Religious Capital as Human, Cultural, Social, and Emotional:

Toward a Sociological Theory of Membership Dynamics in Religious Voluntary Associations

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A dissertation

submitted in partial fulfillment of the

requirements for the degree of

Doctor of Philosophy

University of Washington

2012

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Department of Sociology

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Abstract

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This dissertation theorizes and tests the effect of religious capital on three religious behaviors: religious participation, denominational exit/retention, and religious giving. Religious capital is conceptualized as human, cultural, social, and emotional capital. In particular, religious knowledge is proposed and used as a direct measure of religious human/cultural capital. Drawing on and extending Iannaccone's Religious Human Capital theory and Collins' Interaction Ritual Chain theory, this dissertation hypothesizes that: religious human capital increases religious participation over time; religious human capital specific to a denomination has a greater positive effect on denominational retention than less specific forms; and positive emotions experienced during religious rituals increase religious giving. These hypotheses were tested quantitatively using three datasets: Project Canada (a longitudinal panel survey), the Salt Lake City and San Francisco Survey of Mormons, and the U.S. Congregational Life Survey (a multilevel survey of individuals within congregations). The quantitative analyses provide support for the hypotheses. This dissertation concludes by providing a dual-process model framework of religious behavior as a means to integrate diverse micro-foundations.

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ACKNOWLEDGEMENTS

I want to thank my committee for all of their support and encouragement. James Felak helped me think about my dissertation outside of a "Protestant" and "Sociological" box, particularly in terms of how its propositions might work in Catholicism. Jim Wellman kept me from floating away into a theoretical ether by grounding me in the actual experiences and lives of religious people, always reminding me that there are real people and religious traditions behind the numbers, and they matter. He has always been enthusiastic about my research and willing to help me with whatever I brought him. Edgar Kiser has provided me with insightful comments that allowed me to simplify overly complex arguments and see theoretical connections that I otherwise would not have realized. James Kitts sparked my interest in and passion for sociology and has continued to support, mentor, and encourage me tirelessly since then. He was always willing to talk regardless of whether he was in the state, country, or continent, and his comments on my work prompted me to think about my ideas in novel and exciting ways that would have never occurred to me without his guidance. Steve Pfaff has been an amazing chair and has supported me in everything I've done. He was always available to meet, whether scheduled or not, and to read and provide thoughtful feedback on any paper or project I was working on, many of which he read multiple times. I left my meetings with him with fresh ideas, new directions for research, and renewed enthusiasm for my projects. Thank you all; I could not have asked for a better committee, and consider myself extremely lucky to have had the opportunity to work with all of you.

I would also like to thank my colleagues, friends, and fellow inhabitants of Springfield—David Pettinicchio, Blaine Robbins, Stephanie Lee, Jacob Young, ManChui Leung, and April Fernandes—for letting me bounce ideas off of them and for listening to my complaints. In particular, I'd like to thank Stephanie Lee for regularly being a sounding board for my ideas and problems and for learning more about religion than she probably ever wanted to know.

I am also grateful to my family and friends for understanding the time demands of graduate school. Thank you to my parents for consistently supporting and encouraging me and to my partner for supporting me as I pursue my dreams even when it meant (and means) having to be away from each other. I'd also like to thank my best friend, Kerri, who has put up with my regular ramblings and sometimes rants on sociology and teaching, helped me extensively throughout the entire writing process, and just generally made graduate school more enjoyable. For you: *In conclusion, red combined with blue makes purple, and purple is a nice color.*

This research was partially supported by the UW Sociology Department's Otto Larsen Dissertation Award.

DEDICATION

To my parents, Linda and Terry Corcoran

Chapter 1: Introduction

The social scientific study of religion has made major advances in developing theory to predict and explain religious behaviors (Warner 1993; Sherkat and Ellison 1999). In particular, Iannaccone (1984, 1990), extending Gary Becker's (1964, 1981) formulations of human capital, provides a theory of religious human capital to explain variations in religious participation (e.g., church attendance, reading sacred texts, and praying) and denominational mobility. In the same way that one's knowledge and skills—human capital—improve the quality of economic (or household) goods, religious knowledge and skills—religious human capital—increase the quality of religious activities. Thus, Iannaccone (1990) proposes that religious human capital increases religious participation through increasing returns, that is, heightened satisfaction from religious activities. Because religious capital is most useful in the context in which it was acquired (Stark and Finke 2000; Iannaccone and Klick 2003), religious human capital theory also predicts that individuals with more religious capital will be less likely to leave their denomination and religion.

Although Iannacconne (1990) has shown the utility of the religious human capital approach for predicting denominational mobility, conversion, and religious intermarriage, few other studies have attempted to extend this approach (Cameron 1999; Park and Smith 2000; Brañas-Garza and Neuman 2006; Park and Baker 2007). The studies that do exist suffer from several problems: they tend to (1) confuse or conflate religious capital as human, cultural, social, and emotional; (2) use only proxy measures for religious human capital making it difficult to adjudicate between competing theoretical perspectives; (3) use religious capital as a monolithic concept, ignoring the broader economic literature that distinguishes between types of human

capital; and (4) rely primarily on religious participation or denominational mobility as dependent variables, thereby neglecting to study micro-level denominational exit and religious giving.

My dissertation will contribute to the research program on religious capital by addressing these problems. First, I clarify how religious capital can be conceptualized as human, cultural, social, and emotional capital and identify the different mechanisms at work depending on the type of capital. Second, I propose and use a direct measure of religious capital, which helps adjudicate between competing theories. Third, I incorporate the broader economic literature by creating subtypes of religious capital. I then propose how these subtypes should have different effects on the dependent variable of interest. Fourth, I explore religious participation, denominational exit, and religious giving as dependent variables.

Religious Capital as Human, Cultural, Social, and Emotional

Different types of religious capital—human, cultural, social, and emotional—are often conflated in the literature. Iannaccone's (1990) definition of religious capital includes religious knowledge and skills as well as friendships with religious adherents. Stark and Finke (2000) argue that religious capital and "social capital" are two distinct concepts. Social capital "consists of interpersonal attachments" that are regarded as valuable (Stark and Finke 2000: 118), which may affect religious participation not only through increasing returns (Iannaccone 1990) but also through other social influence mechanisms (Sherkat 1997). Thus, Stark and Finke (2000) exclude friendships from their definition of religious capital and recent research has followed suit (Myers 2000; Finke and Dougherty 2002; Abel 2005).

Drawing on Bourdieu (1984), Stark and Finke (2000) extend this theoretical perspective and develop the notion of religious capital as cultural capital. Religious capital "consists of the degree of mastery of and attachment to a particular religious culture" (Stark and Finke 2000:

120). Rather than religious capital having intrinsic value as consumption capital (Becker 1964, 1981; Sherkat and Wilson 1995), it has symbolic exchange value in particular communities. Since religious capital as human and cultural have the same general predictions—individuals will stay and participate in congregations that maximize their utility—the literature uses religious capital to refer to both (Finke 2003; Iannaccone and Klick 2003).

Stark and Finke (2000) also add "emotional attachment" to their definition of religious capital. Since Iannaccone's (1990) religious human capital theory predicts that religious capital should increase the enjoyment or satisfaction individuals receive from religious participation, the theory necessarily separates religious capital from a type of emotion (i.e., enjoyment, satisfaction, and appreciation). Furthermore, Collins (2010) suggests that emotional energy—positive socially derived feelings—may affect religious choices through attaching participants to the religious group, rather than as consumption or cultural capital. Emotionally charged interaction rituals (IRs) (i.e., any interaction between two or more people) charge collective symbols with emotional significance and generate emotional energy within individuals, which is stored for a period of time after the ritual. This energy is "highest at the peak intensity of an IR itself and leaves an energetic afterglow that gradually decreases over time" (Collins 1993: 211). After the IR has ended, the stored emotional energy can be experienced again by evoking the emotionally-charged collective symbols. In this way, emotional energy represents a form of capital that can be deployed to generate utilities. Given this, I argue that emotional capital should also be distinguished from religious human or cultural capital. My dissertation clarifies these concepts and tests their effects on one or more of the following religious behaviors: religious participation, denominational exit (or retention), and religious giving.

Religious Participation

Predictions from religious human capital theory have yet to be directly tested as previous studies operationalize religious capital indirectly through proxy measures, such as tenure within a particular religion, parental religious participation during one's childhood, or prior religious participation (Iannaconne 1990; Cameron 1999; Meyers 2000; Park and Smith 2000; Brañas-Garza and Neuman 2006; Park and Baker 2007). Competing theories of religious participation—Sherkat's (1997) preference adaptivity theory and Montgomery's (1996) application of cognitive dissonance theory—also predict that these proxy variables should affect religious participation, but through different mechanisms (i.e., strengthened preferences and beliefs respectively). Since all three theories predict that these variables should increase religious participation, these proxy measures, and the findings that result from them, cannot discriminate between the theories. My dissertation contributes to this literature by proposing and using a direct measure of religious human capital—religious knowledge—that allows hypotheses from religious human capital theory to be tested and extended.

Religious Knowledge

Religious knowledge as a unique dimension of religiosity is not without precedent. The social scientific study of religion has a long history of understanding religion as a multi-dimensional concept, which typically included an intellectual dimension (i.e., religious knowledge) (Fukuyama 1961; Glock 1962; Faulkner and De Jong 1966; Stark and Glock 1968; King and Hunt 1972; Davidson 1975; De Jong, Faulkner, and Warland 1976; Hilty, Morgan, and Burns 1984; Hilty and Stockman 1986). While some older studies attempted to measure religion with an intellectual dimension, most still focus on belief and ritualistic dimensions. Recently, reports of low levels of religious knowledge among Americans received considerable media

attention (Pew Forum on Religion & Public Life 2010). For instance, Prothero (2007: 30) finds that:

> Only half of American adults can name even one of the four Gospels. Most Americans cannot name the first book of the Bible. Only one-third know that Jesus (no, not Billy Graham) delivered the Sermon on the Mount. A majority of Americans wrongly believe that the Bible says that Jesus was born in Jerusalem. When asked whether the New Testament book of Acts is in the Old Testament, one quarter of Americans say yes. More than a third say that they don't know. Most Americans don't know that Jonah is a book in the Bible. Ten percent of Americans believe that Joan of Arc was Noah's wife.

Moreover, roughly half of Protestants do not know that Martin Luther inspired the Protestant Reformation (Pew Forum on Religion & Public Life 2010). In fact, for some questions, atheists/agnostics exhibited more knowledge about the Bible than white mainline Protestants and white Catholics (Stark and Glock 1968; Prothero 2007; Pew Forum on Religion & Public Life 2010). Yet, as Prothero (2007) notes, scholars have overwhelmingly neglected to study religious knowledge and its effects on religiosity. Religious human capital theory provides theoretical reasons for why religious knowledge should be an important dimension of religion and suggests how it should relate to other dimensions, particularly behavioral ones. Understanding the relationship between religious knowledge and religious behavior is important for predicting how low levels of religious knowledge in America may affect future levels of religious participation. By proposing and using a direct measure of religious human capital, I am able to test the hypothesis that religious human capital increases religious participation, while controlling for measures of religious preferences and beliefs as suggested by Sherkat (1997) and Montgomery (1996). Unlike previous studies that used proxy measures, using a direct measure of religious human capital can unambiguously support or contradict the hypothesis.

Additionally, using religious knowledge as a direct measure of religious human capital allows me to separate its effect on religious participation from the effect of religious social

capital. Stark and Finke (2000: 118) distinguish the effects of religious capital from religious social capital. When individuals make religious choices based "on the preferences of those to whom they are attached, they conserve (maximize) their social capital—they do not risk their attachments by failure to conform, and therefore they do not face the potential need to replace their attachments" (Stark and Finke 2000: 119). In this respect, social ties matter not because they serve to increase the quality of religious participation (*i.e.,* consumption capital), as the religious human capital approach suggests, but because failure to conform to the religious expectations of one's close friends and family may risk those attachments and other benefits that derive from them. Sherkat (1997) suggests three ways that religious participation may be socially embedded and subject to social influences without necessarily leading to the increased quality of religious commodities: (1) Sympathy, (2) Example-setting, and (3) Sanctions. Sherkat (1997: 73) suggests that "choices may be influenced by sympathy when individuals believe that others they feel close to will be happy if they make certain choices." Actors may also choose to do things not because they want to, but because they want others to have a particular conception of themselves, thus setting a particular example for others. Lastly, choices may be influenced by the possibility of positive or negative external social sanctions as well as internal sanctions, such as where one has internalized social norms and may experience guilt for not complying. Thus, religious social capital may affect religious participation apart from the mechanism proposed by religious human capital theory. To investigate the different mechanisms by which religious social capital may affect religious participation, I measure religious social capital in two distinct ways—one consistent with Iannaccone's (1990) religious human capital theory and one consistent with Sherkat's (1997) social influence model—doing so allows me to demonstrate how distinct operationalizations of religious social capital may produce disparate results.

Denominational Exit

Research suggests that contemporary Christians are less attached to their denomination and more willing to leave it for another than in previous generations (Schaller 1987; Wuthnow 1988; Mead 1991; Posterski and Barker 1993). Many Christians are opting for generic forms of Christianity with little concern for denominational affiliation (Wellman 2008; Wellman, Corcoran, and Stockley-Meyerdirk unpublished manuscript). As Mead (1991: 87) elucidates: "The church of the future may not include our favorite liturgy or hymn, our central theological principle, or even our denomination." Yet some denominations *are* more successful than others at retaining members (Hadaway and Marler 1993; Smith and Sikkink 2003). This is an important issue for congregations, which depend on the time and money contributions of their members for survival. Bibby (1999: 150) notes that this issue has "critical practical implications for how congregations carry out ministry—who, for example, they target for ministry, as well as what they should be doing to minister effectively to the people with whom they are in contact." As such, it is important to understand what factors decrease the likelihood of denominational exit. Extending Iannaccone's (1990) theory, I argue that denomination-specific religious capital is one such factor.

Religions require varying amounts of religious capital. Some religions or religious denominations require very little religious capital, such as Unitarianism, whereas others are effectively "virtuoso" religious groups requiring an enormous amount of religious capital, such as Theravada Buddhism (Weber 1922 [1992]; Silber 1995). Requiring large amounts of religious capital may impede entry for those who lack the knowledge but may also inhibit exit once individuals gain the knowledge and have much to lose by leaving (Iannaccone 1990; Stark and Finke 2000; Verter 2003; Finke 2004). Moreover, not all religious knowledge is easily

transferable. Some religious knowledge is specific to a certain religious denomination or tradition, which may also affect conversion and exit rates (Finke 2004; Abel 2005). Although Iannaccone (1990) uses religious capital to refer to all religious knowledge and skills, the broader economic literature divides human capital into two distinct types: general human capital, which is transferable to other organizations even outside of one's industry, and specific human capital, which refers to human capital specific to one's *firm* (firm-specific) (Becker 1964; Jovanovic 1979; Coff 1997; Hatch and Dyer 2004), *industry* (industry-specific) (Neal 1995; Parent 2000), or *task* (task-specific) (Nordhaug 1994; Gibbons and Waldman 2004). These distinctions lead to different theoretical predictions depending on the type of human capital, where more specific types of capital should lead to higher levels of job performance and a decreased likelihood of exit. I take these distinctions and apply them to religion such that a firm becomes a congregation or denomination (e.g., Lutheran and Presbyterian), industry becomes a religion, and task becomes any religious human capital that may be transferred to a congregation outside of one's religion. Individuals with more denomination-specific religious human capital should be less likely to leave their denomination. Akin to how these human capital distinctions help account for and predict career trajectories in economics research, these religious human capital distinctions contribute to the sociology of religion literature by allowing for the prediction and explanation of religious affiliation trajectories. This also has a practical implication for congregations and denominations: If this hypothesis is supported, then to increase denominational retention, congregations should allocate resources toward and create programs for the accumulation of denomination-specific knowledge and skills.

Religious Giving

In addition to membership retention, religious organizations are also concerned with the financial contributions of their members, which they depend on as their primary source of funding (Hodgkinson, Weitzman, and Kirsch 1988; Stark and Finke 2000). Yet, giving to religious organizations in America is highly skewed with over 80 percent of donations coming from only 20 percent of church members (Iannaccone 1997; see also Smith, Emerson, and Snell 2008). The importance of monetary donations to congregations has prompted considerable research on the topic, generally emphasizing instrumental-rational motives. The underlying assumption of this approach is that individuals will seek to maximize their utility and will choose the level of religious giving that provides them with the most benefits for the least cost. The value of religious goods and services is an important determinant of the benefits involved, but even when the benefits are high, instrumentally rational individuals will still prefer to consume the goods without contributing to their production. This means that human capital theory alone cannot explain religious giving as the quality of religious goods is not the sole determinant of giving. In order to maximize member contributions, congregations must both ensure that the costs of participation are lower than the benefits received from it, while simultaneously curbing free-riders and monitoring and sanctioning compliance. Since congregational involvement is itself a collective good in which the value depends not only on one's own contribution but also on the contributions of others (Iannaccone 1992, 1997; Stark and Finke 2000), curbing free-riders supports the production of higher quality collective goods. Thus, this line of research focuses on how free-riders can be curbed and the quality of goods increased, such as through behavioral prohibitions that make non-compliance visible and thereby screen out free-riders

(Iannaccone 1992, 1994) or through dense intra-congregational social networks (i.e., congregational social capital) that facilitate monitoring and sanctioning (Stark and Finke 2000).

While studies have found that church strictness and dense intra-congregational social ties increase giving (Finke et al. 2006; Scheitle and Finke 2008; Bekkers and Schuyt 2008; Whitehead 2010), this approach has a difficult time explaining religious giving in non-strict congregations as well as larger congregations, which tend to have less dense social ties (Stark and Finke 2000). Consistent with rational choice theory, several studies find an inverse relationship between congregational size and giving (Hoge 1994; Zaleski and Zech 1994; Hoge and Augustyn 1997; Wuthnow 1997; Finke et al. 2006), yet there is still giving in larger congregations. Since strict congregations comprise a small portion of America's religious economy (Stark and Finke 2000) and over 50 percent of all American churchgoers attend the largest 10 percent of churches (Thumma and Travis 2007), it is important to understand what factors affect religious giving in these congregations.

Another line of research suggests value-rational, religious motives for giving, emphasizing belief in God and His/Her command to give (Smith, Emerson, and Snell 2008; Peifer 2010; Vaidyanathan and Snell 2010). Although believing in a personal moral God who expects one to give can be found in churches of various sizes, this type of belief tends to be concentrated in evangelical or conservative Christian denominations (Wellman 2008), which weakens its predictive power for other types of denominations. Overall, past research on religious giving has a harder time accounting for giving in large and less strict congregations. It also emphasizes the rational, cognitive, deliberative processes involved in religious giving and almost entirely neglects the role of emotions or "feeling states" (Weber 1968: 25).

Recent research on "dual-process" or "dual-system" models suggests that most cognition is *not* deliberative, reflective, and conscious (i.e., System 2), but instead tends to be a consequence of unconscious, automatic, and reflexive processes (i.e., System 1) with emotions linked to the latter (Kahneman and Frederick 2002; Kahneman 2003; Lieberman 2007; Evans 2008; see also Vaisey 2009). Yet the only mention of emotion in giving studies is in regards to guilt (Smith, Emerson, and Snell 2008; Vaidyanathan and Snell 2010). This is ironic given Durkheim's ([1912] 1965) classic argument that collective effervescence experienced during religious rituals leads to group solidarity. Furthering Durkheimian theory, Collins' (2004) theory of interaction ritual chains proposes that positive emotion-inducing rituals connect participants to the group and facilitate sacrificial behavior on its behalf. Drawing on and extending Collins' (2004) theory, I argue that individuals who experience positive emotions during religious services will give more to their congregation. Since connectedness to the group is the underlying mechanism for this relationship, I also propose that contexts already characterized by higher levels of group connectedness (i.e., high aggregate levels of positive emotion, church strictness, and dense congregational networks) should amplify the effect of positive emotions on religious giving. Although church strictness may increase the likelihood of experiencing positive emotions as Iannaccone (1994) suggests, it is possible to have such experiences in non-strict churches as well as larger congregations with less dense social networks. In fact, recent research on American megachurches provides evidence for this claim (Wellman, Corcoran, Stockley-Meyerdirk unpublished manuscript). This contributes to the religious giving literature by helping to explain giving in larger, non-strict congregations as well as variations in giving *within* strict denominations.

Chapter Outline

The subsequent empirical chapters each address distinct, though related, theoretical questions and explore different dependent variables—*religious participation* (Chapter 2), *denominational exit/retention* (Chapter 3), and *religious giving* (Chapter 4). Chapter 5, the final chapter, draws the entire dissertation together and discusses how the theoretical propositions and empirical findings contribute to the sociological study of religion.

Chapter Summaries

Chapter 2: Iannaccone (1990), Sherkat (1997), and Montgomery (1996) propose different theories and mechanisms for why religious upbringing and past religious participation should affect religious participation. Iannaccone (1990) argues that prior religious participation should increase future religious participation due to acquiring larger stocks of religious human capital. In contrast, Sherkat (1997) argues that this relationship is due to one coming to prefer religious participation more, the more one participates (*i.e.*, preference change), whereas Montgomery (1996) proposes that this relationship is due to the reduction of cognitive dissonance through strengthened belief. Since religious human capital has not been measured directly in previous studies, research has been unable to adjudicate between these different approaches as empirical findings may support all three theories. I use a direct measure of religious human capital—biblical knowledge—that allows me to test whether religious human capital increases levels of religious participation. I measure social capital in two distinct ways (one consistent with Sherkat's theory and one consistent with Iannaconne's theory) and these two operationalizations of social capital produce strikingly different results, suggesting the importance of theory. I use a longitudinal panel study (Project Canada) to test my hypothesis and find support for it.

Chapter 3: There has been little research applying human capital theory to explain turnover in voluntary organizations. Moreover, few studies have examined individual exit from religious voluntary organizations, even though retention rates are highly variable across religious denominations and religions (Pew Forum on Religion & Public Life 2008). Drawing on human capital theory and research on organizational culture, I argue that members of voluntary associations will be less likely to exit the more knowledge and skills they have specific to the association's organizational culture (i.e., specific organizational cultural capital). Using religious voluntary associations as my case, I apply the subtypes of human capital described in the economics literature—general, firm-specific, industry-specific, and task-specific—to religious capital. I propose that the more denomination-specific religious capital an individual has the less likely he/she will be to exit. As Mormonism has both firm- and industry-specific religious capital and also has one of the highest retention rates of any Christian denomination (Smith and Sikkink 2003), it is ideal for testing my predictions. Using a dataset containing current and past members of twelve Mormon congregations, I test and find support for these hypotheses.

Chapter 4: Religious organizations depend on monetary donations from their members as their primary source of funding (Hodgkinson, Weitzman, and Kirsch 1988). Given this, there has been a large volume of research on predictors of religious giving. Nearly all of this research proposes instrumental- or value-rational predictors, typically focusing on how strict or theologically conservative churches facilitate higher levels of religious giving. As such, both approaches have a hard time explaining giving in other types of congregations. Moreover, by focusing on cognitive, rational processes, this research has neglected the role of affect. Taking a Weberian approach and drawing on Collins' (2004) interaction ritual theory, I predict that individuals who experience positive emotions during church services will be more likely to give

a higher proportion of their income to their congregation than those who do not. I also argue that this effect will be amplified in congregational contexts characterized by high aggregate levels of positive emotion, church strictness, and dense congregational networks. While I propose that this effect can be heightened in certain congregational contexts, positive emotions can theoretically be experienced across congregational types—strict and non-strict as well as theologically conservative and theologically liberal. In this way, emotion can help explain variation in religious giving within different types of denominations and congregations. Using data from the 2001 U.S. Congregational Life Survey and hierarchical ordinal logistic regression models, I find support for several of these hypotheses.

Chapter 5: This chapter begins by summarizing the findings from the three empirical chapters. Further, it describes four ways in which this dissertation contributes to a research program in the sociology of religion. First, it demonstrates the importance of intellectual and emotional dimensions of religiosity for predicting variation in religious behavior and shows how these can be used to further research on religious human capital theory (Iannaccone 1990) and interaction ritual theory (Collins 2004). Second, it integrates diverse micro-foundations from the sociology of religion literature by proposing a dual-process model of religious behavior, which provides conditions under which researchers should expect one type of micro-foundation versus another. Third, it suggests how this framework can be applied on an organizational-level of analysis such that congregations or denominations requiring more religious capital (and more specific types) and facilitating more emotional rituals should have higher levels of religious participation and giving. Fourth, it identifies the type of data and methods that are needed to further pursue these avenues of research.

Chapter 2: Religious Participation

Introduction

The social scientific study of religion has in many ways been revolutionized by the introduction of economic and rational choice explanations of religious behavior often referred to as the 'religious economies' theory. One of the core claims of this theory is that religious groups can be analyzed as firms that exist in a 'religious economy', which consists of a market of current and potential religious consumers and religious firms attempting to meet the demand of the market (Stark and Finke 2000). The underlying theoretical assumptions are that individuals make rational religious choices (i.e., they choose options that maximize their benefits given their preferences, information, and constraints) and their religious preferences remain relatively constant over time, such that any changes in religious behavior must be a result of changes in the benefits or costs associated with the behavior (Stark and Finke 2000). On the macro-level, the theory assumes that demand (i.e., aggregate preferences) also remains relatively stable and therefore changes in religious consumption (i.e., religiosity) are a result of changes in the supply of religion, rather than changes in demand (Stark and Finke 2000).

These simple underlying assumptions have led to numerous theoretical propositions and empirical tests (e.g., Stark and Bainbridge 1987; Iannaccone 1992; Stark and Finke 2000). However, much of the empirical research in this area has focused on testing macro-level propositions regarding how the supply of religion in a religious economy affects rates of religious participation (e.g., church attendance, praying, reading sacred texts, and so on) (e.g., Finke and Stark 1988; Iannaccone 1991; Box-Steffensmeier 1992; Chaves and Cann 1992; Finke, Guest, and Stark 1996; Stark and Finke 2000; see Chaves and Gorski 2001 for a review and Bruce 1993, 1999, Beyer 1998, and Voas et al. 2002 for critiques). Considerably less

attention has been given to testing micro-level propositions derived from the theory even though they form the basis for the macro-level predictions (for recent exceptions see Brodin 2003 and Lavric and Flere 2010). In particular, Iannaccone (1984, 1990), extending Becker's (1964, 1981) formulations of human capital, provides the concept of religious human capital (RHC) to explain micro-level variations in religious participation; yet this has received relatively little empirical investigation. This explanation predicts that just as one's knowledge and skills—human capital—increase the quality of economic (or household) goods, so too does one's religious knowledge and skills—RHC—increase the quality of religious activities and thereby the benefits one receives from participating. Thus, Iannaccone (1990) proposes that the more RHC an individual has, the more satisfaction (*i.e.,* increasing returns/benefits) she will derive from religious activities, which will thereby increase her participation.

