

ABSTRACT

Differing Forms of Religious Participation and Their Effect on Fertility

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Religion plays a major role in influencing fertility and fertility decisions. The relationship between religious attendance and fertility is well established. However, research has not looked at different forms of participation and their effect on fertility. Using Waves II-IV of the Baylor Religion Survey (BRS), this study explores the relationship between different forms of religious participation and fertility by comparing doctrine-related participation--Bible study or Sunday school--and social participation--fellowships or potlucks--and their effect on the number of children. Evidence suggests that doctrine-related participation affects fertility more than religious social participation. Doctrine-related participation also accounts for part of the effect of religious attendance while social participation does not. This suggests that the influence of reference groups within religious participation is more than social interaction but relates to the transmission and enforcement of doctrine.

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DIFFERING FORMS OF RELIGIOUS PARTICIPATION
AND THEIR EFFECT ON FERTILITY

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DEDICATION

For the many generations of women before me for
whom a college education was not an option and
for my dear grandma Caroline, you are loved
and missed. What I wouldn't give for one of your hugs!

Honor her for all that her hands have done,
and let her works bring her praise at the city gate.

Proverbs 31:31

CHAPTER ONE

Literature Review

Religion and Fertility in the United States: An Overview

While most of the world has become increasingly secular and seen a decline in religious affiliation and participation, the United States has been more resistant to this trend (Norris and Inglehart, 2011). Most people in the United States still prefer or are affiliated with a religious group or denomination, but service attendance has declined, with only about a quarter of Americans reporting going to religious services at least weekly (Hout and Smith 2015). According to the most recent GSS data, about 25% of respondents identified as Conservative Protestants, 23% as Liberal Protestant, 23% as Catholic, 2% as Jewish, 3% as an other religion, and 23% as not any religion. This category of “nones” has seen a steady increase since the early 1990s and is predicted to grow (Smith et al. 2018). Religious affiliation also differs by region within the US, although this is changing with greater geographic shifts, intermarriage, and assimilation. Religious identity and attendance differences by SES are mixed. While having less education and lower affluence corresponds with more frequent devotional activities and more conservative beliefs, higher income and education are associated with more frequent attendance (Ellison and McFarland 2013). More recent research has looked at religious trends by age cohorts. Age has a strong positive effect on service attendance but even with a control for age, service attendance has declined for all age groups (Schwadel 2011). Religious practice also differs by gender with women generally being more

religious than men (Hout and Smith 2015). Overall, religious participation in the United States is in decline but religion still plays an important role in the lives of Americans. One of the ways religion can influence people's lives is in their fertility decisions.

Prior to the 1980s, most work in demography concerning religion and fertility compared Protestants and Catholics. In the 1950s and 1960s, demographers tracked fertility differences in the Baby Boom era, when Catholics had higher fertility than Protestants. As that fertility difference began to fade, some research began to focus on Protestant sub-groups. As early as the 1970s, Ryder and Westoff (1971) found similar fertility rates in moderate and liberal denominations and slightly higher fertility rates in more conservative congregations. The work of Mueller and Lane in 1972 showed similar differences between conservative and liberal denominations, although their research only differentiated between Baptist, Lutheran, Methodist, and Presbyterian. Both found that differences between Protestant sub-groups were greater than between Protestants and Catholics. The differences between Conservative and Mainline denominations have appeared to diminish since the 1970s. Mosher, Williams, and Johnson (1992) found that there was a difference of one-fifth child for total fertility between conservative denominations and other Protestant groups. This fertility difference, although small, is still part of the scholarship surrounding the decline in mainline congregations (Hout et al. 2001). More recent data from Perry and Schleifer (2019), among others, shows that Conservative and Mainline Protestant fertility has nearly converged, indicating that doctrinal and cultural differences between denominations are no longer as influential in determining fertility.

Religious Participation and Fertility

Religious attendance has been used to explain fertility differences among Protestant sub-groups as well as between the religious and non-religious. John Marcum (1986), when looking at Protestant congregations along conservative-liberal lines, found very little difference. Rather, religious involvement and commitment had greater implications on fertility. In comparing the fertility of Catholics and the non-religious, Williams and Zimmer (1990) found that fertility was found to be higher among participating Catholics than non-Catholics when socioeconomic factors such as education and income were controlled. Church attendance was more characteristic of the committed Catholics and more highly associated with actual fertility behavior. Higher religious participation resulting in higher fertility was evident for both Catholics and Protestants, but more pronounced for Protestants, especially white Protestant women (Mosher et al. 1992). More recently, Perry and Schleifer (2019) showed that high religious participation corresponded with higher fertility. But even for those with high commitment and involvement, fertility rates were declining, although at a slower rate than the wider population. Within religious groups, attendance is an important indicator of fertility, but different forms of religious participation are rarely addressed.

