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Religious Commitment: An Interdependence Approach

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In 4 studies using cross-sectional, longitudinal, and experimental methods, we applied interdependence theory-based concepts to understand individuals' religious commitment, focusing on 4 distinct targets of commitment: God, denomination, community, and spiritual leader. We specifically examined which individuals were likely to persist in their religious organization membership and belief system, and which individuals were likely to convert. Results suggest our interdependence-based measures demonstrated both good reliability and predictive validity (Study 1). Religious commitment can be manipulated temporarily (Study 2) and also fluctuates over time naturally (Studies 3 and 4). Study 4 also found that our interdependence-based measures were better at predicting persistence and conversion than were other established measures of religious commitment. We close by suggesting how future research on religious commitment can be informed by the interdependence literature.

Keywords: religious commitment, religious conversion, interdependence theory

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Religion and religious beliefs have been considered an important force in many peoples' lives throughout human history and across cultures. Psychologists have theorized about the major functions that religion has for individuals (e.g., Allport, 1950; Batson, Schoenrade, & Ventis, 1993), and researchers from multiple areas of psychology have considered it an important variable (Hood, Hill, & Spilka, 2009; Paloutzian & Park, 2005). Our research adds to this rich literature by examining what it means for an individual to be committed to a religion, how this commitment may change over time, and how it influences individuals' religious behavior.

Religious beliefs serve various functions for individuals (Allport, 1950; Batson et al., 1993; Baumeister, 1991), one of which is fulfilling relational needs. Both psychologists and theologians have speculated that a familial relationship with one's deity can help to satisfy humans' need to belong (Cacioppo & Patrick, 2008; Rolheiser, 2004). Researchers have found, in both correlational and experimental studies, that perceived relationships with supernatural agents such as God can alleviate the pain of loneliness and exclusion (Aydin, Fischer, & Frey, 2010; Burris, Batson, Altstaedten, & Stephens, 1994; Epley, Akalis, Waytz, & Cacioppo, 2008; Kirkpatrick, Shillito, & Kellas, 1999). Religious affiliations also afford individuals congregations which can satisfy their need to belong with like-minded individuals (Herriot, 2009) and provide social support (Pargament, Ano, & Wachholtz, 2005).

Relationship involvement is not a unidimensional, static experience, however. Relationships can provide individuals with among the greatest opportunities for need fulfillment, but can also become dissatisfying and ultimately end. If involvement in a religious affiliation parallels involvement in an interpersonal relationship, then it is likely that religious involvement may change over time and have outcomes akin to those studied within and predicted by the interpersonal relationship literature. Recent theory and research have begun to focus on why individuals form religious attachments (e.g., to a deity), and how these attachments mirror those found in interpersonal relationships (Granqvist, Mikulincer, & Shaver, 2010; Kirkpatrick, 2005). This research has focused on the familial relationship between deity and individual using Bowlby's (1969/1982) attachment theory to examine different types of religious attitudes and behaviors, and has found that not only does God fit all the definitional criteria of an attachment figure, but that individuals who use God as an attachment figure reap benefits similar to those afforded by other attachment figures (e.g., parents, romantic partners). Individuals can even use God as a surrogate attachment figure if they find other attachment figures lacking; those with insecure (i.e., anxious or avoidant) attachment styles are more likely to have sudden spiritual conversions, seemingly seeking the type of relationship with their deity that they lacked with caregivers (Granqvist & Kirkpatrick, 2004).

What Is "Religious Commitment"?

Attachment theory-based findings demonstrate that religiosity can be a powerful tool for fulfilling interpersonal needs. However, the extant research tells us little about the factors that keep individuals *committed* to their relationship with a deity, religious belief system, religious organization, or fellow religious adherents (with some exception; see Hunsberger, Pratt, & Pancer, 2002). *Religious commitment* is an important construct to consider in the psychology of religion; past research suggests commitment predicts attendance at religious activities, self-reported importance of religion to one's self-concept, and attitudes toward God and death/afterlife issues (Allen & Spilka, 1967; Hammersla, Andrews-Qualls, & Frease, 1986; Spilka, Minton, Sizemore, & Stout, 1977; Worthington et al., 2003). Religious commitment predicts life satisfaction for psychiatric patients and emotional coping (Pfeifer & Waelty, 1995, 1999). Finally, religious commitment predicts attitudes toward church activity in politics (Roof & Perkins, 1975).

One difficulty with researching religious commitment is that its conceptual definitions are varied and sometimes unclear (Kirkpatrick & Hood, 1990; Williams, 1999). Consequently, religious commitment measures range from one item to complex inventories of attitudes and beliefs (Hill & Hood, 1999). Some studies have focused on religious behaviors or service attendance as a commitment measure (Pfeifer & Waelty, 1995; Stack & Lester, 1991; Ullman, 1982), and other studies have simply asked respondents one self-report item on how *committed* they were to God or their religion (Cook & Wimberley, 1983; Hammersla et al., 1986). Still other studies have measured how important participants feel their beliefs are to their everyday lives (Allen & Spilka, 1967; Roof & Perkins, 1975; Worthington et al., 2003). Finally, some researchers suggest that measures of *intrinsic* religiosity (broadly defined as the degree to which adherents find their beliefs to be central to their lives) may assess religious commitment (Burris et al., 1994; Kirkpatrick & Hood, 1990; Williams, 1999). With such variability and confusion around the theory and measurement of religious commitment, it is difficult to be confident in the validity of conclusions drawn from research on this construct (Kirkpatrick & Hood, 1990).