However, there are two alternative explanations for differential religious participation that are not based on the same underlying assumptions as the religious economies theory: Sherkat's (1997) religious preference adpativity theory and Montgomery's (1996) application of cognitive dissonance theory. Sherkat (1997) and Montgomery (1996) propose that prior religious participation increases future religious participation through the strengthening of religious preferences or beliefs, respectively. This is distinct from Iannaccone's (1990) RHC theory, which proposes *increasing returns* (not changing preferences or beliefs) as the underlying mechanism explaining increases in religious participation. Distinguishing between these explanations is important because they are based on different theoretical assumptions and propose distinct theoretical mechanisms. Moreover, Iannaccone's (1990) RHC theory has some different implications than the other two explanations for understanding religious participation. If satisfaction from religious participation comes at least partly from having RHC, then RHC

should be able to explain variations in religious participation even among individuals with strong religious beliefs and preferences, which the other two theories are unable to explain. In this way, RHC theory may serve to complement, rather than contradict, the preference adaptivity and cognitive dissonance explanations by explaining differential religious participation among even fervent religious believers.

While some studies have investigated the effect of RHC on denominational mobility, religious consumption, volunteering, bearing religious costs, integration into religious communities, and migration (Cameron 1999; Myers 2000; Park and Smith 2000; Froese 2001, 2008; Abel 2005; Park and Baker 2007; Sands 2009; Lavric and Flere 2010), fewer studies have attempted to apply RHC to explain changes in religious participation over time (Iannaccone 1984, 1990; Cameron 1999; Finke and Dougherty 2002; Brañas-Garza and Neuman 2006). Thus, it is still empirically unclear whether RHC can account for differential religious participation. While empirical research testing RHC theory is limited, what does exist tends to operationalize RHC indirectly through proxy measures, such as tenure within a particular religion or prior religious participation (see Lavric and Flere 2010 for a noteworthy exception). Since all three theories—RHC, preference adaptivity, and cognitive dissonance—predict that these variables should increase religious participation, these proxy measures, and the findings that result from them, cannot discriminate between the different explanations. It is not surprising then that RHC theory has received criticism on both theoretical and empirical grounds. Sherkat and Wilson (1995), Montgomery (1996), Bruce (1993, 1999) and others reinterpret Iannaccone's (1990) ambiguous findings as support for their explanations and reject RHC as a factor affecting religious participation.

This chapter contributes to the literature by using a direct measure of RHC (i.e., biblical knowledge) to test the hypothesis that RHC increases religious participation. Unlike previous studies that used proxy measures, using a direct measure of RHC can unambiguously support or contradict the hypothesis. While previous studies tend to use cross-sectional data, I use two longitudinal panels to test whether stock of RHC increases future religious participation controlling for prior religious participation and other religious and socio-demographic variables. The results generally support the hypothesis. This chapter concludes by discussing further applications of RHC theory to other religious outcomes (e.g., religious conversion and exit) and its relevance for understanding the link between macro religious supply factors (e.g., religious regulation by the state) and micro religious behaviors.

Competing Theories

Human capital (Becker 1964; 1981) refers to the skills and knowledge that increase the quality of economic (or household) outputs, or rather, increase an individual's economic (or household) productivity. This theory may also apply to intangible goods or "abstract commodities such as recreational enjoyment, relaxation, health, and childrearing" (Iannaccone 1990: 298). These abstract commodities are produced through a combination of "purchased inputs" and one's "own skilled labor and time" (Iannaccone 1990: 298). Drawing on Becker's theory, Iannaccone (1990) suggests that, like recreational enjoyment, religious goods (*e.g.*, religious satisfaction, relaxation, enjoyment, and appreciation) may also be thought of as abstract commodities, where individuals receive religious satisfaction from participating in religious activities. The inputs to producing religious satisfaction are the same as those producing other types of abstract commodities—purchased inputs, such as religious garments, and "religious

human capital." Religious human capital[1] (RHC) can be defined as the religious knowledge and skills associated with a particular religion. Although Iannaccone (1990) originally included religious social networks as part of his definition of RHC, Stark and Finke (2000) refined his definition by excluding social ties from it.[2] In this way, they separated the social component of religion (i.e., social capital) from the uniquely religious components (i.e., religious human capital). Following from Stark and Finke's distinction, empirical research has generally separated RHC from religious social capital (Myers 2000; Finke and Dougherty 2002; Abel 2005) and the current study does as well.

Iannaccone (1990) highlights that an individual's religious satisfaction does not just come from the proficiency of experts or the clergy, but in fact, is greatly affected by one's own religious knowledge and skills. This argument suggests, for example, that one cannot fully appreciate a religious service, if one does not understand its rituals and does not know the words to the songs sung and prayers recited. Furthermore, one is generally unable to completely enjoy reading a sacred text without background knowledge of the characters, plots, and religious doctrines associated with it. Sands' (2009: 97) qualitative study of *baalei teshuvah* (*i.e.,* Jews who convert to Orthodox Judaism) provides an example of this: "Cynthia (observant 25 years), who did attend [synagogue], said, 'If I don't know the page (in the prayer book), I'm in a panic. I

[1] Some scholarly work draws a distinction between religious capital, as highly institutionalized capital within the constraints of a given religious tradition (Verter 2003), and "spiritual capital," which includes spiritual knowledge and competencies and is more in line with a definition of spirituality: "an extrainstitutional, resolutely individualistic, and often highly eclectic personal theology, self-consciously resistant to dogma" (Verter 2003: 158). Although other scholars may have theoretical reasons for distinguishing between these two concepts, Iannaccone's (1990) RHC framework does not require such a distinction. Whether the 'religious' skills and knowledge individuals accumulate are within institutionalized religious contexts or within a more spiritual, individualistic, extrainstitutional setting, the prediction that RHC should increase religious (or spiritual) participation through increasing returns applies in both cases.

[2] In addition to excluding social ties from the definition of RHC, Stark and Finke (2000) also added "emotional attachment" to their definition. Since Iannaccone's (1990) RHC theory predicts that RHC should increase the enjoyment or satisfaction individuals receive from religious participation, the theory necessarily separates RHC from a type of emotion (i.e., enjoyment, satisfaction, appreciation, and so on). Accordingly, the definition of RHC used in this study excludes emotional attachment.

don't really want to ask what page we're up to, or where it is, or if I'm not keeping up. I always feel like that child that's lost in a classroom.'" As this example illustrates, RHC is a key factor in determining "one's ability to produce and appreciate" religious activities (Iannaccone 1990: 229). Thus, the determinants of participation in religious activities, R, in time period t, can be summarized by the religious production function (Iannaccone 1998: 1481):

$$R_t = R(T_{Rt}, X_{Rt}, S_{Rt})$$

where T denotes inputs of time, X purchased goods, and S religious human capital. The individual then chooses the quantity of inputs that maximizes his/her overall utility, U=U(R), subject to this production function and the total amount of time and money available to the individual (Iannaccone 1988: S246).

Individuals primarily gain RHC through religious participation that is, they learn by doing. As they learn and become skilled at participating, such as being able to recite Hebrew scriptures correctly and quickly for Orthodox Jews (Sands 2009), their level of satisfaction increases and so too does their level of religious participation. Iannaccone (1990) states this clearly:

> "Religious [human] capital is both a prerequisite for and a consequence of most religious activity. Religious [human] capital - familiarity with a religion's doctrines, rituals, traditions, and members - enhances the satisfaction one receives from participation in that religion and so increases the likelihood and probable level of one's religious participation. Conversely, religious participation is the single most important means of augmenting one's stock of religious human capital. Religious activities yield a stock of specialized skills that enhance the satisfaction received from subsequent religious activities" (299).

RHC theory provides an explicit mechanism—*increasing returns*—to account for increased future religious participation. Basically, individuals participate in religious activities that increase their stock of RHC (Iannaccone 1998: 1481):

$$\Delta S_{Rt} = F(T_{Rt-1}, X_{Rt-1}, S_{Rt-1})$$

This, in turn, increases the benefits they derive from those activities, which results in higher levels of religious participation.

Hypothesis: Larger stocks of religious human capital will increase an individual's level of future religious participation.

Two alternative theories of longitudinal changes in religious participation—religious preference adaptivity[3] (Sherkat 1997) and cognitive dissonance[4] (Montgomery 1996)—critique Iananccone's theory and stress the importance of religious preferences and beliefs over RHC. Sherkat (1997) proposes that religious participation may lead to increased levels of future religious participation because *religious preferences become stronger* with increased participation. Contrary to RHC theory (Iannaccone 1990), the preference adaptivity theory argues that "people do not consume particular cultural items because they have learned to 'do' culture (cf. Becker and Murphy 1988), but because they have learned to like those cultural goods," or rather, they have come to prefer them (Sherkat and Wilson 1995: 1019).

Montgomery (1996) also critiques RHC theory and, applying cognitive dissonance theory (Festinger 1957), proposes that religious participation is affected by levels of religious belief, which is in turn affected by prior religious participation (see also Bruce 1993, 1999). Proposed

[3] In response to Sherkat's (1997) criticism, Iannaccone (1995:118) provides a formal sketch of how his model is able to incorporate preference change over time as a result of past experience. If C_t denotes the effects of all past experience up through period t, such as "one's religious upbringing, exposure to different religions, ties to fellow congregants", and RHC, then one's current stock of C is a function of past time investment, purchased goods, interactions, and stock from the previous period: $C_t = F(T_{t-1}, X_{t-1}, S_{t-1})$. By expanding the timespan to earlier periods, "one finds that today's stock [.. of C] depends on the religious participation and interactions in all previous periods" (Iannaccone 1995: 118). To let this stock contribute to changing preferences/tastes, C can be directly entered into the individual's utility function: $U_t = U(R_t, C_t)$ (Iannaccone 1995: 118).

[4] Montgomery (1996:443) proposes that religious participation should be viewed "as an attempt to maximize expected utility given subjective beliefs". He provides a simple model to illustrate this: consider "two actions { A_1 = attend church; A_2 = do not attend church } , two states of nature { S_E = God exists; S_N = God does not exist } , the [religious] beliefs {p_E, p_N } , and the utilities { u_{1E} , u_{1N}, u_{2E}, u_{2N} } ; the analysis would then assume that the actor chooses the action A_i that generates the highest expected utility $\sum_j p_j u_{ij.}$" While it is behind the scope of the current study to directly test Montgomery's (1996) model, because his model proposes the importance of religious beliefs for affecting religious participation, a measure of religious beliefs is controlled for in all statistical models presented.

by Festinger (1957), cognitive dissonance refers to a psychological condition in which a person has two opposing cognitions. One cognition is a belief (or attitude), while the other is a perception of a voluntary public behavior that is dissonant with the belief. This psychological conflict may be reduced by reconciling one's beliefs with one's public behavior, which can be accomplished by subconsciously adapting one's beliefs to correspond with one's dissonant public behavior.[5] For example,

> "consider an individual who does not believe in God and yet attends church regularly. The resulting dissonance might be reduced through an increase in the subjective probability that God exists. In this way, actions directly influence beliefs, even though these actions reveal no new information. Thus, current religious participation leads to an increase in expected utility from future religious participation, *but for a different reason than posited by Iannaccone* (1990)" (Montgomery 1996: 445-446, emphasis added).

Accordingly, this theory proposes that religious participation should *strengthen religious beliefs*, which should increase religious participation.

While all three theories predict that prior levels of religious participation should affect future levels, RHC theory has some different implications. For preference adaptivity and cognitive dissonance theories, religious preferences or beliefs are strengthened through participating in religious activities, which thereby increase future religious participation, regardless of the amount of RHC gained in the process. Although RHC theory predicts that individuals gain RHC primarily through religious participation, individuals participating at the same level do not necessarily gain the same amount of RHC, as people learn and remember religious content at different rates. RHC theory predicts that individuals with the same level of religious participation, belief, and preference, but varying stocks of RHC will have different levels of future participation (all else being equal). Sands (2009) provides an interesting

[5] One's beliefs and dissonant behavior can also be reconciled by refraining from participating in the dissonant behavior, thereby retaining one's beliefs.

empirical example of this. The *baalei teschuvah* in her study are extremely passionate about their religious beliefs and practices demonstrating strong beliefs and what can reasonably be considered an intense preference for Orthodox Judaism. Yet during religious services they experience anxiety because of their lack of RHC, which makes it difficult for them to keep up with the service. Sands (2009) describes how some of the women she interviewed *chose not to attend religious services* because of these difficulties. Ebaugh and Chafetz (2000), in their study of thirteen immigrant congregations, note that congregants may become disengaged during religious services conducted in a holy language that is not understood. This disengagement can occur regardless of how strong the congregants' religious beliefs and preferences are. These findings suggest that strong religious beliefs and preferences are not sufficient for explaining differential religious participation and that RHC is an important factor to consider.

This is not to say that RHC is the only factor affecting religious participation. In fact, religious beliefs, preferences, and RHC may all contribute to increased religious participation over time. In particular, RHC theory supplements what preference adaptivity theory (Sherkat 1997) and Montgomery's (1996) application of cognitive dissonance theory cannot explain—differential religious participation among even the most zealous believers.

Previous Empirical Research and Methodological Shortcomings

There are only a few studies that have attempted to test or apply RHC theory in order to explain differential religious participation. To do so, these studies have used proxy measures of RHC, such as religious upbringing, frequency of religious participation in childhood, frequency of parent's religious participation in childhood, religious beliefs, and religious participation (Iannaccone 1984, 1990; Durkin and Greeley 1991; Cameron 1999; Finke and Dougherty 2002; Brañas-Garza and Neuman 2006). In lieu of direct measures of RHC, these proxy measures have

been extremely useful for suggesting empirical support for RHC theory. However, there are several problems with using these variables in place of direct measures. First, if religious participation is used as a proxy for RHC, then the relationship between RHC and religious participation cannot be tested. Second, using measures of parents' religiosity may confuse the influence of religious social capital with RHC, such that a positive effect of parental religiosity on religious participation may be the result of social influence mechanisms (Sherkat 1997), rather than increasing returns from participation. Third, religious belief is a particularly poor proxy for RHC. While religious participation and the religiosity of one's parents may cause one to gain RHC through learning and experience, there is no necessary relationship between religious belief and religious knowledge or skills. One may have very strong religious beliefs but lack religious knowledge and skills or conversely, one may have high levels of religious knowledge and skills and yet not believe. As Stark and Glock (1968) point out "belief need not follow from knowledge, nor does all religious knowledge bear on belief. Furthermore, a man may hold a belief without really understanding it, that is, belief can exist on the basis of very little knowledge" (16). Believing alone does not intrinsically generate RHC and therefore is a weak proxy for it. Fourth, since the religious preference adaptivity theory (Sherkat and Wilson 1995; Sherkat 1997), Montgomery's application of cognitive dissonance theory, and RHC theory all predict that prior religious participation should increase future religious participation, if religious participation is used as a substitute for RHC, then the findings may support any of these theories. Religious belief as a proxy for RHC creates a similar problem, since belief is the key variable in Montgomery's argument and Sherkat and Wilson (1995) used it to infer preferences.

Thus, much of past research testing RHC with proxy variables has been faulted for not providing clear evidence in support of the theory. Bruce (1993:199, 1999) notes that previous

studies did not offer severe tests of the theory "because the same data are compatible with a quite different explanation: that the plausibility of beliefs is a product of [...] social interaction with like-minded believers" in the context of religious activities, which serve to strengthen an individual's religious beliefs. Montgomery (1996) and Sherkat (1997) are also skeptical of the results of past studies and offer their own theories as alternative plausible explanations.

A direct measure of RHC helps solve many of the methodological shortcomings of previous work. In particular, a direct measure would allow for a greater distinction between RHC theory and the other theories. Sands' (2009) and Ebaugh and Chafetz' (2000) detailed qualitative studies and Lavric and Flere (2010) quantitative study demonstrate how directly capturing religious competencies can help distinguish between RHC and other factors, such as beliefs, preferences, and social influence. Accordingly, this study uses a direct measure of RHC, which allows it to test whether RHC, net of measures of parental influence, religious belief, religious preferences, and other variables (*i.e.*, prior religious participation and socio-demographic variables), increases levels of future religious participation. Although Iannaccone (1990) predicts a recursive relationship between RHC and religious participation, the hypothesis that religious participation increases RHC is intuitive and will not be tested in this study. Instead, this chapter focuses on demonstrating the utility of using a direct measure of RHC to test its effect on changes in religious participation over time.

Methodology

The data used in this study come from Project Canada's 1975-1980 and 1990-1995 national panel studies.[6] These panels are a source of longitudinal information on religion, social issues, and intergroup relations. Questionnaires were sent out to a representative sample of

[6] The data was downloaded from the Association of Religion Data Archives, www.TheARDA.com, and was originally collected by Reginald W. Bibby.

Canadians age 18 or older in 1975, 1980, 1990, and 1995. These surveys allow for two longitudinal panels: 1975-1980 and 1990-1995. The sampling frame was chosen by stratifying the nation first by province and then by community size, drawing a sample that was proportionate to these populations through randomly selecting participants from telephone directories. A sample weight was created to adjust for differences between the sample and the population in terms of provincial size, community size, and sex. The sample was weighted to roughly 1,200 cases, so that large weight factors would not be necessary to accurately represent the Canadian population (see Bibby 1993 for further methodological details).

Dependent Variables:

I use four different measures to operationalize religious participation: (1) Church attendance, (2) Private Bible reading, (3) Private prayer, and (4) Listening to or watching religious services on the radio or television. For the 1975 and 1980 surveys the dependent variables were coded as follows. Church attendance was coded on a nine-point scale (0= "Never," 1= "Less than once a year," 2= "About once a year," 3= "Several times a year," 4= "About once a month," 5= "2-3 times a month," 6= "Nearly every week," 7= "Every week," and 8= "Several times a week"). Private prayer and reading the bible privately were coded with six possible values (0= "I never [insert pray privately or read the bible privately], or only in religious services," 1= "Only on special occasions," 2= "Sometimes but not regularly," 3= "Regularly, once a week," 4= "Regularly, many times a week," 5= "Regularly, once a day or more"). Watching or listening to religious services on television or radio has four possible values (0= "No or practically never," 1= "Very seldom," 2= "Yes, Sometimes," and 3= "Yes, regularly").

Church attendance for the 1990 and 1995 panel was coded the same as it was in the 1975 and 1980 panel. The other dependent variables were coded differently in the 1990 and 1995

panel as respondents were provided with slightly different response choices. Respondents were asked about frequency of private prayer, reading the Bible privately, and watching religious television programs, which were coded as: 0= “Hardly ever or never,” 1= “Monthly,” 2= “Seldom,” 3= “Sometimes,” and 4= “Very often.”

Independent Variable:

Although not attempting to operationalize RHC, several past studies have used biblical knowledge to measure Christian religious knowledge (e.g., Fukuyama 1961; Glock 1962; Faulkner and De Jong 1966; Stark and Glock 1968; Davidson 1975; De Jong, Faulkner, and Warland 1976; Finney and Lee 1977; Hilty, Morgan, and Burns 1984; Hilty and Stockman 1986). Because religious knowledge is the core component of RHC, this study follows from this previous research and measures RHC as respondents’ biblical knowledge in 1975 and 1990. In 1975, respondents were asked the following six questions regarding their knowledge of the Bible: (1) "Is the following an Old Testament prophet- Elijah?" (2) "Is the following an Old Testament prophet- Ezekiel?" (3) "Is the following an Old Testament prophet- Jeremiah?" (4) "Is the following an Old Testament prophet- Deuteronomy?" (5) "Is the following an Old Testament prophet- Paul?" and (6) "Do you happen to know which of Christ's disciples denied him three times?" The first four questions measure Old Testament knowledge, whereas the last two questions measure New Testament knowledge. Correct responses to these questions were coded as 1 and incorrect responses or responses of “I don’t know” were coded as 0. This resulted in six binary variables, one for each question. These variables were added together to create an additive RHC index (Cronbach’s alpha=.724), where RHC=∑(correct answers to the six questions) and takes on values from 0 (no correct answers) up to six (correct answers to all six questions). The 1990 survey asked respondents two biblical knowledge questions: (1) "Do you happen to know

which of Christ's disciples denied him three times?" and (2) "Do you happen to know the name of the second book in the Bible?" Again, correct responses were coded as 1 and incorrect responses or responses of "I don't know" were coded as 0. Because there are only two measures of biblical knowledge in this panel, they are not combined into an index, but instead are used as separate binary indicators. Since the RHC indices are measured by biblical knowledge, the *sample was restricted to Protestants and Catholics*.

Although RHC encompasses more than just biblical knowledge, if the hypothesis is accurate, biblical knowledge should at least significantly increase how often one reads the bible privately as prior biblical knowledge should increase the returns of future bible reading. Additionally, to the extent that having biblical knowledge makes attending church or watching/listening to religious services more enjoyable, then church attendance and watching or listening to religious services on television/radio should also be positively affected by biblical knowledge. Previous studies have found that biblical knowledge is correlated with other types of religious knowledge (Faulkner and De Jong 1966; De Jong, Faulkner, and Warland 1976; Finney and Lee 1977; Hilty, Morgan, and Burns 1984; Hilty and Stockman 1986), which suggests it may also be correlated with knowledge of prayers and rituals. If this is the case, then biblical knowledge should also significantly increase how often one prays privately. However, the results should be interpreted with the understanding that biblical knowledge is only one component of Christian RHC.

Control Variables:

All control variables are taken from the 1975 and 1990 surveys. The models include several socio-demographic control variables: (1) sex (0= "female," 1= "male"), (2) log family income, (3), level of educational degrees obtained, (4) age in years, (5) married (0= "not

married," 1= "married"), and (6) race (0= "non-white," 1= "white"). Religious denominational affiliation was also included to control for any differences in religious participation across denominations. Protestant respondents were asked which of the following denominations they consider themselves: Anglican, United Church of Christ (UCC), Lutheran, Baptist, Presbyterian, Methodist, Pentecostal, and 'other' denominations. The Methodist and Pentecostal categories were combined with the 'other denominations' category due to their small sample sizes and were coded as a dummy variable (0= "not affiliated with a Methodist, Pentecostal, or 'other' denomination", 1= "affiliated with a Methodist, Pentecostal, or 'other' denomination"). All other denominations were also coded as dummy variables (0= "not affiliated with the denomination", 1= affiliated with the denomination"). Catholic was used as the referent category.

Given Montgomery's (1996) argument about the importance of religious belief for changes in religious participation, beliefs regarding Jesus were also included in the models. Two dummy variables were created; one for belief in Jesus Christ as the Divine Son of God without doubts (1= "yes", 0= "not yes") and another for belief in Jesus Christ as divine but with some doubts (1= "yes", 0= "not yes"). The referent category combines individuals who "feel that Jesus was a great man and very holy, but not the Son of God," "think that Jesus was only a man, although an extraordinary one," or are "not entirely sure there really was such a person." Although religious preference is not necessarily equivalent to religious belief, Sherkat and Wilson (1995) use religious belief as a measure of religious preference, arguing, for instance, that prior belief in the Bible as inerrant implies a preference for religious groups that offer religious goods catered to that preference (e.g., conservative Protestants). Accordingly, the belief in Jesus Christ dummy variables may also be used as proxies for a conservative religious preference, which should affect future religious participation according to preference adaptivity

theory (Sherkat 1997). Although religious denominational affiliation is not equivalent to religious preference, denominational affiliations do reflect a package of particular religious beliefs, practices, and organizational structures that may serve as a useful proxy for religious preferences.

Parental religious influence was controlled for in the models. The 1975 survey asked respondents to what extent their mother and father are religious (from 0= not very religious to 2= very religious). These two measures were added together to form a parental religiosity additive index (Cronbach's alpha= .663). The 1990 survey did not ask the same question but it did ask how often the respondent's mother and father attended religious services while she was growing up (from 0= never to 8= several times a week). These two measures were added together into a parental attendance additive index (Cronbach's alpha= .781). Because of the number of missing cases for the parental attendance questions, missing cases were included in the parental attendance index as the value 0 and then controlled for with a binary missing parental attendance measure (1= missing mother or father's parental attendance value, 0= not missing mother or father's parental attendance value). These indices represent different ways of conceptualizing, and controlling for, the significance of religious social capital. If one's social ties affect levels of religious participation through social influence mechanisms, such as sanctions or sympathy (Sherkat 1997), then how religious a respondent's parents are may affect his level of present and future religious participation. How often an individual's parents attended religious services while she was growing up is a common proxy measure for RHC as it is argued that individuals gain much of their RHC during childhood through the religious training they receive from their parents (Iannaccone 1990). Thus, net of RHC, the parental attendance index should have little to no effect on religious participation (as the theorized effect is due to RHC attainment), whereas

the parental religiosity index should still have an effect (as the underlying social influence mechanisms are not related to RHC).

Analytic Strategy:

I use ordinary least squares (OLS) regression models[7] to test the relationship between RHC and religious participation. Cross-sectional and longitudinal OLS models were estimated for each of the four dependent variables for each panel. The cross-sectional models estimate the effects of the independent variables at time one (1975 for the 1975-1980 panel and 1990 for the 1990-1995 panel) on the dependent variables at time one. The longitudinal models estimate the effects of the independent variables at time one on the dependent variables at time two (1980 for the 1975-1980 panel and 1995 for the 1990-1995 panel) controlling for the dependent variable at time 1. Thus, the coefficients in the longitudinal model represent how much and whether the temporally prior independent variables are associated with a change in religious participation over time from baseline (time 1) levels. Because this study only tests the effect of RHC on religious participation and not the reciprocal relationship, the longitudinal models predicting religious participation at time 2 (net of religious participation at time 1) are necessary to help eliminate a reverse causal explanation of the findings (i.e., that religious participation affects RHC).

It is important to consider attrition in panel surveys as attrition reduces the sample size and may affect the national representativeness of the sample. While random attrition does not bias regression estimates, non-random attrition can. Logistic regression models were estimated to determine which time 1 variables affect the likelihood of remaining in the sample at time 2

[7] Due to the nature of the dependent variables, I also estimated ordinal logistic and probit regression models (results not shown). Because the results of these models are consistent with the OLS regression models, the OLS models are displayed for ease of interpretation, comparability across models, and parsimony.

