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2023

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Andrea C Walker, Ph.D.

Andrew S.I.D. Lang, *Oral Roberts University*



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Perceived Religious Pressures as an Antecedent to Self-Reported Religious/Spiritual Development and Well-Being for Christians

Andrea C. Walker¹ and Andrew S.I.D. Lang²

School of Counseling¹ and Department of Computing and Mathematics²

Oral Roberts University

Author Note

Andrea C. Walker  <https://orcid.org/0000-0002-8859-7272>

Andrew S.I.D. Lang  <https://orcid.org/0000-0002-9922-1414>

We have no conflict of interest to disclose. This research was supported by a Faculty Research Grant from Oral Roberts University faculty.

Correspondence concerning this article should be addressed to Andrea C. Walker, Oral Roberts University, 7777 South Lewis, Tulsa, OK 74171. Email: awalker@oru.edu

Andrea C. Walker, Ph.D., is Professor of Professional Counseling in the School of Counseling at Oral Roberts University. Her doctoral studies were in human development and family science, and her research focuses on environmental and interpersonal variables affecting grief/bereavement, religious development, and well-being. Dr. Walker is a licensed alcohol, drug, and mental health counselor in the state of Oklahoma, as well as a board-approved supervisor for related licensure candidates. She has served the community and the academy in various ways and participates regularly in both peer-reviewed and invited presentations.

Abstract

Past research has confirmed the utility of environmental variables, and perceptions of religious pressure in particular, in predicting faith maturity and religious schema scores for participants from Christian environments. Whether environmental variables predict religious development, and whether religious development, in turn, leads to greater well-being for individuals from broader environments remains unknown. Utilizing participants from both Christian and non-Christian environments, the current study measures religious development variables that were constructed based on Self-Determination Theory (SDT). We used structural equation modeling (SEM) to evaluate our hypothesis that perceptions religious pressures (RP) and autonomy supportive environment (ASE) are antecedents to religious/spiritual relatedness (R/S-R) and self-mastery (R/S-S), which in turn lead to greater well-being, as determined by the presence of meaning in life (MIL). Results indicate that both environmental variables of RP and ASE predicted higher scores on religious/spiritual relatedness and self-mastery, and this led to self-reports of greater well-being for both samples. Therefore, members of the broader religious environment of Christianity responded to religious pressures similarly, implying that certain commonalities may shape Christians' cognitions around obedience to God and authority across settings, though this result should be interpreted with caution. Further implications of these findings are explored and recommendations for future research provided.

Perceived Religious Pressures as an Antecedent to Self-Reported Religious/Spiritual Development and Well-Being for Christians

Christianity involves distinct cognitions or belief systems and leads to certain affective experiences related to group membership. Christians have reported common religiosity-related experiences within distinctly Christian environments, and spiritual integration along with majority groups has been measured to predict retention in Christian institutions (Morris et al., 2003, 2004; Patten & Rice, 2008; Walker et al., 2012; Walker et al., 2014). Moreover, Christians who are nested within an environment in which Christianity is the dominant religion report significantly different religious experiences than non-Christians in the same environment and other Christians within secular environments (Walker et al., 2015). Research has begun to examine environmental factors as related to the religious development of Christians and has, surprisingly, found that religious pressures leads to religious development. Those investigations have limited their scope to one sample, however, and have not empirically confirmed that Christian religious development, as a function of religious pressures, leads to improved well-being (Walker et al., 2021; Walker & Rhoades, 2021). The current study seeks to rectify these discrepancies by more broadly investigating religious pressures related to religious development of Christians and including a known measure of well-being in the investigation.

To clarify our terms, we rely on Pargament's definition of spirituality as a "search for the sacred" and religiousness as "a search for significance in ways related to the sacred" (Zinnbauer & Pargament, 2005, p. 36). We assume that to develop religiously and/or spiritually is to become increasingly more effective over time in integrating the sacred into traditionally based rituals, beliefs, and cognitions (religious) and into subjective individual or group experiences (spiritual).

Both religious and spiritual development involve advancement in one's search for the sacred, and development in these areas might also be referred to as "maturity" or "growth."

Self-Determination Theory

Self-Determination Theory (SDT) provides a useful lens for conceptualizing development in education, parenting, and more recently religiosity and spirituality (Deci & Ryan, 2008; Hathcoat & Fuqua, 2013; Joussemet et al., 2008; Trouilloud et al., 2006; Vansteenkiste et al., 2004). According to SDT, as basic psychological needs of competence, relatedness, and autonomy are met, internalization of environmental values, in some form, realizes growth potentialities (Ryan & Deci, 2005). Competence refers to "feeling effective in one's ongoing interactions with the social environment and experiencing opportunities to exercise and express one's capacities" (Ryan & Deci, 2002, p. 7), relatedness to "feeling connected to others, to caring for and being cared for by others, to having a sense of belongingness both with other individuals and with one's community" (p. 7), and autonomy to "being the perceived origin or source of one's own behavior" (p. 8). Fulfillment of all three leads to more internalization and ultimately a self-determined religious and/or spiritual orientation. Hathcoat and Fuqua (2013) developed a psychometrically sound method of measuring perceived psychological need fulfillment, as related to religious and spiritual development. The instrument has two subscales, one which independently measures SDT's concept of relatedness, and a second which measures both SDT's concepts of competence and autonomy because items for both loaded on the same factor (Hathcoat & Fuqua, 2013). The resulting subscales of relatedness and self-mastery measure psychological fulfillment pertaining to religious/spiritual needs.

According to this line of research applying SDT to religious development, religious environmental factors influence internalization through an interaction of two aspects of the

environment, controlling and informational aspects (Ryan & Deci, 2002; Deci & Ryan, 2008). Controlling aspects represent pressure toward a specific religiosity-related outcome; as contingencies or tangible rewards, these aspects undermine internalization of religious values to the extent that the basic needs of autonomy, competence, and relatedness are thwarted. Informational aspects, events and warm communication represent positive religiosity-related feedback; as verbal rewards, these aspects support internalization of religious values through satisfaction of basic needs. Taken together, controlling and informational aspects of environments interact with individuals' perceptions around religious values to co-construct an overall experience of religious development (Ryan & Deci, 2008).

