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Religious Development in African American Adolescents: Growth Patterns that Offer Protection

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Abstract

Although religiosity promotes resilient outcomes in African American (AA) adolescents, there is a lack of research that examines the protective role of religious development in the context of stressful life events (SLEs). In 1,595 AA adolescents, a cohort sequential design was used from ages 12 to 18 to examine subtypes of religiosity, as well as distinct developmental patterns within subtypes. The protective role of religious development was also examined in the context of SLEs. The study findings indicated two subtypes of religiosity – extrinsic and intrinsic religiosity – as well as low and high developmental patterns in the identified subtypes. Furthermore, the protective influence of extrinsic and intrinsic religiosity gradually diminished from age 12 to 18 in the context of SLEs.

   Keywords: resilience, religiosity, stress, positive development, coping

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Religiosity – "adherence to beliefs, doctrines, ethics, rituals, texts, traditions, and practices related to a higher power and associated with an organized group" (Baumsteiger & Chenneville, 2015, p. 2345) – has been inversely associated with mental health indices in African American (AA) adolescents (see Mattis & Mattis, 2011). As research points to the psychologically beneficial role of religiosity, only a few studies have investigated the role of religion in mitigating depressive symptoms in the context of stress and adversity for AA adolescents (Grant et al., 2000; Greening & Stoppelbein, 2002; Molock, Puri, Matlin, & Barksdale, 2007). This lack of empirical attention is a shortcoming as researchers have found that AA adolescents report higher levels of depressive symptoms than their White counterparts due to stressful life events (SLEs) that stem from structural disadvantages such as exposure to neighborhood violence and lack of access to healthcare when needed (Adkin, Wang, & Elder, 2009; Boardman & Alexander, 2011).

Another prominent gap in studies of religiosity with AA adolescents is the mismatch between how religiosity is conceptualized and measured. Although scholars have conceptualized religiosity as a multidimensional construct (see Levin, Taylor, & Chatters, 1995), many studies of religiosity with AA adolescents have either measured a single religious activity (e.g., church attendance, prayer), or classified a combination of distinct religious activities and beliefs as a single construct (Mattis & Watson, 2009). As such, studies of religiosity in AA adolescents should explore the unique effects of religiosity subtypes such as extrinsic and intrinsic religiosity on mental health outcomes.

Lastly, much of the empirical work on religiosity with AA adolescents has predominantly employed cross-sectional data. Although valuable in understanding associations between religiosity and psychological well-being, cross-sectional studies cannot speak to the interplay of changing religiosity experiences and mental health outcomes throughout adolescence. With the

aid of longitudinal data, scholars can effectively investigate the distinct development trajectories of religiosity and better understand how variations in religious development inform variations in mental health outcomes during adolescence. In light of these limitations, this study aims to: (1) explore different subtypes of religiosity, (2) identify distinct subgroups of development within each of the religiosity subtypes, and (3) examine whether the development of certain experiences and expressions of faith can shield AA adolescents from the effects of SLEs on depressive symptoms over time.

The Meaning of Religiosity

Defining religiosity is a critical launch point for reflecting on how religious life mitigates the effect of SLEs on depressive symptoms in AA adolescents. Although studies have often used the terms religiosity and spirituality interchangeably (Mattis, 2000; Zinnbauer et al., 1999), scholars conceive of religiosity as an "adherence to one's prescribed beliefs and ritual practices associated with the worship of God or a system of Gods" (Mattis, 2000, p.309), whereas spirituality is defined as "the relationship between transcendent forces (e.g., God, spirits, ancestors) and humans…" (Mattis, 2000, p.309). Therefore, religiosity broadly refers to how individuals interface with religious practices and beliefs.

In addition to the definitional obscurity of religiosity, only a few scholars have identified the distinct ways by which AA adolescents interface with religion (Lincoln & Mamiya, 1990; Mattis, 2000; Mattis & Mattis, 2011). Specifically, studies of religiosity in AA adolescents have examined religious life across two domains – extrinsic and intrinsic religiosity (Allport & Ross, 1967). *Extrinsic religiosity* refers to the extent to which individuals hold membership, attend, and interface with religious institutions (e.g., church, mosque; Allport & Ross, 1967). AA adolescents are more likely than their white counterparts to attend religious services, be members of youth groups, take part in religious art forms (e.g., choir, plays), and participate in civic engagement (Mattis & Watson, 2009; Smith, Denton, Faris, & Regnerus, 2002). These acts of religious involvement have been linked to instrumental, emotional, and social support, which can mitigate the psychological consequences of SLEs (Mattis & Mattis, 2011). *Intrinsic religiosity* refers to private religious practices such as prayer that demonstrate devotion to the divine (Levin et al., 1995). Adolescents may conceive of prayer as a way to cope with SLEs, and religious AA adolescents often report that they pray to receive divine assistance in their academics (Butler-Barnes, Williams, & Chavous, 2012), treatment of physical illness (Davey, Tubbs, Kissil, &

Niño, 2011), and their relational life (e.g., peer/sibling relations; McHale, Kim, Whiteman, & Crouter, 2004).

Stress and Depressive Symptoms

In part due to the legacy of institutional racism such as racial segregation in the United States, AA adolescents are disproportionately more likely than adolescents from other racial groups to develop in contexts marked by SLEs. These contexts include poverty, illness, violence, crime, drug use, poorly maintained buildings, inadequate academic resources/support, and higher levels of social disorganization (see Acevedo-Garcia, Osypuk, Mcardles, & Williams, 2008). Even after controlling for a wide variety of sociodemographic correlates (e.g., household income), contending with SLEs have been linked to increased depressive symptoms in AA adolescents (Eamon, 2002; Hammack, 2003; Miller & Taylor, 2012). For example, Natsuaki and colleagues (2007) examined the link between SLEs and depressive symptom using longitudinal data and reported that although depressive symptoms gradually increased for most AAs during adolescence, depressive symptoms were especially elevated in AA adolescents who reported higher levels of SLEs such as parental divorce, academic difficulties, and neighborhood violence.