Religious participation is thought to impact fertility in several ways. Religious participation and influence in adolescence can also have an impact on later fertility decisions. In looking at the effect of religion on adolescents, Christian Smith (2003) separated the spheres of influence into moral order, learned competencies, and social and organizational ties. Those that may be related to ideas surrounding fertility and family

can include moral directives and role models, both of which are within the sphere of moral order. The influence of these two things can impact later fertility decisions through the influence of parents, especially mothers. While describing how religious exposure in childhood and adolescence may influence young adult childbearing attitudes and decisions, Pearce (2002) suggests that having Catholic mothers or mothers who have frequent religious participation will have implications for child-bearing preferences. These include having objections to voluntary childlessness, wanting many children themselves, and feeling the average American family should have more children. For young adults whose mothers frequently attend religious services, their views are shaped by their religious participation and the importance of religion within their own lives. Influences and experiences in adolescence can have effects on later fertility decisions.

Reference groups serve as an important influence on fertility decisions and attitudes in both adolescence and adulthood. Reference groups, whether they be religious or otherwise, influence individual and group perceptions of norms and values concerning family size. Using a self-administered questionnaire of a random sample of both urban and rural families, Clay and Zuiches (1980) found major variations by sex. While wives were influenced by both reference group interaction and their family of origin, the husbands' family size ideals were only influenced by their family of origin. There were also differences in education and residential location. In 1996, Bongaarts and Watkins highlighted the importance of reference groups and social interactions in determining fertility. While they found that much of the fertility decline within developed countries was the result of changing socioeconomic conditions, religious institutions provided an environment that valued children, partially counteracting the decline in the economic

value of children. This is supported by the work of Heaton (1989) which found that weekly attendance was important for the maintenance of reference groups in Mormon congregations, which in turn was also important for fertility decisions and norms.

Reference group theory, which has been applied in other areas to explain the influence of religious groups, can also provide valuable insight into the influence of religious congregations on fertility decisions. Cochran et al. (1988) used reference group theory to explain the influence of different denominations on rates of alcohol consumption. For them, behavior and decisions were influenced by reference groups, which are the groups to which individuals look for an evaluation of their actions or guidelines for behavior. Reference groups are more or less influential based on how similar the individual is in status attributes in comparison to the group, the degree of agreement in views, the degree of sustained interaction, and the degree to which leaders are considered significant others (Merton and Rossi 1968, Merton 1968). How clearly doctrine and beliefs are conveyed also influences whether a reference group serves a positive or additive function (Bock et al. 1983). Within religious congregations, many status attributes such as social class or race are similar (Beeghley et al. 1981, Dougherty et al. 2020). Agreement and clarity are conveyed through statements of faith, creeds, and similar documents as well as certain requirements in belief for membership. Doctrine is written about, preached about, and relatively stable (Salisbury 1964, Chalfant et al. 1987). Within congregations, sustained interaction happens through attendance and participation. Religious groups also often hold leaders, whether they be pastors, priest, rabbis, or other, in high regard and consider their leadership as significant others (Alston and McIntosh 1979). All these factors combined make religious congregations strong

reference groups for participating individuals. Conrad Hackett (2008) highlighted the importance of religion in fertility decisions by showing that reference group influence that happens through frequent participation has effects on fertility rather than just religious practices. The social networks present in congregations act as reference groups for its congregants. For women, religious reference groups affirm the desirability of children, provide social support for childbearing and parenthood, and give status to parents. Family size norms and perceptions of normality are also instituted and enforced by reference groups. Hackett shows that congregation-based reference groups can account for the connection between congregational participation and fertility. Reference groups are present in many different religious practices and activities, both doctrine-related and non-doctrine-related.

Doctrine-related Participation

Doctrinal differences have been used to explain fertility differences among Christian denominations in the United States. Among Protestant groups, conservative fertility was attributed to doctrinal differences such as taking the command to “be fruitful and multiply” literally as well as viewing fertility as the role of Providence and God’s will within their lives (De Jong 1965). Controlling for social characteristics and residence, conservative couples were found to have higher actual and wanted fertility than their liberal counterparts. Surprisingly, this was mainly found in conservative couples who were low in participation (Marcum 1981). In more recent research, the doctrinal differences that affect fertility have less to do with pronatalist doctrines but rather biblical literalism. Those who hold to a literal interpretation of the bible tend to

have higher fertility (Perry and Schleifer 2019). As biblical literalism is usually considered a conservative Protestant trait, this explains some of the differences between Conservative and Mainline congregations (Hackett 2008). This is also connected to ‘sanctification theory’ in which the family is seen as a vocation. For conservative traditions, biblical literalism leads to an understanding of parenting and the family as a chance to imitate God’s sacrifice and grow in patience and love (Mahoney et al. 2003). Although not as widely studied or accepted, evidence suggests that doctrine still has some effect on fertility differences.