SDT provides a rich bed of evidence supporting the notion that internalization, as facilitated through informational aspects of the environment, leads to growth (see Deci & Ryan, 2002), and this extends to Christian religious development research. Acknowledging students' feelings and conveying choice support basic need satisfaction and provide help with internalization of Christian environmental values (Deci et al., 1994; Ryan & Deci, 2002). Gibson (2004) conceptualized Christian maturity, based on Kohlberg's theory of moral reasoning, as an internalization process, in which maturity results from cognitive, affective, and behavioral movement from a self-centered, to an "other"-centered, and finally to a self-chosen, principle-centered source of authority. Watson and colleagues (2021) reflected on the importance of a period of searching and considering all alternatives, known as moratorium, before commitment to a perspective and full religious identity achievement is reached (Marcia, 1966); the nuances of this process suggest the occurrence of internalization. Moreover, the more environments foster the internalization process, through support for Christians' thinking more, rather than less, autonomously, the more spiritually mature Christians will become (Gibson, 2004; Watson et al.,

2021). Past experimental research concluded that when a religious environment supports autonomy, higher levels of religious internalization occur (Assor et al., 2005; Brambilla et al., 2015). Recent studies measuring faith maturity and religious schemas within a Christian group corroborate these findings (Walker et al., 2021; Walker & Rhoades, 2021).

SDT also provides many studies supporting the notion that controlling aspects of the environment undermine development by thwarting internalization (for example, see Deci et al., 1994; Deci & Ryan, 2002; Deci & Ryan, 2008), but when it comes to Christianity this may be in question. Though past research recommends that religious environmental structures should not (a) usurp individual members' critical thinking and questioning by centralizing authority and decision making and (b) monitor individuals' behavior, in order to avoid undermining religious internalization (Lepper & Greene, 1975; Sherman & Smith, 1984), some current Christian environments operate precisely in these ways. When individuals have not internalized the environmental values on which contingencies are placed, they tend to experience them as controlling or as conditions of worth, undermining basic psychological need fulfillment and, subsequently, internalization. Furthermore, Christians often question God and struggle spiritually during difficult events, such as death losses (Ano & Vasconcelles, 2005; Lord & Gramling, 2014; Rhoades & Walker, 2021), but Christians do not always perceive their environments to be open to discussing their difficult questions (Walker et al., 2014).

Altemeyer (1988) developed a construct that describes the intrapersonal and interpersonal consequences individuals experience during times of religious questioning and exploring alternatives. The resulting Religious Pressures Scale asks about the degree to which individuals perceive they would experience a loss of a particular aspect of an important relationship in their environment or with themselves when questioning their religion. Considering religious

alternatives has been thought to be a necessary step in religious identity achievement (Marcia, 1966; Puffer et al., 2008), and perceiving penalties for doing so would likely be experienced as a controller, which would undermine internalization, according to SDT. In a sample of Christians, however, religious pressures predicted stronger relationships with God and stronger affirmations of certain religious schema, though results were conflicting (Walker et al., 2021; Walker & Rhoades, 2021). The fact that religious pressures acted somewhat inconsistently with SDT to predict positive benefits suggests that autonomy may be fostered in a unique way in some Christian environments. So far, investigations have been limited to one environment, however.

Well-Being and Meaning in Life

Historically there has been some debate on the utility of religious and/or spiritual resources in cultivating positive psychological outcomes, but recent research suggests that religion and spirituality in general tend to associate with better mental health (Dein, Cook, & Koenig, 2012; Garssen et al., 2021). Researchers, reflecting on the experience of Christianity in particular, found that related religious experiences can deepen knowledge and general understanding of one's life and increase religious maturity (Glaz, 2014). Further, Christian maturity has been found to temper the negative effect of stressful life events on the general state of psychological distress for aging women (Atkinson & Malony, 1994). For Christian adults, belief in God, personal prayer, and church attendance positively associate with psychological well-being and better mental health (Francis & Kaldor, 2002) when they feel securely attached to God (Ellison et al., 2014). For the developing Christian, the ambiguity of spiritual struggle is a functional albeit anxiety-producing part of moratorium, progression through which is theoretically necessary for Christians to fully achieve their religious identities; though well-being

lowers during moratorium, it surpasses all previous levels after religious identity is achieved. (Puffer et al., 2008; Watson et al., 2021).

Meaning in life as a construct is established in the well-being literature, is theoretically and empirically linked to religiosity and spirituality, and correlates positively with mental health (Ivtzan et al., 2013; Park, 2005; Shiah et al., 2015; Steger & Frazier, 2005). A Christian worldview is thought to provide a unique structure of meaning and purpose for Christians (Hicks & King, 2008; Valk, 2012), and meaning in life mediates the relationship between Christian religiosity and life satisfaction, self-esteem, optimism, and overall well-being (Steger & Frazier, 2005). Recent research recommends developing tradition-specific measures of religious well-being, and one proposed model for Christian well-being incorporates meaning and purpose into its domains (VanderWeele et al., 2021). Meaning in life of students at a Christian institution was significantly higher than students at a secular institution (Walker et al., 2015), suggesting the importance of environmental variables in cultivating meaning. Further, basic psychological need fulfillment leads to more meaning in life (Eakman, 2014). The question of how environmental factors facilitate basic psychological need fulfillment, as it pertains to Christianity, remains.