Adolescence is a pivotal life stage to examine the influence of SLEs on mental health outcomes such as depressive symptoms in AAs. According to García Coll and colleagues' seminal integrative model, social position variables (e.g., race/ethnicity, gender) and associated experiences play an influential role in shaping the developmental competences of racial and ethnic minority youth García Coll et al., 1996). Specifically, the integrative model elucidates the role of racial discrimination, segregation, promoting/inhibiting environments [e.g., neighborhoods and schools], adaptive cultures [e.g., traditions and cultural legacies], child characteristics [e.g., age and temperament], and parenting practices [e.g., racial socialization] on the acquisition of developmental assets in racial minority youth. Thus, the model posits that racial minority youth are more vulnerable to conditions that inhibit the development of competencies that are important requisites for the maintenance of psychological well-being such as emotional regulation (García Coll et al., 1996). Although adolescents of all racial/ethnic backgrounds are susceptible to upticks in depressive symptoms, studies have shown that AA adolescents experience interlocking SLEs due to race-based structural disadvantages (e.g., neighborhood disadvantage) that further heightens their vulnerability to depressive symptoms

(Adkin et al., 2009). For this reason, scholars must identify how SLEs across social (e.g., violent victimization) and ecological (e.g., neighborhood disorganization) contexts contribute to the experience of depressive symptoms in AA adolescents.

The Protective Role of Religiosity

Fortunately, not all youth who experience SLEs evidence depressive symptoms (Molock et al., 2006). In understanding these heterogeneous outcomes in the context of SLEs, and consistent with a risk and resilience framework (Rutter, 1987), scholars have conceived of religiosity as a protective factor – that is, a factor that predicts adaptive outcomes (e.g., less depressive symptoms) in the presence of factors that normally predict maladaptive outcomes (Luthar, Cicchetti, & Becker, 2000). Although a few empirical studies evidence the protective role of religiosity, no guiding framework, to date, has effectively elucidated how religiosity offsets depressive symptoms in AA adolescents burdened by SLEs. Despite the lack of empirical attention, scholars have theorized a number of pathways by which religiosity may exert its protective influence in AA adolescents (Cook, 2000; Lincoln & Mamiya, 1990; Mattis & Watson, 2009; Mattis & Mattis, 2011).

With regards to extrinsic religiosity, much attention has centered on the role of the religious institution in enhancing emotional and instrumental support, as well as self-esteem, in the context of SLEs. Mattis and Mattis (2011) noted that religious institutions situate AA adolescents within a supportive network of adults, peers, youth ministers, and lay ministers by which they receive emotional validation when contending with SLEs (Cook, 2000; Mattis & Mattis, 2011). With respect to instrumental support, AA faith communities are known for providing instrumental and tangible aid to their children and adolescents (e.g., academic support programs, mentorship) to ameliorate the effect of SLEs, such as neighborhood violence and school dropout on depressive symptoms (Billingsley, 1999). AA institutions may also enhance self-esteem and self-efficacy of youth congregants by providing opportunities for involvement in activities such as volunteer work, musical training, and mentoring other youth (Mattis & Mattis, 2011). Scholars, to this end, have recognized prosocial (e.g., volunteerism) and extracurricular activities (e.g., organized athletics, mentorship) as protective factors that can help youth cultivate the necessary developmental assets (e.g., coping strategies) to adaptively contend with SLEs (Zimmerman et al., 2013). It is therefore tenable to assert that AA religious institutions hold the

capacity to mitigate depressive symptoms that arise from the SLEs with which AA adolescents are all too familiar.

Although little is known about intrinsic forms of religiosity, a few scholars have suggested that this aspect of faith life may buffer the effects of SLEs on depressive symptoms through two mechanisms: optimism and emotional regulation. In terms of optimism, Mattis and colleagues (2004) aptly noted that private religious acts like prayer or reading scripture can draw the youth's attention to the creative and improvisational characteristics of the divine. These enduring beliefs can assure believers that the divine facilitates positive future outcomes in the context of SLEs and offsets depressive symptoms as a result (Mattis, Fontenot, Hatcher-Kay, & Grayman, 2004). In terms of emotional regulation, studies have shown that prayer and meditation down-regulate negative emotions such as depressive symptoms (Cahn & Polich, 2006) by facilitating the reappraisal of negative situations that arise from SLEs (Koole, McCullough, Kuhl, & Roelofsma, 2010). Thus, a few studies suggest that intrinsic religiosity may encourage AA adolescents to be more optimistic and exercise control over their emotions in the context of SLEs.

Limitations of Existing Studies

In addition to the dearth of studies examining religion and depressive symptoms during adolescence, the lack of conceptual clarity regarding what constitutes religiosity, the absence of longitudinal studies, and the use of 1-item or unidimensional measures, limit our understanding of religiosity as a protective factor for AA adolescents in the context of SLEs. Adolescence is a developmental period characterized by a downward trend in service attendance and youth group activities regardless of race (Petts, 2009). In light of developmental changes in religious involvement, as well as mental health outcomes such as depressive symptoms (Smith-Bynum, Lambert, English, English, & Ialongo, 2014), longitudinal datasets are needed to model the multiple developmental changes that occur during adolescence. Further, to enhance the conceptual clarity of religiosity in the lives of AA adolescents, studies must earmark the salient components of religiosity that lend protection in the context of SLEs.

Study Hypotheses

To address the aforementioned limitations, the study entailed three aims. The first aim of the study was to explore and validate different domains of religiosity embedded within a pre-existing scale of religiosity. As prior theoretical and empirical research conceptually differentiate

subtypes of religiosity, it is expected that that the pre-existing items of religiosity will encompass extrinsic and intrinsic subtypes of religiosity. The second aim was to explore the distinct developmental patterns in each subtype of religiosity. Consistent with longitudinal studies of religious development (e.g., Pearce & Denton, 2011), it is believed that unique growth patterns within each subtype of religiosity will be identified for AA's from ages 12 to 18. For instance, a group of individuals may report consistently high levels of religiosity over time, whereas another group of individuals may report rapid or gradual declines in religiosity. The last aim of the study was to examine if the developmental patterns of religiosity would moderate the effect of SLEs on depressive symptoms for AA adolescents over time. Consistent with cross-sectional studies of religiosity and depressive symptoms, it is expected that members of consistently higher or increasing trajectories of religiosity will endorse lower levels of depressive symptoms over time, than members of decreasing or consistently lower trajectories after taking into account the effect of stress. That is, individuals who remain in step with, or increase in their religious practices and beliefs will report the least amount of depressive symptoms in the context of SLEs from ages 12 to 18.