Social psychological research on commitment has typically focused on close interpersonal relationships (Agnew, 2009; Agnew, Arriaga, & Wilson, 2008; Rusbult, Martz, & Agnew, 1998), specifically on the factors that lead an individual to remain in a given relationship (Arriaga & Agnew, 2001; Johnson, 1991; Kelley, 1983). Relationship commitment is characterized by (a) intention to remain in, (b) a psychological attachment to, and (c) a long-term orientation toward the relationship (Arriaga & Agnew, 2001). Broadly, commitment is predicted by the factors that promote relationship persistence (Kelley et al., 2003; Rusbult, Arriaga, & Agnew, 2001). More specifically, from an interdependence theory perspective (Kelley et al., 2003), an individual's commitment is fueled by three independent factors: his or her subjective level of *satisfaction* with the relationship, amount of *investment* in the relationship, and perceived quality of *alternatives* to the relationship (Rusbult, Agnew, & Arriaga, 2012). The first two factors are positively associated, and the third is negatively associated, with commitment (Rusbult et al., 1998). When tested concurrently, the three factors each account for unique variance in predicting commitment; commitment then predicts relationship persistence,

among other relationship maintenance-relevant outcomes such as cognitive interdependence and relationship-sustaining behaviors (Agnew & VanderDrift, 2014; Agnew, Van Lange, Rusbult, & Langston, 1998; Le & Agnew, 2003). Relationship commitment often exhibits patterns of cyclical growth and decline depending on positive or negative interactions and trust between partners (Arriaga, Reed, Goodfriend, & Agnew, 2006; Wieselquist, Rusbult, Foster, & Agnew, 1999).

This model of commitment has been useful in studying interpersonal relationships and has also been applied to understanding commitment toward diverse targets such as occupations, sport participation, adherence to medical treatments, and even the "war on terror" (Agnew, Hoffman, Lehmiller, & Duncan, 2007; Le & Agnew, 2003; Rusbult et al., 2012). We believe that a psychological understanding of religion's ability to fulfill relational needs can be advanced substantially by applying an interdependence-based approach. Hallmarks of relational commitment that we will look for in a religious setting are (a) that the factors facilitating interpersonal relationship commitment (i.e., satisfaction, alternatives, investment) have analogs that facilitate religious commitment, (b) that religious commitment predicts relevant outcomes (e.g., attendance at religious services, cognitive interdependence with one's religious affiliation, and persistence with one's religious affiliation), and (c) that religious commitment can fluctuate over time. Finding these hallmarks will provide evidence that religious commitment is appropriately thought of as a relational phenomenon, thus opening the area to the theoretical advance that the application of interdependence theory can provide. We present four studies that adapt interdependence-based concepts to conceptualizing, understanding, and predicting individuals' religious commitments. Study 1 provides preliminary evidence that religious commitment can be measured using interdependence-based measures. Study 2 demonstrates experimentally that religious commitment, like relational commitment, is an outcome of the factors that fuel commitment. Study 3 uses a two-wave design to examine multiple targets of religious commitment (e.g., God, denomination), and provides preliminary evidence that the commitment one feels to a specific target predicts outcomes relevant to that target. Study 4 uses a four-wave longitudinal design to examine change in religious commitment in undergraduate students over one academic year. This study also compares the predictive validity of our interdependence-based measure of religious commitment with other measures.

Study 1

This study explored the utility of using an interdependence-based framework for understanding religious commitment. Specifically, we hypothesized that, consistent with interpersonal relationship commitment (Rusbult et al., 2012), an individual's satisfaction with, alternatives to, and investments in his or her religious community would predict that individual's commitment to that religious community.

We also wanted to obtain a measure of construct validity for religious commitment. Previous research using interdependence-based measures to assess commitment to romantic relationships has found that highly committed individuals demonstrate greater cognitive interdependence with their relationship partner than do individuals low in commitment (Agnew et al., 1998). Cognitive interdependence was measured using the Inclusion of Other in the

Self Scale (IOS; Aron, Aron, & Smollan, 1992), a single-item graphical measure of relationship interdependence, in which participants are presented with a series of Venn-like diagrams, each representing different degrees of overlap of the two circles. The first Venn-like diagram shows the two circles not overlapping at all, and each subsequent diagram shows the circles overlapping slightly more until they are nearly completely overlapping. Respondents are traditionally asked to select which pair of circles best represents their relationship with their partner. Our modified version indexed the perceived closeness of participants to their religious or faith community. We hypothesized that participants who indicated higher commitment to their religious or faith community would demonstrate more cognitive interdependence than participants lower in commitment. Additionally, we hypothesized that participants who indicated higher commitment to their religious or faith community would report more frequent attendance at religious services than would participants low in commitment. Previous research demonstrates that relationship commitment predicts relationship-sustaining behaviors (Rusbult, Verette, Whitney, Slovik, & Lipkus, 1991; Van Lange et al., 1997); we treated religious service attendance as a type of relationship-sustaining behavior.

Method

Participants ($N = 462$) volunteered to earn credit in an undergraduate psychology course. These data were collected across four semesters, and our measures were embedded in various pilot-testing materials. Three participants skipped the majority of our measures, and thus were removed from the data set. Participants identified their current religious affiliation (if any) using a list of 87 possible affiliations commonly used in General Social Surveys (ranging among various denominations within Western religions, several Eastern religions, atheism and agnosticism; Ellison, 1999; see Item 1 in the online supplemental materials for more information). Participants indicated how often they attended religious services (1 = *never*; 7 = *once a week or more*). We excluded any participants who indicated "atheist," "agnostic," or "no religion" from our analyses. The final sample included 401 participants (188 males, 212 females, one not stated).

