J Relig Health (2018) 57:2378–2388
https://doi.org/10.1007/s10943-018-0608-0

ORIGINAL PAPER

Religious Integration and Psychological Distress: Different Patterns in Emerging Adult Males and Females

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Published online: 21 March 2018

Abstract This study examined differences between male and female emerging adults on low, moderate, and high levels of religious integration in relation to psychological distress. Participants were recruited from undergraduate courses at a religiously affiliated, Midwestern university and completed the integration scale of the Personal Religious Inventory and the Langner Symptom Survey. Due to significantly higher reports of religious integration in female participants, the sample was separated by sex. A significant, negative correlation between religious integration and psychological distress was found *only* for females. Similarly, females in the low religious integration group reported significantly higher levels of psychological distress than females high in religious integration, while no differences were found among males. This study corroborates previous research suggesting a general link between religion and mental health, but further suggests religious integration and psychological distress are uniquely related for males and females. Possible reasons and future areas of study are noted.

Keywords Emerging adults · Religion · Psychological distress · Sex differences

Introduction

The relationship between mental health and religiosity has historically been at the center of much debate (Dezutter et al. 2006; Hackney and Sanders 2003; Wong et al. 2006). Perhaps the first in psychology to connect the two constructs was Freud, who suggested that religion encourages "blissful hallucinatory confusion" (Freud et al. 1989, p. 56), and its emphasis on sin and guilt may contribute to "neuroses" (Freud et al. 1989, p. 68). Others who integrate sociological theories derived from Durkheim and Weber suggest religion

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may function as a social support or coping mechanism in light of negative events, deter individuals from engaging in risky health behaviors, and perhaps relieve mental health distress, rather than generate it (Idler 1987). Through seminal meta-analyses that reported variable relationships between religion and mental health, evidence for both sides of the argument was produced (Bergin 1983). A more recent systematic review (Koenig et al. 2012) determined that over 10% of publications in their analysis demonstrated a significant link between religious involvement and increased levels of psychological distress, while nearly half suggested the opposite. While a definitive directional link between religion and mental health remains disputed, an undeniable relationship is apparent. Further, the need for clear, operational definitions of religiosity and psychological functioning is warranted.

Recent empirical research has shifted its focus to understand the relationship between religiosity and mental health in emerging adults, as this population may be at a higher risk of developing psychopathology compared to adults and younger adolescents (Arnett 2000; Schulenberg and Zarrett 2006). Additionally, literature supports that people tend to be less involved in ritual and non-ritual religious attendance during emerging adulthood (Creech et al. 2013; Lee 2002). As such, the link between such constructs in this population is of interest. However, a critical review of the literature has revealed notable methodological concerns.

The first methodological concern involves the limited generalizability of samples of participants utilized, in that much research employs religiously homogenous samples of emerging adults. For example, Kuyel et al. (2012) and Abdel-Khalek (2010) recruited exclusively Muslim undergraduates. Additionally, Bravo et al. (2016) sampled only Christian emerging adults, and Sanders et al. (2015) sampled exclusively from populations of Latter-day Saints. Importantly, findings derived from such research may not be fully generalizable to samples of emerging adults from mixed or absent religious backgrounds, or to those from alternative religious groups, and recruiting a heterogeneously religious sample may be better representative and generalizable to emerging adult samples.

The second methodological concern involves the operationalization and measurement of religion, in that many studies employ vastly different definitions of religion and subsequently measure self-reported religion through psychometrically unsound ways. Regarding operationalization, some research focuses on extrinsic religious orientation, which is the "use [of one's] religion to obtain security, sociability, and status" (Kuyel et al. 2012, p. 536), and other work emphasizes intrinsic religious orientation, which is the "strong dedication to [one's] religious values, beliefs, and practice" (Bravo et al. 2016, p. 160). Kuyel et al. (2012) reported that extrinsic religious orientation was related to *increased* levels of anxiety, depression, and interpersonal hostility, while other studies (Bravo et al. 2016; Sanders et al. 2015) reported that intrinsic religious orientation significantly predicted decreased depression and anxiety and was a protective factor associated with psychological well-being. Such findings support the conclusion for a variable link between religiosity and psychological functioning (Bergin 1983; Koenig et al. 2012) and support the need for clear and consistent operationalization of religiosity within research to continue clarifying the positive and negative relationships between religion and psychological functioning.