Aim of Study

Given the past findings measuring Christian religious development based on SDT, it is possible that the religious pressures may lead to increased religious development for a broader scope of Christians, but that cannot be determined with the limited sample used in the prior studies. Our purpose here is to expand the investigation to include participants from different geographic locations and environments to test the relationship of perceived religious pressures and autonomy supportive environment with self-reports of religious development and the psychological well-being of Christians in general. Consistent with the implications of prior

research, we hypothesize that support for autonomy will lead to religious development, in turn leading to greater meaning in life. We also hypothesize that, with this broader sample, higher religious pressures will lead to increases in religious development, subsequently leading to more meaning. See Figure 1 for the proposed relationship among these variables.

Methods

We collected data using an Internet-based survey design implemented in both a moderately sized public, non-religiously affiliated university in the western region of the United States and a private Christian university located in the central region. Here we utilize only the data from the survey related to environmental variables, religious/spiritual basic need fulfillment, and meaning in life. We used path analysis to test the study's hypothesis regarding the relationships among the study variables. The dataset used in this study is available as Open Data (CC0) on figshare (Walker & Lang, 2022).

Data Collection Methods

After the IRBs of both institutions approved the study, researchers employed convenience sampling by sending an email to select undergraduate students. The email was sent to students in certain undergraduate courses in the public institution, and they were offered an opportunity to enter a drawing for \$100 for their participation in the research. At the private institution, researchers sent the email to all undergraduate students of appropriate age, requesting their participation and compensating all participants \$10 for their time. Only students ages 18-24 were permitted to participate in the study. Students did not provide names or identifying information, making data collection anonymous.

Participants

The initial sample included 998 participants, 900 from the private university and 98 from the public university. Participants were primarily Christian and indicated a range of denominational preferences, with Charismatic/Evangelical and Non-denominational (81.4%) being most frequently identified, followed by “other” Christian (9.5%), Baptist (4%), Word of Faith (1.8%), and liturgical (1.8%). Several participants who had missing values for some or all items were removed, leaving a dataset of 823 participants (92 from the public university), 526 (64%) of whom were female. Participants spanned the four years, including 209 (26%) first year undergraduates, 198 (24%) sophomores, 199 (24%) juniors, and 217 (26%) seniors. A total of 122 (15%) self-identified as African American, 25 (3%) as American Indian, 25 (3%) as Asian American, 32 (4%) as Mexican American, 34 (4%) as other Hispanic origin, 65 (8%) as Other, and 520 (63%) as White, not of Hispanic origin. Ages ranged from 18 to 24, with the mean age of 20.2 years.

Instruments

Autonomy Supportive Environment.

Past empirical evidence supports the notion that perceptions of institutional support for basic psychological need fulfillment impact self-determination (Pelletier, 2002). The Autonomy Supportive Environment (ASE) was measured using the Learning Climate Questionnaire (Williams & Deci, 1996) short form, which has been found generally satisfactory in measuring institutional climate related aspects of self-determination (Traynor & Levesqua-Bristol, 2018). Each of the six items was rated on Likert-type scale ranging from 1 = not at all to 5 = a great deal. For example, students were asked to rate the extent to which university administration “Provides choices and options,” and “Conveys confidence in my ability to do well in life.” The alpha coefficient for the ASE was .89.

Religious Pressures.

The Religious Pressures Scale (RP; Altemeyer, 1988) is a 10-item measure of the perceived negative consequences involved in exploring alternative religious perspectives. Students were asked to rate the extent to which they would experience particular events if they explored alternative religious views using a Likert-type scale ranging from 1 = not at all to 5 = a great deal. All ten items (RPQ.1 – RPQ.10) were kept. Sample events include “Disappointment, disapproval of parents” and “It would threaten a romantic, love relationship.” The alpha coefficient for the religious pressures scale was .87.

Religious/Spiritual Relatedness & Self-Mastery.

The Religious/Spiritual (R/S) Relatedness and Self-Mastery Scale (Hathcoat & Fuqua, 2013) is a 15-item instrument that measures two subscales, R/S relatedness (R/S-R) and R/S self-mastery (R/S-S). R/S relatedness involves connections with others and the divine, and R/S self-mastery involves both a sense of autonomy and competence within the R/S domain. Participants were asked to respond with their levels of agreement with a Likert-type scale ranging from 1 = Not at all to 5 = A great deal. Sample items pertaining to R/S relatedness (SRSMQ.1 – SRSMQ.8) include “I am linked to a divine reality or being” and “My R/S views have fostered many close relationships.” Sample items pertaining to R/S self-mastery (SRSMQ.9 – SRSMQ.15) include “My views toward R/S issues are of my own choosing” and “I feel confident in my ability to evaluate R/S issues.” All 15 items were kept, with alpha coefficient of .86 for R/S-S, and an alpha coefficient of .88 for R/S-R.

Meaning in Life.

The Meaning in Life (MIL) Questionnaire (Steger et al., 2006) consists of 10 items measuring two subscales, MIL presence and MIL search; here we use only MIL presence

(MILQ.1, MILQ.4, MILQ.5, MILQ.6, MILQ.9). The five items were measured on a Likert-type scale ranging from 1 = Not at all to 5 = A great deal, in terms of the degree to which participants endorsed the statements. Example items include, “I understand my life’s meaning” and “My life has a clear purpose.” A reliability analysis led to the removal of one item (MILQ.9), and analysis of the four remaining items (MILQ.1, MILQ.4, MILQ.5, MILQ.6) produced an alpha coefficient of .874.