Participants completed an adapted version of the traditional interdependence-based commitment measures (Investment Model Scale; Rusbult et al., 1998); we edited the wording to apply to participants' relationships with their *current* religious or faith communities. Specifically, we measured their satisfaction with (five items; e.g., "I feel satisfied with my community"; $\alpha = .91$), investments in (five items; e.g., "I have put a great deal into my relationship with my community that I would lose if the relationship were to end"; $\alpha = .91$), alternatives to (five items; e.g., "I would not feel very upset if I were to leave my community in the near future"; $\alpha = .88$), and commitment toward (eight items; e.g., "I am committed to maintaining my relationship with my community"; $\alpha = .91$) their community (each question had a 9-point rating scale; 0 = *do not agree at all*, 8 = *agree completely*). Participants also completed a modified IOS (Aron et al., 1992), edited to apply to their current religious community (i.e., instead of the Venn-diagram circles reading *self* and *other*, the circles read *self* and *community*). The obtained alphas indicate strong internal reliability of our adapted interdependence-based measures.

Results and Discussion

We replicated typical analyses used in other relationship commitment research by examining how well individuals' perception of their satisfaction with, investments in, and alternatives to their religious community predicted *religious community commitment* by entering all three predictors simultaneously. Just as in other relational contexts, when tested in the same model, each of these three constructs uniquely predicted participants' commitment to their religious organizations (Satisfaction: $\beta = .52$, $t = 13.64$, $p < .01$; Alternatives: $\beta = -.26$, $t = -9.63$, $p < .01$; Investments: $\beta = .32$, $t = 8.26$, $p < .01$) and also combined to strongly predict commitment to participants' religious organizations, $R^2 = .67$, $F(3, 396) = 292.70$, $p < .01$.

Next, we examined how levels of religious community commitment predicted participants' perceptions of their cognitive interdependence with their community via the IOS. Individuals who felt more commitment to their religious community perceived themselves as having a closer relationship with the community, $R^2 = .21$, $\beta = .46$, $t = 10.35$, $p < .01$. We also found that individuals who felt more committed to their religious community reported more frequent attendance at religious services, $R^2 = .19$, $\beta = .44$, $t = 9.65$, $p < .01$.

These findings suggest that an interdependence-based conceptualization of religious commitment parallels commitment to interpersonal relationships. Moreover, the total variance explained by our adapted predictors of commitment is quite similar to that shown in other relationships (religious commitment $R^2 = .67$; R^2s in other contexts are around .61; Le & Agnew, 2003). Our adapted commitment measure also predicted perceived relationship closeness, similar to previous research on romantic relationships (Agnew et al., 1998) and predicted self-reported religious behavior (i.e., religious service attendance). To our knowledge, only one other study, conducted over 45 years ago (Allen & Spilka, 1967), has examined how a measure of current religious commitment predicted current religious attendance ($R^2 = .20$). Our measure of religious commitment predicted religious attendance with an effect size similar to that study ($R^2 = .19$).

Study 2

Study 2 investigated whether commitment was, like interpersonal commitment, the consequence of particular relationship evaluations. We used an experimental paradigm that has been shown to influence commitment to other types of interpersonal relationships to examine whether one of the known predictors of commitment (i.e., investment) causally predicted religious commitment. Previous research on commitment in romantic relationships has demonstrated that forming and reflecting on future plans for a relationship predicts commitment (Agnew et al., 2008; Goodfriend & Agnew, 2008). Traditionally, the investment construct has considered past investments only, but recent theorizing extends the temporal dimension and considers that people may feel invested in their relationship because of their plans for future investments, in addition to any past investments (Goodfriend & Agnew, 2008). When participants are asked to reflect on all the future plans they have for their relationship, research demonstrates that individuals' commitment level increases (Agnew & Lehmiller, 2011). We employed this manipulation to examine whether future plans with

regard to a religious target (i.e., denomination) leads to increased commitment to this target.

Method

Participants ($N = 182$) volunteered to earn credit in an undergraduate psychology course. We selected participants from a subset of the larger psychology research pool who completed a mass pretest at the beginning of the semester and indicated they affiliated with a particular religious denomination. We randomly assigned participants to one of three conditions in a between-participants design. Participants either (a) listed four future plans they had regarding their religious denomination (future plans experimental condition; $n = 53$), (b) listed four future plans they had regarding a personal goal (personal goal control condition; $n = 66$), or (c) listed several facts about four U.S. states of their choosing (no-plan control condition; $n = 63$). We defined religious denomination as "a subgroup within a religion that operates under a common name, tradition and identity." After the manipulation, participants completed the measure of religious commitment from Study 1, with denomination as the commitment target ($\alpha = .91$).

Results and Discussion

The future plans manipulation influenced participants' commitment to their religious denomination as hypothesized, $F(2, 179) = 4.56$, $p = .01$. Participants who listed future plans relevant to their religious denomination reported higher commitment to their religious denomination ($M = 6.93$, $SD = 1.74$) than did participants in either the personal goal ($M = 6.07$, $SD = 1.79$) or no-plan ($M = 6.02$, $SD = 1.86$) control conditions (Tukey's honestly significant difference tests: ps $< .05$, ds $> .40$). The two control conditions did not differ from one another ($p = .99$, $d = .03$).

This study adds further support to the notion that religious commitment can be conceptualized from an interdependence perspective. Once again, the adapted commitment measure demonstrated good reliability, and we manipulated commitment levels using an experimental paradigm previously used to study commitment to interpersonal relationships. This type of priming manipulation is relatively new in commitment research, and as such we do not know how long these priming effects would last. In addition, we do not know if this type of manipulation would also influence relationship-relevant behavior (but see Davis, Green, & Reed, 2009, for an example of a priming manipulation on environmental commitment influencing environmental behavior). Future research should examine these possibilities in both religious commitment and relationship commitment broadly.

We do not have a direct measure of mechanism (i.e., investments) in this study. Our manipulation specifically primed individuals to consider their future plans, which are considered part of the investments base of commitment (Agnew et al., 2008; Goodfriend & Agnew, 2008). An interesting possibility is that priming another base, or even the construct of commitment itself, may influence participants' momentary experiences of the other constructs. These constructs likely are closely related in individuals' relationship schemas, so momentarily priming one construct may spill over into the others. Future research on priming commitment, whether toward a religious target or other relationship targets, should consider these options.