Method

Data Source

This study extracted data from three waves of the public-use National Longitudinal Study of Adolescent Health (Add Health) - Waves 1 (1994-1995), Wave 2 (1995-1996), and Wave 3 (2001-2002). Of note, the public-use dataset includes one-half of the core sample, chosen at random ($n = 6,504$). The Add Health dataset is the largest nationally representative longitudinal study of adolescents in the United States with an over-sampling of racial/ethnic minorities. The baseline sample (Wave 1), consisted of 80 high schools and 52 feeder middle schools selected with probabilities to size. Further, participants in Wave 1 were in grades ranging from 7 to 12 and completed an in-home interview that consisted of questions relating to symptoms of psychopathology, religiosity, stressful life experiences, socio-demographic characteristics, health, education, and health-related outcomes. In addition, parents of the participants in Wave 1 were asked to complete a Parent Questionnaire to report on their education, household income, and other socio-demographic correlates. Wave 2 data were collected approximately a year later and consisted of 4,834 participants (of the 6,504). By the time of Wave 3 data collection, the interviewed participants ($n = 4,882$) were all between the ages of 18 to 28 years. Additional

details of the Add health's sampling design, response rates, and data quality are well documented (http://www.cpc.unc.edu/projects/addhealth/design).

Participants

The analytic sample for this study consisted of 1,595 native-born, non-Hispanic AA adolescents. Socio-demographic characteristics of the sample indicate that 47.6% of the participants were males, that the average household income was \$37,160 ($SD = 4,706$), and that the respondents' mothers, on average, completed some college ($M = 5.70$, $SD = 2.15$). In addition, 48.4% of the participants reported that they resided in an urban area, while the remaining participants reported living in a suburban (26.3%) or rural (20.3%) area.

Measures

Demographics. The demographic variables examined in the study included age, gender, household income, mother's educational attainment, and geographic information (i.e., urban, suburb, and rural). With the exception of age, the adolescent's gender, household income, mother's educational attainment, and geographic information were assessed in the Adolescent In-Home interview at Wave 1.

Stressful Life Events. The present study measured cumulative exposure to 27 stressful life events (SLEs) by Turner, Wheaton, and Lloyd (1995) to assess the occurrence of stressful events that were acute, limited duration (occurring within 12 months), and generally known predictors of poorer health outcomes (Compas, 1987). In particular, the measured stressors included: parental/peer conflict, academic stress, violent victimization, health-related stress, neighborhood disorder/dissatisfaction, financial stress, and legal convictions. In addition, prior empirical work has demonstrated the concurrent and predictive validity of the scale (Gee et al., 1994). Each of the SLEs were dichotomously coded as 0 (*did not occur within the past year*) to 1 (*occurred within the past year*). Summative scores for SLEs were calculated at age 12.

Religious Affiliation. Religious affiliation was assessed by having the participant select from a list of 28 religious groups and denominational affiliations. Although the list consists of 28 religious groups and denominational affiliations, several denominational affiliations (e.g., Lutherans, United Churches) consisted of less than .01% of the sample. As such, small denominational affiliations that were branches of protestant Christianity were combined and subsumed under Protestantism. On the other hand, although African Methodist Episcopal, Methodist, Pentecostal and Baptists are also denominations affiliated with Protestantism, these

denominations were not combined due to having a large enough sample size to conduct statistical tests (*n > 70*). Lastly, 13 adolescents who self-identified as being a follower of Islam were excluded from the study analyses as they consisted of less than .80% of the sample, and as their theological tenets and practices diverges markedly from Christianity (see Table 2).

Depressive Symptomatology. Depressive symptoms were measured using a 9-item scale derived from the 20-item Center for Epidemiological Studies of Depression Scale (CES-D; Radloff, 1977). The CES-D measures the symptoms of depression on a Likert-type scale ranging from 0 (*never or rarely*) to 4 (*most or all of the time*). Sample items include: "You felt that people disliked you, during the past seven days" and "You were depressed, during the past seven days." Prior research has validated the shortened, 9-item scale using factor analysis in AA adolescent respondents of Add health (Meadows et al., 2006). The abbreviated CES-D scale demonstrated satisfactory to good reliability estimates in all three waves of data (α = .81, .80, and .80, respectively).

It is also important to the mention that the respondents' scores on the abbreviated CES-D scale were averaged, rather than summed, as originally recommended by the scale developers (Eaton, Muntaner, Smith, Tien, & Ybarra, 2004; Radloff, 1977). We elected to use averaged scores for two reasons. First, several participants had missing values on the scale which biases the summative score. Second, although the primary advantage of using the summative index is to examine thresholds for depression, no study has evidenced a diagnostically meaningful cut-off score (i.e., clinical thresholds) for the abbreviated, 9-item scale.

Religiosity. Religiosity was measured using a 4-item scale that assessed different variations of religious participation such as service attendance, prayer, youth activities (e.g., community service), and perceived importance. Although the documentation on item development is limited, the developers of the religiosity scale consulted Stark and Bainbridge's (1985) conception on devotional practices (e.g., prayer) and Smith's (1996) conception of religiosity identity to generate items for this scale. Items were scaled on a Likert-type scale as the frequency of service attendance and youth activities were scaled as 0 (*never*) and 3 (*at least once a day*), while prayer was scaled as 0 (*never)* to 4 (*at least once a day*). Further, the perceived importance of religion was scaled as 0 (*not important*) to 3 (*very important*). The scale demonstrated good reliability in the study sample in all three waves of data (α = .87, α = .84, α = .86).

Analytic Approach

All statistical analyses were conducted using Mplus 7.2 (Muthén & Muthén, 2012). Add Health is a longitudinal dataset organized by wave of assessment with diverse age groups represented in each wave. However, to examine depressive symptoms and religiosity across age, a cohort-sequential design was applied and the data were restructured across the three waves of Add Health data to provide age-based measurements of religiosity and depressive symptoms (Mehta & West, 2000). Of note, as adolescence was the primary life stage of interest for this study, ages 12 to 18 were included in the cohort-sequential design. Additionally, the fundamental problem of the cohort-sequential design is data "missing by design" (Duncan, Duncan, & Hops, 1996) which, according to Rubin's typology of missing data, is considered missing completely at random (Little & Rubin, 1989). As a result, the full information maximum likelihood (FIML) was used to generate likelihood functions for only the data that is available for each case.