Analytical Strategy

In the structural equation model (SEM), the loadings in the path model of the hypothesized relationships were calculated using the lavaan 0.6-11 library (Rosseel, 2012) in R v4.2.0 (R Core Team, 2021) using only participants with complete data ($N = 823$). We used the default maximum likelihood estimation method to compute the standardized parameter estimates, where by “standardized,” we mean that both the latent variable and the observed variable parameter estimates have a variance of one. The semPower library v1.2.0 in R (Moshagen & Erdfelder, 2016) was used to determine the actually achieved power with a sample size of $N = 823$, involving $df = 145$ degrees of freedom, and corresponding to $RMSEA = .066$ on an alpha error of .05. According to the results (power > .99), the value of .8, considered to be the minimum needed for adequate power (Cohen, 1988), was easily reached. SEM often uses fit indices, such as RMSEA, as measures of effect size. Recent approaches, however, recommend using measures like $F0$ (Gomer et al., 2009). In our analysis, this value was 0.647, which is considered to be a medium effect size. $F0$ was calculated using the semPower library v1.2.0 in R (Moshagen & Erdfelder, 2016).

Results

Preliminary Analyses

First, internal consistency was established by calculating Cronbach's alphas for all scales, all of which were considerably above .70 (.86-.89). Next, the non-parametric unpaired two-samples Wilcoxon test was used to test for a difference in medians between the two sample populations, from the Christian and secular environments. For the 35 items, every difference was found to be non-significant except for five items: three Religious Pressure items (RPQ.2 – "Disappointment, disapproval of close friends.", RPQ.3 – "Disappointment, disapproval of ministers, priests, et cetera.", and RPQ.9 – "I would feel I had betrayed the ultimate purpose of my life.") which were significantly higher at the private Christian institution ($W = 37614$, $p = .05$; $W = 37781$, $p = .04$; and $W = 37629$, $p = .04$ respectively), and two R/S-R items (SRSMQ.5 – "Significant others value my religious/spiritual worldview. " and SRSMQ.6 – "My religious/spiritual views have fostered many close relationships. ") which were also significantly higher at the private Christian institution ($W = 37505$, $p = .04$ and $W = 38393$, $p = .02$). See Table 1 for summary statistics for all items.

Inter-item correlations were calculated for all items, and we note that most items are significantly correlated with most (or all) other items except for items related to Religious Pressures (RP). Items related to Religious Pressures were, in general, not significantly correlated with several items each related to Religious/Spiritual self-mastery (R/S-S), Meaning in Life (MIL), and (ASE). See Table 2 for the correlation matrix. All significant correlations are positive in nature.

Finally, a measurement model for each latent variable was constructed so items with low loadings ($< .70$) or items that load relatively high on multiple factors could be considered for removal based upon if removal improved average variance extracted (AVE) or was needed to

improve AVE above .50. Several items with weak factor loadings were removed, leaving the latent variables with the following factors:

ASE: ASEQ.1, ASEQ.2, ASEQ.3, ASEQ.4, ASEQ.5, ASEQ.6	($\alpha = .89$, AVE = .59)
RP: RPQ.1, RPQ.2, RPQ.3	($\alpha = .87$, AVE = .70)
R/S-R: SRSMQ.4, SRSMQ.6, SRSMQ.7	($\alpha = .82$, AVE = .63)
R/S-S: SRSMQ.13, SRSMQ.14, SRSMQ.15	($\alpha = .82$, AVE = .61)
MIL: MILQ.1, MILQ.4, MILQ.5, MILQ.6	($\alpha = .89$, AVE = .58)

Structural Equation Model: Model Fit Statistics

Including the Institution type as a factor in the SEM analysis (all permutations), both in the regressions and the measurement models, resulted in models where Institution was not a significant factor ($p > .05$) in any of the models and thus the final analysis (SEM) was performed on the combined dataset without Institution as a factor.

Maximum likelihood standardized parameter values (both latent and observed variables are standardized) for the Structural Equation Model (SEM) were computed using the lavaan 0.6-11 library (Rosseel, 2012) in R v4.2.0 (R Core Team, 2021) from 823 observations. See Figure 2 for the final model and Table 3 for standardized parameter values and variances for each item.

The model fit statistics yielded a good fit for the data ($\Delta\chi^2/df = 4.55$, RMSEA = .066 [90% CI: 0.061, 0.071], GFI = .94, TLI = .93, and SRMR = .079) with statistics at or near target values (Schreiber et al., 2006). Factor loadings for each item on its respective latent variable were all $> .5$. Regression results for the three major paths were as follows: (a) R/S-R = .311 ASE + .212 RP ($p < .0005$), (b) R/S-S = .329 ASE + .158 RP ($p < .0005$), and (c) MIL = .303 R/S-R + .318 R/S-S ($p < .0005$).

Discussion

Study Hypotheses

The study data supported the proposed model. The first hypothesis, that support for autonomy would lead to both religious development and increased well-being in all samples, was supported. The second hypothesis, that religious pressures would lead to increased religious development in Christians from both private Christian and secular non-Christian environments, again leading to better well-being, was also supported. Religious pressures thus predicted higher religious development in both environments, also increasing meaning in life.

An important initial finding is that the variable of institution did not matter, in terms of the how environmental variables predict religious development and well-being. A few of the religious pressures and religious/spiritual relatedness items did differ, with the Christian university typically scoring higher, and this is likely due to the institution's unique social atmosphere which places high value on relationships embedded in Christian values. For example, the institutional environment supports students' reinforcing one another through discussions about furthering their relationships with Jesus Christ, praying regularly, attending church and chapel, and going on mission trips. Even with those minor differences in item scores between institutions, however, the relationships among the factors in the SEM model remain consistent at both institutions. Institution did not impact the SEM model.

Religious Pressures and Well-Being

The supported SEM model indicated that (a) religious development predicted positive outcomes for Christians in general and (b) religious pressures predicted development in a sample of Christians from different environments. One unique contribution of these results was that religious development was measured using relatively new SDT concepts of religious/spiritual relatedness and self-mastery (Hathcoat & Fuqua, 2014). The finding that well-being was

improved with greater levels of religious/spiritual relatedness and self-mastery aligns with several past studies measuring the positive effect of religiosity (Dein et al., 2012; Garssen et al., 2021; Glaz, 2014; Ivztan et al., 2013). For Christians in particular, results corroborated recent findings that well-being of Christians exceeds all prior levels of religious ego identity development when religious ego identity is achieved, although there is typically a dip in well-being during the moratorium stage (Watson et al., 2021).