(results not shown). Specifically, four logistic regression models were estimated for each panel, which allowed each of the four religious participation variables to be included as covariates in their own models, reflecting the OLS models that will be used to analyze the data. The sample weight variable for time 1 is also included as an independent variable in the model, consistent with Little and Vartivarian's (2003) suggestion. For the 1975-1980 panel, older people, individuals with higher family incomes, people with more RHC, individuals affiliated with the United Church of Christ (UCC), and individuals who frequently watch or listen to religious television/radio were more likely to remain in the sample. For the 1990-1995 panel, older, white, married individuals, individuals affiliated with the UCC, and individuals with higher family incomes were more likely to remain in the sample. To reduce the amount of attrition bias, propensity scores[8] were created to adjust for the probability of remaining in the sample. The propensity scores are used directly as adjustment factors by taking the inverse of the propensity score and multiplying it by the original sample (or base) weight (Wun et al. 2007). The resulting propensity scores were trimmed[9] to minimize the influence of outlying cases (i.e., to avoid large weights) (Lumley 2010). The resulting propensity scores are used as weights in all models to insure that the regression estimates are as representative of the population as possible.

Results

Cross-Sectional Association

Table 2.1 provides the cross-sectional 1975 OLS regression results for each of the four time 1 dependent variables. Older individuals have higher frequencies of church attendance, reading the Bible, praying, and watching or listening to religious television/radio. White

[8] A propensity score "is essentially the conditional probability that a person or household responds given the covariates" (Wun et al. 2007: 1876).
[9] The amount trimmed from the weights "is divided among the observations that were not trimmed, so that the total weight remains the same" (Lumley 2010).

Table 2.1 OLS Unstandardized Regression Coefficients Predicting Time 1 Dependent Variables, Project Canada 1975.

	Church Attendance		Read Bible		Pray		Watch Relig TV	
	Coefficient (SE)		Coefficient (SE)		Coefficient (SE)		Coefficient (SE)	
Sex	-0.050	0.209	-0.119	-0.005	-0.120	-0.001	-0.026	-0.023
	(0.177)	(0.175)	(0.092)	(0.090)	(0.127)	(0.127)	(0.074)	(0.076)
Age	0.032***	0.031***	0.018***	0.018***	0.025***	0.025***	0.022***	0.022***
	(0.006)	(0.005)	(0.102)	(0.003)	(0.004)	(0.004)	(0.002)	(0.002)
Race	1.710***	2.206***	0.848***	1.002***	0.647†	0.797*	-0.170	-0.164
	(0.491)	(0.469)	(0.240)	(0.233)	(0.330)	(0.326)	(0.205)	(0.208)
Married	0.539**	0.244	-0.090	-0.249*	-0.037	-0.172	0.098	0.094
	(0.204)	(0.202)	(0.104)	(0.104)	(0.145)	(0.145)	(0.083)	(0.085)
Log Income	-0.175	-0.121	-0.370***	-0.349***	-0.413***	-0.397***	-0.300***	-0.300***
	(0.172)	(0.166)	(0.088)	(0.085)	(0.121)	(0.119)	(0.070)	(0.070)
Education	0.510***	0.380***	0.151**	0.085	0.266***	0.201**	0.010	0.008
	(0.103)	(0.101)	(0.054)	(0.053)	(0.073)	(0.073)	(0.043)	(0.044)
Anglican[a]	-1.261***	-1.214***	0.613***	0.634***	0.044	0.074	0.170	0.170
	(0.252)	(0.243)	(0.129)	(0.125)	(0.177)	(0.174)	(0.104)	(0.104)
UCC[a]	-0.954***	-0.987***	0.234†	0.235*	-0.269	-0.264	0.387***	0.386***
	(0.236)	(0.228)	(0.120)	(0.116)	(0.165)	(0.162)	(0.097)	(0.097)
Lutheran[a]	-0.978*	-1.182**	0.444*	0.351†	-0.050	-0.142	0.449**	0.446**
	(0.400)	(0.387)	(0.206)	(0.120)	(0.282)	(0.278)	(0.165)	(0.166)
Baptist[a]	-1.113*	-1.305**	0.996**	1.006***	-0.077	-0.070	0.861***	0.858***
	(0.489)	(0.472)	(0.303)	(0.293)	(0.395)	(0.388)	(0.203)	(0.203)
Presbyterian[a]	-2.353***	-2.586***	0.866***	0.862***	-0.697*	-0.692*	0.803***	0.806***
	(0.558)	(0.539)	(0.243)	(0.235)	(0.335)	(0.329)	(0.223)	(0.224)

Table 2.1 continued

	Church Attendance		Read Bible		Pray		Watch Relig TV	
	Coefficient (SE)		Coefficient (SE)		Coefficient (SE)		Coefficient (SE)	
Other denominations[a]	0.700*	0.362	1.028***	0.844***	-0.064	-0.221	0.179	0.175
	(0.350)	(0.341)	(0.181)	(0.177)	(0.277)	(0.274)	(0.159)	(0.161)
Belief JC no doubts	2.154***	1.883***	0.799***	0.657***	1.548***	1.405***	0.555***	0.552***
	(0.201)	(0.198)	(0.102)	(0.101)	(0.140)	(0.140)	(0.082)	(0.084)
Belief JC some doubts	1.048***	1.093***	0.460***	0.470***	0.859***	0.858***	0.269**	0.270**
	(0.224)	(0.216)	(0.113)	(0.109)	(0.157)	(0.154)	(0.092)	(0.092)
Parental Religiosity	0.330***	0.274***	0.207***	0.185***	0.254***	0.224***	0.088**	0.087**
	(0.070)	(0.068)	(0.036)	(0.035)	(0.050)	(0.049)	(0.029)	(0.029)
Relig. Human Capital		0.244***		0.122***		0.124***		0.003
		(0.036)		(0.019)		(0.026)		(0.016)
Constant	-0.145	-1.133	1.996*	1.644*	3.223**	2.937**	2.030**	2.02**
	(1.641)	(1.590)	(0.831)	(0.805)	(1.151)	(1.133)	(0.665)	(0.668)
R-squared	0.393	0.436	0.314	0.360	0.345	0.368	0.310	0.310
Adjusted R-squared	0.377	0.421	0.297	0.343	0.328	0.351	0.293	0.292

† p < .10; * p < .05; ** p < .01; *** p < .001

N = 607

[a] Compared with "Catholic".

respondents are more likely than respondents of other races to attend church, read the Bible, and pray, although they do not statistically differ in how often they watch or listen to religious television/radio. More educated individuals attend church and pray more often and those with higher family incomes read the bible, pray, and watch or listen to religious television/radio less frequently. Protestant respondents read the Bible and watch or listen to religious television/radio more frequently than Catholics, although those affiliated with the Anglican, UCC, Lutheran, Baptist, or Presbyterian denominations attend church less often than Catholics. Respondents who believe in Jesus Christ as the divine son of God without doubts and those who believe in Jesus Christ as divine with some doubts exhibit significantly higher levels of all four types of religious participation compared to individuals without such beliefs. Parental religiosity has a strong, statistically significant positive effect on all four types of religious participation. Individuals with more RHC attend church, read the Bible, and pray more often than individuals with less RHC. However, RHC does not have a statistically significant effect on frequency of watching or listening to religious television/radio. These models explain a large amount of the variation in the religious participation variables ranging from 30.1 percent for watching or listening to religious television/radio to 43.6 percent for attending church. Moreover, the adjusted R-squared values show that adding RHC to the models helps explain roughly 4.4 percent of the variation in church attendance, 4.6 percent of the variation in reading the bible, and 2.3 percent of the variation in prayer.

Table 2.2 provides the cross-sectional regression results for 1990, which are fairly consistent with the results from 1975. Individuals who know the second book of the Bible and know who denied Jesus Christ have higher levels of church attendance, Bible reading, and prayer. As with the 1975-1980 results, the RHC variables do not significantly affect the

Table 2.2 OLS Unstandardized Regression Coefficients Predicting Time 1 Dependent Variables, Project Canada 1990.

	Church Attendance		Read Bible		Pray		Watch Relig TV	
	Coefficient (SE)		Coefficient (SE)		Coefficient (SE)		Coefficient (SE)	
Sex	-0.521*	-0.235	-0.218†	-0.092	-0.434**	-0.310†	-0.106	-0.108
	(0.220)	(0.207)	(0.122)	(0.116)	(0.167)	(0.161)	(0.077)	(0.078)
Age	0.041***	0.019**	0.018***	0.008*	0.034***	0.022***	0.018***	0.018***
	(0.007)	(0.007)	(0.004)	(0.142)	(0.005)	(0.005)	(0.002)	(0.003)
Race	0.447	0.531	-0.027	-0.112	-0.194	-0.381	-0.003	-0.046
	(0.886)	(0.824)	(0.492)	(0.463)	(0.671)	(0.643)	(0.306)	(0.308)
Married	0.861***	0.748***	0.050	-0.006	0.367*	0.311†	0.186*	0.186*
	(0.234)	(0.212)	(0.123)	(0.122)	(0.177)	(0.169)	(0.082)	(0.082)
Log Income	-0.179	-0.351*	-0.108	-0.184*	-0.146	-0.220†	-0.193***	-0.192**
	(0.165)	(0.154)	(0.091)	(0.086)	(0.125)	(0.120)	(0.058)	(0.059)
Education	0.305***	0.148†	0.090†	0.004	-0.004	-0.102	0.011	0.006
	(0.085)	(0.082)	(0.047)	(0.046)	(0.065)	(0.064)	(0.030)	(0.301)
Anglican[a]	-0.263	-0.691*	0.427*	0.310†	-0.099	-0.128	-0.149	-0.118
	(0.307)	(0.298)	(0.170)	(0.168)	(0.232)	(0.233)	(0.107)	(0.113)
UCC[a]	-0.747**	-0.851***	0.199	0.228	-0.368†	-0.256	-0.210*	-0.181†
	(0.267)	(0.255)	(0.148)	(0.143)	(0.202)	(0.199)	(0.093)	(0.097)
Lutheran[a]	0.032	0.127	0.268	0.430†	-0.264	0.010	-0.038	0.004
	(0.492)	(0.463)	(0.273)	(0.260)	(0.372)	(0.361)	(0.172)	(0.175)
Baptist[a]	0.592	-0.569	1.457***	0.984***	0.487	0.077	0.047	0.070
	(0.476)	(0.469)	(0.264)	(0.263)	(0.360)	(0.366)	(0.166)	(0.177)
Presbyterian[a]	-1.320**	-1.396**	0.189	0.212	-0.508	-0.431	0.043	0.063
	(0.458)	(0.426)	(0.255)	(0.239)	(0.347)	(0.332)	(0.160)	(0.161)

Table 2.2 continued

	Church Attendance		Read Bible		Pray		Watch Relig TV	
	Coefficient (SE)		Coefficient (SE)		Coefficient (SE)		Coefficient (SE)	
Other denominations[a]	1.421***	0.407	1.738***	1.386***	0.693*	0.427	0.091	0.128
	(0.374)	(0.382)	(0.207)	(0.213)	(0.283)	(0.298)	(0.130)	(0.144)
Belief JC no doubts	2.837***	2.285***	0.796***	0.510***	2.022***	1.700***	0.223*	0.211*
	(0.263)	(0.253)	(0.146)	(0.142)	(0.199)	(0.197)	(0.092)	(0.096)
Belief JC some doubts	1.131***	0.755**	0.0251	-0.158	0.946***	0.754***	0.016	0.013
	(0.278)	(0.260)	(0.154)	(0.147)	(0.210)	(0.204)	(0.097)	(0.099)
Parental Attendance	0.067**	0.027	0.003	-0.015	0.018	0.001	0.007	0.007
	(0.023)	(0.021)	(0.013)	(0.012)	(0.017)	(0.236)	(0.008)	(0.008)
Missing Parental Attendance	-0.168	-0.331	0.024	-0.035	0.026	-0.018	0.096	0.102
	(0.326)	(0.302)	(0.181)	(0.170)	(0.247)	(0.155)	(0.114)	(0.114)
Who Denied Christ		0.856***		0.633***		0.878***		0.088
		(0.199)		(0.111)		(0.155)		(0.075)
Second Book of Bible		1.423***		0.497***		0.324†		-0.061
		(0.240)		(0.134)		(0.187)		(0.091)
Constant	-0.140	2.912	0.095	1.552	0.574	2.074	1.267†	1.283†
	(2.071)	(1.951)	(1.148)	(1.094)	(1.568)	(1.522)	(0.724)	(0.739)
R-squared	0.515	0.588	0.382	0.464	0.431	0.487	0.246	0.249
Adjusted R-squared	0.494	0.568	0.355	0.437	0.406	0.462	0.213	0.212

† p < .10; * p < .05; ** p < .01; *** p < .001

N = 383

[a] Compared with "Catholic".

frequency of watching religious television. Older individuals overwhelmingly have higher frequencies of all four types of religious participation, whereas individuals with higher incomes have lower frequencies across all types of religious participation. Compared to Catholics, those affiliated with the Anglican, UCC, and Presbyterian denominations have lower levels of church attendance, but Anglicans, Baptists, and Lutherans have higher levels of reading the Bible. Consistent with the results from 1975, those who believe in Jesus Christ as the divine son of God without doubts have significantly higher levels of all types of religious participation. While the 1975 parental religiosity index has a strong effect on religious participation, the 1990 parental attendance index only affects church attendance with the RHC variables excluded from the model; it has no significant effects on any of the other religious participation variables. These models also account for a large amount of the variation in religious participation: 58.8 percent for church attendance, 43.1 percent for bible reading, and 48.7 percent for prayer. Additionally, the adjusted R-squared values show that adding RHC to the models accounts for roughly 7.4 percent of the variation in church attendance, 8.2 percent of the variation in reading the bible, and 5.6 percent of the variation in prayer.

Change in Religious Participation Over Time

Table 2.3 presents the regression results predicting change in religious participation for the 1975-1980 panel. Men attend church and watch or listen to religious television/radio more over time (from baseline time 1 levels) compared to women, although men pray less frequently over time. Baseline (time 1) family income is associated with a decrease in church attendance and praying, whereas baseline education is associated with an increase in church attendance and praying and a decrease in watching or listening to religious television/radio. UCC, Lutheran, Baptist, and 'other' denominations read the Bible more over time compared to Catholics.

Table 2.3 OLS Unstandardized Regression Coefficients Predicting Time 2 Dependent Variables, Project Canada 1975-1980 Panel.

	Church Attendance		Read Bible		Pray		Watch Relig TV	
	Coefficient (SE)		Coefficient (SE)		Coefficient (SE)		Coefficient (SE)	
Sex	0.383**	0.414**	-0.051	-0.016	-0.413***	-0.428***	0.173*	0.258***
	(0.136)	(0.139)	(0.084)	(0.085)	(0.117)	(0.120)	(0.074)	(0.074)
Age	-0.005	-0.005	-0.004	-0.004	-0.004	-0.004	0.009***	0.008***
	(0.005)	(0.005)	(0.003)	(0.003)	(0.004)	(0.004)	(0.003)	(0.002)
Race	0.385	0.437	-0.201	-0.134	-0.194	-0.217	-0.401*	-0.302
	(0.353)	(0.356)	(0.223)	(0.225)	(0.308)	(0.310)	(0.190)	(0.186)
Married	-0.034	-0.072	0.090	0.035	0.422**	0.447**	-0.063	-0.160†
	(0.158)	(0.162)	(0.096)	(0.100)	(0.135)	(0.140)	(0.086)	(0.086)
Log Income	-0.299*	-0.297*	0.029	0.025	-0.446***	-0.450***	-0.122†	-0.109
	(0.131)	(0.131)	(0.082)	(0.082)	(0.113)	0.113	(0.073)	(0.071)
Education	0.218**	0.206*	-0.010	-0.025	0.213**	0.222**	-0.070	-0.116**
	(0.082)	(0.083)	(0.051)	(0.051)	(0.069)	(0.070)	(0.043)	(0.043)
Anglican[a]	-0.348†	-0.350†	0.097	0.116	-0.469**	-0.470**	-0.379***	-0.356***
	(0.196)	(0.196)	(0.121)	(0.121)	(0.166)	(0.166)	(0.104)	(0.101)
UCC[a]	-0.140	-0.145	0.359**	0.365**	-0.468**	-0.466**	-0.129	-0.125
	(0.180)	(0.180)	(0.112)	(0.111)	(0.155)	(0.155)	(0.097)	(0.095)
Lutheran[a]	-0.047	-0.071	0.489*	0.469*	-0.589*	-0.573*	-0.108	-0.174
	(0.326)	(0.326)	(0.190)	(0.190)	(0.263)	(0.264)	(0.166)	(0.162)
Baptist[a]	-0.481	-0.511	0.846***	0.836***	-0.554	-0.554	0.113	0.125
	(0.374)	(0.375)	(0.235)	(0.235)	(0.410)	(0.410)	(0.261)	(0.254)
Presbyterian[a]	-0.446	-0.458	0.317	0.336	-0.570†	-0.563†	0.555**	0.556**
	(0.367)	(0.368)	(0.226)	(0.225)	(0.313)	(0.314)	(0.199)	(0.193)

Table 2.3 continued

	Church Attendance		Read Bible		Pray		Watch Relig TV	
	Coefficient (SE)		Coefficient (SE)		Coefficient (SE)		Coefficient (SE)	
Other denominations[a]	0.340	0.306	0.595**	0.570**	-0.706**	-0.683**	-0.290*	-0.420**
	(0.288)	(0.290)	(0.183)	(0.183)	(0.231)	(0.234)	(0.143)	(0.141)
Belief JC no doubts	0.483**	0.463**	0.330***	0.306**	0.422**	0.438**	0.252**	0.152†
	(0.164)	(0.165)	(0.099)	(0.100)	(0.143)	(0.145)	(0.084)	(0.084)
Belief JC some doubts	0.456**	0.463**	0.009	0.020	0.447**	0.443**	0.129	0.128
	(0.171)	(0.171)	(0.105)	(0.105)	(0.149)	(0.149)	(0.092)	(0.090)
Parental Religiosity	0.124*	0.119*	0.020	0.016	0.016	0.018	-0.041	-0.061*
	(0.055)	(0.055)	(0.034)	(0.034)	(0.047)	(0.045)	(0.029)	(0.029)
Relig. Human Capital		0.032		0.038*		-0.017		0.088***
		(0.029)		(0.018)		(0.025)		(0.015)
Time 1 Church attendance	0.774***	0.767***						
	(0.031)	(0.032)						
Time 1 Read Bible			0.590***	0.569***				
			(0.037)	(0.038)				
Time 1 Pray					0.700***	0.704***		
					(0.037)	(0.038)		
Time 1 Watch Relig. TV							0.449***	0.447***
							(0.041)	(0.040)
Constant	1.311	1.253	-0.494	-0.531	4.145***	4.202***	1.832**	1.607*
	(1.242)	(1.243)	(0.773)	(0.771)	(1.067)	(1.071)	(0.681)	(0.664)
R-squared	0.679	0.680	0.460	0.464	0.565	0.565	0.357	0.393
Adjusted R-squared	0.671	0.671	0.445	0.448	0.553	0.553	0.340	0.375

† p < .10; * p < .05; ** p < .01; *** p < .001

N = 607

[a] Compared with "Catholic".

However, Anglican, UCC, Lutheran, Presbyterian, and 'other' denominations pray less over time compared to Catholics. Believing in Jesus Christ as the divine son of God without doubts is associated with increases in all four religious participation variables, whereas believing in Jesus Christ as divine with some doubts is only associated with increases in church attendance and praying from baseline levels. Parental religiosity increases church attendance and decreases watching or listening to religious television/radio over time but has no statistically significant effect on reading the Bible and praying. RHC is associated with an increase in reading the Bible and watching religious television from baseline levels, but does not significantly affect attending church and praying. Past religious participation is understandably a strong determinant of future religious participation. Yet even with such a powerful predictor in the models RHC still has significant positive effects on two of the religious participation variables, which accounts for some of their unexplained variation (0.3 percent for reading the Bible and 3.5 percent for watching/listening to religious television/radio, see adjusted R-squared).

Since RHC is measured by biblical knowledge, it should logically have the strongest effect on reading the Bible, watching or listening to religious television/radio, and church attendance, activities that are likely to utilize biblical knowledge. Given this, the lack of a significant effect of RHC on future religious attendance is peculiar. However, the underlying logic of the hypothesis is that RHC should increase church attendance by increasing the benefits of or returns from attendance. This means that for RHC to have an effect it must be utilized. Given that most Christian church services focus more on beliefs, practices, and biblical readings from the New Testament, Old Testament knowledge may be less useful and result in fewer returns from attendance. The RHC index primarily includes Old Testament biblical knowledge questions but it also includes two binary questions that draw on knowledge of the New

Testament—"is Paul an Old Testament prophet?" and "who denied Christ three times?" I re-estimated the longitudinal church attendance regression model with these binary variables in place of the RHC index. Results from this model are presented in Table 2.4. Unlike the previous model, the Paul measurement of RHC is associated with a significant increase in church attendance.

Table 2.5 provides the 1990-1995 regression results predicting change in religious participation. As with the results from the 1975-1980 panel, men attend church more over time (from baseline time 1 levels) compared to women. Family income is associated with a decrease in church attendance and education is associated with a decrease in watching religious television over time. There are fewer significant differences between Catholics and Protestant denominations in this panel. Notably, compared to Catholics, Lutherans pray and Baptists watch religious television more frequently over time. Believing in Jesus Christ as the divine son of God without doubts is associated with an increase in reading the Bible and praying, whereas believing in Jesus Christ as divine with some doubts is only associated with an increase in praying. Parental attendance does not significantly affect any of the religious participation variables in the full models. Both RHC variables are associated with an increase in all four of the religious participation variables. The adjusted R-squared values show that the two RHC variables together explain 0.9 percent of the variation in church attendance, 2.1 percent of the variation in reading the Bible, 2.2 percent of the variation in praying, and 2 percent of the variation in watching religious television.

Discussion

Overall, the results provide support for RHC theory. In the 1975 and 1990 cross-sectional models, higher levels of RHC are associated with higher frequencies of church attendance, bible reading, and praying from baseline levels. In the 1975 longitudinal models, higher levels of RHC

Table 2.4 OLS Unstandardized Regression Coefficients Predicting Time 2 Church Attendance, Project Canada 1975-1980.

Sex	0.438**
	(0.138)
Age	-0.004
	(0.005)
Race	0.478
	(0.354)
Married	-0.076
	(0.159)
Log Income	-0.304*
	(0.131)
Education	0.194*
	(0.083)
Anglican[a]	-0.390*
	(0.196)
UCC[a]	-0.185
	(0.181)
Lutheran[a]	-0.113
	(0.326)
Baptist[a]	-0.572
	(0.376)
Presbyterian[a]	-0.515
	(0.367)
Other denominations[a]	0.251
	(0.290)
Belief JC no doubts	0.432**
	(0.166)
Belief JC some doubts	0.468**
	(0.171)
Parental Religiosity	0.110*
	(0.055)
Who Denied Christ	0.139
	(0.142)
Paul	0.256†
	(0.135)
Time 1 Church attendance	0.753***
	(0.032)
Constant	1.275
	(1.245)
R-squared	0.683
Adjusted R-squared	0.673

† p < .10; * p < .05; ** p < .01; *** p < .001

N = 607

[a] Compared with "Catholic".

Table 2.5 OLS Unstandardized Regression Coefficients Predicting Time 2 Dependent Variables, Project Canada 1990-1995.

	Church Attendance		Read Bible		Pray		Watch Relig TV	
	Coefficient (SE)		Coefficient (SE)		Coefficient (SE)		Coefficient (SE)	
Sex	0.350*	0.430*	-0.070	0.011	-0.134	-0.062	-0.124	-0.063
	(0.171)	(0.169)	(0.137)	(0.135)	(0.139)	(0.137)	(0.096)	(0.095)
Age	-0.005	-0.011*	0.004	-0.003	0.003	-0.003	0.015***	0.010**
	(0.005)	(0.006)	(0.004)	(0.004)	(0.004)	(0.005)	(0.003)	(0.003)
Race	-0.428	-0.442	0.225	0.214	-0.602	-0.701	0.080	0.063
	(0.682)	(0.674)	(0.550)	(0.542)	(0.555)	(0.541)	(0.380)	(0.375)
Married	-0.241	-0.233	0.292*	0.254†	-0.127	-0.146	0.070	0.047
	(0.184)	(0.181)	(0.145)	(0.143)	(0.148)	(0.143)	(0.102)	(0.101)
Log Income	-0.276*	-0.355**	-0.032	-0.103	-0.057	-0.128	-0.204**	-0.243***
	(0.127)	(0.127)	(0.102)	(0.102)	(0.103)	(0.102)	(0.073)	(0.072)
Education	0.128†	0.075	0.069	0.017	0.042	-0.030	-0.041	-0.079*
	(0.067)	(0.067)	(0.053)	(0.054)	(0.054)	(0.054)	(0.037)	(0.038)
Anglican[a]	-0.261	-0.394	0.121	0.026	0.151	0.073	0.218	0.148
	(0.237)	(0.246)	(0.192)	(0.197)	(0.192)	(0.196)	(0.134)	(0.138)
UCC[a]	-0.105	-0.142	-0.105	-0.105	-0.102	-0.083	0.036	0.035
	(0.208)	(0.212)	(0.166)	(0.168)	(0.168)	(0.168)	(0.117)	(0.118)
Lutheran[a]	-0.161	-0.044	0.276	0.369	0.557†	0.693*	0.037	0.093
	(0.379)	(0.379)	(0.305)	(0.305)	(0.308)	(0.304)	(0.214)	(0.213)
Baptist[a]	0.251	-0.138	0.144	-0.121	0.428	0.096	0.642**	0.406†
	(0.367)	(0.385)	(0.307)	(0.314)	(0.299)	(0.308)	(0.206)	(0.215)
Presbyterian[a]	-0.108	-0.186	-0.080	-0.073	-0.208	-0.213	-0.025	-0.025
	(0.357)	(0.354)	(0.285)	(0.280)	(0.288)	(0.281)	(0.199)	(0.196)

Table 2.5 continued

	Church Attendance		Read Bible		Pray		Watch Relig TV	
	Coefficient (SE)		Coefficient (SE)		Coefficient (SE)		Coefficient (SE)	
Other denominations[a]	-0.060	-0.311	-0.224	-0.390	-0.024	-0.247	0.173	-0.019
	(0.294)	(0.313)	(0.253)	(0.264)	(0.236)	(0.252)	(0.161)	(0.175)
Belief JC no doubts	-0.245	-0.309	0.632***	0.499**	0.579**	0.480**	0.151	0.021
	(0.232)	(0.229)	(0.169)	(0.169)	(0.186)	(0.182)	(0.115)	(0.117)
Belief JC some doubts	-0.080	-0.165	0.342*	0.206	0.442*	0.359*	-0.006	-0.091
	(0.219)	(0.216)	(0.173)	(0.172)	(0.177)	(0.175)	(0.121)	(0.121)
Parental Attendance	0.018	0.007	0.024†	0.010	0.006	-0.008	0.010	0.001
	(0.018)	(0.018)	(0.014)	(0.014)	(0.014)	(0.014)	(0.010)	(0.010)
Missing Parental Attendance	0.514*	0.440†	-0.089	-0.140	0.236	0.194	0.129	0.100
	(0.251)	(0.248)	(0.202)	(0.199)	(0.204)	(0.199)	(0.142)	(0.139)
Who Denied Christ		0.508**		0.371**		0.568***		0.259**
		(0.167)		(0.136)		(0.136)		(0.092)
Second Book of Bible		0.463*		0.470**		0.355*		0.265*
		(0.206)		(0.160)		(0.159)		(0.111)
Time 1 Church attendance	0.946***	0.882***						
	(0.040)	(0.043)						
Time 1 Read Bible			0.803***	0.710***				
			(0.058)	(0.061)				
Time 1 Pray					0.751***	0.682***		
					(0.043)	(0.044)		
Time 1 Watch Relig. TV							0.834***	0.828***
							(0.065)	(0.064)
Constant	3.626*	4.881**	-0.450	0.674	1.304	2.522†	1.504†	2.202*
	(1.594)	(1.600)	(1.283)	(1.284)	(1.297)	(1.285)	(0.904)	(0.904)
R-squared	0.754	0.765	0.531	0.553	0.653	0.676	0.522	0.543
Adjusted R-squared	0.743	0.752	0.509	0.530	0.637	0.659	0.500	0.520

† p < .10; * p < .05; ** p < .01; *** p < .001

N = 383

[a] Compared with "Catholic".

are associated with an increase in Bible reading and watching or listening to religious television/radio from baseline levels and New Testament RHC (as measured by knowledge of Paul) is associated with an increase in church attendance from the baseline level. The latter provides further support for the theoretical rationale behind RHC, since only RHC used within church services should have an effect on future church attendance. This suggests that while some RHC may increase religious participation not all RHC will necessarily have the same effect. In the 1990 longitudinal models, the RHC variables are associated with an increase in all types of religious participation, further supporting RHC theory.