Regarding measurement, several recent studies across disciplines (Abdel-Khalek 2010; Ellison et al. 2011; Milevsky and Leh 2008) utilized originally developed, *single-item* measures for the assessment of extrinsic and intrinsic religiosity, religious attendance, and religious and spiritual beliefs. For example, Abdel-Khalek (2010) asked participants "What is your level of religiosity in general?" (p. 71) to measure overall religiosity. Bartz et al. (2010) measured closeness to God and church through "life charts" (p. 687), which

have not reported psychometric properties and appeared to be created only for the purposes of the study. In order to ensure the generalizability and replicability of findings in the areas of religion and psychology, it is imperative to clearly operationalize the definition of religion and utilize psychometrically sound and appropriately robust measures.

The third methodological concern involves the operational definition of psychological distress within specific disorder clusters. By operationalizing distress through only anxious or depressive symptomatology (e.g., Bravo et al. 2016; Cokley et al. 2013), inferences regarding the broad construct of mental distress use narrow-band measures sensitive to *specific disorders*, but not to all forms of psychological distress. Conclusions about religion as it relates to psychological distress broadly must be made with caution when the measures employed are narrow-band and disorder-specific, as unique operational definitions of psychological distress or maladjustment may relate to religion (or its facets) differently (Hackney and Sanders 2003). As such, broadband, multidimensional, epidemiological measures of psychological distress may be best suited for such purposes.

A fourth methodological issue involves data analysis. Despite previous research that has reported females as significantly more religious than males (Gallup and Lindsay 1999), some studies do not assess for potential sex differences. These studies have combined the sample to include both males and females in their performed analyses (Ross et al. 2009; Sanders et al. 2015). Recent research has outlined this methodological concern as it relates to parental divorce and religion among males and females (Handal and Lace 2017) and argues that conclusions drawn from combined samples for which sex differences were not assessed may be best interpreted with caution. Because sex and religion seem to be related, research in this area should consistently analyze for sex differences to avoid spurious conclusions that may be relevant for one sex and not the other.

In summary, four methodological issues emerge with the aforementioned literature. First, many samples of emerging adults are homogeneously religious (i.e., entirely or nearly entirely comprised of one religious background; Abdel-Khalek 2010; Sanders et al. 2015; Kuyel et al. 2012). As such, findings derived from such research may not be generalizable to samples of participants from mixed, absent, or alternative religious background. Second, operational definitions of religion vary widely, yielding variable conclusions, and measures used to assess religion are often single-item questions (e.g., Abdel-Khalek 2010) or lack robust psychometric properties. Third, mental health or psychological distress as operationally defined in the literature is often reduced to depression or anxiety, which may restrict broadband investigation of psychopathology (e.g., Sanders et al. 2015). Finally, sex differences are variably assessed in the literature of religion, and ignoring possible sex differences may yield overgeneralizations.

The present study sought to determine group differences among individuals who report low, moderate, and high levels of religious integration and psychological distress. The four previously mentioned methodological concerns were addressed by utilizing a sample of emerging adults from a diverse set of religious backgrounds, by assessing for sex differences and treating any differences accordingly, by assessing religion with a psychometrically robust scale that has been identified as an excellent measure of religion, and by operationally defining psychological distress by use of a broadband, epidemiological measure.

While research cited above has tended to operationalize religion in various ways and utilize measures without robust psychometric properties (e.g., Bartz et al. 2010; Milevsky and Leh 2008), other previous work has operationalized religion as religious integration (e.g., Crawford et al. 1989; Handal et al. 1989). Religious integration is the extent to which one's religion or relationship with God or other divine, transcendent being influences his or

her thoughts, feelings, and actions. This operationalization of religion as religious integration was chosen to capture a construct of the ways in which one's beliefs and faith may affect aspects of his or her life. An instrument chosen to measure religious integration so defined is discussed below and has been reported as the single best operational definition and psychometrically robust measure of religious integration (Lipsmeyer 1984; Ross et al. 2009).

The present study had several hypotheses. First, while some literature has reported no differences in sex on measures of religion (e.g., Cokley et al. 2013), other literature on psychology and religion has reported sex differences (e.g., Gallup and Lindsay 1999; Handal and Lace 2017; Schnabel 2015). As such, the present study predicted that a main effect of sex would emerge, as female emerging adults would report significantly higher levels of religious integration than males. Second, it was predicted that a statistically significant, negative correlation between psychological distress and a psychometrically robust measure of religious integration would emerge. Third, it was predicted that emerging adults who reported low levels of religious integration would report statistically significant higher psychological distress than emerging adults with moderate and high levels of religious integration.

Methods

Participants

Participants were recruited from undergraduate courses at a religiously affiliated, Midwestern university. The sample consisted of 643 participants (M age = 19.37, SD = 1.30), consisting of 198 males (M age = 19.51, SD = 1.38) and 445 females (M age = 19.30, SD = 1.27). Ages ranged from 18 to 25 with no significant difference in age between males and females ($p > .06$).