Results also indicated that members of the broader religious environment of Christianity tend to respond to pressures similarly, implying that certain commonalities may shape Christians' cognitions around obedience to God and authority across settings, though this result, based on very different sample sizes from only two locations, should be interpreted with caution. Christians often report that they rely on God for guidance and submit to God's will (Rhoades & Walker, 2021), suggesting that acting autonomously, at least in the sense of challenging the religious pressures they experience, might contradict their deeply held beliefs. Our findings here imply that Christians may (a) elect to not engage in the religious questioning characteristic of moratorium and the experience of some inexplicable life events, remaining in religious foreclosure and/or (b) question privately. For Christians who progress through a moratorium period and engage in religious questioning and struggle, however, religious pressures could create an interesting dilemma, and this may result in a different relationship with religious development and well-being. The current study did not measure religious questioning or struggle, however.

It appears, from our finding that perceived religious pressures predicts development, that some aspects of the broader Christian religious environment may actually buffer against its members' engagement in certain forms of cognitive complexity that would serve as markers of

autonomy development. Educational literature suggests that conversational interaction among diverse classmates is needed to increase critical consciousness, a form of cognitive complexity, that Christian environments should thus deliberately embed diversity throughout its various structural layers, and that doing so would deepen spirituality (Goerdt, 2012; Luna De La Rosa & Jun, 2019; Paredes-Collins, 2014). Religious literature indicates that Christians would benefit from (a) incorporating more meaningful interactions with individuals of other faith traditions that will challenge their religious-related assumptions and (b) engaging in the difficult spiritual questioning when facing challenging situations like bereavement (Riggers-Piehl et al., 2021; Rhoades & Walker, 2021).

Some Christian religious environments, however, encourage a covert form of exclusivity, reinforcing behaviors like “standing strong against the ways of the world” and avoiding the “danger” of doubt about God (Puffer et al., 2008). Such environmental messages can be interpreted by Christians to mean that they are better off separating themselves from others of different faith systems, and those Christians effectively miss out on growth opportunities. Moreover, when the discomfort of religious struggle and questioning is not reinforced through listening and support from their environments, Christians may not be able to tolerate the ambiguity of doubt in solitude and instead find comfort in retreating to the black-and-white territory of an either/or polarity in cognition and adhering to an unchallenged blueprint of “right” Christian thinking and living. Avoiding meaningful interactions with diverse others and the discomfort of struggle does not lead to the experiences Christians need to deepen their cognitive complexity and subsequently form religious autonomy.

Is Christianity Itself or Environment the Problem?

Our findings appear to imply that, at least in some environments, Christian beliefs incorporate a cognitive structure that might undermine internalization, autonomy development, and ultimately religious self-determination. This interpretation, however, contradicts the theoretical underpinnings of Christian scholars who suggest that Christian maturity involves a process of internalization and spiritual struggle (Buker, 2021; Gibson, 2004; Watson et al., 2021; Watson & Watson, 2013). The key question emerges as to whether and how it is possible to internalize the Christian religious system into an autonomous, self-determined faith while also adhering to values involving surrender to God's will and relying on God for guidance.

Recent research on Christian spiritual formation suggests that Christians who desire to grow and mature consciously need to move beyond external controllers and internalize their faith systems. For instance, Christian religious identity achievement for adolescents and young adults has been found to necessitate a period of considering all other options, called moratorium, and after eliminating these options as viable for them, committing fully to Christianity as their chosen faith system (Puffer et al., 2008). Watson and Watson's (2013) Christian Spiritual Maturity model describes a process by which the love of God becomes more and more deeply valued until it is ultimately transformed into a source of intrinsic motivation; simultaneously, the love of God is experienced as a larger force extending beyond the individual and to which the individual yields. Buker's Spirit-Centered Change model (2021) conceptualizes Christianity systemically, describing God's will as operating through multiple factors within the system; in this framework, spiritual growth occurs through second order epistemological change processes, in which an individual's prior assumptions supporting conventional wisdom are challenged and shifted in favor of Jesus's transformational wisdom. Epistemological change for the individual occurs while yielding to and trusting the processes of the larger system within which God is

working (Buker, 2021). The Christian Maturity and Spirit-Centered Change models underscore the importance of both internalizing Christian values and yielding to a system or “love” that transcends one’s own scope of influence or ability. Collectively, current literature, therefore, suggests that Christian development supports both individual autonomy development and yielding to God. Therefore, our participants may be earlier in their Christian religious development and may need more environmental support to help them mature into a more self-determined faith system.

Implications and Future Directions

Future research should explore ways of facilitating internalization of Christian faith systems without undermining the cultivation of faith in God that is considered valuable to many Christians. Studies should conceptualize and measure the processes in which spiritual struggle and questioning occur and how the overall Christian religious environment can expand to normalize and support these processes. One way to conceptualize the struggle is through the concept of religious doubt, defined as “a hesitant reaction, a temporary and divided state of mind” created by conflicting beliefs or inconsistency between belief and experience (Puffer et al., 2008, p. 271). Religious doubt is often confused with unbelief, but the two are very different (Beck, 1990). Whereas religious doubt was negatively predicted by identity foreclosure, identity diffusion, and religious satisfaction, religious doubt was positively predicted by moratorium and identity achievement (Puffer et al., 2008). This suggests that it is more satisfying for Christians to avoid doubt but that doubt is actually necessary for religious identity achievement. Given that doubt is a normal and necessary experience for growing Christians, it is important that individuals experience support for their autonomy to engage in the potentially uncomfortable cognitive gymnastics around religious doubt. Furthermore, it is possible that Christians

experience religious doubt differently, depending on the level of religious pressures in their environments. Future research should explore this.