It is important to note that RHC exhibited significant positive effects on religious participation controlling for denominational affiliation, a religious belief measure, and parental religiosity/attendance. The strong positive effect of belief in Jesus Christ as the divine son of God without doubts on religious participation provides support for Montgomery's (1996) argument regarding the importance of religious belief and certainty for explaining differential religious participation (see also Bruce 1993, 1999). To the extent that belief in Jesus Christ serves as a proxy for religious preference (as belief in the Bible did in Sherkat and Wilson 1995), this finding may also support the preference adaptivity theory of religious participation (Sherkat 1997). There do appear to be some differences in religious participation over time between Catholics and Protestant denominations, especially in the 1975-1980 panel. Given that religious affiliations represent a 'package' of certain religious beliefs, practices, and organizational structures, these findings suggest that a religious preference for a specific type of religious 'package'/affiliation may also explain differential religious participation over time.

The different effects of parental religious influence on religious participation across the two panels can be explained through how the variables were measured. The parental religiosity

index (1975-1980 panel), as measured by a respondent's parents' current level of religiosity, is consistent with Stark and Finke's (2000) conception of religious social capital as distinct from RHC and as having its own effect on religious participation through social influence mechanisms (Sherkat 1997). Thus, including RHC in the model should not influence the positive effect parental religiosity has on religious participation. On the other hand, the 1990-1995 panel measured parental religious influence in a way more consistent with Iannaccone's (1990) conception of RHC, that is, as parental church attendance during respondent's childhood. Iannaccone (1990) predicts that parental church attendance during childhood should increase an individual's stock of RHC and thereby increase her future religious participation. Consequently, controlling for RHC, the parental attendance index should not have a significant effect on religious participation, which is supported by the results. In fact, when RHC is not included in the 1990 cross-sectional models, parental church attendance during childhood does have a significant positive effect on religious participation as previous studies have found. These models suggest that religious social capital matters not only due to increasing one's RHC as in the 1990-1995 panel, but also through other mechanisms, possibly sanctions, sympathy, identity, or example-setting (Sherkat 1997; see also Kitts 2000) as suggested by the 1975-1980 panel. This highlights how different operationalizations of religious social capital may result in disparate effects, which emphasizes the importance of having a solid theoretical grounding for how one chooses to measure religious social capital.

The overall finding that RHC increases religious participation does not negate the effects of preferences, beliefs, or social influence. In this sense, the findings do not counter the preference adaptivity (Sherkat 1997) and cognitive dissonance theories of religious participation (Montgomery 1996). Rather, they provide clear support for Iannaccone's (1990) RHC theory,

which previous research using proxy measures has been unable to do. Beliefs and preferences do partly explain increases in religious participation, but importantly, this study suggests that RHC does as well. Thus, RHC theory provides a supplementary explanation for changes in religious participation over time.

Unlike past research, this study used a direct measure of RHC, religious knowledge (i.e., biblical knowledge), to test a hypothesis derived from RHC theory (Iannaccone 1990). Religious knowledge as a unique dimension of religiosity is not without precedent. The social scientific study of religion has a long history of understanding religion as a multi-dimensional concept, typically including an intellectual dimension (i.e., religious knowledge) (Fukuyama 1961; Glock 1962; Stark and Glock 1968; Davidson 1975; Faulkner and De Jong 1966; De Jong, Faulkner, and Warland 1976; King and Hunt 1972a; Hilty, Morgan, and Burns 1984; Hilty and Stockman 1986). While some studies have attempted to measure religion with an intellectual dimension, most still focus on religious belief and ritualistic dimensions, some excluding an intellectual dimension altogether (Gibbs and Crader 1970).

RHC theory (Iannaccone 1990) provides theoretical reasons why religious knowledge should be an important dimension of religion and suggests how it should be related to other dimensions. This study focuses on the effect of religious knowledge on changes in religious participation over time, but this theoretical approach provides additional leverage for understanding other types of religious phenomena. For example, some religious knowledge is not easily transferable, which may affect conversion and exit rates (Finke 2004; Abel 2005). Furthermore, macro-level religious supply factors, such as the regulation or repression of religion, can affect the distribution of RHC in a society (Froese 2001, 2008; Froese and Pfaff

2001, 2005). Long-term declines in RHC acquisition may then affect religious participation and conversion on the micro-level (Froese 2001, 2008; Froese and Pfaff 2001, 2005).

Conclusion

Iannaccone's (1990) theory of religious human capital (RHC) proposed the hypothesis that RHC increases religious participation. Most prior studies relied on proxy measures of RHC to test this and other propositions derived from the theory. Since these proxy measures are predicted by other theories to affect religious participation, past research has been unable to provide unambiguous support for Iannaccone's (1990) theory. This study is the first to test this hypothesis using a direct measure of RHC (i.e., biblical knowledge). The results show that biblical knowledge is associated with increases in certain types of religious participation even controlling for parental religious influence, denominational affiliation, and religious belief. This suggests that differential religious participation is explained by more than just preference adaptation (see Sherkat 1997) or cognitive dissonance reduction (see Montgomery 1996) and that RHC theory supplements these other explanations. However, the results also suggest that some types of RHC may have a greater effect on certain religious activities.

The present study is not without limitations. First, the data is drawn from one country (i.e., Canada) and one religion (i.e., Christianity, both Protestantism and Catholicism). This is fairly consistent with past studies on RHC, which also generally focused on one religious tradition—Christianity (Iannaccone 1990; Froese 2001, 2008; Finke and Dougherty 2002), Judaism (Abel 2005; Sands 2009), or Catholicism (Branas-Garza and Neuman 2006)—and one country—the United States (Iannaccone 1990; Finke and Dougherty 2002; Abel 2005; Sands 2009) and Spain (Branas-Garza and Neuman 2006). This study diverges from most previous RHC research by using data from Canada, rather than the United States; in doing so it suggests

the applicability of RHC theory to a country with a very different religious landscape, thereby contributing to the generalizability of the theory. Moreover, because religious knowledge tends to be specific to one religion (Iannaccone 1990), directly measuring it will typically require a sample restricted to one religious tradition. As such, the findings should be generalized with caution to other religious traditions and countries. Although a more diverse country and religious tradition sample would be preferable, the findings offer support for RHC theory beyond the ambiguous results of previous studies using proxy measures. Because RHC theory is a general theory that is expected to be applicable to all religions and locales, this study contributes to the literature by providing a direct approach to measuring RHC, which can be utilized in future research to test the generalizability of the theory with samples of other religious traditions and countries. Moreover, because this study focused on testing one general hypothesis from RHC theory, it was beyond its scope to investigate more historically specific or contingent hypotheses as Beyer (1998) proposes. While this study suggests that biblical knowledge is associated with higher levels of religious participation in Canada during two time periods (1975-1980 and 1990-1995), additional research is needed to determine whether the theory can explain religious participation under different historical and geographic conditions. Research would also benefit from more detailed historical studies, like Froese (2001, 2008) and Froese and Pfaff (2001, 2005), which contextualize RHC theory within particular historical contexts.

A second limitation is that the panel data comes from surveys conducted in five year intervals. Because the study examines changes in religious participation over time, it was necessary for the time lag between the surveys to be large enough to allow for sufficient changes in participation. While the five year interval provides the necessary time for changes to occur, it also creates a longer lag between when RHC is measured (in time 1) and the dependent variable

it is predicting (time 2). Because RHC is "learned by doing," it may vary by age as older individuals have had a longer period of time to accumulate RHC (Iannaccone 1990). However, controlling for the most important determinants of RHC (Iannaccone 1990)—past religious participation, parental religiosity/attendance, and age—helps reduce this potential bias. Moreover, the longitudinal approach of the current study provides an advantage over cross-sectional past studies by showing how a measure of RHC is associated with changes in religious participation over time.

A third limitation is in the measurement of RHC. While religious knowledge is a core component of RHC, this study measured religious knowledge based only on a specific subset of it—biblical knowledge—using six (for the 1975-1980 panel) and two (for the 1990-1995 panel) items to operationalize it. While more items would be preferable, most past research on religious knowledge, or biblical knowledge specifically, uses anywhere from two to five items (Fukuyama 1961; Glock 1962; Davidson 1975; Finney and Lee 1977) up to eight or more (King and Hunt 1972a; De Jong, Faulkner, and Warland 1976). Although this direct measure of RHC has many advantages over the proxy measures used in past research (e.g., being able to disentangle the effects of RHC from the effects of religious beliefs and social relationships), further research should draw on a more extensive array of items and investigate whether other types of RHC produce similar findings. Thus, the results should be interpreted with caution as RHC is a broad concept and biblical knowledge is just one subset of it and is measured by a limited number of items. Furthermore, this study only tests the effect of biblical knowledge on religious participation and not its effect on other variables (e.g., intangible goods such as satisfaction, enjoyment, or other types of rewards or gains) or the recursive relationship, which is left for future studies. Since some past research has regarded religious knowledge as a weak element of

religiosity (Gibbs and Crader 1970; King and Hunt 1972b), more research is needed on the effect of religious knowledge on various religious outcomes to further support its relevance. While it has its limitations, this study provides a first step for suggesting the importance of RHC for explaining religious participation and offers several theoretical extensions for testing the effect of RHC on other dependent variables and other samples providing grounds for future research.

Chapter 3: Denominational Exit

Introduction

Organizations depend on the ongoing participation and contribution of their employees or members to survive; this is the case both for businesses and voluntary associations. Losing employees or members and the resources they bring is therefore of great concern to organizations. Consequently, a large volume of organizational studies focus on understanding turnover (*e.g.*, Porter et al. 1974; Porter and Crampon 1976; Jovanovic 1979; Mowday et al. 1982; Sheridan and Abelson 1983). Much of this research applies human capital theory (Becker 1964, 1981), which argues that human capital (i.e., knowledge and skills) increase the quality of economic goods thereby increasing an employee's value to the company. There are two types of human capital: general, which is transferable to other organizations even outside of one's industry, and specific, which refers to human capital that is specific to one's *firm* (firm-specific) (Becker 1964; Jovanovic 1979; Schultz 1981; Coff 1997; Hatch and Dyer 2004), *industry* (industry-specific) (Neal 1995; Parent 2000), or *task* (task-specific) (Nordhaug 1994; Gibbons and Waldman 2004). Higher stocks of firm- or industry-specific human capital are generally associated with higher wages as the employee is worth more to the organization but also higher costs when searching for a new job. Moreover, firms that invest heavily in the human capital development of their employees should be more reluctant to lay them off or fire them. Thus, this theory predicts that those with greater stocks of human capital (i.e., knowledge and skills) specific to the firm or industry will be less likely to exit compared to those with more transferable or general human capital.

Yet much of this research concentrates on employee turnover with considerably less attention paid to membership turnover in non-profit or voluntary associations. While employee

turnover has negative effects (e.g., costs of rehiring and losing tacit knowledge) and positive effects (e.g., eliminating less productive employees and hiring individuals with new knowledge), member turnover in voluntary associations is considerably more detrimental because they typically depend on volunteer labor and member financial contributions (Smith 1997).[10] Since human capital theory can be applied to explain the production of abstract goods (e.g., satisfaction, enjoyment, and so on) (Becker 1981), it can also be used to explain membership turnover in voluntary associations whose members often participate for the intrinsic rewards they receive (e.g., satisfaction) and typically leave if they fail to receive them (Oropesa 1995; Smith 1997). Members in voluntary associations often invest time and energy into learning the organizational culture (OC), knowledge of which is a type of capital that makes participation in the organization more enjoyable and satisfying. Thus, human capital theory can be applied to explain membership turnover.

However, not all OCs are the same—some require more knowledge or behaviors specific to the organization (i.e., more firm- or industry-specific human capital) that are not transferable to other organizations (see Schein 1985 for examples of diverse OCs). Schweiger and Goulet (2005: 1478) note that while some organizations may have similar OCs, "no two firms share the same organizational culture, because each firm's culture is uniquely shaped by its members' shared history and experiences." I argue that individuals who have more OC-specific capital should be less likely to leave their voluntary association, because they maximize their capital by remaining where it can be used and in doing so, also avoid the costs associated with having to learn a completely new OC. On the other hand, more transferable OC capital should have a weaker negative effect on exit because individuals can leave and still conserve their capital if they enter an organization with a similar OC.

[10] However, if free- or cheap-riding members leave, this could actually benefit the voluntary association.

Religious organizations are "the most common form" of voluntary association in America (Corwin 2003: 2).[11] They are also a core research area in which human capital theory has been applied to voluntary associations. In particular, Iannaccone (1984, 1990), extending Becker's (1964, 1981) formulations of human capital, provides the concept of religious human capital to explain micro-level variations in religious participation; yet this has received relatively little empirical investigation. This explanation predicts that just as one's knowledge and skills—human capital—increase the quality of economic (or household) goods, so too does one's religious knowledge and skills—religious human capital—increase the quality of religious associational activities and thereby the benefits one receives from participating. Extending this approach, Stark and Finke (2000), drawing on Bourdieu (1984), propose that religious capital can be thought of as cultural capital in which individuals with more religious capital will tend to remain in the OC to which it applies thereby avoiding the sunk costs associated with exiting as well as the costs that come with learning and mastering a new OC. The general implication of both perspectives is that individuals proficient in the knowledge and skills of a particular religious association's OC maximize their religious capital by remaining in that organization and should therefore be less likely to exit.

Although religious capital is often used as a single encompassing concept, I propose that the distinctions between general and specific human capital can apply to religious capital as well, such that a firm becomes a congregation or denomination, industry becomes a religion (*e.g.*, Christianity, Judaism, and Buddhism), and task becomes any capital related to religious associational activities that may be transferred outside of one's religion. Drawing on human capital theory and Bourdieun cultural capital, I argue that members of religious associations who have more specific religious capital should be less likely to exit, because they maximize their

[11] In the United States where no religion is established by the state, all religious groups are voluntary organizations.

capital by remaining where it can be used. On the other hand, less specific religious capital, which is transferable to other religious associations, should have a weaker negative effect on exit because individuals can exit and conserve their religious capital if they enter a religious association with a similar OC. To test these hypotheses, this study uses survey responses from current and past members of 12 religious congregations falling under one larger denominational organization. The results support the hypotheses.

Human Capital and Membership Turnover

Human capital is typically divided into two distinct types: (1) General and (2) Specific. See Table 3.1 for a reference table with descriptions of the different types of human capital. General human capital consists of skills and knowledge that are easily transferable to other occupations and organizations. Examples include writing or computer skills, which may increase productivity in many different industries. Specific human capital consists of skills and knowledge that are not universally transferable but instead are specific to a firm (firm-specific), industry (industry-specific), or task (task-specific). Firm-specific human capital is only useful within the particular firm in which it applies (Becker 1964; Schultz 1981). Likewise, industry-specific human capital refers to knowledge and skills that are only useful within a particular industry and are therefore transferable within a given industry but not outside of it (Neal 1995; Parent 2000). Task-specific human capital is the most general type of specific human capital and consists of knowledge and skills of particular tasks that are transferable outside of one's industry but are not transferable to all industries (Nordhaug 1994; Gibbons and Waldman 2004). Firm- and industry-specific human capital generally increase worker performance and productivity as the more specific skills and knowledge individuals have the better able they are to perform tasks for their firm (*i.e.*, the higher the quality of their economic outputs) (Becker 1964; Hatch and

Dyer 2004). As a result, they typically receive higher wages from their employers and face greater costs when securing other employment, since their specific knowledge and skills are not easily transferable to other organizations. Thus, individuals with more firm- and industry-specific human capital should be less likely to leave their firm and industry (Neal 1995).

Table 3.1 Descriptions of General and Specific Forms of Human Capital

	Definition	**Examples**	**Measures**
General Human Capital	Skills and knowledge that are transferable to all or most other occupations	Literacy and computer, writing, and public speaking skills	Tests for certain skills, such as computer skills
Firm-specific Human Capital	Skills and knowledge that are only useful within a particular firm	Knowledge of the lay out of the building, who does what in the firm, who to go to in order to learn particular information, how to work particular machines, and specialized knowledge of parts designed for the firm	Tenure within a firm, survey questions such as "If I switched to a competitive company, I would lose a lot of the investment I've made in this company" and "If I decided to stop representing this company, I would be wasting a lot of knowledge that's tailored to their method of operation"
Industry-specific Human Capital	Skills and knowledge that are only useful within a particular industry	Knowledge of the machines used within a particular industry, knowledge of the major organizations in the industry, and knowledge of specialized industry vocabulary	Tenure within an industry and on-the-job training
Task-specific Human Capital	Skills and knowledge regarding particular tasks that are transferable outside of one's industry but are not applicable to all industries	Knowledge and skills regarding particular computer programs, project management, and certain transferable manual or analytical tasks	What job one performs

Human capital theory has overwhelmingly been used to explain retention/turnover in businesses; however, the same principles may also help explain membership turnover in voluntary organizations. Although human capital is typically used to refer to the skills and knowledge that increase the quality of economic commodities or outputs, it also applies to household commodities, including intangible goods or abstract commodities, such as satisfaction, relaxation, and health (Becker 1984). Like all commodities, abstract commodities are produced through a combination of "purchased inputs" and one's "own skilled labor and time" (Iannaccone 1990: 298). Take, for example, playing an instrument, which requires the purchasing of the instrument as well as time and skill. Individuals with superb musical skills (*i.e.,* musical human capital) produce high-quality music and in turn tend to enjoy playing much more than individuals who have little musical talent and produce poor-quality music. As individuals play more, they learn techniques to play better and consequently, the quality of the music increases. This in turn heightens the enjoyment (i.e., the abstract commodity) derived from playing and is expected to result in the individual playing more in the future. Thus, human capital can help explain the production of abstract commodities.

Voluntary associations are known for gaining members partly through the intrinsic rewards individuals gain from participation (Mason 1995). In this way, individuals are able to produce abstract commodities through their participation in the organization. The quality of these abstract commodities depends on an individual's level of human capital. While knowledge and skills that facilitate more productivity among employees may also do so among members in voluntary associations (e.g., writing and computer skills), knowledge and skills related to the voluntary association's culture may be especially relevant to members who produce abstract commodities through participation in the organization.

There is an extensive literature on the importance of organizational culture (OC) or the "shared norms, values, and assumptions" of an organization (Schein 1985). Organizations, like many social groups, are mini-cultures that may have organization-specific language, symbols, values, dress, norms, behaviors, ways of thinking, and so on although to varying degrees. The extent to which individuals' own values match those of their organizational culture is associated with higher job satisfaction, more commitment to the organization, and longer employee tenure (Chatman 1991; O'Reilly, Chatman, and Caldwell 1991; Chatman et al. 1998). These studies argue that this is due to individuals' experiencing more satisfaction when their values are congruent with those of their firm, although why this is the case is not theorized (Chatman 1991). Other studies argue that these positive organizational outcomes are due to individuals coming to identify with the organization and those within it (Bhattacharya, Rao, and Glynn 1995; Chatman et al. 1998; Tidwell 2005). These approaches generally assume that the more an individual's values align with the organization and the more one identifies with it, the less likely he/she will be to leave. However, if the OC one identifies or aligns with is quite common across several organizations, then this partly undermines the underlying theoretical reason for why an individual would remain in the organization, since he/she can exit and still identify or align with the OC of a similar organization.

While value alignment and organizational identification are certainly important factors for explaining turnover, much of this research fails to consider how learning OC is itself an investment and resource that may be more or less transferable to other organizations. Individuals are not instantly endowed with organizational cultural knowledge when they enter an organization, but learn it over time through interaction or study. For example, literature on mergers and acquisitions describes "culture clashes" or "culture shocks" that result from

combining firms with different OCs (Buono and Bowditch 1989; Chatterjee et al. 1992; Cartwright and Cooper 1996; Stahl, Mendenhall, and Weber 2005; Stahl and Voigt 2008). These OC clashes often lead to negative organizational outcomes (Chatterjee et al. 1992; Schweiger and Goulet 2005). However, recent research suggests that these negative outcomes may be reduced by facilitating opportunities for employees to learn the combining partner's culture or to participate in joint activities with the combining firm that help create a new OC (Larsson and Lubatkin 2001; Schweiger and Goulet 2005). Thus, individuals must learn an OC and this process is an investment in that particular culture, which may affect (or constrain) their decision to exit.

The general implication of this is that individuals proficient in a particular OC maximize their OC capital and their production of abstract commodities by remaining in that OC. One method of doing so is of course to remain in the organization. However, since OCs are not entirely unique (Schein 1985), members may be able to transfer to another organization with a similar culture and still conserve their OC capital. Given this, the expectations regarding firm- and industry-specific human capital and turnover can be applied here. All OC capital that increases the production of abstract commodities should decrease the likelihood of exit. However, OC capital that is not easily transferable to other organizations, that is, OC capital that is specific to the organization or a subset of organizations, should have a greater negative effect on membership exit compared to less specific types.

Religious Voluntary Associations and Membership Turnover

Drawing on Becker's theory, Iannaccone (1990) suggests that, like recreational enjoyment, religious goods (e.g., religious satisfaction, relaxation, enjoyment, and appreciation) may also be thought of as abstract commodities, where individuals receive religious satisfaction

from participating in religious activities. The inputs to producing religious satisfaction are the same as those producing other types of abstract commodities—purchased inputs, such as religious garments, and "religious human capital." Religious human capital can be defined as the religious knowledge and skills associated with a particular religious culture (see also Abel 2005). Although Iannaccone (1990) originally included religious social networks as part of his definition of religious capital, Stark and Finke (2000) refined his definition by excluding social ties from it. In this way, they separated the social component of religion (i.e., social capital) from the religious components (i.e., religious capital). Following from Stark and Finke's distinction, empirical research has generally separated religious capital from religious social capital (Myers 2000; Finke and Dougherty 2002; Abel 2005) and the current study does as well.

Iannaccone (1990) highlights that an individual's satisfaction with religious associational activities does not just come from the proficiency of experts or the clergy, but in fact, is greatly affected by one's own religious knowledge and skills. This argument suggests, for example, that one cannot fully appreciate a religious service, if one does not understand its rituals and does not know the words to the songs sung and prayers recited. Furthermore, one is generally unable to completely enjoy reading a sacred text without background knowledge of the characters, plots, and religious doctrines associated with it. In this way, having the relevant knowledge of the religious OC is a key factor in determining "one's ability to produce and appreciate" religious associational activities (Iannaccone 1990: 229).

Drawing on Bourdieu (1984), Stark and Finke (2000) extend this theoretical perspective and further develop the notion of religious capital as cultural capital, rather than human capital. Cultural capital refers to investments individuals make in learning culture (Bourdieu 1984). Bourdieu (1984) predicts that individuals will seek to conserve their cultural capital by

remaining in the culture that they have already learned and mastered. Doing so allows individuals to avoid the sunk costs associated with exiting a culture as well as the costs that come with learning and mastering a new culture. If someone is already fluent in a particular language, they maximize their cultural capital by remaining in a society that speaks that language, "rather than moving and having to invest in learning a new language and all of the other essential parts of a new culture (Stark and Finke 2000: 120).

Religious congregations, and the larger denominational organizations they are often a part of, have OCs. Religious capital therefore "consists of the degree of mastery of and attachment to a particular religious culture" (Stark and Finke 2000: 120). Stark and Finke (2000) argue that members must have knowledge of the OC in order to fully participate in the religious association, including knowledge such as "how and when to make the sign of the cross whether and when to say Amen, the words to liturgies and prayers, passages of scripture, stories and history, music, even jokes" (Stark and Finke 2000: 120). Just as individuals invest in learning and remembering cultural material (e.g., appropriate ways to act, speak, dress, and so on) thereby building "cultural capital" (Bourdieu 1984), members of religious associations invest in learning religious culture (e.g., learning rituals, prayers, scripture, music, emotions, and so on), thereby building religious capital (Stark and Finke 2000). Unlike religious human capital (Iannaccone 1990), religious cultural capital is not "consumption capital" (Becker 1964, 1981), and therefore does not contain intrinsic value (Sherkat and Wilson 1995: 1019). Since religious human capital increases the 'productivity' or rather, the quality of the religious activities one participates in (Iannaccone 1990), it "has value beyond any exchange value that might accrue through the evaluations of others" (Sherkat and Wilson 1995: 1019). Whether religious capital is conceptualized as human or cultural, the predictions regarding organizational exit are the same:

individuals will attempt to maximize their religious capital and avoid having to invest in learning a new OC. Hereafter, religious capital will be used to refer to the combined perspectives.