Doctrine-related practices are of primary importance. Several perspectives support this. The practice-oriented approach of Smith (2017) and Riesbrodt (2010) shows how doctrine and conceptions of supernatural power are essential to religious practice and influence. Doctrine-related practices are those practices or forms of participation that seek to access, understand, or pass on knowledge regarding superhuman power. Religion in general is an attempt to access superhuman powers to gain help or blessings from a power that is generally invisible and can be personal or impersonal. In a practice-oriented approach put forth by Smith (2017) these practices which seek to access this power are the essence of religion. All other features and products may improve the practices and may be vital parts of religious life, but they are “secondary, derivative, and dependent” on the practices themselves. Religious practices involve doctrinal foundations and basic understandings of what these superhuman powers entail. In certain religions, knowledge about superhuman power is also an essential part of accessing them. Thus, doctrine-related practices, such as religious education, are more essential and influential to religion and may have more effects on the practices of the adherents. Doctrine can also take on a

secondary role as a causal influence through prescriptive teaching. Practices related to doctrine are both part of the essence of religion as well as part of some secondary powers and features.

A practice-oriented approach is also seen in Riesbrodt (2010) and his focus on interventionist practices. Religious practices should be differentiated and clearly defined so that they are distinguishable from other practices. Thus, for Riesbrodt, religious practices have an attempt to access superhuman powers at the center. The study of worship and liturgies are essential to this differentiation. Liturgies offer rules and scripts that guide human interaction with superhuman powers, convey its meaning, and are shown through certain practices or worship. These interventionist practices can include symbolic actions, manipulation, temporary interaction, or activated superhuman potential. For most, symbolic actions make up most of their religious practices. Doctrine-related practices often rest upon assumptions about superhuman powers or are used to understand these powers. Even the secondary practices put forth in Riesbrodt's explanation of religion are structured around the existence of superhuman powers. Interventionist practices and the doctrine related to them are essential for the practice and understanding of religion and religious influence.

The framing of religious actions and experiences in terms of schemas can also provide valuable insight into how religious practices operate and interact with other aspects of life. These schemas are influenced by and transmit doctrine. Johnson-Hanks et al. (2011) separate schemas into their schematic elements and their material elements. Schematic elements within religion largely relate to doctrine. These ideas, values, and habits are often implicit ways of organizing, understanding, and engaging the world. The

nomos portion of Wilcox and Wolfinger's (2008) framework of norms, networks, and nomos explains these schematic elements. Nomos is the sacred collection of beliefs and practices that can influence relationships and behaviors. These practices can be transmitted through rituals related to relationships and marriage or through specific norms promoted by the community. The overarching doctrine defines the nomos and norms set in place in religious communities. McQuillan (2004) theorizes that religion is expected to be influential in reproductive decisions when traditions hold distinctive theological beliefs about relevant factors such as contraception or family size, the groups have sufficient cultural and organizational strength to enforce these, and religion is an important part of individuals' identities. These overarching theological contexts and assumptions are a part of the schematic elements of religion. The discursive practices described by Riesbrodt (2010) also explain the schematic elements of religion. These practices serve to pass down and revise religious understanding concerning interventionist practices. While the discussion of this knowledge is often done by intellectuals and elites, they have implications for the ideas and values instilled through religion. Doctrine is an essential part of the schematic elements of religion as it provides a worldview by which religious adherents can interpret, organize, and engage with the world.

Material elements within religion also relate to the institutionalization and enforcement of doctrine. Like schematic elements, material elements are the products of social action and structure. These objects, performances, and organizations provide value to schemas and have an existence beyond themselves (Johnson-Hanks et al. 2011). Doctrine includes not only ideas about superhuman power but also beliefs about what is

right. This can create institutional constraints which restrict behavioral choices (Montgomery and Casterline 1996). Riesbrodt (2010) also discusses institutional norms and constraints in his behavior-regulating practices. These practices reshape everyday life considering the pursuit of superhuman powers. These often take on the attempt to avoid sanctions or earn merits. Interventionist practices are also an important part of the material elements of religion. Some of these practices such as marriage vows or certain contemplative practices can also have effects on the norms that religion conveys in terms of fertility and family expectations. Religious institutions promote specific norms such as gender roles or pro-marriage attitudes that impact fertility decisions (Wilcox and Wolfinger 2008). These too are part of the material aspects of religion. If religious groups have the cultural and organizational power to enforce these norms and punish violators and religion is an important part of its adherents' identities, religion is expected to be influential (McQuillan 2004).

Doctrine informs both schematic and material elements of schema and thus is an important and influential part of religious life. Doctrine-related participation and practice inform and enforce both schematic and material elements of religion, and thus may influence many aspects of life. I will be focusing on the effects of religious education participation on fertility decisions and outcomes. Religious education is an important way that the church conveys its ideas and ideals and helps form the schematic and material elements of religion.

Social Participation

The schematic and material elements of religion can also take on forms not related to doctrine but rather to social interactions and conversations. It is through these interactions that schemas are learned and develop meaning (Johnson-Hanks et al. 2011, Levine et al. 1993). Interactions are the driving force behind knowledge acquisition and thus in the acquisition of expected norms and ways of thinking (Carley 1986). Conversations are one of the ways that schemas can be transmitted (Rutenberg and Watkins 1997). Thus, social networks and exchanges form people and their schemas. These interactions contribute to social learning and social influence leading to learned decision-making influences and interpersonal interactions impact individuals' fertility decisions (Montgomery and Casterline 1996). Religious networks also provide models in which these norms and schemas are learned. Pro-family norms can be transmitted by examples of a good marriage, emotional support from other members, social support, and even practical guidance from those around them or in authority (Wilcox and Wolfinger 2008). The social aspects of religion are influential in forming schemas and norms surrounding fertility decisions.