Participants were predominantly Caucasian (75.3%), 9.5% identified as Asian or Asian-American, 3.9% identified as South Asian or Indian-American, 3.7% identified as multiracial or multiethnic, 2.8% identified as Black or African-American, 2.6% identified as Hispanic or Latina/Latino, and 1.6% identified as Middle Eastern or Arab-American. One participant each identified as Hawaiian/Pacific Islander, Native American/Native Alaskan, "White," and "Greek."

Participants were from a variety of religious backgrounds, with over half identifying with some form of Christianity. 56.6% identified as Catholic, 10.0% as Protestant, 8.7% as non-denominational Christian, 6.4% as Agnostic, 3.6% as Hindu, 3.6% as Atheist, 3.3% as Muslim, .5% as Buddhist, and .2% as Jewish. The remaining 7.3% of participants identified as "Other."

Participants were predominantly first-year undergraduate students (54.1%), with 21.8% sophomores, 16.2% juniors, 7.3% seniors, and .6% were fifth-year students or beyond. A range of annual family income was reported from less than $40,000 (6.1%) to greater than $160,000 (24.0%), with a median annual family income reported to be between $100,000 and $120,000. Eight individuals did not report annual family income. Their datasets were complete for all other variables and thus were included in the analysis.

Measures

Religion

The Personal Religious Inventory (PRI; Lipsmeyer 1984) is a 45-item, nine scale, multidimensional measure of religion. Most items incorporate a 6-point Likert scale, though some use a multiple choice or dichotomous yes/no format. The scales measure personal prayer, ritual attendance, non-ritual, church-related activities, belief in God, and belief in an afterlife. Other scales include the perceived congruence of one's religious beliefs with his or her attitudes on social and moral issues, the degree to which one's ideas of religion guide his or her philosophy, and one's subjective experience of closeness to God. The scale of interest to the present study, called Integration, is a psychometrically robust scale that captures the construct of religious integration. This scale measures the extent to which individuals perceive that their religion and relationship with God influences their cognition, mood, and behavior. Examples of the 20 items from the integration scale include: "My relationship with God helps me not to worry excessively about my life and about my future"; "If it were not for my relationship with God, I would not value life as much as I do"; and "When I have decisions to make in everyday life, I try to discover what God's will is."

Lipsmeyer (1984) reported test–retest reliability coefficients over 1 week between .83 and .97 for all nine scales. Lipsmeyer (1984) reported that the PRI had high concurrent validity, as clergy members (e.g., priests) and other religious personnel (e.g., nuns) scored significantly higher than the general public on each scale. Atheists, agnostics, and those without stated religious preference have scored significantly *lower* than those reportedly belonging to major religious groups (Lipsmeyer 1984). Validity for the PRI and its scales has been reported in relation to psychological adjustment in adolescents (Mosher and Handal 1997), in adults (Crawford et al. 1989), and, of interest to the present study, in emerging adults (Low and Handal 1995). Importantly, the integration (INT) scale of the PRI has correlated most strongly with all other subscales on the PRI, has the highest reported stability coefficient, and has been reported as the single best measure of religion across the literature (Lipsmeyer 1984; Mosher and Handal 1997; Ross et al. 2009). As such, the INT scale of the PRI was used to measure religion, operationally defined as religious integration, in the present study.

Psychological Distress

The Langner Symptom Survey (LSS; Langner 1962) is a frequently used multidimensional, epidemiological measure of psychological distress and need for treatment (Dooley and Catalano 1979; Lace et al. 2018; Ross et al. 2009) and has been widely used in research on religion and spirituality (Crawford et al. 1989; Handal and Lace 2017; Lace and Handal 2017; Lace et al. 2017). The LSS assesses difficulties related to sleep, symptoms of somatization, subjective feelings of loneliness and low spirit, cognitive difficulties, and anxious and depressive symptomatology. Examples of items on the LSS include: "I have personal worries that get me down physically (make me physically ill)," "Do you feel somewhat apart even among friends (apart, isolated, alone)?," and "I have periods of such great restlessness that I cannot sit long in a chair (cannot sit still very long)." Each item is scored dichotomously with a score of 0 or 1, indicative of either the

absence or endorsement of a target symptom, respectively. LSS scores range from 0 to 22, and higher scores represent greater psychological distress and need for treatment.