Religious capital is "context-attuned"—it is most useful in the context in which it was accumulated and similar contexts (Stark and Finke 2000; Iannaccone and Klick 2003). However, many religious associations have similar OCs, such that individuals can leave their religious association and still conserve some degree of their religious capital (Abel 2005).[12] For instance, "someone who has invested in learning a common form of Christian prayer [...] can quite easily find hundreds of groups that perform prayer in a similar fashion" (Abel 2005: 7). In this way, they can exit without losing their religious capital. On the other hand, some religious associations have OCs with unique elements that would be difficult (in some cases impossible) to conserve if they were to exit the group (Montgomery 1996; Stark and Finke 2000; Finke 2004; Abel 2005). The transferability of religious capital is therefore important for understanding the likelihood of organizational exit.

Distinctions between types of human capital—general and specific—in the broader economic literature provide further leverage for theorizing the transferability of religious capital and its effect on exit. Table 3.2 provides a reference table for the different types of religious capital. I define general religious capital as referring to general religious knowledge or skills that are easily transferable to other religious traditions, such as knowledge of the supernatural/transcendent, whether gods, spirits, or forces. This knowledge is not specific to any one religious association and is therefore highly transferable.

[12] If the religious capital is very similar to capital required by secular organizations, then it may also be transferable outside of religion altogether. This may be the reason for high turnover rates in liberal religious denominations as they often share many similarities with the secular left and the broader culture (Stark and Finke 2000).

Table 3.2 Descriptions of General and Specific Forms of Religious Capital

	Definition	**Examples**
General Religious Capital	Skills and knowledge that are transferable to all religions	Knowledge of the supernatural/transcendent
Congregation-specific Religious Capital (firm-specific)	Skills and knowledge that are only useful within a particular congregation	Knowledge of congregational distinct liturgy, congregational policies, and layout of the church
Denomination-specific Religious Capital (firm-specific)	Skills and knowledge that are only useful within a particular denomination	Knowledge of the Book of Mormon for Mormons and the Book of Concord for Lutherans
Religion-specific Religious Capital (industry-specific)	Skills and knowledge that are only useful within a particular religion (*e.g.,* Islam and Hinduism)	Knowledge of the New Testament for Christians and of the Quran for Muslims
Task-specific Religious Capital	Skills and knowledge regarding particular tasks that are transferable outside of one's religion but are not applicable to all religions	Knowledge of or skills related to divine healing, exorcism, and meditation/prayer

I use firm-specific religious capital to refer both to congregational- and denominational-specific religious capital. Congregations are the "smallest, relatively autonomous membership unit" within a religious association (Stark and Finke 2000: 282). Congregational firm-specific religious capital includes knowledge of the church layout, calendar, congregational distinct liturgy, specific congregational policies, and so on. Denominations are larger umbrella religious associations that typically comprise many congregations united in their beliefs, practices, history, or mission. Examples of denominational firm-specific religious capital include knowledge of the Book of Mormon for Mormons or the Book of Concord (i.e., the Lutheran confessions) for

Lutherans, both of which are specific to their denominations. Firm-specific religious capital is only useful within one's congregation or denomination.

Industry-specific religious capital refers to skills and knowledge that are specific to a particular religion (*e.g.,* Christianity, Judaism, and Hinduism). Examples include knowledge of the New Testament for Christians or knowledge of the Quran for Muslims. This type of religious capital is easily transferable outside of one's specific congregation and denomination, but is not transferable outside of one's religion.

Task-specific religious capital is the most general of the specific types. I define task-specific religious capital as religious knowledge or skills regarding a particular religious task that are transferable outside of one's industry/religion but do not transfer to all industries/religions. Examples include knowledge of or skills in prayer/meditative practices or types of mystical experiences (*e.g.,* speaking in tongues, faith-healing, prophecy, possession, and trances) that are present in several religions but not all.

While task-specific religious capital may help explain what makes an individual more likely to exit one religion and reaffiliate with a completely different religious tradition, this chapter focuses on firm- and industry-specific religious capital. Consistent with the broader economic literature, I propose that firm- and industry-specific religious capital should reduce the likelihood of exiting a religious association; however, the effect of the latter should be weaker as it is transferable to other religious associations within the same industry.

Previous Empirical Research

Most research on membership dynamics within religious voluntary associations focuses on member recruitment and commitment. There is considerably less research on exit from congregations or denominations (Brinkerhoff and Mackie 1993). Research that does examine

exit tends to neglect general theory and instead focuses on correlates of exit or typologies categorizing what 'types' of people are more or less likely to leave (Albrecht and Bahr 1983; Brinkerhoff and Mackie 1993; Bromley 1998). 'Role theory' is commonly used to understand exit, though it is more of a conceptual description of the process of exit than it is a predictive theory of who is more likely to exit (Johnson 1998; Mauss 1998; Wright 1998).

Theoretical research on exit is concentrated in the area of denominational mobility or religious switching (Sherkat and Wilson 1995), generally emphasizing educational or occupational mobility (Stark and Glock 1968; Montgomery 1996) and religious exogamy, in terms of both one's parents and one's own marriage (Glenn 1982; Greeley and Hout 1988). The former perspective proposes that religious switching is a result of social mobility. While Sherkat (1991) finds no significant effect of social mobility on religious switching, Sherkat and Wilson (1995) find higher levels of social mobility among those who switch out of religion entirely compared to those who switch to a conservative or liberal religious tradition. The latter perspective proposes that parental religious homogamy increases the likelihood that individuals' will remain in their religion due to socialization into religious preferences (Sherkat 1991; Sherkat and Wilson 1995) or as a result of higher levels of religious capital accumulation (Iannaccone 1990; Montgomery 1996; Stark and Finke 2000). This perspective also argues that individuals will be more likely to stay in their religion when they share their religion with their spouse and will be more likely to exit if their spouse is in a different religion. Most research shows that parental homogamy and the religious affiliation of one's spouse are strongly associated with religious switching (Jacobs 1984; Wright 1986; Bahr and Albrecht's 1989; Iannaccone 1990; Sherkat 1991; Sherkat and Wilson 1995; Boeri 2002).

Overall, the findings of denominational mobility studies are consistent with the hypothesis that individuals will seek to conserve their religious capital when making religious choices. Individuals tend to remain in the denomination or religious affiliation of their birth (Stark and Glock 1968; Mueller 1971; Kluegel 1980; Sherkat and Wilson 1995; Bibby 1999); if they switch, they tend to switch to similar religious groups that allow them to conserve their religious capital (Hadaway and Marler 1993). While these general patterns of denominational switching support the religious capital perspective (Iannaccone 1990), they may also be explained by childhood socialization into particular religious preferences (Sherkat and Wilson 1995; Sherkat 1997). In order to distinguish between competing perspectives, a direct measure of religious capital is needed. The current study is the first to use actual measures of religious capital to predict denominational exit and to distinguish between the effects of firm- and industry-specific religious capital.

Methodology

This study seeks to compare the effects of firm- and industry-specific religious capital on denominational exit from voluntary religious associations. Doing so requires a voluntary religious association with an OC that includes both firm-and industry-specific religious capital. Stark and Finke (2000: 123) identify a denomination that has both; they note that when Christians become Mormons, they are able to retain their "entire Christian culture", including their sacred text (the Old and New Testaments), and merely add Mormon-specific culture to it, such as the Book of Mormon. Because Mormonism's OC combines elements from traditional Christianity (i.e., industry-specific religious capital easily transferable to other Christian denominations) with Mormon-specific elements (i.e., firm-specific religious capital that is not transferable), Mormonism is an especially good denomination to analyze as members gain both

Christian-specific (i.e., industry-specific) and Mormon-specific (i.e., firm-specific) religious capital. I test my hypotheses using data from a survey administered to Mormons in Salt Lake City and San Francisco.[13] This dataset was chosen because it contains both current and past members, a rare feature in many organizational studies, as well as direct measures of Christian-specific and Mormon-specific religious capital.

The survey population for the first city included all Mormons in the Greater Salt Lake City area. The survey population for the second city included all Mormons in the eastern half of San Francisco. Although the survey is not representative of all Mormons, it is representative of Salt Lake City and highly urbanized San Francisco Mormons during 1967-69.[14] The following is the sampling procedure that was used in Salt Lake City. A congregation list was obtained from the presiding Mormon Bishop. Each congregation was assigned a corresponding set of numbers to its membership size. For instance, if the first congregation on the list had 610 members that congregation was assigned numbers 1 through 610; if the next congregation had 735 members then it was assigned numbers 611 through 1,345 and so on. A random number table was then used to select 10 congregations, where a congregation was selected if the random number fell within the congregation's set of assigned numbers. There were only two congregations identified for the San Francisco survey, so both were included in the sampling pool. Membership lists were obtained from each congregation chosen for the survey and members were selected based on the procedures used to select the congregations. The pooled sample is 1,296 members, which reduces to 861 when missing cases are eliminated. Given the two different locations from which the samples were drawn, I use a city indicator variable (0—Salt Lake City sample, 1—San Francisco sample) to account for any possible differences between the sample populations.

[13] This data was made available by the American Religion Data Archive and was originally collected by Armand Mauss.
[14] These are the only publically available datasets on Mormons.

Dependent Variable

To operationalize denominational exit, I use a binary variable for membership status: 0—affiliated with the Mormon Church and 1—*no longer affiliated* with the Mormon Church (i.e., once was affiliated with the Mormon Church but has since left).

Independent Variables

I use specific questions regarding knowledge of sacred texts, an important aspect of Mormon OC, in order to operationalize religious capital. I create two different indices: the first measures biblical knowledge, which captures Christian/industry-specific religious capital, and the second measures knowledge regarding the Book of Mormon, which captures Mormon/firm-specific human capital. The Christian religious capital index is an additive index (Cronbach's alpha = 0.530) where a value of 1 was given for reading the Bible regularly (e.g., daily, almost daily, or once a week) and for each correct answer to the following questions: (1) Which one of Christ's disciples denied Him three times? (2) Would you say that the Book of Acts was an eye-witness account of the ministry of Jesus? (3) Which of the following Biblical characters do you remember as the one who lied to the Apostles? The Mormon-specific religious capital index is also an additive index (Cronbach's alpha = 0.630) where a value of 1 was given for each correct answer to the following questions: (1) Which of the following would you say was the father of Moroni? and (2) Whom do you think of as the leader of the famous "Army of the 2,000 Youths?"

I control for sex (0=female, 1=male), age, education (binary variables for having a high school degree, BA, or advanced degree, compared to respondents with less than a high school degree), log household income, and city (0=Salt Lake City, 1=San Francisco). I also control for several variables deemed relevant by the literature: intergenerational educational mobility, parental religious homogamy, and respondent's marital religious homogamy. Intergenerational

educational mobility was measured by subtracting the respondent's education level from his/her father's and setting values below 0 equal to 0 (Sandomirsky and Wilson 1990; Sherkat 1991). Respondents were asked: "As you look back on your childhood family life, would you say that your parents were active participants in the LDS Church (generally speaking)?" and were provided with the following answers: "(1) Yes, both parents were, (2) Father was but not mother, (3) Mother was but not father, (4) No, neither one was, (5) One parent was active in another Church, (6) Both parents were active in another Church, and (7) parents were not active in any Church." Based on previous research, respondents with Mormon parental religious homogamy should be less likely to leave the Mormon Church, whereas individuals with parental religious homogamy in another Church should be more likely to leave the Mormon Church. The responses "no, neither one was" and "parents were not active in any Church" serve as the referent category; all other categories were included as binary variables to capture parental religious homogamy or exogamy. Respondents were also asked whether their spouse belongs to the Mormon Church, or, if they are not currently married but were previously, whether their previous spouse belonged to the Mormon Church. To measure religious homogamy, responses of "Yes, LDS" receive a value of 1; 0 otherwise. Another binary variable was created for individuals who are single and have never been married (1= single, has never been married; 0 = otherwise). The referent category is "No, [my spouse is/was] not LDS." Lastly, because past research suggests that individuals are more likely to stay in their religion of birth, I also control for whether the individual was born into the Mormon Church (1= born into the Mormon Church; 0 = converted into the Mormon Church). Table 3.3 provides descriptive statistics for all of the variables.

Analytic Strategy

Given that my dependent variable is binary, I use logistic regression to test my hypotheses. Since respondents were drawn from 12 congregations and the responses of individuals within congregations may be correlated, I use clustered standard errors with congregations as the cluster.[15] In addition to providing unstandardized regression coefficients, because I am interested in comparing the magnitude of the Christian-specific and Mormon-specific religious capital effects, I also report the fully standardized regression coefficients (see Menard 2011).

Table 3.3 Descriptive Statistics

Variables	N	Mean	SD	Min	Max
Outcome					
Exit from Mormon Church	861	0.139	--	0	1
Predictors					
Christian-Specific Capital	861	1.495	1.101	0	4
Mormon-Specific Capital	861	1.181	0.810	0	2
Controls					
Sex	861	0.490	--	0	1
Age	861	42.226	13.799	18	63
Log Income	861	9.106	0.563	8.294	10.820
Below highschool	861	0.093	--	0	1
Highschool	861	0.587	--	0	1
College graduate	861	0.242	--	0	1
Advanced degree	861	0.079	--	0	1
City	861	0.231	--	0	1
Educational Mobility	861	1.829	1.668	0	7
Born into the Mormon Church	861	0.868	--	0	1
Mormon Spouse	861	0.748	--	0	1
Single/Never Married	861	0.121	--	0	1
Spouse not Mormon	861	0.131	--	0	1
Parental Mormon Homogamy	861	0.542	--	0	1
One parent Mormon	861	0.211	--	0	1
Parent(s) Other Religion	861	0.034	--	0	1
Parent not Mormon/Not Relig.	861	0.213	--	0	1
Inactive years	861	1.764	3.442	0	10

[15] Individuals who did not identify one of the twelve congregations were placed in an "other Salt Lake City Mormon congregation" category or an "other San Francisco Mormon congregation" category. This results in a total of 14 clusters—twelve for each congregation and two for the other categories.

A major issue with cross-sectional data, including this dataset, is reverse causality. Since individuals typically gain religious capital through participating in the religious association, individuals who leave the Mormon Church may have less Mormon-specific religious capital because they are no longer gaining it through participation or because they have forgotten it over time. Theories of memory argue that information individuals learn can be stored in long-term memory and remain there for life (Raaijmakers and Shiffrin 1992; Healy and McNamara 1996; see Spear and Riccio 1994 for a literature review on psychological research on memory). However, individuals may fail to retrieve a piece of information from memory on any given occasion, which constitutes forgetting. Because age is a correlate of the likelihood of forgetting, I control for it in all models. Additionally, individuals may be more likely to forget information if it hasn't been expressed or enacted in a long time. In terms of religious capital, it is typically expressed through participating in the religious association. The dataset includes a question regarding how many years an individual has been inactive (not participating) in the Mormon Church. This allows me to control for how long individuals have not participated in the association, which is the major contributing factor behind the logic of reverse causality.

Results

Table 3.4 provides logistic regression results for exit on explanatory variables. Model 1 displays the effect of the control variables on exit. Living in San Francisco is significantly associated with greater log odds of having left the Mormon Church compared to residents of Salt Lake City. This suggests that the higher density of Mormons in Salt Lake City has a protective effect against exit, most likely because Mormon affiliation is tied to social and material goods (e.g., family, friendships, and job opportunities) (Sherkat 1997). Regular contact with Mormons may also serve as a moral community that reinforces the beliefs and norms of the Mormon Church (see

Stark 1996; Regnerus 2003; Stack and Kposowa 2006; Corcoran, Pettinicchio, and Robbins 2012 for work on moral community). Men and those with higher family incomes have significantly greater log odds of exiting the Mormon Church. The former result is consistent with past research finding that women's religious affiliations are more stable than men's, which is theorized to be a result of women receiving more religious socialization than men (Sandomirsky and Wilson 1990; Sherkat 1991; Sherkat and Wilson 1995). The latter finding may be due to the higher monetary giving expectations of the Mormon Church (i.e., 10 percent of one's income) along with the effective monitoring of such giving (Stark and Finke 2000). Consistent with prior research on religious homogamy (Iannaccone 1990; Sherkat 1991; Sherkat and Wilson 1995): individuals who are single and those who have a Mormon spouse have significantly lower log odds of having exited relative to individuals with non-Mormon spouses; parental LDS homogamy is also significantly associated with lower log odds of having exited compared to parents being non-Mormon or not active in any church. Intergenerational educational mobility has no significant effect on exit, which is consistent with the findings in Sherkat (1991). Interestingly, individuals born into the Mormon Church have greater log odds of having exited. This may be because individuals are more committed to religious associations that they choose (Smith et al. 1998). Examining the fully standardized betas, Mormon religious homogamy, being born into the Mormon Church, and city of residence have the largest effects on the likelihood of exit. The pseudo-R^2 for this model is 0.263 and the BIC is 600.083.

Model 2 adds the two religious capital indices. Net of religious capital, the significant effects of sex, log income, being single, and Mormon parental homogamy are attenuated. Religious socialization through one's parents is a primary means by which an individual acquires religious capital (Iannaccone 1990); thus, it makes sense that the effect of Mormon parental

Table 3.4 Logistic Unstandardized and Fully Standardized Regression Coefficients Predicting Exit from the Mormon Church (Clustered SE)

	Model 1		Model 2		Model 3	
	b	beta	b	beta	b	beta
Sex	0.552†	0.123	0.336	0.061	0.111	0.019
	(0.302)		(0.344)		(0.260)	
Age	-0.006	-0.037	-0.013	-0.064	-0.023	-0.110
	(0.011)		(0.012)		(0.015)	
Log income	0.350†	0.088	0.305	0.063	0.336	0.065
	(0.192)		(0.240)		(0.272)	
Highschool	0.104	0.023	0.030	0.005	0.142	0.024
	(0.580)		(0.615)		(0.794)	
College graduate	-0.370	-0.070	-0.216	-0.034	-0.326	-0.048
	(0.703)		(0.719)		(0.959)	
Advanced degree	-0.161	-0.019	0.456	0.045	-0.098	-0.009
	(0.762)		(0.796)		(0.885)	
City	1.511***	0.283	1.691***	0.260	1.565***	0.226
	(0.145)		(0.218)		(0.303)	
Educational mobility	0.008	0.006	0.038	0.023	0.164*	0.093
	(0.084)		(0.098)		(0.077)	
Born into the Mormon Church	1.995***	0.300	1.949***	0.241	2.025***	0.235
	(0.525)		(0.544)		(0.381)	
Mormon Spouse	-2.043***	-0.394	-1.163**	-0.184	-0.868*	-0.123
	(0.333)		(0.404)		(0.371)	
Single/Never Married	-0.999*	-0.144	-0.172	-0.021	-0.182	-0.020
	(0.418)		(0.482)		(0.466)	
Parental Mormon Homogamy	-0.727†	-0.161	-0.431	-0.078	-0.687†	-0.117
	(0.421)		(0.461)		(0.360)	
One parent Mormon	-0.253	-0.005	-0.128	-0.019	-0.351	-0.049
	(0.499)		(0.543)		(0.520)	
Parent(s) Other Religion	0.952	0.076	1.123	0.074	1.306†	0.081
	(0.735)		(0.729)		(0.682)	
Christian-Specific Capital	---	---	-0.456**	-0.183	-0.346*	-0.130
			(0.160)		(0.152)	
Mormon-Specific Capital	---	---	-1.286***	-0.380	-0.715**	-0.198
			(0.242)		(0.225)	
Inactive years	---	---	---	---	0.301***	0.354
					(0.043)	
Constant	-5.658***		-4.282**		-5.948**	
	(1.279)		(1.586)		(1.901)	
Log Pseudo-Likelihood	-256.114		-210.018		-172.469	
BIC	600.083		507.891		432.793	
Pseudo-R^2	0.263		0.396		0.504	
Adjusted Pseudo-R^2	0.220		0.347		0.452	

† p < .10; * p < .05; ** p < .01; *** p < .001

N = 861

homogamy attenuates net of religious capital—the underlying theoretical mechanism by which it influences the likelihood of exit. As predicted, both indices are significantly associated with a decrease in the log odds of having exited the Mormon Church with the Mormon-specific religious capital index having a larger negative effect (fully standardized beta: -0.380) compared to the Christian-specific religious capital index (fully standardized beta: -0.193). Including the religious capital indices improves the fit of the model as the BIC is considerably lower for this model (507.891 compared to 600.083 in the first model).

Finally, Model 3 controls for how many years the respondent has been inactive in the Mormon Church. Consistent with the underlying expectation of reverse causality, controlling for inactive years partially attenuates the significant effects of both religious capital indices. However, these effects remain statistically significant. Thus, respondents with higher levels of Mormon-specific and Christian-specific religious capital are significantly more likely to still be members of the Mormon Church with Mormon-specific religious capital having a stronger effect compared to Christian-specific religious capital (fully standardized betas: -0.198 versus -0.131, respectively). This model has the lowest BIC score, 432.793, and the highest pseudo-R^2, 0.504, making it the best fitting model.

Discussion and Conclusion

Organizations, whether voluntary or not, have an interest in retaining their members or employees. While previous research on firms has focused on examining the importance of human capital for turnover, there is little research applying human capital theory to voluntary associations. Because human capital contributes to the production of abstract commodities in addition to economic goods, it can also be applied to voluntary associations to explain membership exit. Drawing on OC literature, I argued that having knowledge of one's OC is

important for producing abstract commodities such as satisfaction, which should in turn decrease the likelihood of exit. Because OCs across associations may share similarities, while at the same time maintaining distinctions, I proposed that types of human capital—general versus specific (i.e., firm, industry, and task)—can also be applied to voluntary associations. Thus, OC capital that is not easily transferable to other organizations should have a greater negative effect on exit compared to OC capital that is more transferable. I suggested that this may be because OC capital is both human capital—increasing the utility of associational activities—and cultural capital, which is maximized by remaining in the culture to which it applies. Because religious congregations are the quintessential American voluntary association, this study used a dataset of Mormon congregations to test these hypotheses and found support for them. This suggests the usefulness of understanding knowledge of OC as an investment that may aid in predicting membership turnover in voluntary organizations in the same manner that human capital theory has for employee turnover. It may also help explain why secular voluntary associations invest in acculturating their members through sponsoring organizational histories, events, and retreats.

This chapter also contributes to the sociology of religion literature by directly testing the effect of religious capital on denominational exit, which previous studies using proxy measures were unable to do. By using a direct measure of religious capital, it demonstrates the utility of distinguishing firm-specific religious capital from industry-specific by showing how the former may have a stronger negative effect on denominational exit. Moreover, this chapter also contributes to strict church theory (Iannaccone 1994) by providing an alternative mechanism for the vitality of strict churches. Extensive behavioral strictures are useful for screening out and curbing free-riders prior to their joining by making non-compliance highly visible and costly. Learning these strictures is itself a heavy investment in the religious capital of the group, which

may contribute to warding off free-riders either prior to joining or once they join. For example, Wertheimer and Keysar (1995: 53) note that converting to Conservative Judaism requires "enormous amounts of […] education" as "the prospective convert has to learn sufficient Hebrew to use the prayer book" and also gain competency "in the laws of kashrut." Because strict churches are highly distinctive (Stark and Finke 2000), their OCs typically require denomination- or group-specific religious capital. Requiring such specific capital may curb free-riders who do not want to invest in learning it, while at the same time increasing the commitment of members who do learn it.

While this study used data on religious congregations, one type of voluntary association, the OC capital distinctions can be easily applied to other types of voluntary associations. Voluntary associations and businesses alike have OCs and the investment individuals make in learning those cultures represent capital investments. For example, social movement organizations (SMOs), another type of voluntary association, have cultures as do the broader social movements in which they fall (Taylor and Whittier 1995; McAdam 2000). McAdam (2000: 261) notes that social movements often "become worlds unto themselves that are characterized by distinctive ideologies, collective identities, behavioral routines, and material cultures." Social movement literature categorizes SMOs within the same social movement as a "social movement industry (SMI)" (McCarthy and Zald 1977). This allows for two types of OC capital: SMO-specific and SMI-specific; the former only applying within the particular SMO and the latter applying to all SMOs within the same SMI. McCarthy and Zald (1977: 1235) make an observation congruent with predictions from this framework:

> Though many of the skills developed by individuals in such careers (public relations, for instance) may be usefully applied in different SMIs, our impression is that individuals typically move between SMIs which have similar goals and hence have overlapping constituencies. While we might find individuals moving

> between civil rights and labor SMOs, we would be unlikely to find movement from civil rights SMOs to fundamentalist, anticommunist ones.

While general human capital skills, such as public relations, are transferable to any SMI, what McCarthy and Zald fail to point out is that SMI mobility trends may be a result of more similar SMIs having overlapping OCs that allow individuals to transfer OC capital. Individuals may be more likely to move between the civil rights and labor SMIs because they are able to conserve some of their OC capital. Applying human capital distinctions to social movements may aid in explaining the social movement participation trajectories of individuals as well as other types of voluntary associations.

The findings of this chapter also have organizational-level implications for voluntary associations. The results of this study suggest that more unique OCs may reduce membership turnover rates as more specific OC capital may serve as a barrier to exit once members gain the knowledge and have much to lose by leaving (Iannaccone 1990; Stark and Finke 2000; Verter 2003; Finke 2004). At the same time, unique OCs may also serve as a barrier to new members who lack the knowledge to effectively participate in associational activities, and therefore, lack the ability to produce the abstract commodities. For example, some voluntary religious associations use sacred languages in their activities that make participation difficult for individuals lacking knowledge of the sacred language. In her study of converts to Orthodox Judaism, Sands (2009) describes how some of the women in her study chose not to attend religious services because of language difficulties. Furthermore, although more likely to attend associational activities, "about two-thirds of the men […] interviewed spoke of feeling insecure reading or understanding Hebrew and/or about their inability to decipher sacred texts" (97). Likewise, Ebaugh and Chafetz (2000), in their study of thirteen immigrant religious associations, note that congregants are not as actively involved in religious services conducted in a sacred

language that is not understood. Islamic and Jewish religious associations in the United States have tried to combat this issue through investing in classes for members to learn Arabic and Hebrew respectively (Mango 2011; Wertheimer and Keysar 1995). This suggests that if voluntary associations seek both to recruit new members and retain the ones they have, they need to have enough distinct OC capital to reduce turnover but not enough to curb entrance.