Study 3

Studies 1 and 2 focused on commitment toward a religious community or denomination. There are several other relevant targets of religious commitment (e.g., commitment to God or deity, commitment to congregation). Commitment to one's religious denomination (e.g., Roman Catholicism) is likely related to commitment to other targets such as God or a specific congregation (e.g., one's home parish), but these commitments are not necessarily synonymous. Study 3 focused on specificity of religious commitment: Does commitment to specific religious targets influence specific outcomes (i.e., stay-leave behavior)? Can it predict which individuals persist in their membership with a particular religious affiliation, and which individuals are likely to convert to another affiliation or to no affiliation (see Item 2 in the online supplemental materials for more information)? Studying commitment to religious targets *over time* can provide critical information regarding whether commitment influences persistence or conversion in religious affiliations. Undergraduates may be an ideal population to examine this issue, as college is often a time when individuals begin to form their own system of personal beliefs and the importance of religious beliefs with which they entered college may begin to decline (Fowler, 1981; Yankelovich, 1974). We were interested in predicting stay–leave behavior (a) to assess whether the predictive validity of commitment in the religious context parallels that of the interpersonal relationship context, and (b) to determine divergent validity (i.e., show that commitment to one target better predicts outcomes relevant to that target than to outcomes relevant to other targets of religious commitment). Study 3 provided a preliminary investigation of predicting stay-leave behavior using a two-wave longitudinal design.

Method

Participants ($N = 439$; 46% male) volunteered for a two-wave study to earn credit in an undergraduate psychology course. Participants identified their current religious affiliation (if any) using a list of 87 possible affiliations (Ellison, 1999; see Item 3 in the online supplemental materials for more information). The sample of participants who reported having a religious denomination was 404 participants (194 males, 210 females). Participants then indicated whether they believed in a god or higher power; 358 participants reported that they did (178 males, 180 females). Regardless of their answer to the previous questions, participants indicated whether they had a current place of worship, of which 235 said they did (114 males, 121 females).

Wave 1. Participants completed measures of satisfaction with (αs $\geq .90$), investments in (αs $\geq .95$), alternatives to (αs $\geq .83$), and commitment toward (αs $\geq .91$) four different targets of religious commitment: (a) God or deity, (b) congregation, (c) denomination, and (d) spiritual leader. We defined *congregation* as "people who attend your place of worship," and *denomination* as "a subgroup within a religion that operates under a common name, tradition and identity." We did not provide a definition for spiritual leader, but did offer examples (e.g., pastor, priest, rabbi, cleric). Only those participants who reported that the target was relevant to them (i.e., they identified with a religious denomination, they believe in a God or deity, they had a place of worship that includes

a congregation and spiritual leader) answered the items regarding that commitment target. For each target, we used an abbreviated version of the interdependence measures described in Study 1; we used six items for each construct to reduce participant fatigue and maximize retention given the longitudinal nature of the study. We conducted an exploratory factor analysis using maximum likelihood extraction with promax rotation on the 24 commitment items and found that the commitment measures were driven by four underlying factors, corresponding to each of the four targets of religious commitment (see Table S1 of the online supplemental materials for factor loadings, item wording, and interfactor correlations).

Wave 2. We emailed participants approximately four months later and asked (a) if they had changed religious *denomination* since Wave 1, (b) if they currently have a God or higher power that they believe in, and (c) if they had changed their *congregation* since Wave 1 (which indicated a change in both congregation and spiritual leader). Eighteen participants did not provide their e-mail address at Wave 1 and were not contacted. Of the 421 participants we contacted, 185 (43.9% of the Wave 1 sample) provided responses. Those that responded were more likely than those who did not to be female, $\chi^2(1) = 12.44$, $p < .001$, and to evidence higher Wave 1 commitment to both their congregation, $t(233) = -2.31$, $p < .05$, and denomination, $t(402) = -2.05$, $p < .05$. The two groups were not different in Wave 1 commitment to their God or higher power, $t(356) = -1.34$, $p = .18$, or spiritual leader, $t(232) = -0.69$, $p = .48$.

Results and Discussion

Our hypotheses involved analyzing data cross-sectionally at Wave 1 in addition to changes between Waves 1 and 2 (which involved a smaller sample size because of attrition). We used pairwise deletion so that all analyses included participants that had the necessary data.

Examining different targets of religious commitment. Each of the four targets of religious commitment were positively intercorrelated with each other. The two largest correlations were between commitment to spiritual leader and congregation ($r = .55$), and commitment to God or deity and denomination ($r = .52$). As in Study 1, participants' satisfaction with, investments in, and alternatives to each of the targets were, collectively, strong predictors of commitment to each respective target of religious commitment (Spiritual Leader, $R^2 = .63$; Denomination, $R^2 = .64$; God, $R^2 = .58$; Congregation, $R^2 = .69$).