The LSS has a reported overall internal consistency (Cronbach's alpha) of .80 (Ross et al. 2009) and has demonstrated good psychometric properties for use in epidemiological research as reported by Cochrane (1980). The LSS has demonstrated discriminant validity in accurately identifying more than 84% of adult inpatients and outpatients from healthy controls (Langner 1962) and has demonstrated an overall identification rate of 79% in an adolescent population (Handal et al. 1993). Additionally, it has shown a 70% accuracy rate in emerging adults (Handal et al. 2014).

Demographic Questionnaire

Participants completed a 22-item demographic questionnaire. These items asked about respondents' age, ethnicity, sex, religious affiliation, previous mental healthcare utilization, parental marital status, estimated family income, college living arrangement, academic performance, work and volunteer positions, and spiritual/religious self-classification with choices of spiritual, religious, both, or neither.

Procedure

IRB approval was obtained before data collection began. Participants were part of a larger study and were recruited from undergraduate psychology classes. Some classes (approximately 66%) offered class credit for participation, while the other classes did not offer incentives for participation. Participants accessed the study via SONA, a university-approved research recruitment program, or through a link provided to them by professors who helped with recruitment. After accessing the study, they were directed to a link to the Qualtrics site hosting the survey. Demographic questions were answered first, followed by the subscales from the Personal Religious Inventory (PRI) and the Langner Symptom Survey (LSS). Participants were allowed to skip items or discontinue as desired. Only participants with complete data for these measures were included for analyses.

Results

In order to determine whether sex differences existed on measures utilized in the present study, a multivariate analysis of variance (MANOVA) was conducted. Results revealed a significant MANOVA, $F(2, 640) = 7.47$, $p < .01$, Wilks' $\Lambda = .98$, partial $\eta^2 = .02$. No significant differences on the LSS were noted between males ($M = 3.58$) and females ($M = 4.06$; $p > .08$). With regard to the INT scale, females had significantly higher scores ($M = 74.21$, SD = 21.79) than males ($M = 68.55$, SD = 20.38), $F(1, 641) = 9.61$, $p < .01$, partial $\eta^2 = .02$. Thus, males and females were separated for analyses.

A Pearson's correlation coefficient was computed in each sample (i.e., females and males) in order to determine the strength of the relationship between religious integration and psychological distress. For females, a statistically significant relationship was found between the INT scale and the LSS, $r(445) = -.21$, $p < .01$, while males showed no statistically significant relationship, $r(198) = -.13$, $p > .07$. A Fisher r-to-z transformation calculation revealed that the correlations between the INT scale and LSS were not significantly different between male and female groups ($p > .35$).

Participants were categorized into groups of low, moderate, or high religious integration based on their INT scores in order to determine whether there were differences on LSS scores. Participants whose INT scores fell at or below one standard deviation below the mean within their respective comparative sample (i.e., females or males) were placed in the "low" religious integration group. Participants whose INT scores fell at or above one standard deviation above the mean within their respective comparative sample were placed in the "high" religious integration group. All other respondents whose scores fell between one standard deviation below and one standard deviation above the mean were placed in the "moderate" religious integration group. Table 1 displays *n*s of participants within each group.

In order to determine differences among religious integration groups on the LSS, separate one-way analyses of variance (ANOVA) were conducted for males and females. No significant differences emerged for males, indicating that LSS scores did not differ among reported levels of religious integration, $F(2, 195) = 1.85$, $p > .15$, partial $\eta^2 = .02$.

Alternatively, significant differences were found for females on the LSS between religious groups, $F(2, 442) = 4.58$, $p < .02$, partial $\eta^2 = .02$. Due to notably unequal sample sizes, Tukey's post hoc tests using homogeneous subsets with harmonic mean sample sizes were conducted and revealed that the low religious integration group had significantly higher LSS scores than the high religious integration group ($p < .05$) but not the moderate religious integration group ($p > .05$). The moderate and high religious integration groups of females did not differ on LSS scores ($p > .05$). Table 1 displays group means and significant differences.

Discussion

The present study offers several meaningful findings. First, a significant difference between males and females on the measure of religious integration was observed, as females reported significantly higher levels of religious integration than males. That is, females were more likely than males to indicate that religion or their relationship with God exerted a notable influence on their thoughts, feelings, and behaviors. This finding is in line with previous work suggesting that females may report greater levels of religious activity, involvement, and other dimensions of religion than males (Francis 1997; Gallup and Lindsay 1999; Handal and Lace 2017; Thompson 1991). Beyond that, it suggests that this pattern is observed within samples of emerging adults and supports the need to consistently assess for main effects of sex in research utilizing measures of religion, and perhaps spirituality, as some previous research in closely related topics has failed to do (e.g., Creech et al. 2013; Ellison et al. 2011; Ross et al. 2009; Zhai et al. 2007). Further, it encourages researchers to investigate the mediating pathways that may influence females to be the more religious sex.

