

2023

Examining the role of high school spiritual practice and ways of coping in levels of anxiety among college-aged women

Madison Harris

Salve Regina University, madison.harris@salve.edu

Oyenike Balogun-Mwangi

Salve Regina University, o.balogunmwangi@salve.edu

Follow this and additional works at: <https://scholar.utc.edu/mps>



Part of the [Psychology Commons](#)

Recommended Citation

Harris, Madison and Balogun-Mwangi, Oyenike (2023) "Examining the role of high school spiritual practice and ways of coping in levels of anxiety among college-aged women," *Modern Psychological Studies*: Vol. 29: No. 1, Article 2.

Available at: <https://scholar.utc.edu/mps/vol29/iss1/2>

This article is brought to you for free and open access by the Journals, Magazines, and Newsletters at UTC Scholar. It has been accepted for inclusion in *Modern Psychological Studies* by an authorized editor of UTC Scholar. For more information, please contact scholar@utc.edu.

Abstract

Utilizing an online survey, this study examined the extent to which the encouragement of spiritual practice in high school, endorsement of daily spiritual experience, and ways of coping, predicted anxiety levels among college-aged women ($N = 140$). Participants were recruited through the use of snowball sampling via email and flyers posted around campus. Data was collected via a demographic questionnaire and self-report measures assessing ways of coping, spirituality, and levels of anxiety among the sample. Results of a multiple regression analysis showed that focusing on and venting of emotions, behavioral disengagement, mental disengagement, and the encouragement of spiritual practices in high school, significantly predicted anxiety levels among the sample ($p < .05$). These findings suggest that undergraduates may need targeted interventions to bolster adaptive ways of coping and that the encouragement of spiritual practice prior to college may serve as a buffer against poor mental health outcomes among undergraduates. Implications for research and practice are discussed.

Keywords: anxiety, coping, spiritual practice, college mental health, college-aged women

Examining the Role of High School Spiritual Practice and Ways of Coping in Levels of Anxiety Among College-Aged Women

Anxiety is a problem of concern among many populations, and on average, the onset of mental disorders takes place during childhood or adolescence, with treatment generally occurring several years afterwards (Kessler et al., 2007). College is a significant time of transition that can trigger or exacerbate symptoms of anxiety, and almost half of college-aged adults report having dealt with a psychiatric disorder in the year prior (Blanco et al., 2008; Oswald et al., 2020; Peres et al., 2018). According to the National Institutes of Mental Health (NIMH, 2017), the prevalence of anxiety disorders among adults aged 18 to 29 is around 22.3%, with more than half of this number experiencing moderate to serious impairment. Notably, undergraduate college students have been found to use more maladaptive coping mechanisms, which tend to predict negative mental health outcomes like depression and anxiety (Mahmoud et al., 2012). Along with first-generation college students and sexual minorities, college-aged women have been found to be among the populations on campus more likely to contend with chronic stressors that predict poorer mental health outcomes (Kroshus et al., 2021). In dealing with these stressors, college women have been shown to employ instrumental coping skills and engage with social supports during times of stress (Eisenbarth, 2019).

Encouragement of High School Spiritual Practice

Encouragement of spiritual practice in high schools has been shown to delay violence perpetration and drug use (e.g., Sussman et al., 2006) and fosters an increase in optimism about the future, the inherent value of the individual, stewardship of the environment, and betterment of the world (Benson et al., 2012). It also serves as a source for meaning, hope, and strength to face hardships, and is associated with better mental health outcomes (Dreyer et al., 2010; Sancakğlu &

Sayar, 2012). The positive impact of fostering spiritual practice appears to be supported in the existing research. For example, Cronjé and colleagues (2017) conducted a one-year longitudinal study of a sample ($N = 211$; aged late teens to 80s) who attended a five-day, faith-based education program. Participants completed a variety of questionnaires and scales, and researchers found that the program led to more internalized spirituality, less anxiety and stress, and less negative perceptions around brief illness (it is important to note that although this study included college-aged participants, a large percentage of participants were relatively older adults).