This study has several limitations. First, like most exit studies, the dataset used is cross-sectional and therefore causality cannot be inferred and reverse causality is a possibility. In the case of this study, reverse causality is a more likely explanation for individuals who have not participated in the organization in a long time and may therefore have forgotten some of their OC capital. To help address this, a control variable for length of time since respondent became inactive was included in the model. Although the magnitude of the OC capital effects on turnover were reduced net of this variable, they still remained statistically significant, which strengthens confidence in the specification of the model. Although the causal direction cannot be verified, it is an improvement on past studies that almost exclusively predict "intention to turnover" among current employees, rather than a behavioral measure of turnover (Cho and Lewis 2012). It is also an improvement on religious organizational exit studies, which tend to have small convenience samples (Jacobs 1984; Wright 1986; Wright and Piper 1996; Boeri 2002). Moreover, most denominational switching studies suffer from the dependent variable being coded from retrospective accounts of respondents' religious affiliation when they were younger (e.g., age 10, 14, or 16). Because this study uses membership rolls, it does not rely on retrospective accounts of whether the respondent was affiliated previously. All individuals in the sample were at one time affiliated with a Mormon Church long enough to be included on their membership rolls. Thus, the dependent variable does not suffer from retrospective data as it only

asks respondents for their current membership status. Second, the sample was restricted to current and past members of one type of religious voluntary association, so the findings should be generalized with caution to other organizations. Whether OC human capital explains membership turnover in other voluntary organizations is an empirical question for future research. Third, OC capital was measured based on one component of it—knowledge of important organizational texts. Because previous studies have found that this measure is correlated with other types of religious OC knowledge (Faulkner and De Jong 1966; De Jong, Faulkner, and Warland 1975; Finney and Lee 1977; Hilty, Morgan, and Burns 1984; Hilty and Stockman 1986), this measure may capture a broader amount of OC religious capital. However, this cannot be determined with this dataset and future studies are needed to determine if these results are applicable to other operationalizations of OC capital.

Although human capital, cultural capital, and OC studies tend to be distinct lines of research, this chapter contributes to the literature by demonstrating how combining insights from them can help predict membership turnover in voluntary organizations. Because human capital theory has also been used to explain organizational commitment and other outcomes, future studies should investigate whether OC capital also affects these other variables.

Chapter 4: Religious Giving

Introduction

Voluntary giving to religious organizations consistently represents the largest share of America's philanthropy (Lincoln, Morrisey, and Mundey 2008). Like other voluntary associations, religious congregations depend on the monetary contributions of their members to survive and be successful (Hodgkinson, Weitzman, and Kirsch 1988; Stark and Finke 2000). Member contributions make up 91 percent of total church income for the average American congregation (Woolever 2011). Yet, as Smith, Emerson, and Snell (2008) note, "a sizeable number of Christians give no money, literally nothing" (4). Given the importance of financial donations for congregations, there has been a considerable amount of research attempting to explain variation in religious giving.

Theoretical research has focused on economic or rational choice explanations emphasizing individuals as 'thinkers' making instrumental decisions on how much to contribute. Lincoln et al.'s (2010: 35) review of the literature calls for more research to "rectify the theoretical flatness of much religious giving research." A Weberian approach to religious giving highlights how it is a social action—attached with meaning and oriented toward others' behavior—that cuts across economic and religious spheres of social life (Weber 1968; Peifer 2010). Thus, it "resides in the overlap of conflicting realms of motivation" (Peifer 2010: 1581). Peifer (2010) identifies this tension wherein the instrumental-rational motives often present in economic life may conflict with the value-rational motives within religious life. In this way, economic motives, the focus of previous research, may compete with religious and social motives in making decisions regarding religious giving (Peifer 2010).

Recent research has attempted to counteract the overemphasis on instrumental-rationality by investigating value-rational motives for religious giving (e.g., Smith et al. 2008; Peifer 2010; Vaidyanathan and Snell 2010). Yet both instrumental- and value-rational motives focus on cognitive deliberative processes. As such, this research has mostly neglected the role of emotions[16] or "feeling states" (Weber 1968: 25) as a motive for religious giving and, in doing so, fails to consider how individuals may be both thinkers *and* feelers.[17] "Dual-process" or "dual-system" models highlight how the majority of cognition and behavior is a consequence of unconscious, automatic, reflexive processes (i.e., System 1), rather than deliberative, reflective processes (i.e., System 2) (Kahneman and Frederick 2002; Kahneman 2003; Lieberman 2007; Evans 2008; see also Vaisey 2009). Emotion is linked to the reflexive, System 1 processes (Evans 2008). Recent psychological and neuroscience research has stressed the interaction and integration of cognition and emotion in the brain (Phelps 2006; Pessoa 2008; Izard 2009) and the importance of emotion for making decisions (Bechara et al. 1994; Damasio 1994; Bechara et al. 1999). This line of research questions reflective, cognitive-only approaches to religious giving that fail to consider emotion.

Durkheim ([1912] 1965) identified emotion-inducing rituals as the foundation of religious life. More recent theoretical work suggests that positive social interactions spark emotions that attach participants to the group, thereby facilitating sacrificial behavior (Lawler, Thye, and Yoon 2000; Lawler 2001; Collins 2004), such as monetary contributions. In particular, Collins' (2004) theory of interaction ritual chains highlights how successful rituals result in

[16] While scholars use emotion to mean many different things, there is general agreement that all emotions "have 'valence'—they are either positive or negative" (Camerer et al. 2005) and "have an infrastructure that includes neural systems dedicated, at least in part, to emotion processes and that emotions motivate cognition and action and recruit response systems" (Izard 2009). Anger, fear, sadness, and disgust are examples of negative emotions and happiness and joy are examples of positive emotions (Izard 2009).

[17] Notable exceptions include recent studies investigating negative emotion, specifically guilt, and religious giving (Smith et al. 2008; Vaidyanathan and Snell 2011).

positive emotions, which connect participants to the group and drive them to put the group's interests above their own. Drawing on Collins' (2004) theory, I argue that experiencing positive emotions during religious services will increase religious giving. The underlying mechanism for this relationship is attachment to the group and its interests. Given this, contexts already characterized by higher levels of 'groupness' or connectedness should facilitate this process and in doing so increase the effect of positive emotions on religious giving. I argue that high aggregate levels of positive emotion, church strictness, and dense networks are three such congregational contexts. Using multilevel data from the 2001 U.S. Congregational Life Survey and hierarchical regression models, I find support for several of these hypotheses.

Correlates of Religious Giving

One of the main areas of research on religious giving is the identification of correlates and the specification of their relationship to each other (Hoffmann et al. 2010). Some of the most often cited demographic correlates of religious giving include income, age, marriage, and education (see Hoge and Griffin 1992, Lincoln et al. 2008, and Bekkers and Wiepking 2011 for reviews of this literature). A great deal of research also focuses on religious behavioral and belief correlates. Studies have consistently found religious service attendance to be a strong predictor of religious giving (Hoge et al. 1996; Chaves and Miller 1999; Smith et al. 2008). Some research suggests that religious participation has such a strong effect because individuals are asked to donate during church services (Bekkers 2005; Bekkers and Wiepking 2011). However, this cannot explain variation in religious giving among those who attend regularly and are, therefore, exposed to the same amount of giving requests. Orthodox or conservative religious beliefs also tend to be positively related to religious giving, although several studies find that their effect is not as strong as attendance (Hart 1990; Luidens and Nemeth 1994; Lincoln et al. 2008). On the

congregational-level, theologically conservative denominations consistently have higher average levels of religious giving (Hoge 1994; Zaleski and Zech 1994; Hoge et al. 1996; Finke et al. 2006).

While these correlates are important for identifying what types of people and denominations have higher levels of religious giving, this area of research generally does not provide an overarching theoretical framework for predicting which individual or congregational characteristics should matter and why. The work that has been done in this area emphasizes the application of economic or rational choice approaches to religious giving (Lincoln et al. 2008), although more recent studies offer alternative explanations.

Theoretical Background

Instrumental-rational motives of religious giving

There are several economic or rational choice approaches to religious giving all sharing the assumption that levels of religious giving are determined by weighing costs and benefits and choosing the level of religious giving that maximizes utility (Iannaccone 1992, 1997). An individual's monetary contribution to a congregation therefore depends on the value of the goods and services it provides. However, instrumentally rational individuals will always prefer to consume goods without contributing to their production when possible, that is, to free-ride off the contributions of others (Iannaccone 1992). Since the value of religious commodities depends not only on one's own contribution to them but also on the contributions of others, free-riders can undermine the quality of the goods congregations produce and in doing so also reduce levels of religious giving (Iannaccone 1992, 1997; Stark and Finke 2000). In this way, the two core dilemmas rational choice approaches attempt to address are (1) how congregations can provide

quality goods that outweigh the costs of participation, including monetary contributions, and (2) curb free-riding with the latter contributing to the former.

One factor hypothesized to reduce free-riders and increase the quality of congregational goods is church strictness. The strict church model, proposed by Iannaccone (1992, 1994), suggests that behavioral prohibitions act as screening devices, such that only those who really want the congregational goods and are willing to pay for them remain, thus curbing free-riders and raising the overall quality of the congregational goods produced. As such, strict churches are expected to garner more monetary contributions. Findings in support of Iannaccone's (1994) strict church model have been mixed. Using direct measures of behavioral strictures, one study failed to find a significant relationship between strictness and religious giving (Peifer 2010), whereas others found a positive relationship (Finke et al. 2006; Scheitle and Finke 2008; Whitehead 2010).

Stark and Finke (2000) further Iannaccone's theory by arguing that theologically distinct beliefs also increase the quality of congregational goods, thereby increasing member commitment, including giving. In particular, theologically distinctive beliefs are more *extensive* (i.e., make demands on many spheres of an individual's life), *expensive* (i.e., impose material, social, and/or psychic costs), and *exclusive* (i.e., require commitment to one religious organization and/or deity). Stark and Finke (2000) propose that more theologically distinctive religious groups offer their members more advantageous religious explanations including explanations regarding dependable and trustworthy gods who provide otherworldly rewards (*i.e.*, benefits received in an afterlife) to individuals in exchange for their commitment. Moreover, by holding to deviant beliefs that effectively separate members from the outside world, these groups also offer their members this-worldly religious social capital in the form of tight-knit

communities. Several studies find support for the positive effect of theological exclusivity on religious giving (Finke et al. 2006; Scheitle and Finke 2008; Whitehead 2010).

Church size is also thought to be related to the number of free-riders in a congregation. Stark and Finke (2000) propose that larger churches, due to having less dense social networks and ineffective monitoring and sanctioning capacities, will have more free-riders and lower average levels of giving as a result. Several studies find an inverse relationship between congregational size and giving (Hoge 1994; Zaleski and Zech 1994; Hoge and Augustyn 1997; Wuthnow 1997; Finke et al. 2006). Some work has begun to investigate dense social ties as the key means by which congregational rules are monitored and sanctioned (Finke et al. 2006; Scheitle and Finke 2008; Bekkers and Schuyt 2008). However, the ability of friends to monitor and sanction compliance with congregational giving rules depends on them knowing each other's financial contributions, which is generally not the case (Wuthnow 1994).

Non-instrumental motives of religious giving

Rational choice explanations have focused on religious giving as an economic decision based on maximizing benefits in pursuit of a given end. In terms of Weber's (1968) ideal types of social action, this research stresses instrumental-rational action, which tends to pervade the economic realm of social life. However, religious giving is not only subject to economic considerations but religious ones as well; it falls in overlapping, and potentially competing, realms of social life—economic and religious (Peifer 2010). Peifer (2010: 1572) suggests how religious values may "instruct one to give more while economic motives lead one to give less." A clear example of this is what Smith et al. (2008:110) call "comfortable guilt" in which some religious individuals live "…with an awareness and feeling of culpability for not giving money more generously," but do not experience enough discomfort for it to motivate them to increase

their giving (see also Vaidyanathan and Snell 2010). Thus, research has begun to examine the value-rational side of religious giving.

A core area of this research focuses on the religious meaning ascribed to giving, typically identifying "God as a central actor" (Peifer 2010: 1577). Smith and Emerson (2008:101) state that Christians in their study often explained their reason for giving "as a good and right response to God" and provided examples of responses including "'God asks it,' 'Everything we have belongs to God,'[and] 'God wants us to share.'" Miller (1999) and Vaidyanathan and Snell (2010) reported similar religiously motivated explanations for giving. Peifer (2010) attempts to quantitatively test this perspective by using survey questions regarding how religious individuals consider themselves and whether they believe only followers of Jesus Christ can be saved. Both variables are significantly associated with higher levels of religious giving, which Peifer (2010) interprets as support for the religious-meaning explanation of giving. However, these variables also capture theological distinctiveness, particularly the extensiveness and exclusivity of religious beliefs. Thus, the results cannot distinguish between religious-meaning and rational choice explanations of giving.

Further elucidating non-instrumental motives, Peifer (2010) identifies the social, yet still value-rational, motives of religious givers, emphasizing the social context in which giving occurs. Thus, "an economic actor looks inward to consider the tradeoff of giving generously or free riding, the religious actor looks upward to meditate on the spiritual significance of giving, and the social actor casts his or her gaze to the surrounding congregation" (Peifer 2010: 1576). He argues that congregational social cohesion and the positive emotions that stem from it may increase religious giving by generating a sense of community. While he notes the importance of emotion for generating commitment to groups, he does not explore it further.

Emotion has received relatively little attention in research on religious giving. Notably, Smith et al. (2008) and Vaidyanathan and Snell (2010) suggest guilt as a motivator of religious giving; however, both studies find that guilt is not a primary motive for giving for the majority of people. The role of positive emotion as a predictor of religious giving is mostly absent from the literature and is not mentioned in reviews of charitable and religious giving studies (Lincoln et al. 2008; Bekkers and Wiepking 2011). In addition to instrumental- and value-rational ideal types of social action, Weber (1968: 25) also identified emotional or affectual social action as that which is "determined by the actor's specific affects and feeling states." This type of social action is less focused on cognitive deliberation and more on emotional states.[18]

In *Elementary Forms of Religious Life*, Durkheim ([1912] 1965) theorizes that group solidarity (or social integration) is achieved and maintained through collective religious rituals, which produce "collective effverscence"—a strong, shared emotional experience that connects participants to the collective. Extending Durkheim, Collins' (2004) theory of interaction rituals assumes that individuals seek to experience Emotional Energy (EE) and that interaction rituals (i.e., interactions between two or more people) are a primary means by which individuals do so. Collins (2004: 39) defines this type of "socially derived emotional energy" as "[...] a feeling of confidence, courage to take action, [and] boldness in taking initiative." This energy is "morally suffused" in that "it makes the individual feel not only good, but exalted, with the sense of doing what is most important and most valuable" (Collins 2004: 39). Emotionally charged interaction rituals produce definitions of right and wrong that identify to participants what is most important, which is "commitment to the group and [the] sacrifice of individual selfishness in its service"

[18] Weber (1968) also identified habit as an ideal type of social action. Vaidyanathan and Snell (2010) investigated ingrained habit as a motive for religious giving, referring to it as "socialized giving". However, they found that both low and high givers expressed socialized giving and some high givers were not socialized to give. Based on this, they concluded that socialized giving may be a necessary but insufficient motivator for some people and completely unnecessary for others.

(Collins 2001: 28). Emotional experiences or "feeling states" (Weber 1968) may therefore lead to value-rational action. In this way, Collins explains altruism—"sacrificing material goods for the group"—as a consequence of intense EE resulting from group rituals. Religious giving represents a type of material sacrifice for the congregation. However, EE is not permanent; while it stays with individuals after they have left successful rituals, it wanes the longer they go without participating in a subsequent ritual. In this way, regular ritual participation is essential for sustaining and recharging EE over time, thereby maintaining individuals' willingness to sacrifice on behalf to the group.

Other research also suggests the connection between positive emotion and making sacrifices for a group. The affect theory of social exchange highlights how successful social exchanges result in positive emotions for participants who are then more willing to make sacrifices on behalf of the participants in the exchange (Lawler, Thye, and Yoon 2000; Lawler 2001). Research in social identity theory has also found an association between emotional attachment to a group and behaving on its behalf (Mael and Tetrick 1992; Ellemers et al. 1999; Ouwekerk et al. 1999; see also Kanter 1972). Similarly, studies of organizations find that emotional attachment to an organization is often associated with behaviors that benefit the organization, such as increased job performance and extra-role behaviors (*i.e.,* going above and beyond what one is required to do for his/her job) (Angle and Perry 1981; Mowday et al. 1982; Meyer et al. 1989; Ingram et al. 1989; Sager and Johnston 1989; Mayer and Schoorman 1992; Luchak and Gellatly 2007).

Collins' (2004) and Lawler's (2001) theories both identify successful social interactions as facilitators of positive emotion. According to Collins (2004), the extent to which rituals are successful, that is, that they are able to produce high levels of EE, depends on meeting four

important conditions: the bodily assembly of participants, barriers excluding outsiders, a mutual focus of attention, and a shared mood. Collins' (2010) theory may be especially relevant for the study of religion as religious interaction rituals typically entail all four ritual ingredients and yield strong emotional experiences. While religious rituals vary in their ability to produce these experiences, they are "the defining moments for religion, the ritual encounters with the holy to which other rituals look back if only in pale imitation" (Collins 2010: 5). Religious rituals typically differ from secular ones in the holy, divine, or transcendent symbols that they entail and evoke, which allow individuals to feel as though they are channeling and experiencing the divine (Collins 2010). In this way, the ultimate source of EE is often believed to be a god, spirits, or the transcendent. This suggests that Peifer's (2010) distinction between religious and social motives of religious giving may not be so clear cut. Religious rituals are both social and religious, which may cause individuals to cast their gaze both horizontally and vertically when making giving decisions. This line of thought leads to the following hypothesis:

Hypothesis 1: Experiencing positive emotions during religious services at a congregation increases an individual's level of religious giving to that congregation.

The underlying proposed mechanism connecting positive emotion to sacrificing on behalf of a group is increased attachment to the group and its interests. Given this, the level of 'groupness' or group solidarity present in the group when the positive emotions are experienced, should moderate the degree to which these emotions connect one to the group. While experiencing positive emotions during a ritual with unconnected others should still facilitate an attachment to the group through having a shared ritual experience (Collins 2004), having such emotions during a ritual with participants who are already in some way connected to each other should heighten group attachment. As such, contexts characterized by higher levels of group

solidarity or connectedness should amplify the positive effect of EE on religious giving. In particular, I propose that congregational contexts in which there are high aggregate levels of EE, barriers excluding outsiders (or church strictness), and dense networks should increase the effect of individual-level EE on religious giving.

According to Collins (2004), successful rituals not only generate EE but also strong shared moods that engulf individual consciousness and produce the "mutual entrainment of emotion and attention" (Collins 2004: 48). In Durkheimian terms, this shared emotional state is "collective efferverscence", that is, "a feeling of being brought out of oneself into something larger and more powerful" (Collins 2004: 39; see also Durkheim [1912] 1965). Individuals who experience collective effervescence during worship services should feel more attached to the group and therefore more likely to make sacrifices on its behalf. Thus, I argue that the positive effect of experiencing EE during religious services, as specified in Hypothesis 1, will be stronger in contexts where the positive emotion is shared with the other participants. In this way, I propose an interaction effect between individual positive emotions experienced during religious services and congregational positive emotion.

Hypothesis 2: Experiencing positive emotions during religious services should have a greater positive effect on religious giving in congregations with high aggregate levels of positive emotion.

The positive effect of experiencing EE on religious giving may also be moderated by barriers excluding outsiders. These barriers help create a mutual focus of attention for all involved in the ritual, which facilitates mutual entrainment (Collins 2004; see also Kanter 1972). Experiencing positive emotions combined with greater mutual entrainment should further connect individuals to the interests of the group, thereby encouraging religious giving.

Behavioral strictures, or church strictness, are a primary means of preventing outsiders from participating in rituals. This argument suggests that behavioral strictures increase religious giving by raising levels of homogeneity, which facilitates a common focus of attention and thus, a stronger collective experience (Collins 2004; Kanter 1972). This leads to the following hypothesis:

Hypothesis 3: Experiencing positive emotions during religious services should have a greater positive effect on religious giving in strict congregations.

Dense congregational social networks also provide a context that should heighten the effect of EE. Research on religious giving and congregational networks tends to focus on their greater monitoring and sanctioning capacities (Finke et al. 2006; Scheitle and Finke 2008; Bekkers and Schuyt 2008). Providing an alternative explanation, Peifer (2010) highlights how congregational social cohesion establishes a sense of community, which increases religious giving. Positive emotions experienced during religious services should attach participants to the interests of the group more in tight-knit congregational communities. As such, I propose that dense congregational social ties amplify the positive effect of EE on religious giving.

Hypothesis 4: Experiencing positive emotions during religious services should have a greater positive effect on religious giving in congregations with dense social networks.

Methodology

To test these hypotheses, I use data from the 2001 U.S. Congregational Life Survey (USCLS) (Woolever and Bruce 2002). Hyper-network sampling (McPherson 1982) was used to draw a random sample of American congregations. These congregations were identified by using responses from participants in the 2000 General Social Survey (GSS) who stated that they had attended at least one religious service in the last year. These individuals were asked to name the

congregation they attended. This resulted in a sample of 1,329 unique congregations that were invited to participate with 406 congregations completing both a congregational profile and an attendee survey (i.e., a survey of all worshipers age 15 and older who attended worship services on the weekend of April 29, 2001). A leader within each congregation provided responses for the congregational profile. This produced multilevel data—attendees within congregations. While a higher response rate would be preferable,[19] the USCLS is an ideal dataset for examining congregational- and individual-level predictors of religious giving as well as their cross-level interactions. Following previous research (Scheitle and Finke 2008; Whitehead 2010), I restrict the sample to individuals 18 years of age or older. After deleting cases under 18 years of age and those with missing data, the final sample is 344 congregations and 44, 649 attendees.[20]

Dependent Variable

To measure religious giving, I use the USCLS attendee question: "About how much do you give financially to this congregation?" Respondents choose between five different responses, which were coded as follows: 0 = "I give 10 percent or more of net income regularly," 1 = "I give about 5-9 percent of net income regularly," 2 = "I give less than 5 percent of net income regularly," 3 = "I give a small amount whenever I am here," 4 = "I do not contribute financially here." Maintaining the five values of the dependent variable is consistent with previous research using the same variable (Scheitle and Finke 2008; Whitehead 2010).

[19] Thomas and Olson (2010) note that: "Although one can never know for certain, there are many reasons to think that low response rates have less of an impact on one's ability to correctly determine the *direction* of relationships between variables in a population, than they do on one's ability to make accurate *estimates* of mean values for that population. Accordingly, while we acknowledge that the USCLS response rate is lower than desired, we judge that the relationships that we identify and analyze in this article are nonetheless reflective of real processes that are actually occurring among U.S. congregations" (625). Like Thomas and Olson (2010) and others (Scheitle and Finke 2008; Whitehead 2010), this study does not seek to make point estimates of mean values for the congregational population, but instead seeks to identify the direction of relationships between variables in the population.

[20] The number of congregations in this study is similar to that of previous studies using the same data (see Scheitle and Finke 2008 and Whitehead 2010).

Independent Variables

USCLS attendees were asked a series of seven questions regarding how often they experienced the following during worship services at this congregation: (1) A sense of God's presence; (2) Inspiration; (3) Boredom; (4) Awe or mystery; (5) Joy; (6) Frustration; and (7) Spontaneity. For each of these questions, respondents were provided with the responses "rarely," "sometimes," "usually," and "always." For positive emotional experiences (i.e., a sense of God's presence, inspiration, awe or mystery, joy, and spontaneity), these responses were coded from 1= "rarely" up to 4= "always." Negative emotional experiences (i.e., frustration and boredom) were reverse coded as 1= "always" up to 4= "rarely". The responses to these seven questions were summed to create an additive EE index (Cronbach's alpha = .756).

To create the congregational-level measure of positive emotion, I computed the mean level of EE for each congregation, that is, I aggregated the EE index by averaging the index values for attendees within a congregation. Following previous research (Scheitle and Finke 2008; and Whitehead 2010), I measured church strictness using an additive index of *congregational* responses (0= "no" and 1= "yes") to six questions regarding whether the congregation has any rules or prohibitions regarding: (1) smoking, (2) drinking alcohol, (3) dancing, (4) dress/hairstyles/jewelry/makeup, (5) gambling, and (6) how much money congregants should give. This index ranges from 0 to 6 and has a Cronbach's alpha value of .776. To measure the density of congregational networks, I used the mean level of friendships within each congregation (see Scheitle and Finke 2008; and Whitehead 2010).[21]

Control Variables

I include the following individual-level control variables in all models: sex (0= male, 1= female), education, income (logged family income in thousands of dollars), age (in years),

[21] This variable is computed from the individual-level control variable intra-congregational close friendships.

marital status (0= not married, 1=married), race[22] (0 = non-white, 1 = white), religious service attendance (1 = "This is my first time" up to 7 = "I attend more than once a week"), and length of attendance at congregation (in years). Education is measured as two binary variables with "less than a high school degree" as the referent category: (1) Has a high school degree (1= has a high school degree, 0= otherwise) and (2) Has a college degree (1= has a college degree, 0= otherwise). Respondents were provided with categorical responses for family income and the mid-point of each category was used with 100,000 dollars being used for the highest category. The result was then logarithmically transformed. To control for the influence of theological distinctiveness and/or religious motives, following prior research (Finke et al. 2006; Scheitle and Finke 2008; Whitehead 2010; Peifer 2010) I include a measure of the inclusivity of beliefs, measured by respondents' agreement with the statement "all the different religions are equally good ways of helping a person find ultimate truth" (1 = "Strongly disagree" up to 5 = "Strongly agree"). Thus, higher values represent more inclusive religious beliefs. Since Peifer (2010) emphasizes social cohesion as a predictor of religious giving, I control for intra-congregational close friendships (1= "I have little contact with others from this congregation outside of activities here up to 4= "Most of my closest friends are part of this congregation"). Moreover, following Scheitle and Finke (2008), I also control for frequency of personal devotion activities (e.g., prayer, meditation, and reading the Bible in private) (0 = "Never" up to 5 = "Every day").