The results of the present study support a second finding that partially confirmed the second hypothesis. A significant, albeit weak, negative correlation between religious integration and psychological distress emerged *only* for females. This finding may be understood as a statistical issue regarding sample size. In the present dataset, there were over 200 more females in the present study than males. The Pearson's correlation coefficient statistic is, at least partly, a function of sample size, in that larger sample sizes are more likely to have a weaker bivariate relationship and emerge as statistically significant than those derived from smaller sample sizes (Cohen 1992). It is possible that if there were

Table 1 Ns, mean LSS scores, and SDs for low, moderate, and high religious integration groups of females and males

Religious integration group	Females		Males	
	N	LSS mean (SD)	*N*	LSS mean (SD)
Low	73	$4.85_{a,\ b}$ (3.76)	36	4.44_{d} (4.46)
Moderate	310	$4.05_{b,\ c}$ (3.11)	135	3.50_{d} (3.15)
High	62	3.19_{c} (2.71)	27	2.85_{d} (2.77)

Means with like subscripts do not differ at $p < .05$

a greater number of males in this analysis then the correlation between religion and psychological distress for males would emerge as significant. However, alternative explanations (e.g., religion as a protective factor, greater self-regulatory ability) regarding the way religious integration and psychological distress are related for males and females, as discussed below, may also explain this finding.

The third hypothesis of this study was, also, partially confirmed with significant sex differences observed among religious groups on psychological distress. Females who reported low levels of religious integration as measured by the INT scale had significantly greater psychological distress than females in the moderate and high religious integration groups, while males demonstrated no significant differences among levels of religious integration and distress. This finding suggests the degree of religious integration and the extent to which religion influences thoughts, feelings, and behavior may have a unique influence on female mental health, rather than male. It may be that females are more likely than males to indicate that religious integration or their relationship with God exerted a significant influence on their emotional and psychological functioning, such that females who reported high levels of religious integration also reported significantly *lower* levels of psychological distress than females who reported low levels of religious integration. In all, the extent to which one's religious beliefs influences the ways in which one thinks, feels, and behaves may have a stronger relationship to psychological and emotional distress in females compared to males.

These findings raise questions as to *why* the differential pattern between males and females was observed. As religion may serve as a protective factor in providing social support and collaborative coping mechanisms in light of negative events (Idler 1987), it may be that females who lack such support are more sensitive to psychological distress and, indirectly, greater psychological resilience. Other research suggests highly religious individuals may possess greater emotional self-regulatory ability that may be contributing to increased health (Watterson and Giesler 2012), and this effect may be more salient for females than for males. Additionally, women who report higher levels of religious integration may perceive symptoms of psychological distress (e.g., low mood, increased anxiety) as normative within the context of their religious beliefs and their relationship with God. The understanding of suffering and psychological distress as expected and normative may help normalize and reduce the negative impact of experienced distress for religious individuals, while more secular individuals may view these symptoms as more upsetting or unjustifiable.

Alternatively, it may be that females who experience psychological distress become less interested in their religious beliefs and practices, and subsequently become less attached to

and integrated with them. Perhaps the experience of psychological distress may affect females more than males to report decreased connection between their relationship with God and their thoughts, feelings, and behaviors, and thus diminished levels of religious integration. Also, previous literature supports a link between self-reported religion and increased social desirability and impression management (e.g., Gillings and Joseph 1996; Leak and Fish 1989), which may correspond with underreporting psychopathological symptoms. Further research investigating the reasons why this differential pattern is observed between males and females in relation to religion and psychological distress and the mediating and moderating factors involved is warranted.

Several limitations are apparent within this study. The first limitation is that these results were reported in the context of a private, religiously affiliated, Midwestern university. Previous research has suggested that students from private and public universities may differ on measures of religion (Low and Handal 1995). As such, future research is needed to determine whether a similar pattern would emerge in samples of male and female emerging adults in public and private, non-religiously affiliated universities across diverse geographic locations. The second limitation is that the present study did not investigate potential mediators and moderators. Parental divorce has been shown to be related to sex differences in religion (Handal and Lace 2017) and may emerge as a moderator variable in future investigations. It is also possible that other predisposing factors (e.g., genetics, education, socioeconomic status), in accordance with a biopsychosocial model of psychopathology, may serve as mediators to developing psychological distress.

Compliance with Ethical Standards

Conflict of interest All authors declare that they have no conflict of interest.

Ethical Approval This article does not contain any studies with animals performed by any of the authors. All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

Informed Consent Informed consent was obtained from all individual participants included in the study.

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