Furthermore, studies suggest that private schools have more flexibility in explicitly fostering a spiritual practice than public schools. For example, in a mixed-methods study of 168 high school students from urban schools in the Pacific Northwest, Merlino (2005) observed that students found their high school experiences to neither help nor hinder their spiritual development and, as a topic, was not discussed in their schools. Blain and Revell (2001), in their study of 21 Chicago area public and private schools found that administrators and instructors in public schools focused on morals and character rather than on a spiritual practice. Parochial private schools, on the other hand, taught discreet faith-based classes and actively sought to develop a spiritual identity amongst their students (Blain & Revell, 2001). Overall, much is unknown, especially among public school graduates, about the extent to which they experienced support around their spiritual development during their high school tenures.

Spiritual Practice and Anxiety

Several studies have also noted the benefits of spiritual practice in alleviating anxiety (e.g., Haney & Rollock, 2018; Jansen & Hovey, 2010; Sternthal et al., 2010). While spiritual practice can be helpful in dealing with anxiety and depression, some researchers suggest that it may be subject to diminishing returns with extremes of use (Nadeem et al., 2017). It is apparent that much

of this research focuses mostly on college-age adults, and this study aims to expand on this by analyzing how spiritual beliefs and/or practices affect levels of anxiety among college students attending a private, predominantly female, Catholic institution. An example of a study pertaining to spirituality, anxiety, and college students was one conducted by Abdel-Khalek and Lester (2012). The researchers recruited college-aged participants ($N = 350$) from both the United States and Kuwait, and participants completed a variety of scales pertaining to overall happiness, love of life, and spirituality. Findings revealed that Kuwaiti students scored higher on measures of spirituality, while American students scored higher on measures regarding love of life. Among both groups of participants, increased spirituality was correlated with higher endorsement of overall happiness and subjective well-being. Those who scored high on measures of spirituality were more likely to also score higher on measures of well-being (Abdel-Khalek & Lester, 2012).

Similarly, Jansen and Hovey (2010) recruited a sample of college students ($N = 430$), who were asked questions and filled out scales regarding anxiety, depression, and spirituality. The two main spiritual affiliations of participants were Protestant Christian (50.7%) and Catholic Christian (49.3%). Researchers found no significant differences between levels of anxiety and depression in Protestant versus Catholic Christians. Regardless of denomination, there was a significant increase in levels of depression for the not spiritual as compared to the highly spiritual. Researchers also found a negative correlation between attendance at faith-based services and levels of anxiety and depression. Their findings showed that some aspects of spirituality, such as engagement in frequent practice, may serve as a stronger protective factor for mental health than others, such as specific denomination or affiliation (Jansen & Hovey, 2010). Similarly, Sternthal and colleagues (2010) analyzed a sample of adults ($N = 2,214$) aged 18 and older from the Chicago area and found a negative correlation between weekly attendance at faith-based services and symptoms of

depression and anxiety. The increased meaning in life that these participants endorsed appeared to be the strongest aspect of spirituality that correlated with positive mental health outcomes.

Peres and colleagues (2018) designed a cross-sectional study of adults ($N = 782$) and analyzed factors pertaining to spirituality in relation to mental health and overall wellbeing. Positive correlations were found between meaning and quality of life, peace and quality of life, and spirituality and quality of life. Conversely, there was a negative correlation between meaning and depression, peace and depression, and peace and stress. Spiritual participants reported experiencing more meaning and peace as compared to nonspiritual participants. Furthermore, spiritual participants with low levels of meaning and peace in their lives had more negative health outcomes than nonspiritual participants with high levels (Peres et al., 2018). Finally, Haney and Rollock (2018) used a sample of emerging adults ($N = 508$), who reported on various aspects of spirituality and mental health. These researchers found better mental health among spiritual participants as opposed to participants who doubted spirituality, regardless of personality and demographics.