Limitations

The study contained a few limitations that need to be noted. First, recruitment methods differed between the two institutions, with participants at one institution receiving \$10 and at the other being given the option of entering a drawing for a \$100 gift card; it is possible that response rates could have been affected. It would have improved the representativeness of the study to include a greater number of participants from the non-Christian institution and recruit from various institutions in different geographic locations. One institution yielded 98 participants, 2 less than the recommended minimum of 100 needed for purposes of generalization. Furthermore, participants were all university students, so extreme caution should be used in generalizing to non-student populations. The measures of environmental variables were not objective measures but, rather, based on perceptions of the participants. Finally, the variables of religious struggle or religious doubt, which could help explain the interesting contribution of religious pressures to religious development, were not included.

Conclusions

We examined the effect of religious pressures and support for autonomy in a broader sample than it has been done in the past, consisting of somewhat varied locations and environments, finding that institutional environment did not change how other environmental variables, support for autonomy and religious pressures, led to religious development. For Christians in general, the external controller of religious pressures positively predicted religious/spiritual relatedness and self-mastery. This unusual finding suggests the need for a more nuanced examination of religious pressures, and the cognitive processes involved in

religious doubt, to better understand the nature of its contribution. Results also expand the SDT theory literature and contribute to what is known about religious development for Christians.

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Table 1*Summary Statistics for all Survey Items*

Latent Variable	Survey Item	Min	1 st Quartile	Median	Mean (SD)	3 rd Quartile	Max
ASE	ASEQ.1	1	2	4	3.35 (1.3)	4	5
	ASEQ.2	1	2	3	3.28 (1.2)	4	5
	ASEQ.3	1	3	4	3.99 (1.1)	5	5
	ASEQ.4	1	3	4	3.66 (1.3)	5	5
	ASEQ.5	1	2	3	3.09 (1.3)	4	5
	ASEQ.6	1	1	3	2.65 (1.3)	4	5
RP	RPQ.1	1	3	5	4.01 (1.4)	5	5
	RPQ.2	1	3	4	3.88 (1.3)	5	5
	RPQ.3	1	3	5	4.02 (1.3)	5	5
	RPQ.4	1	2	4	3.36 (1.6)	5	5
	RPQ.5	1	4	5	4.31 (1.1)	5	5
	RPQ.6	1	2	4	3.37 (1.5)	5	5
	RPQ.7	1	2	3	3.04 (1.5)	5	5
	RPQ.8	1	3	4	3.65 (1.4)	5	5
	RPQ.9	1	3	5	4.01 (1.3)	5	5
	RPQ.10	1	3	4	3.87 (1.4)	5	5
R/S-R	SRSMQ.1	1	4	5	4.35 (0.9)	5	5
	SRSMQ.2	1	4	5	4.27 (1.0)	5	5
	SRSMQ.3	1	4	5	4.42 (0.9)	5	5
	SRSMQ.4	1	3	4	3.98 (1.0)	5	5
	SRSMQ.5	1	4	5	4.35 (0.9)	5	5
	SRSMQ.6	1	4	5	4.21 (1.0)	5	5
	SRSMQ.7	1	4	4	4.12 (1.0)	5	5
	SRSMQ.8	1	4	5	4.30 (0.9)	5	5
R/S-S	SRSMQ.9	1	4	5	4.20 (1.1)	5	5
	SRSMQ.10	1	4	5	4.22 (1.1)	5	5
	SRSMQ.11	1	4	5	4.46 (0.9)	5	5
	SRSMQ.12	1	4	5	4.47 (0.8)	5	5
	SRSMQ.13	1	4	5	4.43 (0.9)	5	5
	SRSMQ.14	1	4	5	4.46 (0.8)	5	5
	SRSMQ.15	1	4	4	4.20 (0.9)	5	5
MIL	MILQ.1	1	3	4	3.73 (1.1)	5	5
	MILQ.4	1	3	4	3.82 (1.1)	5	5
	MILQ.5	1	4	4	4.07 (1.0)	5	5
	MILQ.6	1	3	4	3.83 (1.1)	5	5

Note. ASE = autonomy supportive environment; RP = religious pressures; R/S-R = religious/spiritual relatedness; R/S-S = religious/spiritual self-mastery; MIL = meaning in life