In order to explore and validate the dimension(s) of religiosity in the 4-item scale of religiosity used in Add health, a confirmatory factor analysis (CFA) was conducted to validate the dimensions of a religiosity scale. Of note, given the limited number of items represented in the religiosity scale, it was apparent that a one or two factor structure could be the only identified solutions. Furthermore, a series of measurement invariance tests were conducted to assess configural (i.e., the same pattern of fixed and freed factor loadings), weak (i.e., factor loadings constrained to be equal across groups), and strong invariance (i.e., indicator intercepts are held equal across groups) across the age groups and across religious affiliations. Measures of model fit were indicative of good fit if the: (1) Root Mean Square Error of Approximation was less than .05 (RMSEA; Steiger & Lind, 1980), Comparative Fit Index was .95 or higher (CFI; Bentler, 1990), and Tucker-Lewis Index was .95 or higher (TLI; Tucker & Lewis, 1973). Furthermore, CFI's were compared between the configural invariance and weak invariance models, as well as the configural invariance and strong invariance models, to determine measurement invariance (see Cheung & Rensvold, 2002).

With respect to the second aim of the study, latent growth mixture models (LGMMs) were conducted to identify heterogeneous classes of growth trajectories in each subtype of religiosity. To obtain a finite number of latent class trajectories, the following model fit indices were examined: Akaike information criterion (AIC; Akaike, 1974), bayesian information criterion (BIC; Schwarz, 1978), and sample adjusted bayesian information criterion (Tofighi &

Enders, 2007). In addition to examining model fit indicators, Vuong Lo Mendell Rubin likelihood ratio tests (VLMR LRT; Lo, Mendell, & Rubin, 2001) and bootstrap likelihood Ratio tests (B-LRT; Feng & McCulloch, 1996) were conducted to assess if there was a significant improvement in model fit between the *n* versus *n* − 1 trajectory models. Of note, the content and distinctiveness of the latent trajectory classes were considered as well in model selection. After selecting the number of latent trajectory classes, posterior probabilities were used to classify participants into latent trajectory classes in each subtype of religiosity.

To examine the third aim of the study, multiple group latent growth models (MG-LGMs; see Bollen & Curran, 2006) of depressive symptoms were examined for each subtype of religiosity. Specifically, the groups in the MG-LGMs represented the participant's classification into an identified latent class trajectory.

Results

Preliminary Analyses

Table 1 presents the means and standard deviations of depressive symptoms, SLEs, and indicators of religiosity as a function of age (i.e., 12 to 18 years). The observed mean of depressive symptoms gradually increased until the age of 16 (0.54 to 0.70) and flattened out at age 17 (0.68) and 18 (0.69). For SLEs, an increase from age 12 to 16 (5.02 to 5.70) was observed followed by a decrease at the age of 17 and 18 (5.34 to 3.55).

With regards to the religiosity indicators, the observed mean for service attendance decreased from age 12 to 13 (2.47 to 2.37), flattened out from age 13 to 15 (2.37 to 2.39), and decreased rapidly from 15 to 18 years of age (2.39 to 1.86). For youth activities, a cyclical trend in the mean was observed from ages 12 to 15 (1.71 to 1.60 to 1.73 to 1.61), followed by a substantial decline from age 16 to 18 (1.47 to 0.98). The observed means for the two other indicators of religiosity, prayer and religious importance, changed minimally between age 12 to 17 but declined slightly from age 17 to 18 (3.34 to 3.15, 2.61 to 2.34, respectively).

The Multiple Dimensions of Religiosity

To address the first aim of the study, components of religiosity in AA adolescents were catalogued using confirmatory factor analysis (CFA). Specifically, CFA examined whether dimensions of extrinsic and intrinsic religiosity existed in a 4-item scale. It was hypothesized that service attendance and youth activities would reflect extrinsic religiosity, whereas prayer and religious importance would reflect intrinsic religiosity. As seen in Table 2, the two-factor

solution fit the observed data well, and all items strongly loaded on their respective factors (i.e., λ > .60).

Measurement invariance tests were conducted to evaluate whether extrinsic and intrinsic religiosity were assessed on the same metric across time (see Table 2). It was found that the configural ($\chi^2(7) = 6.01$, p = .54, RMSEA = .01, TLI/CFI = 0.99/0.99), weak ($\chi^2(19) = 24.85$, $p = .17$, RMSEA = .03, TLI/CFI = .99/.99), and strong invariance ($\chi^2(31) = 55.02$, $p = .01$, RMSEA = .04, TLI/CFI = 0.99/0.99) models fit the data well. In addition, the differences in CFI did not exceed .01 between strong invariance and configural invariance models, as well as the weak invariance and configural invariance models, indicating metric invariance. As such, the measurement invariance tests suggested that the extrinsic and intrinsic religiosity scales were measured in the same metric across the observed time points.

Because religious practices might differ across religions and denominations, measurement invariance tests were conducted to evaluate whether extrinsic and intrinsic religiosity were equivalently assessed across different religions and denominations. Models of configural ($\chi^2(9) = 20.25$, $p = .02$, RMSEA = .04, TLI/CFI = .99/.98), weak ($\chi^2(25) = 43.99$, $p = .02$, RMSEA = .04, TLI/CFI = .99/.98), and strong factorial invariance ($\chi^2(41) = 75.66$, $p = .00$, RMSEA = .05, TLI/CFI = .98/.98) fit the observed data well. Further, less than .01 fluctuations in CFI from the configural invariance to strong invariance model suggested metric invariance. As such, the tests of measurement invariance demonstrated that extrinsic religiosity and intrinsic religiosity were measured on the same metric for individuals regardless of their religion or denominational affiliation.

Distinct Growth Patterns in Extrinsic and Intrinsic Religiosity

To address the second aim of the study regarding the protective nature of religiosity, Latent Growth Mixture Models (LGMMs) were first conducted to identify distinct growth patterns in extrinsic and intrinsic religiosity. For extrinsic religiosity (see Table 3), the model with a single class had the largest AIC (6476.58), BIC (6540.14), and aBIC (6502.02) values, indicating the worst model fit. The two-class model had a lower AIC (6344.34), BIC (6423.79), and aBIC (6376.14) indicating an improvement in model fit in relation to the single class model. Further, VLMR LRT and B-LRT were statistically significant (both $p = .00$) suggesting a significant improvement in model fit from the single class model to the two-class model. Model fit statistics for the three-class model (AIC = 6350.04, BIC = 6445.39, aBIC = 6388.21) and the

VLMR LRT and B-LRT were not statistically significant ($p = .83$, $p = .98$, respectively) indicating that the model fit in the three-class model was not a significant improvement from the two-class model. As such, two distinct growth trajectories of extrinsic religiosity were identified.