Importantly, not all studies in this area have found the impact of spirituality and spiritual practice to result in positive mental health outcomes. For example, Nadeem and colleagues (2017) studied Muslim college students from Pakistan ($N = 723$) and found a negative correlation between spiritual practices such as prayer and symptoms of mental disorders. However, as a testament to the different experiences people can have practicing their spiritual beliefs in different cultures, one study of college-aged Muslim Americans ($N = 141$) found that perceived faith-based discrimination led to an increase in symptoms of anxiety and depression (Lowe et al., 2019). Some studies also highlight the limits of spirituality and/or spiritual practice on mental health outcomes. For example, a study of patients recruited during the “recovery” period of depression ($N = 120$), and a year after

diagnosis and treatment, showed that increased spirituality did not predict recovery from depression but predicted recovery from a single depressive episode (Mihaljevic et al., 2016).

Studies that have focused on younger adolescents seem to also bolster the positive findings noted above. Bagley and Mallick (1997) obtained a sample of middle school students ($N = 904$) who went to either a public school or a Catholic school. Participants were compared in terms of self-esteem and spirituality. Researchers found no significant differences in self-esteem but observed that increased spirituality, no matter the type, was correlated with increased self-esteem. Also, Cattellino and colleagues (2014), in a study of Italian adolescents ages 14 to 16 ($N = 908$), found that spirituality and a positive view on health were protective factors against engaging in deviant behaviors, even if peers engaged in them. Furthermore, researchers studying New Zealander adolescents ages 16 to 21 ($N = 153$) found that having good family relationships and being spiritual predicted more community connections, which also predicted more spiritual group activities and overall psychological salience (Donaldson et al., 2019). Overall, majority of the extant literature show positive correlations between spiritual practices, positive health outcomes, and metrics of overall wellbeing.

Ways of Coping and Anxiety

Researchers have studied the effects of both positive and negative coping mechanisms for anxiety (e.g., Aysan et al., 2001). Positive coping mechanisms, also known as good or adaptive coping, reduce and/or alleviate anxiety long-term. Conversely, negative coping mechanisms, also known as bad or maladaptive coping, may reduce anxiety temporarily but ultimately lead to more problems in the long-term (Folkman & Moskowitz, 2000). A review of previous studies suggests some predictive value between levels of anxiety and ways of coping. For example, Aysan and colleagues (2001) used a test-retest model for a group of male and female, junior and senior

students from Turkey ($N = 113$). Higher test anxiety (before and after testing) was predictive of poor coping mechanisms and a poor view of perceived overall health. Students in their senior year had less anxiety, coped better, and had a better view of perceived overall health as opposed to juniors. Whereas younger girls experienced the most anxiety. de Matos and colleagues (2016) studied Portuguese adolescents ($N = 3,869$) and found that participants coped with anxiety by trying to solve the problem and through the use of distraction. Academic demands were often cited by participants as the primary source of their anxiety (de Matos et al., 2016). In relation to how age can impact the use of certain ways of coping, Zeidner (1996) reported that college students were more likely than high school students to use problem-focused coping. Notably, the gendered differences in anxiety levels highlighted by de Matos and colleagues are of importance given the aim of this study to focus on female undergraduates.

Furthermore, the links among ways of coping, perceptions, and attitudes in relation to spiritual practice is illustrated in the previously mentioned study by Sternthal and colleagues (2010). People in this study who identified as spiritual, used negative coping mechanisms, and criticized their churches and congregations, were at a higher risk for negative health outcomes than spiritual people who did not utilize negative ways of coping.