Social networks and interactions can also be used to enforce sanctions for actions deemed immoral by the group. One of the ways that religious groups are influential on the lives of the adherents is through the enforcement of norms and the ability to sanction violators. This requires both cultural and organizational strength (McQuillan 2004). Networks, while providing support, can also be used to stigmatize those who reject the accepted norms of the group (Wilcox and Wolfinger 2008). Whether this is through selective interaction with opposing viewpoints or language that discourages differing

views and lifestyles, social networks and interactions can affect fertility and marriage decisions through the use of sanctions.

Social interactions provide meaning for those involved. Religion can be influential when it is an important part of the individual's identity. Social interactions and shared meaning provide a sense of belonging and purpose beyond oneself. This meaning and identity deter religious adherents from violating norms surrounding family, marriage, and fertility (McQuillan 2004). Religious social relations also provide an end goal and a sense of collective purpose in achieving certain ends. Through this, life is made meaningful and religious meaning and symbols are reproduced. But social networks on their own do not have any content and do not involve motives or beliefs. Content is not inherent to social networks but rather is constructed or contingent on the makeup of the network. Religious or other contexts and meanings are needed to create both instrumental and ritual content and meaning (Friedland and Alford 1991). Social networks and interactions provide meaning and are important in the transmission of this meaning, but a context and purpose beyond social interaction are needed for them to be influential and reproduce symbols and norms.

Overview

Between the religious and non-religious, there are significant differences in fertility rates. For a long time, research focused on religious fertility by looking at Catholic and Protestant differences. Following the convergence of Catholic and Protestant fertility, sociologists began to look at differences among Protestant denominations. While the difference between Conservative and Mainline Protestants has

begun to converge, religion still has social influence in the lives of its adherents. More recent research has focused on religious participation and commitment in determining fertility. Religious participation in both adolescence and adulthood as well as reference group influence have effects on later fertility decisions. Religious participation plays an important part in influencing fertility decisions, yet little is known about whether different forms of religious participation matter. Doctrine itself has impacted fertility differences in the past but more careful study has suggested a more practice-oriented approach to looking at religious participation. Through looking at the schematic and material elements of religious schema, doctrine and religious belief play an important role in influencing their adherents' lives. Social networks and the sanctions and meanings attached to them are influential, but a greater goal and context are needed to give them meaningful influence.

A greater understanding of the factors that affect religious fertility allows for a better understanding of how religious communities work and how they will change in the future. Looking at different forms of religious participation, I hope to parse out the influence of religion in educational or social contexts. Those activities directed toward accessing, understanding, or passing on knowledge regarding superhuman power will have a greater influence on fertility decisions than activities whose primary function is social interaction. In comparison to social participation, these experiences related to doctrine and religious education will also explain a greater part of the effect of religious attendance.

CHAPTER TWO

Methods

Data

My data come from Waves II-IV of the Baylor Religion Survey. Wave II was conducted in 2007, Wave III in 2010, and Wave IV in 2014. I will be using the data to explore fertility patterns across my measures of religious participation. The Baylor Religion Survey, also known as “The Values and Beliefs of the American Public: A National Study,” is a multi-year and nationally representative study of religious beliefs, values, and practices. Waves I-III focus on the consumption of religious goods and services and Wave IV focuses on religious behaviors and attitudes. While Wave IV takes a slightly different approach from Waves I-III, the question I am interested in is addressed in Waves II-IV of the survey. Because I am interested in total fertility, I limited the sample to people 45+ years of age who are therefore likely to be finished with having children (following Hout et al. 2001, Perry & Schleifer 2019). After listwise deletion of missing cases, I have a sample of 2,647 over three surveys.

Dependent variable

The outcome measure for this study is the number of children born to the respondent. The Baylor Religion Survey asks respondents, “How many children do you have?” and allows respondents to write in an answer. The average individual in our sample of respondents over 45 has 2.21 children. Wave II had an average of 1.96 children for all respondents and 2.23 children for respondents 45+. Wave III had an average of

2.03 children for all respondents and 2.24 children for respondents 45+. Finally, Wave IV had an average of 1.78 children for all respondents and 2.14 children for respondents 45+.

Independent Variables

The first four waves of the Baylor Religion Survey collected data on religious participation and specifically different forms of participation. The survey asks respondents how often they have participated in the following religious or faith-based activity in the last month with the response categories of (1) not at all, (2) 1-2 times, (3) 3-4 times, and (4) 5 or more times. I wanted to find out what aspect of religious participation, educational or social, was more influential on fertility decisions. Thus, I was interested in the questions asking about “religious education programs, such as Bible study or Sunday school” and “social gatherings at your place of worship like fellowships or potlucks.”