On the congregational-level, I control for the following variables in all models: church size (average attendance logged) and religious tradition as measured by dichotomous variables representing whether a congregation falls within a particular religious tradition (Evangelical Protestant, Mainline Protestant, Catholic, or Other) based on Steensland et al.'s (2000)

[22] While previous research has mostly overlooked race as a predictor of religious giving, since Lincoln et al. (2008) call for more research on race, it is included as a control variable.

classification scheme. Evangelical Protestant serves as the referent category. Table 4.1 provides descriptive statistics.

Table 4.1 Descriptive Statistics

Variables	N	Mean	SD	Min	Max
Individual-level outcome					
Religious giving	44,649	2.44	1.06	0	4
Country-level variables					
Congregational emotional energy	344	20.58	1.22	16.63	24.30
Church Size (LN)	344	5.66	1.21	2.40	8.59
Strictness	344	0.85	1.49	0.00	6.00
Network density	344	2.76	0.27	1.76	3.60
Evangelical (reference)	344	0.27	--	0	1
Mainline	344	0.41	--	0	1
Catholic	344	0.25	--	0	1
Other	344	0.07	--	0	1
Individual-level predictors					
Emotional Energy	44,649	20.68	3.41	7	28
Individual-level controls					
Age	44,649	48.71	15.13	18	100
Sex	44,649	0.60	--	0	1
Marriage	44,649	0.60	--	0	1
Less than high school (reference)	44,649	0.03	--	0	1
College	44,649	0.49	--	0	1
High school	44,649	0.48	--	0	1
Race	44,649	0.84	--	0	1
Income (LN)	44,649	10.77	0.75	8.52	11.51
Length of attendance	44,649	10.23	7.49	0.50	20.00
Attendance	44,649	5.86	0.855	1	7
Devotional practices	44,649	3.65	1.521	0	5
Inclusive theology	44,649	3.16	1.27	1	5
Close friends	44,649	2.64	0.89	1	4

Analytic Strategy

I use multilevel models, specifically Hierarchical Generalized Linear models (HGLM), to test the degree to which EE impacts religious giving while considering congregational-level factors and cross-level interaction effects. Overall, HGLM accurately estimates standard errors of clustered cases within larger units (i.e., attendees within congregations), and permits the estimation of higher-level factors (Raudenbush and Bryk 2002). Since the dependent variable is

ordinal, I use a two-level Ordinal Logistic model.[23] In this model coefficients "express the change in the log-odds of being in the lowest category as a result of a unit change in the predictor after adjusting for all other predictors" (Gracia and Herrero 2008: 213). Since the lowest category is *high* religious giving (i.e., gives 10 percent or more of his/her net income), a positive coefficient indicates that higher values of a predictor are associated with an increase in the log-odds of being in the lowest category (i.e., high religious giving), whereas a negative coefficient indicates that higher values of a predictor are associated with a decrease in the log-odds of being in the lowest category. Generally then, positive coefficients mean higher religious giving and negative coefficients mean lower religious giving All predictors are grand mean centered except for dichotomous variables.

Results

I start the analysis with the estimation of a null random-intercepts-only model (not shown). The null model shows that religious giving significantly varies across congregations (variance 0.901). This results in an intraclass correlation[24] of 0.2149, that is, 21.49 percent of the variance in religious giving is between congregations making HGLM appropriate for the present data.

Table 4.2 provides the models testing the direct effects of the predictors. Model 1 presents the base model with only individual-level control variables. In terms of demographic variables, females and older, married, more highly educated individuals with larger incomes are more likely to have higher levels of religious giving. The religion control variables all have

[23] Multilevel linear models (i.e., with the outcome variable defined as continuous) produce results that are substantively the same as those of the multilevel ordinal logistic regression models.
[24] Following Snijders and Bosker (1999), I used the variance of a standard logistic distribution (i.e., 3.29) to calculate the intraclass correlation for the ordinal religious giving outcome variable. The standard logistic distribution is used because the level-one residuals are assumed to follow it.

Table 4.2 Hierarchical Ordinal Models Predicting Religious Giving: Unstandardized Coefficients Displayed

	Model 1		Model 2		Model 3		Model 4	
	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE
Fixed effects								
Intercept	-2.140***	0.076	-2.164***	0.076	-1.689***	0.088	-1.692***	0.088
Congregational-level variables								
Congregational emotional energy					0.152***	0.029	0.148***	0.029
Church Size (LN)					-0.076*	0.033	-0.079*	0.033
Strictness					0.243***	0.024	0.241***	0.024
Network density					0.420**	0.137	0.427**	0.137
Evangelical (reference)					-	-	-	-
Mainline					-0.515***	0.082	-0.516***	0.082
Catholic					-0.787***	0.107	-0.782***	0.106
Other					-0.403**	0.146	-0.415**	0.146
Individual-level predictors								
Emotional Energy			0.045***	0.003	0.044***	0.003	0.045***	0.004
Individual-level controls								
Age	0.027***	0.001	0.026***	0.001	0.026***	0.001	0.026***	0.001
Sex	0.112***	0.019	0.085***	0.019	0.085***	0.019	0.084***	0.019
Marriage	0.224***	0.020	0.228***	0.053	0.227***	0.020	0.229***	0.020
Less than high school (reference)	-	-	-	-	-	-	-	-
College	0.259***	0.053	0.282***	0.053	0.291***	0.053	0.293***	0.053
High school	0.311***	0.052	0.308***	0.052	0.313***	0.052	0.316***	0.052
Race	-0.008	0.032	0.029	0.033	0.013	0.032	0.009	0.032
Income (LN)	0.396***	0.014	0.405***	0.014	0.406***	0.014	0.405***	0.014
Length of attendance	0.018***	0.001	0.021***	0.001	0.021***	0.001	0.021***	0.001
Attendance	0.679***	0.012	0.664***	0.012	0.663***	0.012	0.662***	0.012
Devotional practices	0.138***	0.006	0.120***	0.006	0.119***	0.006	0.119***	0.006
Inclusive theology	-0.119***	0.008	-0.125***	0.008	-0.121***	0.008	-0.122***	0.008
Close friends	0.287***	0.011	0.269***	0.011	0.265***	0.011	0.264***	0.011
Random effects								
Level-2 congregational variance (τ^2)	0.701***	0.837	0.693***	0.832	0.225***	0.476	0.225***	0.474
Level-2 Emotional Energy variance							0.026***	0.026
Threshold δ(1)	1.902	0.015	1.908	0.015	1.909	0.015	1.911	0.015
Threshold δ(2)	3.88	0.021	3.893	0.021	3.892	0.021	3.895	0.021
Threshold δ(3)	6.348	0.036	6.368	0.036	6.367	0.036	6.37	0.036

Two-tailed significance tests: * $p < .05$; ** $p < .01$; *** $p < .001$
Level-2 N =344; Level-1 N = 44,649

statistically significant effects on congregational giving—length of attendance, frequency of religious service attendance, frequency of devotional practices, and proportion of close friends in one's congregation all have significant positive effects on religious giving, whereas inclusive theology has a significant negative effect. Model 2 adds the key individual-level predictor—EE experienced during worship services—to the model, which has a significant positive effect on

religious giving. Higher values of EE are associated with an increase in the log-odds of higher levels of religious giving, supporting Hypothesis 1.

Model 3 adds the congregational-level variables to the model and presents the full model with all predictors. The intercept represents the overall log-odds of giving 10 percent or more of one's income to his/her congregation net of all predictors at the grand mean level. The log-odds can be used to calculate probabilities based on the equation: p = exp(intercept) / (1 + exp(intercept)). Based on this formula, the probability of being in category 0 (i.e., giving 10 percent or more of one's net income) is roughly 16 percent. Threshold δ(1) represents the difference in the log-odds between category 2 (gives less than 5 percent of one's net income) versus categories 0 and 1 (i.e., 1 = gives between 5 and 10 percent of one's income), net of all the effects of the model. When threshold δ(1) is added to the intercept it gives the probability of being in a category less than or equal to 1: p = exp(-1.689 + 1.909 / (1 + exp(-1.689 + 1.909) = 0.555 (55.5 percent). The probability of being in a category greater than 1, that is, of giving less than 5 percent of one's income, giving a small amount, or not giving anything at all, equals 44.5 percent (1 – 0.555 = 0.445). In this model, net of all the controls, individual EE maintains its significant positive effect. On the congregational-level, congregational EE, congregational friendship density, and strictness have significant positive effects on the average level of religious giving, while church size has a significant negative effect. Evangelical congregations are more likely than Mainline, Catholic, and Other congregations to have higher average levels of religious giving. The congregational-level variables account for a large amount of the variation in giving across congregations (0.693 level-2 variance in Model 2 to 0.225 in Model 3). In Model 4, the slopes for EE are allowed to vary across congregations. In other words, I estimate a nested random-coefficient regression model where the fixed effect of the EE

coefficient now represents the weighted average of its slopes across the 344 congregations. Model 4 shows that the coefficient for EE does significantly vary across congregations and that the weighted average of slopes for it remains statistically significant.

Table 4.3 Hierarchical Ordinal Models Predicting Religious Giving: Unstandardized Coefficients Displayed

	Model 1		Model 2		Model 3		Model 4	
	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE
Fixed effects								
Intercept	-1.712***	0.088	-1.695***	0.088	-1.693***	0.088	-1.712***	0.088
Congregational-level variables								
Congregational EE	0.150***	0.029	0.140***	0.029	0.146***	0.029	0.143***	0.029
Church Size (LN)	-0.076*	0.033	-0.078*	0.033	-0.078*	0.033	-0.076*	0.033
Strictness	0.238***	0.024	0.241***	0.024	0.241***	0.024	0.238***	0.024
Network density	0.426**	0.136	0.420**	0.136	0.431**	0.137	0.426**	0.135
Evangelical (reference)	-	-	-	-	-	-	-	-
Mainline	-0.509***	0.082	-0.517***	0.082	-0.514***	0.082	-0.510***	0.082
Catholic	-0.775***	0.106	-0.781***	0.106	-0.782***	0.106	-0.777***	0.105
Other	-0.430**	0.146	-0.419**	0.145	-0.412**	0.146	-0.428**	0.145
Individual-level predictors								
Emotional Energy	0.046***	0.004	0.051***	0.004	0.048***	0.004	0.051***	0.004
Individual-level controls								
Age	0.026***	0.001	0.026***	0.001	0.026***	0.001	0.026***	0.001
Sex	0.083***	0.019	0.084***	0.019	0.084***	0.019	0.083***	0.019
Marriage	0.229***	0.020	0.230***	0.020	0.229***	0.020	0.230***	0.020
Less than high school (reference)	-	-	-	-	-	-	-	-
College	0.294***	0.053	0.294***	0.053	0.293***	0.053	0.295***	0.053
High school	0.317***	0.052	0.317***	0.052	0.316***	0.052	0.318***	0.052
Race	0.010	0.032	0.009	0.032	0.008	0.032	0.009	0.032
Income (LN)	0.404***	0.014	0.404***	0.014	0.405***	0.014	0.404***	0.014
Length of attendance	0.021***	0.001	0.021***	0.001	0.021***	0.001	0.021***	0.001
Attendance	0.662***	0.012	0.662***	0.012	0.662***	0.012	0.662***	0.012
Devotional practices	0.119***	0.006	0.119***	0.006	0.119***	0.006	0.120***	0.006
Inclusive theology	-0.122***	0.008	-0.122***	0.008	-0.122***	0.008	-0.122***	0.008
Close friends	0.263***	0.011	0.264***	0.011	0.264***	0.011	0.263***	0.011
Cross-level interactions								
Emotional Energy x Congregational EE	0.013***	0.003					0.011**	0.003
Emotional Energy x Strictness			0.014***	0.003			0.011**	0.003
Emotional Energy x Network density					0.027*	0.014	0.014	0.013
Random effects								
Level-2 congregational variance (τ^2)	0.222***	0.471	0.222***	0.471	0.225***	0.474	0.220***	0.469
Level-2 Emotional Energy variance	0.001***	0.023	0.000**	0.021	0.001***	0.025	0.000**	0.018
Threshold δ(1)	1.911	0.015	1.911	0.015	1.911	0.015	1.911	0.015
Threshold δ(2)	3.895	0.021	3.895	0.021	3.895	0.021	3.894	0.021
Threshold δ(3)	6.37	0.036	6.368	0.036	6.369	0.036	6.368	0.036

Two-tailed significance tests: * $p < .05$; ** $p < .01$; *** $p < .001$
Level-2 N =344; Level-1 N = 44,649

In Table 4.3, I test whether EE varies with random slopes and with congregational EE, strictness, and congregational friendship density, that is, I estimate cross-level interactions between individual-level EE and these three congregational-level predictors and allow the slope for EE to vary across congregations. This produces an intercepts-and-slopes-as-outcomes regression model. Models 1 through 3 add each interaction term to the model separately. All three interaction terms are significant, positive, and in the predicted direction. The positive effect of individual-level EE on religious giving is higher in congregational contexts characterized by higher congregational EE, strictness, and intra-congregational friendship density. Three graphs (Figures 4.1, 4.2, and 4.3) illustrate these interaction effects. The low and high values of the congregational variables represent the 25th and 75th percentiles of congregations respectively. Figure 4.1 shows that the positive effect of individual EE on religious giving becomes stronger in congregations with high levels of congregational EE. Similarly, Figure 4.2 illustrates that the positive effect of individual EE on religious giving is amplified in congregations with high levels of strictness. Figure 4.3 also shows that the positive effect of individual EE becomes stronger in congregations with high congregational network density, although the difference is less pronounced as the interaction effect is weaker. Model 4 estimates all three interaction terms in the same model. While the interaction terms for congregational EE and strictness with individual EE remain statistically significant, the interaction term for congregational network density and individual EE loses its significance. This supports Hypotheses 2 and 3 but not Hypothesis 4. These significant interaction terms account for a large amount of the cross-congregational variation in individual EE slopes (i.e., without the cross-level interaction effects, the random slope variance is 0.026, with the cross-level interactions it reduces to 0.0003).

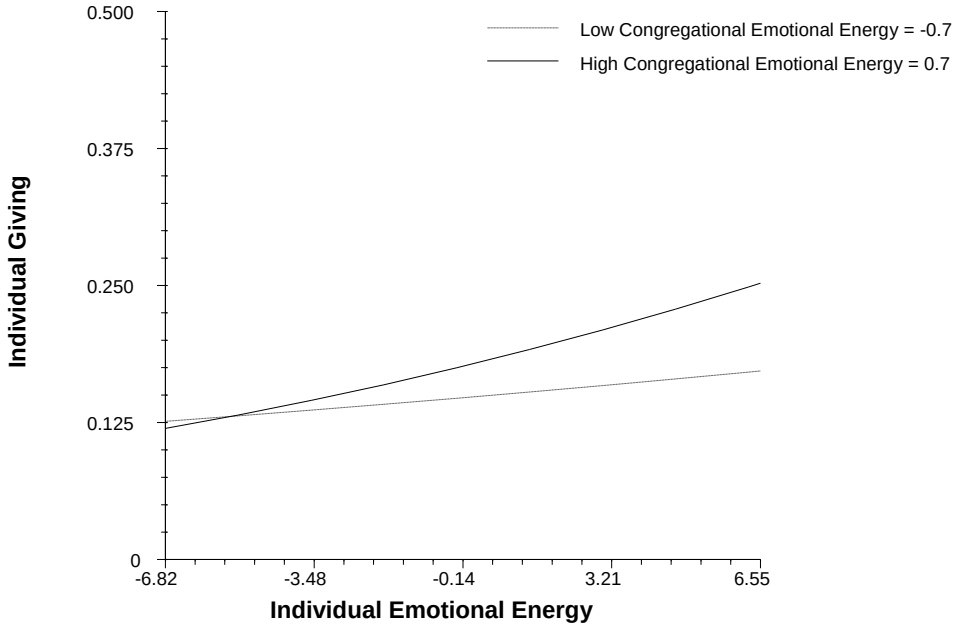

Figure 4.1 Relationship between Individual EE, Congregational Emotional Energy, and Individual Giving (x-axis = ± 2 SE's)

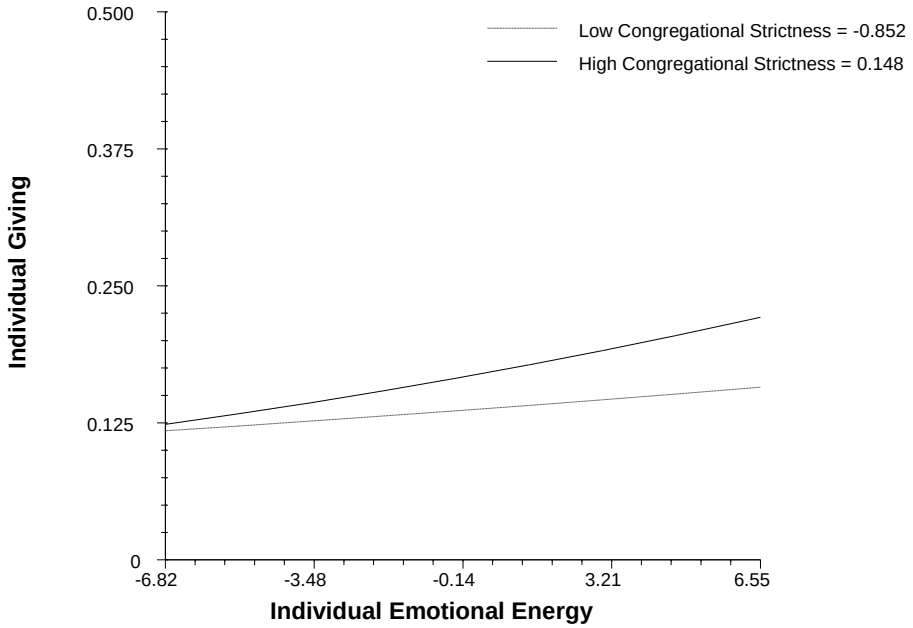

Figure 4.2 Relationship between Individual EE, Church Strictness, and Individual Giving (x-axis = ± 2 SE's)

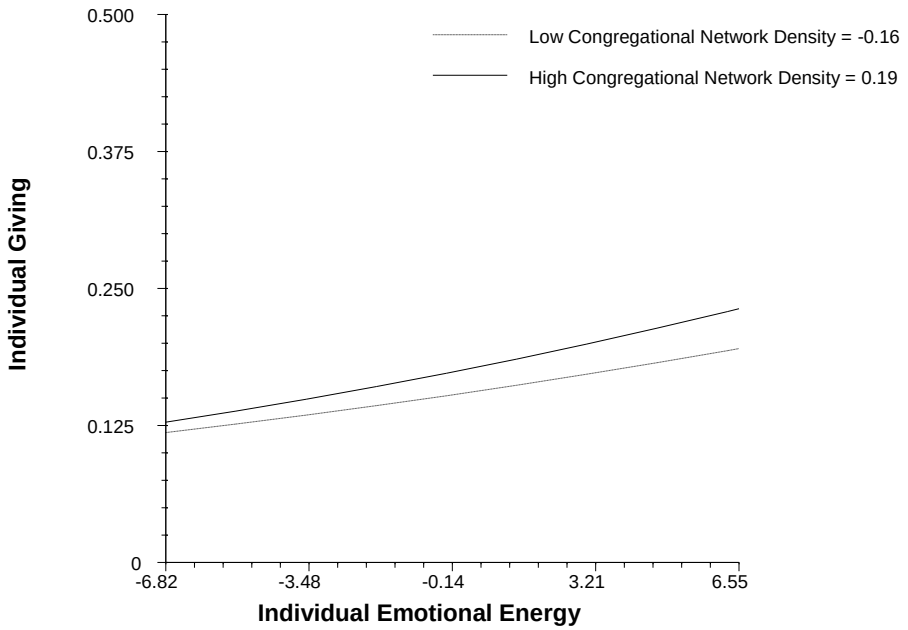

Figure 4.3 Relationship between Individual EE, Congregational Network Density, and Individual Giving (x-axis = ± 2 SE's)

Discussion

Congregations depend on funding from their members for their livelihood and yet giving is highly skewed with 20 percent of members providing over 80 percent of the donations (Iannaccone 1997). The factors affecting monetary contributions are, therefore, important to determine. Rational choice explanations typically emphasize the screening, monitoring, and sanctioning capacities of congregations as a means of inducing instrumentally rational actors to contribute as well as theological distinctiveness. The significant effects of strictness, church size, congregational network density, and theological inclusivity are consistent with this perspective. On the other hand, religious-meaning explanations have emphasized religious beliefs as central to giving behavior. The issue with this is that both religious-meaning and rational choice explanations propose that theological exclusiveness should increase giving. Thus, the significant negative association between inclusive religious beliefs and giving may support either perspective. While past rational choice studies have used intra-congregational close friendship

ties as a measure of monitoring and sanctioning capacities, friends typically do not know each other's financial contributions (Wuthnow 1994). As such, the strong positive effect of intra-congregational close friendship ties seems to support Peifer's (2010) social explanation of giving, which focuses on congregational social cohesion and solidarity. However, all of these explanations focus on the cognitive processes by which individuals make decisions and thereby fail to consider emotional processes. Individuals are viewed as 'thinkers' making decisions regarding how much to give, rather than as 'feelers.' Yet the findings in this chapter highlight how there is more to religious giving than cognitive motivations. The amount of EE individuals experience during worship has a consistent positive effect on religious giving. This suggests that emotion, not just cognition, plays a role in financial decisions regarding how much to give to one's congregation.

In fact, psychological and neuroscience research identifies emotion and cognition as being intertwined and interactive in the brain (Phelps 2006; Pessoa 2008; Izard 2009). Some research argues that emotion precedes cognitive processing (Zajonc 1980, 1984, 1998), showing that individuals are typically able to determine how they feel about something before they can even articulate what it is. This is also consistent with dual-process models of human cognition (see Vaisey 2009), which emphasize the underlying automatic processes of much of human cognition and behavior. While most of this research ignores the role of emotion (see Epstein 1994 and Hassin et al. 2005 for notable exceptions), emotional processing fits within the reflexive processes of System 1 (Evans 2008). Other studies have connected emotion to cooperative behavior. For example, McCabe et al. (2001) had participants play experimental cooperation games, where there was an incentive to not cooperate if one's partner cooperated but disincentives for mutual non-cooperation. They found that participants who cooperated more

frequently showed higher levels of activation in the emotional limbic system of the brain, thereby suggesting the importance of emotion for facilitating cooperative behavior. The current study further supports this conclusion with survey data and pinpoints how emotionally charged group rituals may be catalysts for encouraging cooperation or contribution to the group.

Past research on religious giving has consistently found a positive effect of regular church attendance. While requests for donations during religious services may partly explain this relationship, the results of this study identify the emotional experiences of participants as relevant as well. These experiences include general "feeling states" (Weber 1968), such as 'joy' and 'awe', and religion-specific ones, such as experiencing 'a sense of God's presence.' Thus, while it is useful to theoretically distinguish the potentially different motivations of religious and social actors as Peifer (2010) does, it is also important to consider how it is difficult to separate the "social context of religious giving" (Peifer 2010: 1576) from the religious meaning individuals ascribe to it. Moreover, this study proposes that certain social contexts may moderate the effects of EE on religious giving. In particular, the cross-level interaction effects identify how certain congregational contexts—those characterized by high levels of positive emotion and strictness—increase the individual-level positive effect of EE. Drawing on Collins (2004), I argued that this is due to these contexts amplifying the degree to which positive EE attaches one to the group. Of course, not all religious rituals are equally as successful at generating EE. Given that EE experienced during worship services is positively associated with higher levels of religious giving, future research should investigate what factors affect the success of a religious ritual.

The current study is not without limitations. First, because the data is cross-sectional, causal inference cannot be drawn. Currently, there is no available longitudinal data of members

within congregations. As such, this study used one of the best available sources of multi-level data for congregations. Second, individuals may self-select into particular types of congregations. If this is the case, then the significant associations between the congregational factors and religious giving may be due to particular individual characteristics that underlie congregational choice, rather than the congregational factors themselves. To help address this issue, I included an array of individual-level controls that may be related to congregational choice, which strengthens confidence in the specification of the model. Third, like much of past research (Lincoln et al. 2008), the current study is unable to directly control for the quality of religious goods offered by congregations. Due to this, an instrumental approach to religious giving may reinterpret the EE findings as merely capturing an individual's perception of the quality of the religious goods offered and heightened satisfaction with them. This, however, is an insufficient explanation. According to rational choice approaches, in order for there to be high levels of religious giving, not only must the quality of the religious goods exceed their cost, but the congregation must effectively curb free-riders through screening and/or monitoring and sanctioning. If the former condition is met without the latter, then instrumentally rational individuals are expected to consume the higher quality good without contributing to its production, that is, to free-ride. Since the positive effect of EE is net of the factors predicted to curb free-riding—church strictness, church size, and congregational network density—it cannot be reduced solely to an instrumental explanation. While the interaction effect between EE and strictness may be interpreted instrumentally—EE has a greater positive effect in congregations with fewer free-riders—this interpretation cannot explain the interaction effect between EE and congregational positive emotion net of the other variables. Instrumental approaches are therefore

unable to fully explain the EE findings. Still, more research is needed to further elucidate the influence of EE on religious giving and the underlying mechanisms at work.

Conclusion

Religious giving is a social behavior that bridges economic and religious spheres of social life (Peifer 2010: 1581). As such, individuals may make giving decisions based on economic instrumentally-rational motives or based on religious non-instrumental motives. Given the preponderance of research on the former (Lincoln et al. 2010), recent studies have emphasized the latter, focusing on value-rational motives. This study extends research on non-instrumental motives by investigating religious giving as influenced by "feeling states", that is, as affectual social action (Weber 1968). The results of this study provide support for the hypothesis that positive emotions produced by religious rituals are associated with higher levels of religious giving, net of income and other relevant factors. This suggests that positive emotional experiences can overcome purely instrumental considerations either on their own or by encouraging value-rational motives as suggested by Collins (2004).

The findings of this study could be generalizable to other types of nonprofit voluntary associations. Religious congregations are just one type of voluntary association (Harris 1998); many organized membership-based groups, such as social movement organizations and clubs, also depend on funding from members. The hypotheses proposed in this study are not dependent on religious characteristics as EE may be generated from non-religious rituals (Collins 2004) and shared collective emotion and strictness are not religion-specific factors. Thus, the relevance of emotion for giving may also operate in secular organizational contexts as well.