As indicated in Table 3, the first class, comprised of 970 (65.72%) AA adolescents, was characterized by a higher level of extrinsic religiosity at the age of 12 (M intercept = 2.69, $p = .00$), that decreased over time (M slope = -0.11, $p = .00$). The second class, which consisted of 506 (34.28%) AA adolescents, was characterized by a lower level of extrinsic religiosity at the age of 12 (M intercept = 1.15, $p = .00$), that also decreased over time (M slope = -0.09, $p = .03$). Of note, the first class reported higher levels of religiosity across development than the second class. As such, the first class was referred to as *high extrinsic religiosity* and the second class was referred to as *low extrinsic religiosity*.

LGMMs were also conducted to examine distinct growth patterns in intrinsic religiosity. The model fit indices of the LGMMs under comparison are shown in Table 3. The single class model of intrinsic religiosity had the largest AIC (4956.67), BIC (5020.23), and aBIC (4982.11), indicating that this model fit the worst. A reduction in the AIC (4551.08), BIC (4630.54), and aBIC (4582.89) was observed in the two-class model, indicating an improvement in model fit. Further, VLMR LRT and B-LRT were statistically significant ($p = .00$, $p = .00$, respectively) suggesting that the two-class model demonstrated a significant improvement in model fit compared to the single class model. A three-class model further demonstrated a decrease in AIC (4509.37), BIC (4614.72), and aBIC (4547.54) with a statistically significant B-LRT ($p = .01$). Although the model fit significantly improved after including a third class, the third class was a variation of one of the two classes. In addition, only 21 participants (i.e., 0.01% of the sample) classified into the third class which would be likely to introduce analytical challenges (e.g., inflation of Type II error rates) when conducting analyses of class membership. As such, the two class model was retained for intrinsic religiosity.

As indicated in Table 3, the first class, comprising of 208 (14.09%) AA adolescents, was characterized by a lower level of intrinsic religiosity at the age of 12 (M intercept = 2.13, $p = .00$), that decreased over time (M slope = -0.12, $p = .00$). The second class, which consisted of 1,268 (85.91%) AA adolescents, was characterized by a higher level of intrinsic religiosity at the age of 12 (M intercept = 3.23, $p = .00$), that decreased minimally over time (M slope = -0.02, $p = .01$). In light of the distinct growth patterns represented in intrinsic religiosity, members in the

first class were referred to as *low intrinsic religiosity* and members in the second class were referred to as *high intrinsic religiosity.*

Extrinsic and Intrinsic Religiosity as Protective Factors

Following the identification of the religiosity growth trajectories, MG-LGMs were conducted to examine the protective influence of extrinsic and intrinsic religiosity in the relation between SLEs and depressive symptoms. As a first step, an unconditioned LGM of depressive symptoms was conducted to examine the growth of depressive symptoms in the pooled data. The unconditioned LGM fit the observed data well, $\chi^2(10) = 15.05$, $p = .13$, RMSEA = .02, TFI = .99, and CFI = .99, and indicated that the depressive symptoms gradually increased over time (*M* Intercept = 0.62, *M* Slope = 0.02).

To examine the protective role of extrinsic and intrinsic religiosity within the context of SLEs, MG-LGMs were conducted across the latent classes of extrinsic and intrinsic religiosity by conditioning the growth of depressive symptoms on SLEs (see Table 4). For extrinsic religiosity, the conditioned growth of depressive symptoms on SLEs was examined across the low and high extrinsic religiosity latent classes. The multiple group LGM fit the observed data well, $\chi^2(30) = 51.60$, $p = .01$, RMSEA = .03, TFI = .97, and CFI = .97. For members in the low extrinsic religiosity class, SLEs had a positive effect on depressive symptoms at the age of 12 (*b* = 0.09, *p* = .00), but had no effect on the slope of depressive symptoms. Similarly, for members in the high extrinsic religiosity class, SLEs had a positive effect on depressive symptoms at age 12 (*b* = 0.06, *p* = .00), but had no effect on the slope of depressive symptoms. As such, the findings indicate that the low extrinsic religiosity class endorsed higher levels of depressive symptoms than their counterpart class over the observed time points. However, due to the positive slope factor in the high extrinsic religiosity class (*M* Slope = .01), the gap in depressive symptoms gradually declined over time (see Figure 1).

For intrinsic religiosity, growth in depressive symptoms were conditioned on SLEs and examined across low and high intrinsic religiosity classes. The MG- LGM fit the observed data well, $\chi^2(30) = 42.20$, $p = .04$, RMSEA = .03, TFI = .96, and CFI = .96. For members in the low intrinsic religiosity class, SLEs had a positive effect on depressive symptoms at the age of 12 (*b* = 0.11, *p* = .00), whereas individuals who endorsed higher SLEs had sharper declines in depressive symptoms (*b* = -0.02, *p* = .05). For members in the high intrinsic religiosity class, SLEs had a positive effect on depressive symptoms at the age of 12 (*b* = 0.07, *p* = .00) and no

effect on the slope of depressive symptoms ($b = 0.00$, $p = .68$). As delineated by Figure 2, members in the high intrinsic religiosity class endorsed lower depressive symptoms than their counterparts until age 18. However, SLEs had a negative effect on the growth of depressive symptoms in the low intrinsic religiosity class. In turn, this gradually closed the gap in depressive symptoms between the low and high intrinsic religiosity class over time (see Figure 2).

Discussion

The primary objective of the study was to validate two subtypes of religiosity (i.e., extrinsic, intrinsic religiosity), investigate distinct developmental patterns within each identified subtype of religiosity, and examine if membership in distinct developmental trajectories of extrinsic and intrinsic religiosity offer protection against the effect of SLEs on depressive symptoms over time. With regards to the first aim of the study, results from the CFA validated two subtypes of religiosity in a 4-item scale – extrinsic and intrinsic religiosity. After reviewing the indicators of religiosity prior to the CFA, service attendance and youth activities appeared to reflect ways by which AA adolescents could interface with religious institutions and, as a result, were classified as indicators of extrinsic religiosity. Further, prayer and religious importance appeared to reflect more personal ways in which AA adolescents interface with their faith and, in turn, were classified as indicators of intrinsic religiosity (Levin et al., 1995; Lincoln & Mamiya, 1990). Consistent with our findings, scholars have conceived of religiosity as a multidimensional construct and have examined the salience and functional role of extrinsic and intrinsic religiosity in the lives of AA adolescents (Mattis & Watson, 2009; Mattis & Mattis, 2011).