Control Variables

The Baylor Religion Survey also collects additional data that has been shown to have effects on fertility decisions. Following previous research (Hackett, 2008; Zhang, 2008; Perry & Schleifer 2019), I included controls for some of these factors. As mentioned above, to capture total fertility, my sample only included respondents 45 years of age and over. Age was also included as a control variable. Because there are gender differences in religiosity, I included a differentiation between males and females with females coded as 1. Individuals who are married or have been married are more likely to

have children and thus, to differentiate, I separate the respondents into never married (0) and ever married or living as married (1). The ever married or living as married category includes those who answer married, separated, divorced, widowed, and living as married. As mentioned above, the religious tend to have more children; thus, I included a control for religious attendance. Measured on a scale from 1-9, respondents were asked how often they attend religious services at a place of worship with the response categories of never (1), less than once a year (2), once or twice a year (3), several times a year (4), once a month (5), two to three times a month (6), about weekly (7), weekly (8), and several times a week (9). I also accounted for the fertility differences seen along educational lines. Respondents were dummy coded into less than high school, high school and some college, and college and above, with high school and some college as the reference group. Respondents were also separated by region with the categories of East, Midwest, South (reference group), and West. Finally, to account for racial differences in religiosity and fertility, I dummy coded respondents into the categories of White, Black, Hispanic, Asian, and Other respondents with White as the reference group.

Analytical Strategy

OLS regression was used to analyze the data. The first model, shown in Table 2, analyzes religious social participation and religious education participation by the number of children they report. The second model looks at the effect of religious education and social participation on the number of children without controlling for religious attendance. This model included controls for age, gender, marital status, religious attendance, education, region, and race. The third model looks at the effect of religious

attendance and excludes religious education and religious social participation. The fourth model looks at religious education with the control variables. The fifth model looks at religious social participation with the control variables. The sixth and final model includes all independent variables and control variables. It looks at the effects of religious education and social participation on the number of children while controlling for age, gender, marital status, religious attendance, education, region, and race.

CHAPTER THREE

Results

As can be seen in Table 1, the majority of the sample is female (56%), have been married or are living as married (69%), have a high school degree or some college (57%), and are white (79%). The largest geographical region is the South (34%), followed by West (24%), Midwest (23%), the East (19%). The sample has been limited to those 45+.

Table 1. Descriptive Statistics

	Mean	SD	Min.	Max.
Number of Children	2.21	1.671	0.00	10.00
<i>Participation</i>				
Religious Education	1.62	1.006	1.00	4.00
Religious Social	1.56	.802	1.00	4.00
Age	61.66	11.041	45.00	99.00
Female	0.56	.496	0.00	1.00
Ever Married or Living as Married	0.69	.464	0.00	1.00
Religious Attendance	4.62	2.74	1.00	9.00
<i>Education</i>				
Less than High School	0.06		0.00	1.00
High School or Some College	0.57		0.00	1.00
College or More	0.37		0.00	1.00
<i>Region</i>				
East	0.19		0.00	1.00
Midwest	0.23		0.00	1.00
South	0.34		0.00	1.00
West	0.24		0.00	1.00
<i>Race</i>				
White	0.79		0.00	1.00
Black	0.08		0.00	1.00
Hispanic	0.08		0.00	1.00
Asian	0.01		0.00	1.00
Other	0.04		0.00	1.00

Table 2 reports the effect of religious education and social participation on number of children. All the following results are unstandardized coefficients. In the first model, those who report more religious educational and religious social participation report more children. Both forms of participation are significant at the $p < 0.01$ level with an increase of .127 children for every unit increase in social participation and an increase of .180 for every unit increase in religious education participation.

Table 2. The Effect of Religious Education and Social Participation on Number of Children Without Control Variables

<i>Participation</i>	
Religious Education	.180** (.038)
Religious Social	.127** (.048)
Constant	1.727** (.073)
Observations	2704
R-squared	.023

Baylor Religion Survey Waves II-IV, OLS unstandardized *B* (standard errors), ** $p < 0.01$, * $p < 0.05$

The second model (Table 3), which includes age, gender, marital status, education, region, and race, affected my results substantially and increased my R squared from .023 in Model 1 to .082 in Model 2. Religious attendance was excluded from this model. The coefficient for religious social participation was no longer significant. Religious education maintained significance at the $p < 0.01$ level and increased from .180 to .194. When controlling for age, gender, marital status, education, region, and race, religious social participation is no longer significant but religious education participation still matters statistically when looking at the number of children.

Table 3. The Effect of Religious Education and Social Participation on Number of Children Without Controlling for Religious Attendance

<i>Participation</i>	
Religious Education	.194** (.038)
Religious Social	.069 (.047)
<i>Controls</i>	
Age	.029** (.003)
Gender (Female)	.032 (.063)
Marital Status (Ever Married or Living as Married)	.044 (.068)
Education (High School or Some College)	
Less than High School	.587** (.131)
College or More	-.205** (.067)
Region (South)	
East	.060 (.090)
Midwest	.219** (.084)
West	.124 (.085)
Race (White)	
Black	-.078 (.115)
Hispanic	-.047 (.116)
Asian	-.006 (.362)
Other	.364 (.165)
Constant	-.097 (.203)
Observations	2666
R-squared	0.082

Baylor Religion Survey Waves II-IV, OLS unstandardized *B* (standard errors), ** $p < 0.01$, * $p < 0.05$

Several control variables were significant, including age, education, and region. An increase in age led to an increase in .029 children and was significant at the $p < 0.01$ level. Education was also significant at the $p < 0.01$ level with less than high school corresponding with an increase in children of .587 and a decrease of .205 with college or more. Finally, the region was also significant. Living in the Midwest led to an increase of .219 children and was significant at the $p < 0.01$ level.