Lincoln et al.'s (2010) literature review of religious giving indicated a general "theoretical commitment to rational choice" across studies and called for more diverse theoretical research on

religious giving. Peifer (2010: 1586) also noted the need for a more "ecumenical approach" to religious giving that considers how religious and economic motives may "pull in opposing directions" (see also Lechner 2007). This study contributes to such an approach by showing the utility of Collins' (2004) interaction ritual theory for hypothesizing non-instrumental predictors of religious giving, specifically emotion.

Chapter 5: Conclusion

Intellectual and affective dimensions of religiosity have been widely overlooked in the sociology of religion literature (Cornwall et al. 1986; see also Jacobson and Heaton 1990; Wald and Smidt 1993; Reitsma, Scheppers, and Te Grotenhuis 2006). The findings of this dissertation highlight the importance of both by demonstrating the predictive power of religious human/cultural capital and religious emotional capital for explaining variation in religious behaviors. This dissertation is the first study to *directly* measure and test hypotheses derived from religious human capital theory. Chapter 2 suggests that religious knowledge as a direct measure of religious human capital is useful for predicting religious participation, the most commonly investigated dependent variable in sociology of religion studies, and the findings from Chapter 3 suggest that it may also be one of the strongest predictors of micro-level denominational exit (or retention), one of the most understudied dependent variables in the literature (Brinkerhoff and Mackie 1993). Religion scholars have given far more attention to understanding predictors of religious giving (Lincoln, Morrisey, and Mundey 2008), generally focusing on religious belief and ritual participation, which makes it all the more surprising that there are no prior studies of religious giving that investigate the potential for ritual participation to invoke positive emotions within individuals that may prompt them to give. Chapter 4 is the first study to do so. In these ways, the results of this dissertation contribute to understanding the relevance of previously understudied areas in the literature and underscore the need for further research on these topics.

The findings from the three empirical chapters of this dissertation support predictions from religious human capital (Iannaccone 1990) and interaction ritual theories (Collins 2004). Religious human capital increases religious participation over time and decreases the likelihood

of denominational exit. Positive emotions experienced during collective rituals increase one's likelihood of sacrificing on behalf of the group, in this case through monetary donations. The findings also support my proposed extensions of both theories: Religious social capital affects religious participation through mechanisms other than mere religious human capital accumulation, such as through social influence mechanisms; more denominationally specific forms of religious human capital have greater positive effects on retention than less specific forms; and the positive effect of emotion-inducing rituals on giving is amplified in contexts characterized by high aggregate levels of congregational positive emotion and congregational strictness. These results suggest the continued predictive power of both religious human capital theory and interaction ritual theory for the study of religious behaviors, while showing useful extensions of both theories that can be further investigated in subsequent research.

Since each empirical chapter individually discusses its own results, this chapter focuses on discussing how the chapters relate to each other, the implications they have for the literature, and how they contribute to a research program in the sociological study of religion. In particular, I attempt to (1) synthesize the micro-level assumptions of the empirical chapters by presenting a dual-process model framework for religious behavior, (2) identify the congregational-level implications of my micro-level propositions and findings, and (3) discuss the types of data needed for future studies to investigate new avenues of research prompted by my dissertation.

A Dual-Process Model Framework for Religious Behavior

The sociological study of religion has drawn on a variety of explicit and implicit micro-level assumptions of human behavior. Weber's (1968) typology of social action provides a useful framework for distinguishing them (Jerolmack and Porpora 2004; Peifer 2010). Weber defines four ideal types of social action (i.e., action attached with meaning and oriented toward others'

behavior): (1) instrumental-rational, (2) value-rational, (3) affectual, and (4) traditional. Instrumental-rational refers to weighing the costs and benefits associated with particular ends and choosing the end that is most desirable. Value-rational action is the pursuit of a value regardless of the costs to the individual. Affectual action is based on emotions or "feeling states" (Weber 1968: 25) and traditional on routinized habits. The former two types of action are cognitive, deliberative, reflective, and conscious of means and ends. The latter two are not, but instead are unreflective and as such do not entail deliberative choices.

The religious economies theory or the rational choice theory of religion adopts instrumental-rational assumptions of human behavior. It assumes that when making religious choices individuals seek to maximize their utility given their preferences (Iannaccone 1990; Stark and Finke 2000). Critiques of this theory tend to highlight Weber's other motivations for social action (Jerolmack and Porpora 2004; Peifer 2010). For example, Smith et al.'s (1998) subcultural identity theory of religion assumes value-rationality, that is, that individuals tend to act based on their moral orientations: “moral acts require a sense that they ‘must’ be preformed, that one is obligated or duty bound, therefore, they are intrinsically motivated and not subject to means-end analysis” (Etzioni 1998: 42 cited in Smith et al. 1998: 91). In addition to value-rational social action, Sharot (2002: 430) notes how "the routinized performance of religious rituals has often been understood as habitual", thereby suggesting traditional motivations as a basis for religious action. Yet he notes that there is often an initial choice based on one of the other types of social action that eventually becomes routinized. Several scholars have critiqued rational choice theory for failing to adequately consider the role of religious experience and emotions (Ammerman 1997; Collins 1997; Neitz and Muesser 1997; Young 1997). In particular, Collins' (2004, 2010) interaction ritual theory helps address this gap by assuming that individuals

seek to maximize positive emotions or emotional energy. While Collins (1993) describes how his theory can be integrated with rational choice theory (i.e., emotional energy as the common metric for calculation across social spheres), his argument that emotions are rooted in physiological processes that may affect action unconsciously, without reflection or cognitive deliberation, is contrary to instrumental-rational assumptions of human behavior. Moreover, to the extent that emotional energy affects cognitive decision-making, Collins (2004) argues that it facilitates actions on behalf of the group and is therefore value-rational social action.

This dissertation draws on and extends two theories—religious human capital theory (Iannaccone 1990) and interaction ritual theory (Collins 2004)—which make different micro-level assumptions regarding human behavior. Grounded in rational choice theory, the former assumes instrumental-rationality (Iannaccone 1990; Stark and Finke 2000), while the latter is most closely aligned with affectual social action. This prompts the question: when will religious actions be more likely to be based on instrumental rationality versus affect? The "dual-process" or "dual-system" models discussed in Chapter 4 provide a framework to answer this question and synthesize the findings of the three empirical chapters.

"Dual-process" or "dual-system" models distinguish between two mental processes or systems: System 1 entails unconscious, automatic, reflexive, fast, effortless, emotional processes, whereas System 2 entails conscious, deliberative, reflective, slow, effortful processes (Kahneman and Frederick 2002; Kahneman 2003; Lieberman 2007; Evans 2008). This research finds, contrary to the assumptions of rational choice theory, that the majority of cognition and behavior is the result of System 1. It suggests that System 2 is generally only activated when (1) automatic processing fails or (2) a task seems to require more conscious deliberation (Kahenman 2003). In line with the former, DiMaggio (1997) describes how individuals may switch to more

deliberative and reflective cognitive processing when they are faced with new situations that are not interpretable according to existing schemas. Consistent with the latter, he also identifies how attention directed toward a problem and individual motivation may shift automatic cognition to deliberative (see also Chaiken 1980; Ajzen and Sexton 1999). Other research identifies a higher accountability or greater consequences for one's choices (Tetlock and Lerner 1999) and increased difficulty with information processing (Alter et al. 2007) as other conditions under which deliberative processing should be expected. This suggests that most religious choices should be a result of System 1 processes except in conditions where pre-existing schemas fail, attention is heightened, there is higher accountability for choices, or information is difficult to process.

As Chapter 3 describes, religions have organizational cultures—norms, language, ways of thinking, and so on. These organizational cultures can be conceptualized as mental schemas that allow individuals to understand, participate in, and enjoy the organization and its activities. When individuals join religions, they must learn the requisite knowledge and skills to effectively participate in the organizational culture, that is, they must acquire the religious capital associated with the culture. For example, Donald Miller (1999) describes his transition from attending evangelical churches to attending an episcopal church: "The first few times that I went to church at All Saints [Episcopal Church], I didn't know when to stand or sit. I fumbled my way through the Book of Common Prayer. The music was too sophisticated for my taste." However, over time he "grew to love the liturgy." Similarly, Sands' (2009) finds that *baalei teschuvah* (Jewish converts to Orthodox Judaism) experienced great anxiety during religious services because they lacked the language knowledge to keep up with the liturgy. Both of these examples illustrate individuals faced with a new situation for which they did not have preexisting schemas, which resulted in difficulty processing the information presented to them. However, because religious

human capital is "learned by doing" (Iannaccone 1990), Miller was able to learn the new schema and then came to enjoy it. The underlying assumption of religious human capital theory—instrumental rationality—is therefore appropriate, since learning new cultural knowledge/schemas, which may be difficult to acquire, is a condition that would increase the likelihood of activating System 2 processes. As individuals acquire the necessary religious capital, the activities should become habitual and therefore require less conscious thought even while still maximizing utility. For example, when an individual first learns a prayer or hymn, she pays attention to the words and their meaning, but over time they become automatic and can be recited and understood without much thought.

System 2 processes should also be more prevalent when individuals encounter a "choice" moment in which they consciously decide whether or not to stay in their denomination. System 1 processes can help account for why individuals tend to remain in the denomination or religious affiliation of their birth (Stark and Glock 1968; Mueller 1971; Kluegel 1980; Sherkat and Wilson 1995; Bibby 1999), but they can't explain why individuals would choose to leave a denomination that has become routinized and habitual, especially if they risk losing social and religious capital (i.e., the action has large consequences). Individuals break from routines when they leave their denomination, which suggests that denominational exit should be considered a deliberative choice. Findings from Chapter 3 provide support for instrumental-rational motivations behind denominational exit. Both firm- and industry-specific religious capital are used in religious activities and generate abstract commodities (e.g., enjoyment), the only difference is that the former is not transferable to other denominations. Thus, the greater negative effect of firm-specific religious capital on the likelihood of denominational exit compared to industry-specific

religious capital is most likely the result of individuals seeking to conserve their firm-specific religious capital (i.e., an instrumental-rational motivation).

It is unclear which system processes we should expect to operate for religious giving as research suggests it may be based on values, habits, or economic considerations (Smith et al. 2008; Peifer 2010; Vaidyanathan and Snell 2010). However, particular congregational contexts may generate some of the conditions that shift cognition to System 2 processes. Since religious giving involves economic decisions, much of the research on it assumes instrumental rationality (Lincoln, Morrisey, and Mundey 2008). Religious human capital theory alone cannot explain religious giving, because even when the quality of religious goods is high, instrumentally rational actors will still prefer to free-ride. As described in Chapter 4, this research generally focuses on how congregations can curb free-riders either through behavioral strictures that make non-compliance visible and screen out free-riders (Iannaccone 1992, 1994) or through dense social networks within the congregation that facilitate extensive monitoring and sanctioning (Stark and Finke 2000). Church strictness and monitoring and sanctioning non-compliance draw attention to giving behavior and hold individuals accountable for it. Both of these are conditions in which System 2 processes are more likely to operate. It is not surprising then that past research and the findings in Chapter 4 support the theoretical predictions derived from instrumental-rational assumptions: church strictness and dense intra-congregational social ties are both positively associated with religious giving (Finke et al. 2006; Bekkers and Schuyt 2008; Scheitle and Finke 2008; Whitehead 2010). Instrumental rationality may be a useful assumption for explaining higher levels of religious giving in strict churches and smaller congregations, which are more likely to have dense networks (Stark and Finke 2000).

Yet, the majority of churches are not strict and the majority of American church-goers attend large congregations (Stark and Finke 2000; Thumma and Travis 2007). Thus, the religious economies approach fails to explain religious giving within the average American church or for the average American church-goer. In these congregations where giving is less visible and individuals are not held accountable for their giving decisions, System 1 processes should be more likely to operate. Most research on religious giving emphasizes instrumental- or value-rational social action and fails to consider how tradition or emotions may affect giving (see Lincoln, Morrisey, and Mundey 2008 for a review of the literature). A notable exception is Vaidyanathan and Snell's (2010) study, which investigated "socialized giving" or ingrained habit as a motive for religious giving. However, they found that socialized giving did not distinguish between low and high givers and that even some high givers were not socialized to give. Drawing on and extending Collins' (2004) theory, I argued that individuals may be unconsciously motivated to give more to their congregations due to experiencing positive emotions during religious services. I found that these emotions are positively associated with increased congregational giving, net of church strictness, intra-congregational network density, church size, and a wide variety of other control variables. This may be because in the excitement of the moment individuals spontaneously give unconsciously based on their emotional state or because the emotional energy from the ritual stays with them and influences them to make value-rational giving decisions later in the week. Since this study is the first to propose and test the relationship between positive emotion and religious giving, it makes a substantial contribution to the literature by demonstrating the importance of positive emotional religious experiences. Moreover, churches of any size with any level of strictness can theoretically generate emotion-inducing rituals and thus this dissertation fills a large gap in the literature left behind by rational

choice theory. It also helps explain why some individuals in strict churches may give more than what is required of them, which rational choice theory alone is unable to explain.

A dual-process model of religious behavior helps synthesize the arguments in my three empirical chapters. Although Chapters 2 and 3 assume instrumental rationality and Chapter 4 assumes action based on emotions, a dual-process model provides an encompassing framework to understand how individuals can behave based on one or the other type of social action depending on the particular conditions surrounding the action. Past sociology of religion studies tend to assume one type of social action, although the type varies depending on the theory. Recent research on religious giving has begun to investigate more than one type (Peifer 2010; Vaidyanathan and Snell 2010), but it does not provide an overarching framework for predicting when one type should be more or less prevalent. A recent review of the literature calls for more research to "rectify the theoretical flatness of much religious giving research" (Lincoln, Morrisey, and Mundey 2008: 35). The explanation presented in this chapter contributes to the religious giving literature and the broader social scientific study of religion by suggesting how diverse theoretical assumptions can be synthesized in a way that allows for theoretical predictions regarding when we should expect one type of religious social action over another.

Extending the Micro-Level to the Meso-Level

The micro-level hypotheses proposed in this dissertation can be extended to the meso-level to help explain why certain religious organizations have higher levels of member participation, retention, and giving. Given that religious human capital increases religious participation over time, religious organizations that provide more opportunities for gaining religious human capital or successfully mandate its acquisition should have higher average levels of member participation. Opportunities might include thriving new member classes, small

groups, Sunday schools, yeshivas, madrassas, and websites or pamphlets describing core practices.

Based on the findings from Chapter 3, religious organizations that require more denomination-specific religious capital and insure that their members acquire it should have higher member retention rates. Denominations often provide particular liturgies, histories, and beliefs that distinguish themselves from other denominations providing their members with the means to accumulate denomination-specific religious capital. This is interesting in light of the non-denominational movement in Protestantism as well as the general tendency toward more generic forms of Christianity. For example, Wellman's (2008) study of 24 of the fastest growing evangelical churches in the Pacific Northwest found mimetic institutional isomorphism (DiMaggio and Powell 1983), where the churches sought to model themselves after other churches deemed more successful or legitimate. Consequently, although the church sample comprised seven different denominations and nine non-denominational churches, the worship services across all of the churches were almost indistinguishable. As churches give up their denominational particularities and become increasingly similar to other churches, they should have lower levels of retention, all else being equal. In fact, research on denominational mobility suggests support for this proposition. Denominational switching has significantly increased since the 1970s; however, when individuals switch, they are more likely to remain in the same "denominational family", that is, Liberal, Moderate, or Conservative Protestantism and Catholicism (Hadaway and Marler 1993). With few denominational particularities, individuals should gain less denomination-specific religious capital from their churches and more general religious capital specific to denominational families, which would account for this finding. Since past studies of religious capital used proxy measures, they were unable to unambiguously

demonstrate the effect of denominational knowledge on retention. For example, although some studies find that strict or theologically conservative denominations have higher rates of retention (Hadaway and Marler 1993; Smith and Sikkink 2003), it is unclear whether this is due to their requiring more specific religious human capital or to other factors, such as group cohesion. By using religious knowledge as a direct measure of religious capital, this dissertation contributes to the literature by showing the importance of denominational knowledge for reducing denominational exit. It suggests that if denominations continue losing their distinctiveness, they will decrease member retention rates, and if they want to hold onto their members, they need to create opportunities and programs for individuals to gain denominational-specific religious capital, such as through classes on denominational heritage and traditions.

While denomination-specific religious capital requirements may increase member retention, it may also hamper recruitment. Learning religious capital is an investment and therefore a cost. If individuals are required to invest a large amount of time and energy in order to learn the requisite religious capital to participate in religious services, they may choose not to participate at all. Sands' (2009) study finds that some women stopped attending religious services because they were not familiar enough with Hebrew to follow them. Notably, these women described being extremely passionate about and committed to their faith and yet they still chose not to attend due to their low levels of religious capital. Ebaugh and Chafetz (2000) also found evidence of congregational exit due to individuals lacking knowledge of the religious languages used during the services. Similarly, new members of an Episcopal congregation noted difficultly assimilating into the congregation because they lacked congregational- and denomination-specific knowledge (Scannell 2003). For example:

> They experienced a sense of 'exclusion' when the congregation suddenly said certain words that were not printed in the service bulletin, or when announcements directed

> people to certain rooms but there was no map or signage to show where the rooms were. These people also said that particular language did not make sense to them: that since they did not know what 'Rite One' or 'Rite Two' meant, they did not know what the differences were between the 7:30, 9, or 11 o'clock services (Scannell 2003: 72).

One respondent even mentioned that she wanted to know what "those secret words they always say" were; words that the congregation itself thought "all Episcopalians would know" (Scannell 2003: 74). Given these results, the congregation revised their bulletin to include all the words recited by the congregation and also improved signage in their building. These examples suggest that if congregations are interested in not only keeping members but gaining new members, they need to require an optimal level of denomination-specific religious capital that encourages continued participation from new and current members, while simultaneously making such capital easy to acquire. Moreover, if insufficient religious knowledge leads to difficulties participating in religious rituals and negative emotions, then religious capital will be vital to consider in studies investigating the relationship between religious rituals and positive emotional energy. More generally, it has implications for applications of Collins' (2004) theory of interaction ritual chains and suggests the need to examine ritual participants' levels of requisite cultural capital in order to predict whether they will experience positive or negative emotions from participating in the ritual.

Chapter 4 also lends itself to meso-level propositions. If, as Chapter 4 finds, positive emotion-inducing religious rituals increase congregational giving, then congregations that facilitate these types of experiences should have more members donating larger proportions of their incomes. It also suggests that congregations can increase the proportion of income their members donate by structuring their rituals to promote such experiences. Members may demand different types of emotion-inducing rituals depending on the denominational family they are in with some wanting more enthusiastic, rock concert rituals and others wanting more awe-

inspiring ones. American megachurches illustrate the former with participants raving about the contemporary worship music and enthusiastic, intense ritual experiences (Wellman, Corcoran, and Stockley-Meyerdirk unpublished manuscript). One married couple described how they "were kind of blown away by the theatrical set, all the media elements, everything else. It just really – it touches every modality that we have" (Wellman, Corcoran, and Stockley-Meyerdirk unpublished manuscript: 11). Members of liberal Protestant churches seem to have a higher demand for more tranquil, moving rituals (Wellman 2008). In line with this, Wollschleger (2010) found that mainline Protestant churches that facilitate these types of emotion-inducing rituals increased group solidarity. Since many churches have control over the form and type of worship service they offer, future research should investigate what types or characteristics of rituals facilitate positive emotional experiences for participants in different denominational families.

Future Research and the Need for Better Data

In addition to the contributions it makes, my dissertation also suggests limitations with current data and areas that need further research. Nearly all religion datasets include questions on religious affiliation, beliefs, and church attendance, yet there are few surveys that ask religious knowledge questions, most of which date back to the 1960s, and only one publically available dataset that I could find, which asks questions about the emotions one experiences during rituals. More surveys are needed that include multiple religious knowledge and emotion questions, particularly questions that would allow for distinction between different types of religious human capital and emotional experiences.

Since emotions may affect religious behavioral outcomes unconsciously, "forced-choice surveys" is perhaps the best method for collecting data on emotions (Vaisey 2009: 1688).[25]

[25] If researchers are interested in propensity to give rather than actual religious giving behavior, experiments would also be able to collect data on emotions. For example, McCabe et al. (2001) compared levels of activation in the

These surveys are better for identifying how people make unconscious judgments, since they require quick decisions with little cognitive effort. Interviews, on the other hand, may force individuals to provide a rationalized reason for behavior for which there was no conscious, rational reason (Vaisey 2009). Vaidyanathan and Snell's (2010) qualitative study of motivations for religious giving provides an example of this. One respondent said, "I don't think there's anymore to it than sort of the traditional—and I think it's, and correct me if I'm wrong, but I think it's in the Bible somewhere that ten percent number—so I don't know if that's where that came from or if it's just the traditional" (Vaidyanathan and Snell 2010: 14). The respondent seems to have a difficult time answering why exactly she gives and may very well have a habitual motive for giving that she than tries to rationalize by saying the number might be in the Bible somewhere. This suggests that surveys are the most appropriate data-collection method when researchers assume System 1 processes to be motivating choices, whereas surveys and interviews may be most appropriate when researchers have reason to assume System 2 processes are operating.

There is also a need for more longitudinal religious surveys of adults. Because religious human capital is learned by doing, religious participation should increase one's stock of religious human capital, which should in turn increase one's future religious participation (Iannaccone 1990). Correlational studies cannot separate the bi-directional effects. Micro-level denominational exit studies suffer from similar issues; to determine if stocks of religious capital affect exit and not the reverse (i.e., after one exits they lose their religious capital), longitudinal studies are needed that can identify exiters shortly after leaving. Project Canada's longitudinal survey is one of the few surveys that asks a range of religion questions over time to adults (Bibby

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emotional limbic system of the brain for those who cooperated in an experimental cooperation game to those who did not cooperate.

1993). Most other longitudinal studies that include several religion questions are directed toward particular age populations—youth (the National Study of Youth and Religion, see Smith and Denton 2003) or the elderly (see Krause and Ellison 2009). Since religious participation may be restricted for both age groups, longitudinal surveys of the non-elderly adult population are needed.

Multilevel studies of individuals within congregations are also scarce. The U.S. Congregational Life survey is one of the only multilevel surveys that uses a random sample of U.S. congregations and surveys a large number of attendees within them. Most national religion surveys suffer from pooling religion respondents from diverse congregations. Chapter 4 demonstrates that certain congregational characteristics affect religious giving. If these characteristics are highly correlated with particular individual variables or are overly represented in the population, then findings from these pooled studies may be biased or misinterpreted due to unobserved congregational characteristics. Moreover, Chapter 4 shows that it is not just one's own experience of positive emotion that affects religious giving, but also the aggregate levels of positive emotion experienced by the congregation. In order to know what the congregational emotional climate is, there needs to be surveys of ritual participants *within* congregations.

Surveys of attendees within congregations would also allow for the construction of a congregational social network. The U.S. Congregational Life survey asks respondents how many close friends they have in their congregation. Several studies, including Chapter 4, have used this question to create an aggregate congregational network density measure from the average attendee response (Scheitle and Finke 2008; Whitehead 2010). While this measure is considerably better than past studies, which are unable to measure congregational network density at all, a more direct measure based on the intra-congregational network ties of attendees

is preferable. It may be the case that the number of close intra-congregational friendships individuals have matters less than their position in the congregational network, such as whether they are in a core or periphery position. Group members may not always support prosocial norms (Kitts 2006, 2008) and it may be the case that core and periphery group members have different interests that may or may not support contribution to the collective good. Having congregational network data would allow researchers to investigate how different positions in the network affect a wide range of dependent variables including behaviors, such as giving and religious participation, as well as beliefs and attitudes. It would also allow researchers to explore how congregational factors like church strictness and the characteristics of rituals affect the congregational network structure.

Network data would also provide information on whether there are subgroups within the congregation that may have opposing norms. A large volume of research suggests that small groups are important for developing friendships and feelings of belonging in many religious organizations (Whitehead 2010; Doughtery and Whitehead 2011; Wellman, Corcoran, and Stockley-Meyerdirk unpublished manuscript), yet actual network data has not been collected. Having data on subgroups would be especially useful for further exploring religious capital as cultural capital and how the religious cultural capital of members may not always benefit religious organizations in terms of higher levels of participation and retention, but may instead lead to fractionalization and schism. Verter (2003) argues that Stark and Finke's (2000) conceptualization of religious capital as cultural does not fully capture Bourdieuian religious cultural capital. He describes how Bourdieuian religious capital, being a form of cultural capital, is "an object or a medium of conflict" (Verter 2003: 158). As such, the distribution of religious cultural capital is often controlled by religious institutions and authorities. Higher levels of

religious knowledge may be associated with status, power, and spiritual hierarchies within religious communities, which may result in conflict between different status-groups and the exit of the lower-status group. For example, religious language knowledge is a symbol of high status in some religious communities and traditions. In Ebaugh and Chafetz's (2000) study of immigrant congregations, some native Arabic speakers felt that they should be the leaders of their religious community because they believed that knowing Arabic meant that they had a better understanding of Islam. A non-Arabic speaking participant noted that

> a lot of non-Arabic speaking Muslims feel that the Arabs treat them in a different way because the Arabs feel that they are special….Some of the Arabs…think that they are superior just for being able to speak Arabic. They don't believe anyone who delivers a speech in any language but Arabic (Ebaugh and Chafetz 2000: 447).

Conflict over this issue resulted in a large faction of Arabs exiting and creating their own congregation (Ebaugh and Chafetz 2000). Likewise, Sands (2009) notes that Jews who had been raised Orthodox viewed themselves as superior to the *baalei teschuvah* partly because the *baalei teschuvah* lacked religious and Hebrew knowledge. This, in turn, contributed to the marginalization of the *baalei teschuvah* within the community. These studies suggest that theorizing religious capital as cultural capital may provide leverage for understanding status differentiation, conflict, fractionalization, and marginalization within religious communities. However, in order to differentiate religious knowledge as cultural or symbolic capital versus human/consumption capital, researchers need to have information on its distribution in the congregation, how it is perceived by members, and member ties to each other. This requires multilevel, congregational network data.

In this conclusion, I have tried to synthesize the findings from the three empirical chapters and demonstrate their contribution to the sociological study of religion in four main ways: (1) religious knowledge and emotion as two important dimensions of religiosity; (2) dual-

process models of religious behavior as a means to integrate diverse theoretical assumptions; (3) meso-level implications of my micro-level propositions; and (4) data implications of my findings and how improved data would allow for future research in new areas identified by this dissertation. As Chapter 2 has already been published, I hope to publish Chapters 3 and 4 as separate articles and use the framework I've developed in this conclusion as a springboard for my future research.

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