Table 2*Pearson Product Moment Correlations*

Variable	SRS.M.1	SRS.M.2	SRS.M.3	SRS.M.4	SRS.M.5	SRS.M.6	SRS.M.7	SRS.M.8	SRS.M.9	SRS.M.10	SRS.M.11	SRS.M.12	SRS.M.13	SRS.M.14	SRS.M.15	MIL.1	MIL.4
R/S-R.1	1.00																
R/S-R.2	0.76***	1.00															
R/S-R.3	0.59***	0.63***	1.00														
R/S-R.4	0.47***	0.50***	0.44***	1.00													
R/S-R.5	0.46***	0.42***	0.43***	0.41***	1.00												
R/S-R.6	0.45***	0.45***	0.37***	0.53***	0.48***	1.00											
R/S-R.7	0.48***	0.47***	0.41***	0.70***	0.46***	0.65***	1.00										
R/S-S.8	0.43***	0.43***	0.41***	0.34***	0.55***	0.50***	0.45***	1.00									
R/S-S.9	0.30***	0.24***	0.24***	0.24***	0.17***	0.21***	0.24***	0.22***	1.00								
R/S-S.10	0.31***	0.26***	0.22***	0.25***	0.25***	0.24***	0.26***	0.27***	0.58***	1.00							
R/S-S.11	0.35***	0.27***	0.27***	0.26***	0.29***	0.20***	0.26***	0.29***	0.46***	0.48***	1.00						
R/S-S.12	0.36***	0.32***	0.30***	0.29***	0.31***	0.26***	0.27***	0.29***	0.38***	0.47***	0.62***	1.00					
R/S-S.13	0.40***	0.37***	0.34***	0.34***	0.36***	0.34***	0.33***	0.35***	0.39***	0.43***	0.45***	0.54***	1.00				
R/S-S.14	0.39***	0.35***	0.34***	0.28***	0.32***	0.27***	0.31***	0.36***	0.42***	0.46***	0.47***	0.56***	0.71***	1.00			
R/S-S.15	0.36***	0.39***	0.35***	0.31***	0.34***	0.29***	0.33***	0.33***	0.31***	0.38***	0.39***	0.47***	0.48***	0.61***	1.00		
MIL.1	0.32***	0.28***	0.29***	0.31***	0.28***	0.32***	0.30***	0.32***	0.24***	0.26***	0.24***	0.25***	0.33***	0.32***	0.33***	1.00	
MIL.4	0.28***	0.26***	0.27***	0.28***	0.27***	0.28***	0.27***	0.29***	0.19***	0.26***	0.24***	0.22***	0.25***	0.26***	0.30***	0.68***	1.00
MIL.5	0.34***	0.33***	0.33***	0.209***	0.32***	0.30***	0.32***	0.32***	0.22***	0.31***	0.28***	0.27***	0.30***	0.33***	0.34***	0.61***	0.72***
MIL.6	0.31***	0.27***	0.28***	0.26***	0.28***	0.27***	0.27***	0.25***	0.19***	0.28***	0.24***	0.24***	0.28***	0.29***	0.31***	0.63***	0.72***
MIL.9(r)	0.29**	0.27**	0.24**	0.21**	0.24**	0.24**	0.26**	0.23**	0.08*	0.12**	0.12**	0.16**	0.20**	0.16**	0.14**	0.37**	0.46**
RP.1	.014***	0.10**	0.14***	0.06	0.22***	0.14***	0.10**	0.23**	0	-0.04	0.05	0.07	0.13***	0.12**	0.01	0.06	0.05
RP.2	0.23***	0.20***	0.21***	0.18***	0.29***	0.28***	0.22***	0.30***	0.03	0.02	0.09**	0.11***	0.16***	0.14***	0.07	0.13***	0.09**
RP.3	0.19***	0.16***	0.17***	0.12***	0.22***	0.19***	0.16***	0.23**	0.04	0.03	0.12**	0.15**	0.14***	0.17***	0.08*	0.03	-0.01
RP.4	.016***	0.13***	0.08*	0.10**	0.26***	0.20***	0.17***	0.17***	0.02	0.03	0.06	0.08*	0.08*	0.08*	0.09**	0.10**	0.11**
RP.5	0.32***	0.29***	0.27***	0.24***	0.32***	0.30***	0.28***	0.33***	0.17***	0.15***	0.17***	0.24***	0.25***	0.25***	0.14***	0.21***	0.21***
RP.6	0.12***	0.09*	0.12***	0.03	0.10**	0.07*	0.04	0.07*	-0.05	-0.04	0.01	0.07*	0.04	0.05	0.07	0.05	0.03
RP.7	0.17***	0.16***	0.13***	0.12***	0.13***	0.20***	0.14***	0.12***	0.05	0.05	0.02	0.06	0.06	0.04	0.06	0.15***	0.12***
RP.8	0.22***	0.17***	0.16***	0.14***	0.19***	0.21***	0.13***	0.18***	0.04	0.05	0.08*	0.13***	0.17***	0.16***	0.12***	0.16***	0.10**
RP.9	0.30***	0.28***	0.24***	0.20***	0.24***	0.26***	0.19***	0.27***	0.10**	0.09**	0.13***	0.19***	0.20***	0.21***	0.17***	0.23***	0.21***
RP.10	0.20***	0.14***	0.15***	0.06	0.20***	0.13***	0.10**	0.17***	0.03	0	0.03	0.10**	0.07*	0.12***	0.06	0.10**	0.05
ASE.1	0.20***	0.16***	0.16***	0.19***	0.20***	0.17***	0.23***	0.20***	0.18***	0.16***	0.14***	0.18***	0.20***	0.22***	0.20***	0.21***	0.18***
ASE.2	0.20***	0.18***	0.16***	0.23***	0.21***	0.25***	0.26***	0.22***	0.17***	0.15***	0.18***	0.18***	0.22***	0.23***	0.23***	0.25***	0.20***
ASE.3	0.27***	0.24***	0.23***	0.24***	0.24***	0.24***	0.25***	0.23***	0.18***	0.18***	0.28***	0.29***	0.29***	0.32***	0.30***	0.27***	0.23***
ASE.4	0.21***	0.16***	0.16***	0.17***	0.20***	0.19***	0.21***	0.20***	0.13***	0.19***	0.20***	0.22***	0.26***	0.26***	0.21***	0.25***	0.21***
ASE.5	0.13***	0.09*	0.10**	0.18***	0.09*	0.14***	0.18***	0.13***	0.16***	0.14***	0.13***	0.14***	0.17***	0.19***	0.17***	0.23***	0.17***
ASE.6	0.11**	0.07*	0.09*	0.12***	0.07*	0.09**	0.14***	0.09*	0.13***	0.10**	0.08*	0.07	0.09*	0.12***	0.08*	0.18***	0.13***