Even with several control variables included, religious educational participation is still significant for the number of children whereas religious social participation was no longer significant. This supports my hypothesis. When looking at different forms of religious participation religious educational participation matters more for the number of children than social participation.

The third model (Table 4) looks at religious service attendance and the control variables. The r-squared increased to .083 when controlling for age, gender, marital status, religious attendance, education, region, and race. Quite a few of these were significant. Age was significant at the $p < 0.01$ level with an increase of .027 children with each increase in age. Religious attendance was also significant at the $p < 0.01$ level with an increase of .094 children for each increase in the level of religious service attendance. Similar to the previous model, education was also significant with a coefficient of .499 for less than high school and -.189 for college or more. The region was also again significant, but this time at the $p < 0.05$ level. Living in the Midwest had a coefficient of .193 and the West a coefficient of .160. Finally, the other race category was significant at the $p < 0.05$ level and a coefficient of .324. Age, religious attendance, and education held greater significance than region and race within this model.

Table 4. The Effect of Religious Service Attendance on Number of Children

<i>Controls</i>	
Age	.027** (.003)
Gender (Female)	.051 (.060)
Marital Status (Ever Married or Living as Married)	.058 (.065)
Religious Attendance	.094** (.011)
Education (High School or Some College)	
Less than High School	.499** (.118)
College or More	-.189** (.063)
Region (South)	
East	.045 (.085)
Midwest	.193* (.080)
West	.160* (.081)
Race (White)	
Black	-.039 (.111)
Hispanic	-.104 (.112)
Asian	-.138 (.340)
Other	.324* (.153)
Constant	.006 (.188)
Observations	3012
R-squared	.083

Baylor Religion Survey Waves II-IV, OLS unstandardized *B* (standard errors), ** $p < 0.01$, * $p < 0.05$

**Table 5. The Effect of Religious Education
on Number of Children**

<i>Participation</i>	
Religious Education	.108** (.038)
<i>Controls</i>	
Age	.028** (.003)
Gender (Female)	.023 (.063)
Marital Status (Ever Married or Living as Married)	.000 (.068)
Religious Attendance	.078** (.014)
Education (High School or Some College)	
Less than High School	.605** (.130)
College or More	-.209** (.066)
Region (South)	
East	.043 (.090)
Midwest	.201* (.084)
West	.183* (.086)
Race (White)	
Black	-.065 (.115)
Hispanic	-.079 (.115)
Asian	-.027 (.353)
Other	.388* (.164)
Constant	-.102 (.202)
Observations	2665
R-squared	.093

Baylor Religion Survey Waves II-IV, OLS unstandardized *B*
(standard errors), ** $p < 0.01$, * $p < 0.05$

Table 5 reports the fourth model which looks at the effect of religious education participation on the number of children. Religious social participation was not included in this model. The r-squared increased to .093 and religious education remained significant with a coefficient of .108. Age, gender, marital status, religious attendance, education, region, and race were all controlled for.

Several controls were significant. Age, religious attendance, and education were again significant at the $p < 0.01$ level. For every increase in age, the number of children increases by .028. Education also remained significant with a coefficient of .605 for less than high school and -.209 for college or more. Living in the Midwest or West or being in the other racial category was also significant, although at the $p < 0.05$ level. Living in the Midwest had a coefficient of .203 and the West a coefficient of .183. Being in the other race category had a coefficient of .388.

When including religious education participation, the coefficient for religious attendance decreased from .094 to .078. This is a decrease of 17%, indicating that religious education participation accounts for a portion of religious service attendance.

My fifth model (Table 6) included the same controls but looked at religious social participation. In this model, religious social participation was not significant and the r-squared decreased to .088. This indicates that religious education participation explains more of the variation in the number of children than religious social participation.

The same control variables that were significant in the fourth model were significant here and at the same levels with some variation in their coefficients. There were slight variations in coefficients with age decreasing to .027, less than high school

Table 6. The Effect of Religious Social Participation on Number of Children

<i>Participation</i>	
Religious Social	.029 (.045)
<i>Controls</i>	
Age	.027** (.003)
Gender (Female)	.022 (.063)
Marital Status (Ever Married or Living as Married)	.002 (.067)
Religious Attendance	.093** (.013)
Education (High School or Some College)	
Less than High School	.558** (.127)
College or More	-.214** (.066)
Region (South)	
East	.022 (.089)
Midwest	.201* (.083)
West	.173* (.085)
Race (White)	
Black	-.064 (.114)
Hispanic	-.082 (.116)
Asian	-.013 (.363)
Other	.384* (.164)
Constant	-.018 (.200)
Observations	2707
R-squared	.088

Baylor Religion Survey Waves II-IV, OLS unstandardized *B* (standard errors), ** $p < 0.01$, * $p < 0.05$

decreasing to .558, college or more increasing to -.214, Midwest staying the same at .201, West decreasing to .173, and Other decreasing to .384.

