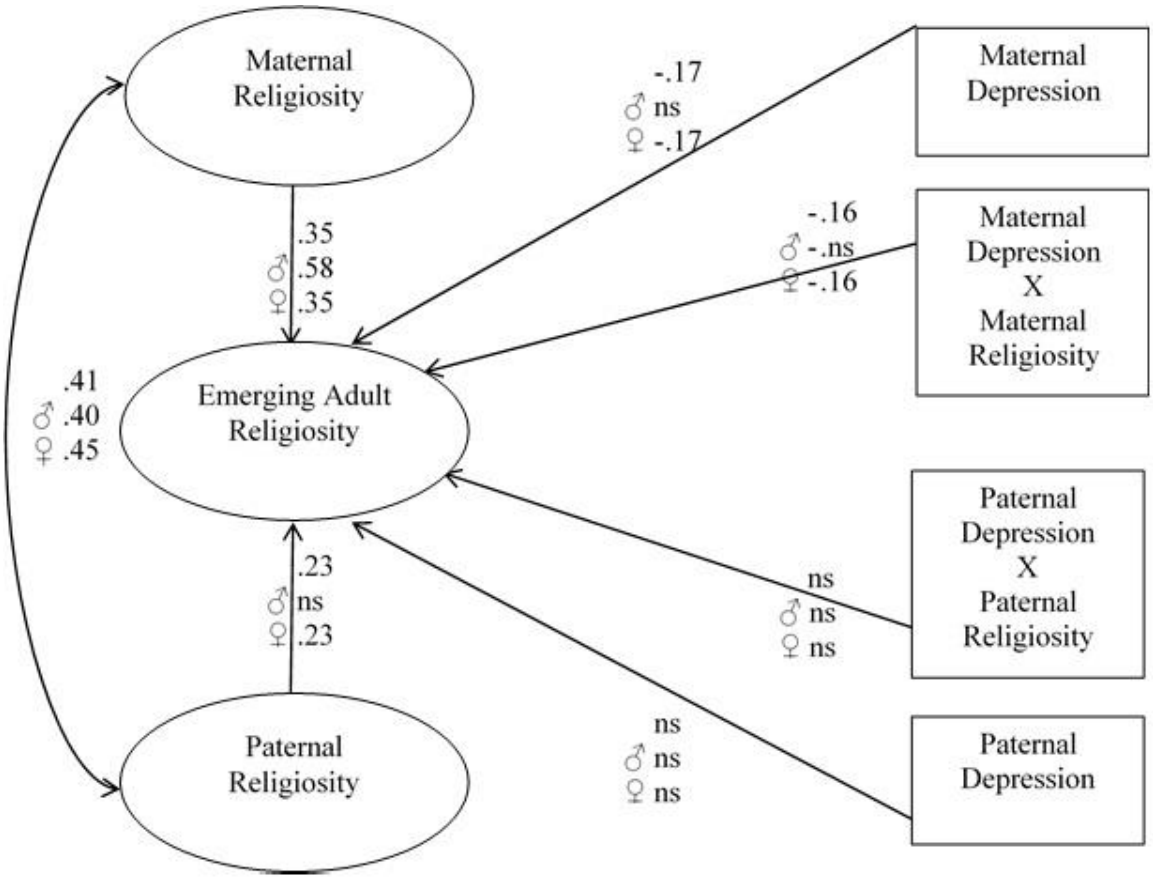

Figure A3. Structural model indicating moderation of religiosity transmission by parental depressive problems.