With regards to the second aim, the majority of AA adolescent were classified into the high extrinsic religiosity class (66% of the sample) as compared to the low extrinsic religiosity class. These findings are consistent with previous studies that have posited that AAs are more likely to interface with religious institutions (e.g., service) than their White counterparts during adolescence (Pearce & Denton, 2011). It is interesting to note, however, that the high and low extrinsic religiosity declined at similar rates. A few scholars have attributed the decline in extrinsic religiosity to the formation and interplay of multiple identities during mid to late adolescence, such as religious and sexual identity (Rostosky, Danner, & Riggle, 2007). For example, adolescents identifying as lesbian, gay, bisexual, or transgender (LGBT) were less likely to perceive support from religious institutions as these institutions have largely taken a

judgmental stance towards sexual minority groups (Miller, 2007). In addition to the interplay of social identities, other scholars have asserted that adolescents and emerging adults initiate and engage in behaviors that might deviate from religious traditions and teachings – such as non-marital sexual behavior, alcohol and drug use, and higher education (Uecker et al., 2007). Alternatively, a decrease in religious participation may not necessarily reflect deviations from religious values. Researchers have shown that participation in non-religious extracurricular activities (e.g., sports, clubs) increases during adolescence; thus, potentially resulting in a decrease in religious participation (Eccles, Barber, Stone, & Hunt, 2003). As adolescents forge new social identities and choose lifestyle choices that run out of step with religious traditions and teachings, declines in extrinsic religiosity may follow.

    With regards to intrinsic religiosity, the majority of AA adolescents were classified into the high intrinsic religiosity class (86% of the sample) as compared to the low intrinsic religiosity class (see Figure 2). To understand this finding, scholars have indicated that many AA youth, since early childhood, are socialized by their parents to pray and understand all aspects of life (e.g., death) through core theological tenets (Mattis & Mattis, 2011). However, in light of gradual declines observed in the high and low intrinsic religiosity classes, Pearce and Denton (2011) suggested that adolescents may begin to take their own initiative in praying and appraising religious importance rather than echoing the religious practices and beliefs of their parents. Further, scholars have also noted that adolescents identify effective, non-religious methods of coping (e.g., athletics), begin to negotiate questions about science and theology (e.g., theories of evolution, creationism), and begin to question the moral expectations tied to a system of faith (e.g., pre-marital sex; Mattis & Mattis, 2011). These explanations, in combination, may provide a starting point for understanding the decline of prayer in adolescents.

    Following the identification of distinct growth patterns in extrinsic and intrinsic religiosity, this study found that both subtypes of religiosity were protective in the relation between SLEs and depressive symptoms. However, the protective influence of classifying into the high extrinsic and high intrinsic religiosity class gradually diminished over time, evidencing the protective-reactive pattern of resilience as described by Luthar and colleagues (2000). With regards to extrinsic religiosity (see Figure 1), the present findings extend prior research that suggests service attendance and youth activities may provide a limited scope on the extrinsic religious life of older AA adolescents (Mattis & Watson, 2009). That is, older AA adolescents

may be more likely to participate in programs that prepare them for navigating their broader culture context as they transition from youth to emerging adulthood such as programs that prepare adolescents for college or employment (Lincoln & Mamiya, 1992). As such, youth-oriented programs such as bible study may confer protection from SLEs to younger AA adolescents, but diminish in protectiveness for older adolescents.

A similar protective-reactive pattern of resilience (see Luthar et al., 2000) was observed for intrinsic religiosity, as the protective influence of classifying into the high intrinsic religiosity class diminished over time (see Figure 2). Although religious acts such as prayer can offset depressive symptoms by increasing optimism and emotional regulation, the protective nature of intrinsic religiosity may decrease for older AA adolescents in the context of SLEs (ages 17 to 18). It is conceptually reasonable to believe that older AA adolescents learn to develop a wider array of adaptive coping strategies that go beyond intrinsic religious practices and beliefs, such as problem-focused coping methods (Skinner & Zimmer-Gembeck, 2013). For instance, researchers have reported that older adolescents (e.g., 17 and 18 year olds) are more likely than younger adolescents (e.g., 12 and 13 year olds) to coordinate and execute complex problem-solving behaviors; these behaviors include mobilizing support from peers and adults, engaging in self-regulatory activities (e.g., sports, music), and mobilizing instrumental actions to change the stressful situation (Skinner & Zimmer-Gembeck, 2013). Alternatively, it is also plausible that as older AA adolescents navigate beyond the familial context (e.g., entering labor market) (Arnett, 2003), they may become more susceptible to racism-related stressors such as discriminatory hiring practices (Hurd, Varner, Caldwell, & Zimmerman, 2014). The burden of racism-related stress has been shown to confer developmental challenges in these adolescents and young adults as they grapple with developing a positive self-concept in a society that devalues AAs due to their racial identification (Graham, West, & Roemer, 2014; Neblett, Banks, & Bernard, 2016). These racism experiences during late adolescence, in turn, have been linked to increases in substance use and other risky behaviors (e.g., unprotected sex) to manage the racism-related stressors that AAs face during their transition into emerging adulthood (Doherty, Green, Reisinger, & Ensminger, 2008). Consequently, the perceived importance of prayer may not have the same protective effects when religious AA adolescents engage in behaviors (e.g., substance use) that run contrary to norms and values associated with their system of faith.

Study Limitations and Future Directions

Despite the interesting findings, this study consists of several noteworthy limitations. First, although the study endeavored to generalize the distinct growth patterns and the protective nature of religiosity by age and gender, the study findings did not take into account demographic indicators and psychosocial factors (e.g., risky behaviors) that can influence religious development and coping (Brown, Parks, Zimmerman, & Phillips, 2001; Hardie, Pearce, & Denton, 2016). For instance, scholars have noted that youth from low-income households and youth who abuse alcohol are less likely to attend religious services (Brown et al., 2001; Hardie et al., 2016). It is important to mention that several indicators of SES (i.e., parent's educational attainment, household income) were initially included into the models and were found to be non-significant in predicting the growth of depressive symptoms. These items, however, were eventually excluded from the models due to convergence issues that stemmed from missing data, which is a limitation of the cohort sequential design. As a result, future studies would be strengthened by examining the protective role of religiosity across different sociodemographic correlates.

Second, the results in the present study may not generalize to a non-Christian sample (e.g., Muslims) and to Christians outside the Baptist denomination (e.g., Pentecostals = 4.7%). As indicated in Table 2, approximately 77% of the sample affiliated into denominations that fall within Christianity, and nearly half of the sample identified as Baptists (47.1%). Thus, study findings might have varied if most of the study sample identified as non-Christian or non-Baptist. For instance, if the sample were predominantly Muslim, indicators of intrinsic religiosity might not gradually decline for Muslim adolescents as they subscribe to a structured prayer regiment (i.e., the Salat). Likewise, researchers have reported that Pentecostal Christians are more likely to engage in intrinsic religious practices (e.g., prayer) than Christians from other denominations (Chamberlain & Zika, 1992). In turn, future investigations should explore the salient components of religiosity for AA adolescents in non-Christian religious communities, and across denominations, to accurately assess how these components inform their psychological well-being.