When looking at religious service attendance, the coefficient decreased from .094 in model 3 (table 4) to .093 in this model. This is a decrease of only about 1%, indicating that religious social attendance does not explain much of the effect of religious service attendance. Looking at the previous two models, religious education decreased the religious attendance coefficient by about 17%, indicating that religious education explains a greater portion of religious attendance than does social participation. Religious education matters more for religious attendance and the number of children.

Table 7 reports the final model which includes all independent variables and controls. It looks at the effects of religious education and social participation on the number of children while controlling for age, gender, marital status, religious attendance, education, region, and race. This affected my results substantially and increased the R squared to .093. The coefficient for religious social participation is not significant but religious education maintains significance at the $p < 0.01$ level with a coefficient of .108. For every increase in religious education participation, the number of children increases by .108. When controlling for age, gender, marital status, religious attendance, education, region, and race, religious social participation is no longer significant but religious education participation still matters statistically when looking at the number of children.

Several control variables were significant, including age, religious attendance, education, region, and race. An increase in age led to an increase of .027 children and was significant at $p < 0.01$ level. An increase in religious attendance led to an increase of .081 children and was significant at the $p < 0.1$. Education was also significant at the

Table 7. The Effect of Religious Education and Social Participation on Number of Children

<i>Participation</i>	
Religious Education	.108** (.041)
Religious Social	-.013 (.049)
<i>Controls</i>	
Age	.027** (.003)
Gender (Female)	.021 (.063)
Marital Status (Ever Married or Living as Married)	.008 (.068)
Religious Attendance	.081** (.015)
Education (High School or Some College)	
Less than High School	.613** (.131)
College or More	-.217** (.067)
Region (South)	
East	.048 (.091)
Midwest	.199* (.084)
West	.173* (.086)
Race (White)	
Black	-.064 (.116)
Hispanic	-.076 (.116)
Asian	-.013 (.361)
Other	.402* (.165)
Constant	-.085 (.203)
Observations	2647
R-squared	.093

Baylor Religion Survey Waves II-IV, OLS unstandardized *B* (standard errors), ** $p < 0.01$, * $p < 0.05$

$p < 0.01$ level with less than high school corresponding with an increase in children of .613 and a decrease of .217 for those with college or more. The region was significant as well. Living in the Midwest led to an increase of .199 children and living in the West led to an increase of .173 children. Both were significant at the $p < 0.05$ level. Finally, the other race category was significant at the $p < 0.05$ level with a coefficient of .402.

Even with several control variables included, religious educational participation is still significant for the number of children whereas religious social participation was no longer significant. Religious education also explains the variation in religious attendance, accounting for about 16% of religious attendance. This supports my hypothesis. When looking at different forms of religious participation, religious *educational* participation matters more for the number of children than social participation.

CHAPTER FOUR

Discussion

The relationship between religious service attendance and fertility has been explored by several researchers (Marcum 1986, Williams and Zimmer 1990, Mosher et al. 1992, Hackett 2008, Perry and Schleifer 2019) but research has not looked at different forms of participation and their effect on fertility. Does the form of religious participation matter for fertility? This paper looks at religious participation and fertility by comparing doctrine-related participation such as Bible study or Sunday school and social participation such as fellowships or potlucks and their effects on the number of children. In line with the hypothesis, doctrine-related participation matters more for fertility than social participation. My results also found that doctrine-related participation accounts for a portion of the effect of attendance on the number of children.

In line with previous research, religious service attendance was found to have a significant positive effect on the number of children. The connection between attendance and fertility is well established (Williams and Zimmer 1990, Mosher et al. 1992, Perry and Schleifer 2019, Heaton 1989). Attendance can affect fertility in several ways. One of these is the influence of reference groups. Frequent attendance allows for the construction and maintenance of reference groups (Bongaarts and Watkins 1996, Heaton 1989). Churches offer environments that value children, provide support for parents, and confer status on those with children (Hackett 2008). The strength of reference groups depends upon several factors including how similar the individual is in status attributes in comparison to others in the congregation, the degree of agreement in beliefs and views,

the amount of sustained interaction, and whether the leaders are considered significant others (Merton and Rossi 1968, Merton 1968). Frequent attendance allows for sustained interaction, strengthening the influence of religious groups on fertility.

While religious service attendance is significant, within my model, religious social participation was not significant for fertility. This suggests that the influence of reference groups and other religious influences is more than just social interaction. Social networks and groups can be used to enforce sanctions and provide meaning or identity, but when looking at fertility, influence comes from something more than social interaction or fellowship.