We next examined whether each of the three hypothesized predictors of commitment significantly predicted commitment to each of the four targets (God, spiritual leader, denomination, and congregation). Results from separate multiple regression models for each target revealed that, in all cases, the respective measures of satisfaction, alternatives, and investment each significantly predicted commitment to that respective target. Specifically, satisfaction ($\beta = .409$, $t[230] = 7.24$, $p < .001$), alternatives ($\beta = -.188$, $t[230] = -4.63$, $p < .001$), and investment ($\beta = .405$, $t[230] = 7.15$, $p < .001$) each predicted commitment to *spiritual leader* when tested concurrently. When examining *denomination*, satisfaction ($\beta = .456$, $t[400] = 12.31$, $p < .001$), alternatives ($\beta = -.127$, $t[400] = -4.24$, $p < .001$), and investment ($\beta = .429$, $t[400] = 11.59$, $p < .001$) each predicted commitment when

tested concurrently. For *God or deity* as target, satisfaction ($\beta = .304$, $t[354] = 6.54$, $p < .001$), alternatives ($\beta = -.275$, $t[354] = -7.84$, $p < .001$), and investment ($\beta = .432$, $t[354] = 9.20$, $p < .001$) each predicted commitment when tested concurrently. Finally, for *congregation*, satisfaction ($\beta = .483$, $t[231] = 8.50$, $p < .001$), alternatives ($\beta = -.169$, $t[231] = -4.62$, $p < .001$), and investment ($\beta = .383$, $t[231] = 6.74$, $p < .001$) each commitment when tested concurrently.

Does religious commitment predict conversion? To examine stability and change of religious commitment, we coded participants as either *stayers* (0) or *converts* (1) regarding their denomination, congregation, and their God or deity. We defined *stayers* as participants whose denomination or congregation or belief in a deity at Wave 2 was the same as the denomination or congregation or belief in a deity they indicated at Wave 1. We defined *converts* as individuals who reported a different denomination or congregation or belief in a deity at Wave 2 than at Wave 1. No participants reported a different denomination, but 10 participants changed from believing in a God or deity to not believing in a deity (5.41% of the sample), and 14 participants (7.56% of the sample) changed congregations.

We examined whether commitment predicted stay–leave behavior. We examined the impact of commitment to God or deity on God or deity conversion. Results revealed that commitment to a God or deity at Wave 1 negatively predicted not believing in a God or deity at Wave 2 ($R^2 = .09$; $\beta = -.303$; $t[147] = -3.86$, $p < .01$). Also of note, commitment to God or deity at Wave 1 did not predict congregation conversion ($R^2 = .00$; $\beta = -.044$; $t[84] = -0.41$, $p = .68$). Results with regard to congregation revealed that commitment to the congregation at Wave 1 marginally predicted conversion to a different congregation by Wave 2 ($R^2 = .05$; $\beta = -.214$; $t[74] = -1.88$, $p = .06$). Commitment to a spiritual leader did not predict conversion to a different congregation by Wave 2 ($R^2 = .02$; $\beta = -.126$; $t[74] = -1.08$, $p = .29$). We could not compute a model in which congregation commitment predicted God or deity conversion, as no participants who reported a congregation at Wave 1 had converted in their belief in God or deity by Wave 2.

The factor analytic results provide initial evidence that there were four separate but interrelated targets of religious commitment. Further, when examining conversion as both change in belief in God or deity and change in congregation, commitment to the respective target better predicted outcomes relevant to that target than to the other religious conversion outcome. There are two main limitations to Study 3. First, we only examined how participants' commitment levels predicted outcomes to two religious targets (congregation and God or deity), and our ability to assess change in God or deity status as a function of congregational commitment was constrained. Second, our effect size for predicting stay–leave behavior from commitment was considerably smaller (R^2s = .05 and .09) than that found in a meta-analysis of other interpersonal relationships ($R^2 = .22$; Le & Agnew, 2003). One potential reason for this effect size difference is that only a small percentage of our sample converted between the two waves. It is likely that a longitudinal study with a larger sample of participants indicating their religious commitment levels over a longer period of time may demonstrate a stronger effect size for predicting stay–leave behavior, which was the goal of Study 4.

Study 4

We collected data over an academic school year to examine how religious commitment changes and how such changes in commitment influence individuals' decisions to convert denominations or abandon their previous faith entirely. Study 4 also examined how an interdependence-based operationalization of religious commitment directly compares with other measures of religious commitment in predicting persistence or conversion.

To our knowledge, only a few studies have investigated how religiosity predicts whether individuals persist in their religious affiliation or convert to a different (or no) affiliation. These studies have not assessed religious commitment per se, and their results have been mixed (but see Miller, Shepperd, & McCullough, 2013; Worthington et al., 2003). Pfeifer and Waelty (1995) found no relation between participants' self-reported previous religious education and their measure of current religious commitment. Kirkpatrick and Shaver (1990) found that participants' retrospective reports of their mother's religiosity growing up predicted participants' current self-reported religiosity, but this variable was an index of someone else's religiosity rather than a direct measure of the participant's own religiosity.

Some studies have found evidence for predictors of religious conversion in both adolescents and adults. Hunsberger and colleagues (2002) investigated how youth dealt with religious doubts over a 2-year, two-wave longitudinal study and found that youth who indicated they looked to nonreligious sources for information at Wave 1 were less likely to identify as religious at Wave 2. Other researchers found evidence suggesting that personal stress and negative views of parents predict religious conversion (Ullman, 1982; Wuthnow & Glock, 1973). These results are intriguing, but do not directly examine how an individual's commitment to their religious affiliation may predict subsequent conversion.

We had several hypotheses regarding religious commitment and its respective targets. First, we hypothesized that religious commitment, regardless of whether an individual ultimately converts or persists, would fluctuate over time (mirroring patterns of commitment in other interpersonal relationships; e.g., Arriaga et al., 2006). Second, as in Study 3, we hypothesized that commitment to different religious targets would predict outcomes specific to that target better than commitments to other related targets. For example, an individual's commitment to their denomination should predict whether or not they convert to a different denomination better than commitment to a different target (i.e., God, spiritual leader, or congregation). Third, we hypothesized that our interdependence-based measures would predict stay–leave behavior as well as, if not better than, other measures described as measures of religious commitment.