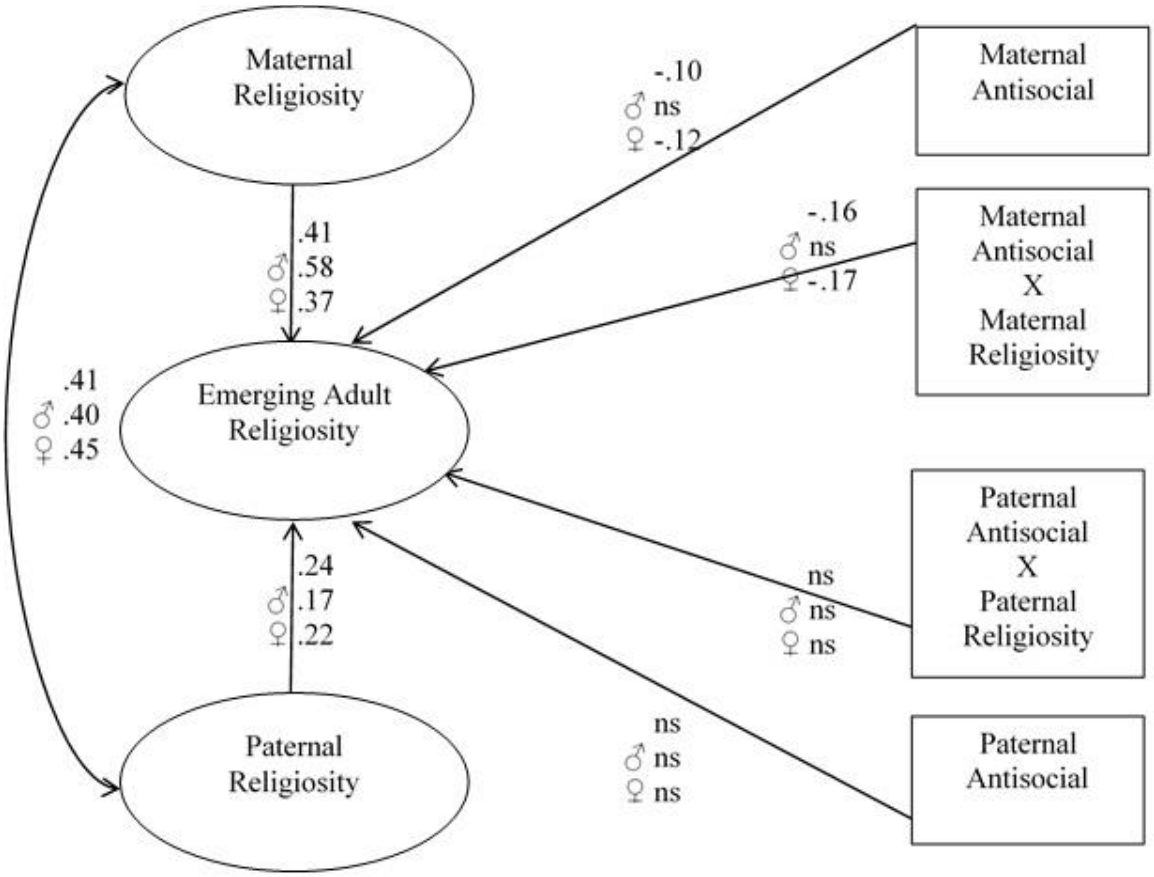

Figure A4. Structural model indicating moderation of religiosity transmission by parental antisocial problems.