Third, there is a dire need for studies to elucidate how extrinsic and intrinsic religiosity developmentally change together. Although the present study uniquely identified qualitatively distinct subtypes of religiosity, the identified subtypes were strongly correlated. For this reason, the religious life of AA adolescents may be best understood when subtypes of religiosity are

examined together. Scholars are encouraged to go beyond identifying religiosity subtypes and explore how religiosity subtypes jointly unfold during adolescence.

The fourth limitation to the present study was measuring SLEs as a time invariant construct. That is, prior studies of stress have noted that SLEs ebb and flow throughout adolescence and that certain trajectories of SLEs (e.g., gradual incline or decline) can effect depressive symptom in adolescents differently (Adkins et al., 2009). As such, an improvement in understanding the potential value of SLEs as it relates to depressive symptoms is to assess SLEs as a time varying construct.

Lastly, it is conceptually reasonable to believe that involvement with other non-religious activities (e.g., organized sports) might confer protection from SLEs in AA adolescents, even as religiosity declines. For instance, Gardner and colleagues (2012) reported that intensive participation in afterschool programs and other organized afterschool activities can buffer the negative influence of domestic violence exposure on internalizing problems. Although our study uniquely contributes to our understanding of religiosity as a protective factor, future studies should take into account how a decline in the protective capacity of religiosity might be replaced by social connection and emotional support from other organizations.

Conclusion

This study identified different subtypes of religiosity – extrinsic and intrinsic religiosity – in pre-existing items of religiosity. Further, unique developmental patterns were identified within extrinsic and intrinsic religiosity suggesting that AA adolescents develop differently with respect to each subtype of religiosity. Specifically, the majority of AA adolescents were classified into developmental patterns represented by high extrinsic and intrinsic religiosity over time, whereas the remaining adolescents classified into the developmental patterns that represented low extrinsic and intrinsic religiosity. Lastly, extrinsic and intrinsic religiosity offered protection to AA adolescents against the effect of SLEs on depressive symptoms over time. For this reason, the results underscore the need for future research to examine the underlying mechanisms that account for the protective properties of religiosity in the context of stress for AA adolescents. While the study findings highlight the different subtypes and developmental patterns of religiosity in AA adolescents, the findings also suggest the potential value of incorporating or invoking religious involvement in mental health service delivery. This line of inquiry has the

potential to inform research and counseling practice on how AA adolescents use cultural elements – like religiosity – to successfully overcome and negotiate stress.

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Table 1

Means and Standard Deviations of Study Variables By Age

	12 (*n* =145)	13 (*n* =364)	14 (*n* =491)	15 (*n* =570)	16 (*n* =579)	17 (*n* =566)	18 (*n* =525)
Depressive Symptoms	0.54 (0.40)	0.61 (0.46)	0.64 (0.47)	0.67 (0.47)	0.7 (0.50)	0.68 (0.45)	0.69 (0.51)
Stressful Life Events	5.02 (2.78)	4.90 (2.83)	5.13 (2.76)	5.34 (3.01)	5.70 (3.19)	5.34 (2.91)	3.55 (2.36)
Service Attendance	2.47 (0.90)	2.37 (0.91)	2.38 (0.88)	2.39 (0.89)	2.25 (0.96)	2.20 (0.94)	1.86 (1.06)
Youth Activities	1.71 (1.26)	1.60 (1.27)	1.73 (1.18)	1.61 (1.23)	1.47 (1.23)	1.34 (1.19)	0.98 (1.13)
Prayer	3.41 (0.99)	3.42 (1.02)	3.36 (0.97)	3.32 (1.07)	3.25 (1.12)	3.34 (1.04)	3.15 (1.23)
Religious Importance	2.67 (1.59)	2.66 (0.53)	2.69 (0.52)	2.65 (0.59)	2.62 (0.59)	2.61 (0.57)	2.34 (0.74)

Religious or Denomination Affiliations	**n(%)**
1. African Methodist Episcopal	73 (4.6%)
2. Baptist	751 (47.1%)
3. Pentecostal	68 (4.3%)
4. Methodist	118 (7.4%)
5. Protestant	217 (13.6%)
6. Catholic	81 (5.1%)
7. Jehova's Witness	39 (2.4%)
8. Islam	13 (0.8%)
9. None	200 (12.5%)
10. Missing	35 (2.2%)

Table 2

Factor Structure of Religiosity

Extrinsic Religiosity (EXT)	Intrinsic Religiosity (INT)
Service Attendance = **.78 [.02]**	Prayer = **.61 [.02]**
Youth Activties = **.68 [.02]**	Religious Importance = **.65 [.02]**
	Model Fit Indices
Chi-Square Test of Model Fit	$\chi2(1) = 1.76$, $p = .19$
Root Mean Square of Error Approximation	.02
Tucker Lewis Index/Confirmatory Factor Index	.99 / .98
Inter-factor correlation at age 12	0.81
Inter-factor correlation at age 15	0.71
Inter-factor correlations at age 18	0.72

Note. The values in bold are factor loadings and [standard errors].

Extrinsic Religiosity

Class	AIC	BIC	aBIC	Entropy	VLMR LRT	Bootstrap LRT	Class 1	Class 2	Class 3
1 Class	6476.58	6540.14	6502.02	--	--	--	1476	--	--
2 Class	6344.34	6423.79	6376.14	.70	.00	.00	970	506	--
3 Class	6350.04	6445.39	6388.21	.62	.83	.98	1	497	978

	Intercept	Slope
Latent Class Trajectory 1	2.69 ($p = .00$)	-0.11 ($p = .00$)
Latent Class Trajectory 2	1.15 ($p = .00$)	-0.09 ($p = .03$)

Intrinsic Religiosity

Class	AIC	BIC	aBIC	Entropy	VLMR LRT	Bootstrap LRT	Class 1	Class 2	Class 3	Class 4
1 Class	4956.67	5020.23	4982.11	--	--	--	1476	--	--	--
2 Class	4551.08	4630.54	4582.89	.87	.00	.00	208	1268	--	--
3 Class	4509.37	4614.72	4547.54	.88	.06	.01	21	1183	272	--

	Intercept	Slope
Latent Class Trajectory 1	2.13 ($p = .00$)	-0.12 ($p = .00$)
Latent Class Trajectory 2	3.23 ($p = .00$)	-0.02 ($p = .01$)

Table 4.