Method

Participants ($N = 256$) volunteered for a four-wave study. We recruited participants at the beginning of the fall semester and they completed Waves 1 and 2 ($n = 195$) to earn credit in an introductory psychology course, and they completed Waves 3 ($n = 118$) and 4 ($n = 76$) at the beginning and end of the subsequent spring semester. Participants were offered $10.00 total compensation for their participation in both Waves 3 and 4 (see Item 4 in the online supplemental materials for more information). Participants completed commitment measures for each of the four targets of reli-

gious commitment as described in Study 3 at each of the four waves. At Wave 1, 236 participants reported having a religious denomination, whereas 203 participants reported that they believed in a God or higher power, and 137 reported they had a place of worship. As in Study 3, participants only answered commitment items for the targets they indicated were relevant to them.

Confirming commitment to various religious targets. We used confirmatory factor analysis to determine whether the four-factor structure found in Study 3's exploratory factor analysis best represented data obtained in Study 4. We tested a four-factor model that constrained items found in Study 3's exploratory factor analysis to assess each of the four hypothesized latent dimensions (God, spiritual leader, denomination, and congregation). Results indicated that all items hypothesized to load on a particular factor loaded significantly on that factor (with t values ranging from 7.56 to 13.85, all paths $p \leq .01$ level; see Table S1 of the online supplemental materials).

With respect to overall model fit, our analyses indicated that a four-factor model provided a good fit to the data ($\chi^2[246] = 393.96$, comparative fit index [CFI] $= .91$, with a desirable chi-square to degrees-of-freedom ratio of 1.60; Loehlin, 1992). We then compared the overall fit of this four-factor model with a one-factor model by computing the difference between the chi-square and degrees-of-freedom associated with each model (Loehlin, 1992). The one-factor model assumed that all items are being driven by a single latent construct. To support the four-factor model, the loss in degrees of freedom corresponding to the extra paths in that model would have to be offset by a significant reduction of chi-square value from the one-factor model. If not, acceptance of the four-factor model would amount to sacrificing theoretical and statistical parsimony for the sake of a negligible change in chi square (Loehlin, 1992; MacCallum, Wegener, Uchino, & Fabrigar, 1993). A chi-square difference test indicated that the four-factor model provided a better fit to the data than did the one-factor model (one-factor model: $\chi^2[252] = 2170.28$, CFI $= .37$; chi-square to degree-of-freedom ratio $= 9.73$; $\Delta\chi^2$ between the four-factor and one-factor models [6] $= 1776.32$, $p < .01$).

Next, we compared the four-factor model with a two-factor model (God or denomination and spiritual leader or congregation). We chose to group the targets into these two factors based on their intercorrelations found in Study 3. A chi-square difference test indicated that the four-factor model provided a better fit to the data than did the two-factor model (two-factor model: $\chi^2[251] = 1452.77$, CFI $= .61$; chi-square to degree-of-freedom ratio $= 5.79$; $\Delta\chi^2$ between the two-factor and four-factor models [5] $= 1058.81$, $p < .01$). The results suggest that the items crafted to measure commitment to the four targets represent four distinct factors. We constructed four separate composite measures for each commitment target for use in subsequent analyses.

Other religiosity measures. We also collected three other established measures that past research has considered to be indices of religious commitment (see Item 5 in supplemental materials for more information). The Religious Commitment Scale (RCS; Pfeifer & Waelty, 1995; $\alpha = .86$) is a 15-item index of various religious-based attitudes, beliefs, and practices. Each item is answered in a yes–no format; some example items are "Do you regard yourself a religious person?" and "Do you pray often?" We followed the original scoring instructions such that each "yes"

received 1 point, except for items reflecting specific aspects of religious practices (e.g., "Do you pray before eating?"), in which a "yes" response received 2 points. We then created a summed score for each participant (ranging from 0 to 20, with higher numbers representing higher religious commitment).

The Commitment-Consensual Measure (CCM; Allen & Spilka, 1967) is a measure focused primarily on the cognitive components of religious belief, specifically, the degree to which individuals identify religiosity as an important part of their lives. It has two subscales: the Consensual subscale focuses on participants' endorsement of concrete religious beliefs that often have little impact on a person's overall life, and the Commitment subscale focuses on beliefs that are often of central importance to a person's life. Although we included the entire scale, we focused on analyzing the Commitment subscale because it was germane to our hypotheses. The majority of this subscale was rating scale items with three categorical items. It was unclear from the extant literature how best to combine the continuous rating scale and categorical items, so we used just the rating scale items (12 items; $\alpha = .91$). Some example items are "I try hard to carry my religion over into all my other dealings in life" and "My interest in the real commitment to religion is greater now than when I first joined the church." Participants rated their agreement with each item on a 6-point rating scale, with higher numbers indicating more religious commitment. We averaged the items to create a composite score.

The Intrinsic subscale of the Religious Orientation Scale (ROSI; Allport & Ross, 1967; $\alpha = .87$) is a nine-item measure commonly used to index the degree of importance individuals afford religion in both their self-concept and their daily lives. Some researchers have argued intrinsic religiosity is an indicator of religious *commitment* (Williams, 1999). Some example items are "I have found it essential to have faith" and "God's will should shape my life." Participants rated their agreement with each item on a 5-point rating scale, with higher numbers indicating more religious commitment. We averaged the items to create a composite score.

Results and Discussion

For each of the following analyses, we used multilevel modeling (SAS 9.3 PROC MIXED; Raudenbush & Bryk, 2002) in which the four waves were nested within each individual to account for the inherent dependence in nested designs. PROC MIXED is a general linear model and appropriate for analyses using either dichotomous or continuous outcomes.

Examining variability in religious commitment over time. To examine whether religious commitment is variable over time, we analyzed the amount of within-individual variability in commitment to each of the targets. Results from separate intercept-only multilevel models in which waves were nested within individuals indicated that the within-individual variability was significant for commitment to all four targets (God: $Z = 11.75$, $p < .01$; spiritual leader: $Z = 8.87$, $p < .01$; congregation: $Z = 8.63$, $p < .01$; denomination: $Z = 12.89$, $p < .01$).