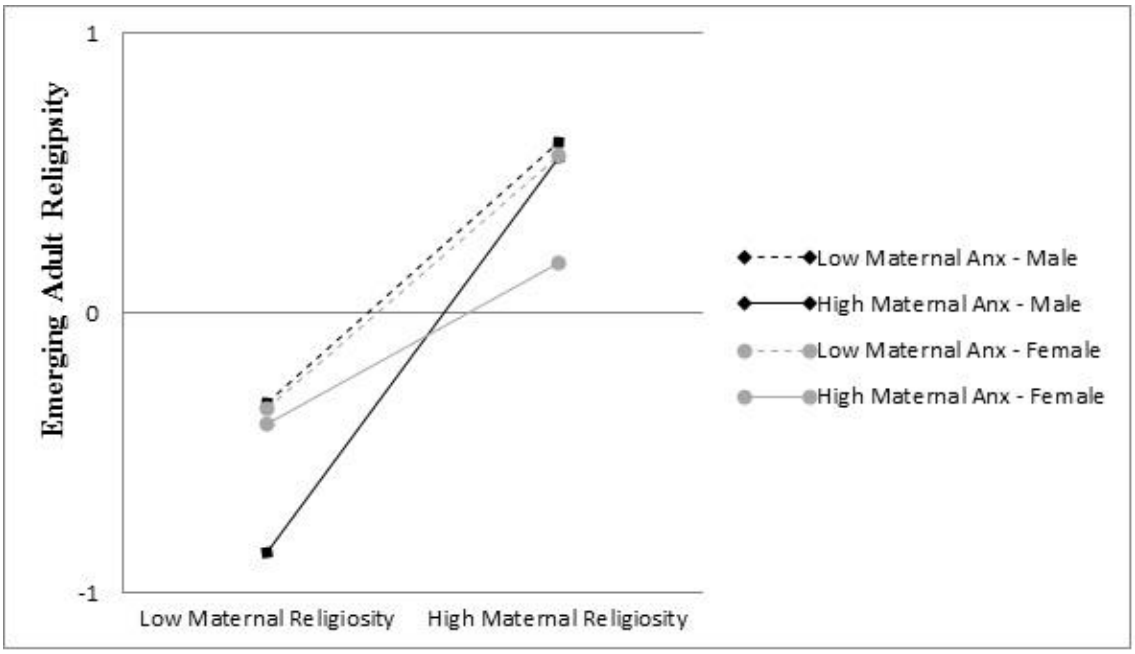

Figure A5. Maternal Religiosity x Anxiety problems interaction.

Interaction was significant for females but not for males.

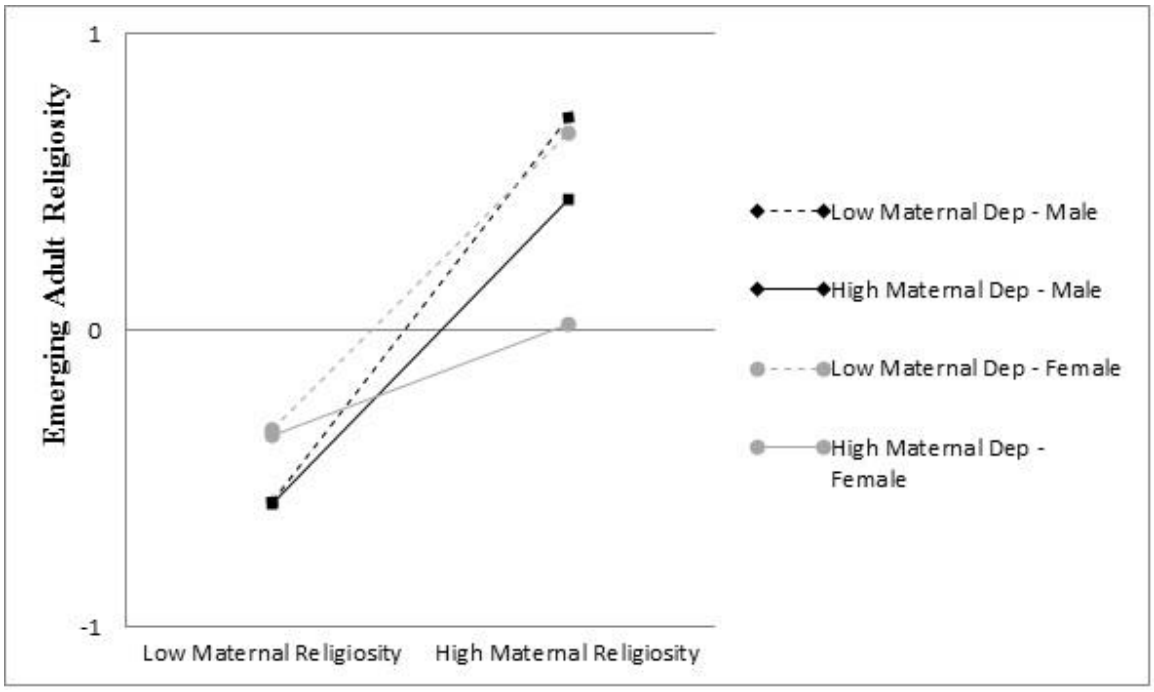

Figure A6. Maternal Religiosity x Depressive problems interaction.

Interaction was significant for females but not for males.