This study demonstrates a correlation between doctrine-related participation and fertility. While previous research has focused on general attendance, these results indicate that doctrine-related attendance matters more for fertility than religious social participation. This provides new insight into the reference group influence theorized by Merton and Rossi (1968). Doctrine-related participation increases the level of influence through sustained interaction, encouraging an agreement in views, and portraying leaders as significant others. Doctrinal agreement and clarity are conveyed and developed through doctrine-related activities such as Bible study or Sunday school. The transmission of doctrine also shapes the schematic and material elements of religion. It provides a worldview through which adherents can view, understand, and engage with the world. One of the areas of life that it influences is fertility.

These results also provide new insight into the relationship between attendance and fertility by showing that doctrine-related participation accounts for a portion of the effect of attendance. Within my results, the attendance coefficient decreased by 17% with

the addition of doctrine-related participation but did not significantly decrease with the addition of religious social participation. Thus, the effect of attendance seen in previous research can be partially explained by the influence of doctrine-related participation such as Sunday School or Bible Study.

The attendance variable was not fully explained by doctrinal participation, indicating that there are other aspects of religious attendance that affect fertility. Beyond doctrine or social interaction, religious attendance provides meaning to its adherents. From a Durkheimian perspective, by participating in religious services and activities, individuals are taking part in a collective consciousness that unites people based on certain ideas about the sacred and moral (Durkheim 1995). A shared moral order leads to group solidarity. The resulting collective effervescence is a function of togetherness. It cannot be reproduced alone or in isolation (Froese 2015).

The success of collective interactions is determined by several factors. Randall Collins (2014) outlines several of these conditions including bodily co-presence, barriers to outsiders, a mutual focus of attention, and a shared mood. These, along with a shared rhythm or activity, aid in the effect of the rituals. Religious attendance and services provide these, making the ideas about family expressed by religion all the more powerful. Religious institutions provide an environment that promotes marriage and children (Mahoney et al. 2003, Hackett 2008, Gurrentz 2017). The norms and nomos of religion and religious attendance also provide expectations and habits related to marriage and family (Wilcox and Wolfinger 2008). These are strengthened and infused with meaning by the collective feeling that religion provides. Future studies should look at what part of

attendance matters for fertility. Doctrine accounts for part of it, but where does the rest of the effect come from?

These findings have several limitations. One of the ways that religion can impact fertility is through influence in adolescence (Smith 2003, Pearce 2002). This study did not account for religious influence in adolescence. It attempts to capture the participants' total fertility rate and therefore limits it to those over 45. No investigation was made to assess the effect of adolescent religious experience.

Several limitations were present in the dataset used. The exclusion of other forms of religious participation prevented a more in-depth look at forms of religious participation. The methodological choices were constrained by issues of continuity across the waves of data and other religious activities were not included in this analysis. Some of these activities include musical participation, counseling programs, outreach programs, administrative work, or business-related programs. The reliability of this data is also impacted by a slight difference in wording between Wave II and Waves III and IV of the data. In wave II, social participation was worded as 'Social gatherings at your place of worship like fellowships or potlucks'. The wording was changed slightly in waves III and IV to say 'church social gathering like fellowships or potlucks. While not ideal, the two variations are asking the same question and should yield accurate results for all three waves of the data that I have used. Another limitation is the data was the marriage variable. Ideally, it would be coded into ever married versus never married. However, the question's wording made this difficult. Instead, coding was done as ever married or living as married and never married. The number of those who are categorized as living as married is small enough that it should not impact the results. Even with these limitations,

the data still provides valuable insights into the relationship between religious participation and fertility.

Another limitation is the possibility of a different causal order. Previous research has shown that those with children tend to be more religious and having children increases one's religiosity (Stolzenberg 1995, Ploch and Hastings 1998, Edgell 2006, Schleifer and Chavez 2017, Gurrentz 2017). Religious involvement is a way for parents to gain social support and assistance in rearing children. Thus, individuals may be religious *because they have children* rather than having children because they are religious. When looking at religious attendance, this is a distinction that future research could parse out.

Another area for future research is the creation of a valid measure of doctrinal participation. At present, there is no established method for measuring different forms of religious participation. In looking at doctrinal participation, this would allow for a more in-depth and accurate look at how doctrine-related participation affects attendance, fertility, and other areas of life. This would be especially useful in defining how doctrine-related participation affects and interacts with general measures of religious attendance. It can also help see at what point doctrine influenced fertility decisions or the number of children.

Much research has been done relating to the role of religion in fertility and fertility decisions. The impact of religion and religious service attendance on fertility is well documented but researchers have not explored the effect of different forms of religious attendance. In this paper, I look at how doctrine-related participation and social participation affect fertility. Using Waves II-IV of the Baylor Religion Survey, I find that

doctrine-related participation such as Sunday school or Bible study has more impact on fertility than religious social participation such as fellowships or potlucks. Doctrine-related participation also accounts for part of the effect of attendance on fertility. Future research in religious participation and fertility should focus on the causal order of religion and fertility. There is also a need for an accepted and standardized tool to measure doctrine-related participation. With a distinction in different forms of religious participation established, many options for future research are available.

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