Does religious commitment predict conversion? Next, we examined whether religious commitment predicted conversion, depending on each type of commitment. For all tests, we ran multilevel models for each of the four targets in separate models. Each of these models examined whether commitment, lagged one wave, predicted conversion by the next wave. First, we defined

conversion as a participant's change in *denomination* from their denomination at the previous wave. We had 33 converts at Wave 2, 17 converts at Wave 3, and 10 converts at Wave 4. We found that commitment to denomination ($b = -0.03$, $t = -2.51$, $p < .05$), but not to God ($b = -0.02$, $t = -0.94$, $p > .30$), spiritual leader ($b = -0.01$, $t = -0.41$, $p > .60$), or congregation ($b = -0.02$, $t = -1.27$, $p > .20$), predicted denominational conversion.

Next we defined conversion as a change in belief in God. Because only those participants who reported that they believed in a god answered commitment questions regarding God, this measure functionally tapped whether those who used to believe in God, and thus answered the commitment items at that wave, reported that they no longer believed in God by the next time point. Using this definition, we had 27 converts at Wave 2, eight converts at Wave 3, and eight converts at Wave 4. Our results indicated that commitment to God ($b = -0.02$, $t = -2.43$, $p < .05$) and denomination ($b = -0.02$, $t = -2.58$, $p < .05$), but not to congregation ($b = -0.00$, $t = -0.43$, $p > .60$) or spiritual leader ($b = 0.00$, $t = 0.05$, $p > .90$), significantly predicted no longer believing in God.

It is interesting that earlier commitment to God and to denomination predicted later lack of belief in God at similar levels, even though they were two separate commitment targets. However, recall that these two targets had high intercorrelation among the commitment targets in both Study 3 ($r = .52$) and in the current study ($r = .53$). Unfortunately, we did not ask whether they changed their congregation or spiritual leader, so we are unable to investigate the differential prediction of these bases among each other. However, the results of Study 3 would suggest that measures of target-specific commitment would generally be more useful to predicting target-relevant outcomes than commitment to other religious targets.

Do other measures predict conversion better? Finally, we examined whether the interdependence-based notion of commitment applied to a religious target is a better predictor of commitment to that target than other scales used in the literature (see Table S2 of the online supplemental materials for correlations between the four interdependence-based commitment measures and the other religiosity measures at each of the four waves). First, we investigated whether each of the three non-interdependence-based scales were by themselves predictive of both denominational and God conversion. Of the three measures (i.e., RCS, CCM, and ROSI), none significantly predicted both outcomes. RCS ($b = .007$, $t = 3.65$, $p < .01$) and ROSI ($b = -0.02$, $t = -1.95$, $p = .05$) each significantly predicted God conversion, but neither predicted denominational conversion (RCS: $b = -.005$, $t = -1.00$, $p = .32$; ROSI: $b = -.003$, $t = -0.16$, $p = .87$). CCM did not predict either denominational ($b = -.017$, $t = -0.85$, $p = .40$) or God conversion ($b = .014$, $t = 1.48$, $p = .14$).

We then examined whether RCS or ROSI were better predictors of God conversion than our interdependence-based measure of commitment to God. With regard to the RCS, neither predictor was significant when considered concurrently in a multilevel model, but with regard to ROSI, our commitment measure predicted God conversion above and beyond the ROSI ($b = -0.02$, $t = -2.39$, $p < .05$), but the ROSI failed to predict above and beyond the interdependence-based commitment measure ($b = -0.01$, $t = -0.95$, $p > .30$).

General Discussion

Religious commitment is an important construct to consider within the psychology of religion, but its conceptual explications are often varied and have mixed empirical support (Kirkpatrick & Hood, 1990; see also Hill & Hood, 1999). In many respects, involvement in religion parallels involvement in an interpersonal relationship, and many religious writings and anecdotes suggest a familial relationship between individuals and their deity, and among and between other people in their religious tradition or group. We conducted four studies using cross-sectional, experimental, and longitudinal methods to evaluate the utility of using an interdependence theory framework (Kelley et al., 2003) to understand individuals' religious commitments.

Study 1 established that adapting measures of interpersonal relationship commitment (derived from interdependence theory) to measure individuals' commitment to their religious communities can be fruitful; these adapted measures demonstrated both good reliability and predictive validity. Study 2 found that commitment to a religious target can be manipulated using an experimental paradigm that has been shown to influence commitment to other types of interpersonal relationships—forming and reflecting on future plans for the relationship (Agnew & Lehmiller, 2011; Goodfriend & Agnew, 2008). Studies 3 and 4 measured commitment to various religious targets, determined how these targets were related, and investigated whether these measures of commitment could predict individuals' persistence in or conversion from their affiliations to the religious targets (mirroring the commitment → stay–leave behavior in other interpersonal relationships). Similar to commitment to other relationships, religious commitment fluctuated over time and significantly predicted who persisted in their religious organization-membership or belief-system and which individuals were likely to convert. These studies identified four distinct targets of religious commitment: God or deity, denomination, congregation, and spiritual leader. Study 4 also found that religious commitment measures derived from interdependence theory were better at predicting persistence and conversion than other established measures of religious commitment.

A significant advantage to explaining religious commitment using an interdependence approach is that several predictions can be made about religious commitment based on the robust literature from other domains of interpersonal commitment. In this way, researchers can examine potential moderators, mediators, and outcomes of religious commitment in a systematic way, relying on the research that has come before to determine if a potential avenue of research is likely to be fruitful. By applying past research on commitment from other domains to guide research questions about religious commitment, results can be integrated more fully and also lead to a greater overall understanding of commitment processes in general.