Variable	MIL.5	MIL.6	MIL.9	RP.1	RP.2	RP.3	RP.4	RP.5	RP.6	RP.7	RP.8	RP.9	RP.10	ASE.1	ASE.2	ASE.3	ASE.4	ASE.5
	(r)																	
R/S-R.1																		
R/S-R.2																		
R/S-R.3																		
R/S-R.4																		
R/S-R.5																		
R/S-R.6																		
R/S-R.7																		
R/S-S.8																		
R/S-S.9																		
R/S-S.10																		
R/S-S.11																		
R/S-S.12																		
R/S-S.13																		
R/S-S.14																		
R/S-S.15																		
MIL.1																		
MIL.4																		
MIL.5	1.00																	
MIL.6	0.69**	1.00																
MIL.9(r)	0.43**	0.41**	1.00															
RP.1	0.08*	0.03	0.08*	1.00														
RP.2	0.16***	0.11**	0.10**	0.73***	1.00													
RP.3	0.05	0.02	0.09*	0.68***	0.69***	1.00												
RP.4	0.12***	0.10**	0.07*	0.36***	0.45***	0.37***	1.00											
RP.5	0.26***	0.18***	0.22**	0.48**	0.54**	0.46**	0.39**	1.00										
RP.6	0.05	0.04	0.03	0.27***	0.30***	0.31***	0.27***	0.31***	1.00									
RP.7	0.16***	0.12***	0.04	0.17***	0.26***	0.19***	0.25***	0.33***	0.42***	1.00								
RP.8	0.18***	0.12***	0.09**	0.31***	0.35***	0.32***	0.35***	0.44***	0.47***	0.49***	1.00							
RP.9	0.25***	0.18***	0.20**	0.38***	0.41***	0.36***	0.32***	0.58***	0.44***	0.44***	0.66***	1.00						
RP.10	0.11**	0.04	0.07*	0.38***	0.39***	0.36***	0.32***	0.40***	0.58***	0.38***	0.50***	0.56***	1.00					
ASE.1	0.22***	0.22***	.065	0.12**	0.08*	0.09*	0.09**	0.22***	0.06	0.18**	0.23***	0.19**	0.13***	1.00				
ASE.2	0.24***	0.25***	0.05	0.07	0.09**	0.07*	0.08*	0.18**	0.05	0.17**	0.18**	0.20**	0.12**	0.71***	1.00			
ASE.3	0.30***	0.28***	0.18**	0.15***	0.16***	0.15***	0.05	0.24***	0.04	0.11**	0.18	0.23***	0.11**	0.55***	0.60***	1.00		
ASE.4	0.25***	0.25***	0.13**	0.10**	0.08*	0.10**	0.07	0.18***	0.06	0.13***	0.21***	0.19***	0.11**	0.58***	0.61***	0.63***	1.00	
ASE.5	0.19***	0.24***	0.06	-0.04	-0.03	-0.03	0.02	0.04	-0.02	0.11**	0.12***	0.09**	0.02	0.60***	0.70***	0.52***	0.65	1.00
ASE.6	0.17***	0.19***	-0.01	-0.02	-0.02	-0.01	0.05	0.03	0.03	0.15***	0.09**	0.04	0.01	0.52***	0.57***	0.39***	0.47	0.66***

Notes: * $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$; R/S-R = Religious / Spiritual Relatedness; R/S-S = Religious / Spiritual Self-Mastery; MIL = Presence of Meaning in Life; RP = Religious Pressures; ASE = Autonomy Supportive Environment

Table 3*Summary of SEM Factor Loadings and Variances*

Latent Variable	Variable	Standardized Parameter Value ^{***}	Standardized Variance ^{***}
ASE	ASEQ.1	.781	.390
	ASEQ.2	.856	.267
	ASEQ.3	.700	.510
	ASEQ.4	.761	.420
	ASEQ.5	.818	.330
	ASEQ.6	.672	.549
RP	RPQ.1	.836	.301
	RPQ.2	.867	.249
	RPQ.3	.807	.349
R/S-R	SRSMQ.4	.768	.410
	SRSMQ.6	.721	.481
	SRSMQ.7	.902	.186
R/S-S	SRSMQ.13	.769	.409
	SRSMQ.14	.915	.164
	SRSMQ.15	.667	.555
MIL	MILQ.1	.761	.421
	MILQ.4	.864	.254
	MILQ.5	.823	.323
	MILQ.6	.824	.322

Note. *** $p < .005$. All values are statistically significant at the $p < .005$ level. ASE = autonomy supportive environment; RP = religious pressures; R/S-R = religious/spiritual relatedness; R/S-S = religious/spiritual self-mastery; MIL = meaning in life

Figure 1

Theorized relationships among variables

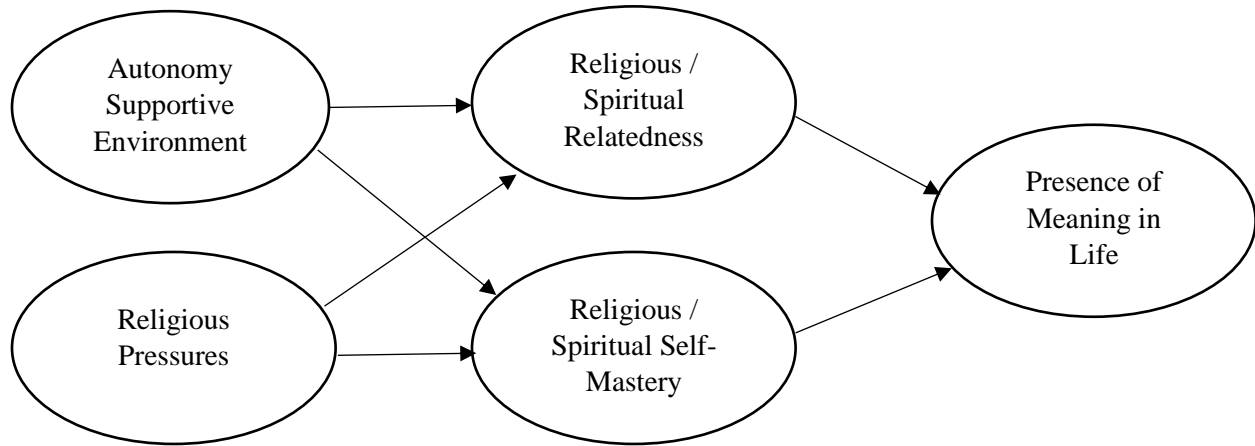


Figure 2*SEM Model*