Multigroup Latent Growth Models of Depressive Symptoms (CES-D) on SLEs

	Intercept of CES-D	**Slope of CES-D**
Low EXT Religiosity Class	0.63 (*p* = .00)	0.01 (*ns*)
High EXT Religiosity Class	0.59 (*p* = .00)	0.02 (*p* = .01)
Low INT Religiosity Class	0.67 (*p* = .00)	0.00 (*ns*)
High INT Religosity Class	0.61 (*p* = .00)	0.01 (*ns*)
	SLEs on Intercept of CES-D	**SLEs on Slope of CES-D**
Latent Class Trajectories		
Low Extrinsic Religiosity Class	.09 (*p* = .00)	-.02 (*ns*)
High Extrinsic Religiosity Class	.06 (*p* = .00)	.00 (*ns*)
Low Intrinsic Religiosity Class	.11 (*p* = .00)	-.02 (*p* = .05)
High Intrinsic Religiosity Class	.07 (*p* = .00)	.00 (*ns*)

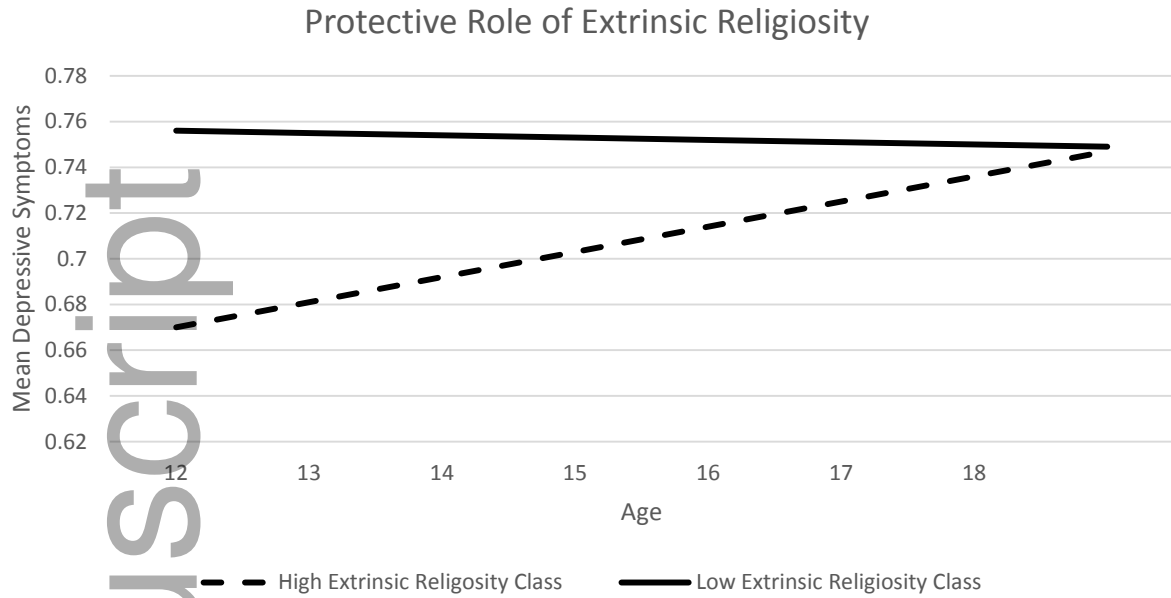## Protective Role of Extrinsic Religiosity

Figure 1. The intercept and slope of the depressive symptoms trajectory have been conditioned on stressful life events. Each line represents either the high or low extrinsic religiosity latent trajectory class.
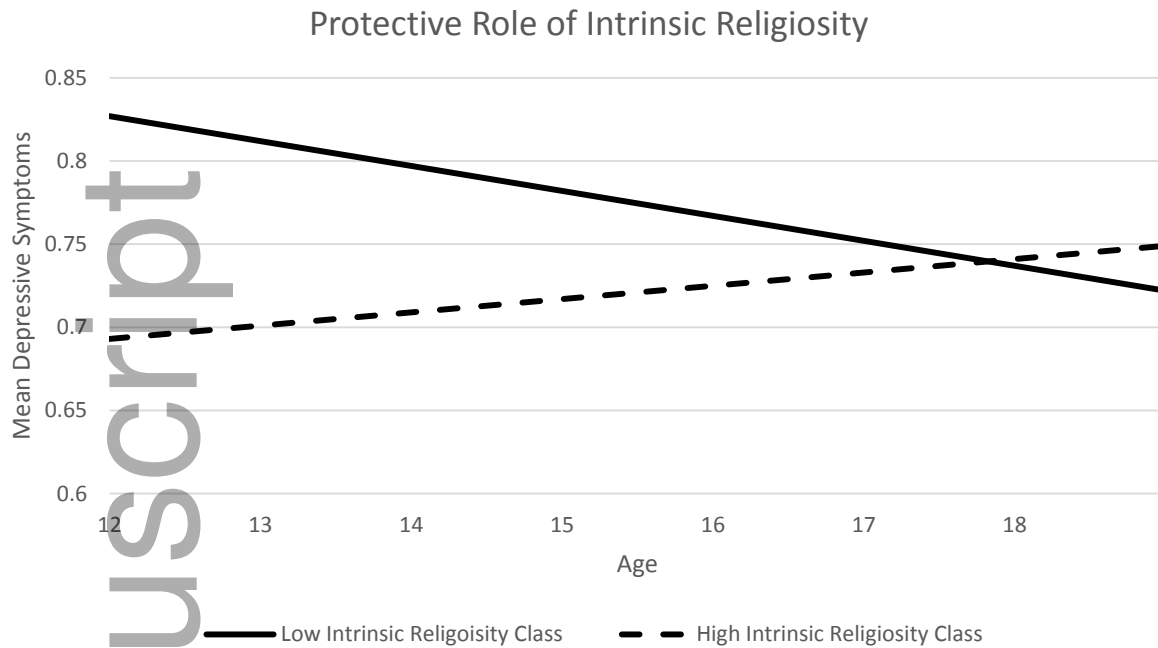
Figure 2. The intercept and slope of the depressive symptoms trajectory have been conditioned on stressful life events. Each line represents either the high or low intrinsic religiosity latent trajectory class.