Interdependence theory-based research can also inform cognitive aspects of how commitment changes over time. Extreme personal stress and adverse life events not only can cause sudden increases in religious conviction, but it can also lead some individuals to become nonreligious (Zinnbauer & Pargament, 1998). Individuals' cognitive interpretations of these events can influence their affective reactions and what effects these reactions ultimately have on the longevity of their relationship with God (Exline, Park, Smyth, & Carey, 2011). Cognitive interpretations can also be important for the longevity of interpersonal relationships (Holtzworth-Munroe & Jacobson, 1985). Future research could investigate how individuals' cognitive interpretations of God's role in negative life events influence religious commitment.

Alternatively, researchers could examine how individuals' religious commitment influence their interpretations of these events. Highly committed individuals are often willing to tolerate negative aspects of their partner or relationship, both minor imperfections (Arriaga, Slaughterbeck, Capezza, & Hmurovic, 2007) and major burdens (e.g., violent abuse; Rusbult & Martz, 1995). Further, high commitment predicts various relationship-preserving behaviors, from accommodation (i.e., reacting to conflict constructively instead of retaliating; Rusbult et al., 1991) to willingness to sacrifice (i.e., foregoing self-interest for the well-being of the partner or relationship; Van Lange et al., 1997). Individuals who are highly committed to God may be more willing to interpret negative life events as being opportunities to strengthen their relationship with God or further develop religious-based virtues.

The effects of commitment on accommodation, sacrifice, and tolerance of negative aspects can have a dark side. Highly committed individuals are sometimes willing to tolerate abusive partners rather than dissolve the relationship, and this typically is influenced by high levels of investments (Rusbult & Martz, 1995). An extension of this research to the religion domain could be used to understand commitment to groups that use the guise of religion to deceive and exploit their members (Richmond, 2004; Zimbardo, 1997). These groups not only financially exploit members but also force members to progressively sever social ties with family and friends who are not members, forcing these members to more strongly rely on the group to fulfill their social needs (Baron, Crawley, & Paulina, 2004). These sacrifices can increase the degree to which individuals value their membership in the group (Festinger, Riecken, & Schachter, 1955/2011). We can reinterpret this work through interdependence theory; the sacrifices of both tangible recourses and social relationships can be considered part of the investment base of commitment, and higher investments predict higher commitment (Rusbult et al., 1998). Further, if individuals are isolated from other religious perspectives or organizations, they would have fewer alternatives to consider, and fewer alternatives predict higher commitment (Rusbult et al., 1998).

One area ripe for future research is investigating the dynamics of religious conversion. For our purposes, we defined conversion as a change in affiliation with a specific religious target (e.g., denomination). Other researchers have argued that conversions can be defined as a change in one's religious beliefs or convictions that necessitates a change in affiliation, and these changes tend to be sudden (Granqvist & Kirkpatrick, 2004; Zinnbauer & Pargament, 1998). Our data suggest that religious commitment can fluctuate over time; it is possible that changes in commitment could be used as a metric for operationally defining conversion, and researchers could investigate how certain life events related to conversion (e.g., chronic stressors; Ullman, 1982; Zinnbauer & Pargament, 1998) influence each of the bases of commitment to understand the process by which conversion occurs. Further, Granqvist and Kirkpatrick (2004) found that individual attachment styles predicted changes in religious beliefs, with sudden conversions predicted by insecure attachment styles. Future research could merge both interdependence and attachment theory to examine if attachment

style influences the degree to which religious commitment fluctuates (and ultimately predicts a change in affiliation).

There are limitations to the current studies. First, we did not have a large number of converts in either Study 3 or 4. The small number of converts is a likely explanation for the small effect sizes when predicting persistence and conversion. It is also possible that some of the attrition in these studies may be predicted by religious commitment; participants with lower levels of religious commitment overall may be likely to become nonreligious, and in turn may be less likely to respond to follow-up surveys on their religiosity. However, even with the small number of converts, we were still able to use our measures of commitment to predict persistence and conversion significantly in both studies. Second, we are also limited in the generalizability of our results; our samples consisted of only undergraduate students (Henrich, Heine, & Norenzayan, 2010). We do not have a theoretical reason to believe our pattern of findings should be idiosyncratic to American (predominately Christian) undergraduates, but future research should consider examining other demographic variables (e.g., age, education, culture, non-Christian religions) as potential moderators. Future research should also consider investigating whether the type of university setting (e.g., geographic region, public vs. private, and institutional size) influences college students' reported religious commitment.

Second, further research needs to focus on establishing the conceptual and empirical differences between commitment to God or deity and denomination. Even though our data suggest that these to constructs are distinct (Study 3), they still exhibit a large positive correlation. Indeed, in Study 4 we found that commitment to both targets each predicted God conversion. Because religious denominations, even with the same general religion (e.g., Christianity), often have different conceptions of God (Froese & Bader, 2010), it is likely that these differences may account for the overlap between these two constructs.

A third limitation is that we selected three established measures of religious commitment to compare our measure against, and there may be other extant measures relevant to religious persistence and conversion (e.g., Miller et al., 2013; Worthington et al., 2003). Our data from Study 4 suggest that some of these measures can predict persistence and conversion for *some* targets of religious commitment, but cannot predict outcomes for other targets. It may be possible that other measures of religious commitment may have the most predictive power focusing on a specific target of religious commitment, but not others. One strength of using the interdependence-based approach to studying different types of religious commitment is that the same items can be adapted to measure commitment to specific relationship targets. Regardless, future research should investigate whether other measures of religious commitment differentially predict outcomes for each of these targets compared with the interdependence-based approach. Our four studies suggest that conceptualizing religion as a relational phenomenon is a useful theoretical perspective, and we hope that this work inspires future research on understanding the relational dynamics of commitment to various religious targets.

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