Use of Spiritual Practice and Coping Among College-Aged Adults

While the research on spiritual practice among college students is relatively thin, there are some notable findings about the relationships among spirituality, coping methods, and stress. For instance, Yun and colleagues (2019) had a sample of undergraduate and graduate social work majors attending a parochial school, complete self-report questionnaires involving stress, ways of coping, and current spiritual well-being ($N = 74$). They found that students with higher levels of spirituality were more likely to use adaptive ways of coping and experience less stress. They also

found that participants who used beneficial ways of coping were less likely to be highly stressed. Furthermore, Felicilda-Reynaldo and others (2019) studied undergraduate nursing students ($N = 659$) from Greece, Kenya, India, and the United States and assessed their quality of life and spirituality. Notably, attending non-organized spiritual activities was associated with higher psychological quality of life. However, past research studying undergraduates' coping mechanisms and degree of spirituality ($N = 616$), found that spiritual ways of coping were only beneficial among students who self-reported high levels of spirituality (Krägeloh et al., 2012). Finally, using qualitative methodology, Ekwonye and colleagues (2020) interviewed college students ($N = 25$) about the role spirituality played in their lives, and discovered a frequent theme was the use of spiritual coping mechanisms to deal with school stress.

The Current Study

A summative analysis of this review of the literature suggests that studies have primarily analyzed spirituality in relation to anxiety or emphasized ways of coping in relation to mental health outcomes. A more complex examination of spirituality and ways of coping as likely predictors of anxiety among college-age adults, specifically women, is lacking. This study aims to explore the degree to which encouragement of high school spiritual practice (retrospective), current spiritual practice, and ways of coping, predict anxiety levels among female undergraduates. For the purposes of this study, spiritual practice includes both overt behaviors and feelings of closeness to the divine, as operationally defined and measured by the Daily Spiritual Experience scale (DSES; Underwood & Teresi, 2002). Given that college-aged adults are vulnerable to mental health stressors, determining what can positively or negatively impact their anxiety levels is crucial in working towards positive health outcomes and increased wellbeing. With women now constituting a growing majority of adults in college (e.g., Fry, 2019), a focus on their gendered

experiences within this developmental context is of particular importance. The authors hypothesize that encouragement of spiritual practice in high school, quality of spiritual practice, and ways of coping are together, predictive of anxiety levels among college-aged women; with higher encouragement of high school spiritual practice, higher endorsement of daily spiritual practice, and adaptive coping methods predicting lower levels of anxiety.

Methods

Participants

Participants ($N = 140$) were female undergraduate students, the majority of whom were between the ages of 18 to 23, attending a small, predominantly female, Catholic, liberal arts university located in the Northeastern United States. The mean age of participants was 19.77 ($SD = 1.29$). Additionally, participants were primarily White (81.4%), heterosexual (81.4%), and Catholic (61.1%), and came from middle to upper class families. Although 35% of participants did not disclose their familial income, 57.2% of participants came from families earning greater than or equal to \$50,000 per year. The top three majors selected by participants were Psychology (34.3%), Nursing (17.9%), and Education (15%). Majority of participants attended public high schools (72.9%; See Table 1).

Measures

A variety of measures were used to assess participants' ways of coping, current spiritual practice, anxiety levels, and perceptions of encouragement of spiritual practice in high school.

Each of the measures used for this study are described below.

Demographic Questionnaire

Respondents were prompted to each provide general demographic information, including age, gender identity, race/ethnicity, sexual orientation, spiritual affiliation, academic major, high

school attended (public or private), and family income. Family income was requested, rather than personal income, with the aim of capturing a more accurate picture of socioeconomic class among the sample.

COPE

The Coping Orientation to Problems Experienced (COPE; Baumstarck et al., 2017; Carver et al., 1989), is a 60-item inventory with multiple scales, each of which has four items. Each scale consists of statements pertaining to one specific way of coping. For instance, items for the coping mechanism “turning to religion” include “I seek God’s help” and “I pray more than usual.” The COPE includes prompts inviting participants to read each item while thinking about their individual approaches to managing stress. Responses are arranged on a four-point Likert scale where “I usually don’t do this at all” is equivalent to a score of 1 and “I usually do this a lot” is equivalent to a score of 4. Subscale scores range from 4 to 16. The COPE subscales have been validated extensively (Carver et al., 1989). All the subscales show acceptable internal consistency, with the exception of the mental disengagement scale. Similarly, for the current study, Cronbach’s Alpha for all subscales were used and calculated at .80 or higher, with the exception of the mental disengagement scale (.53). However, Carver and others (1989) report that mental disengagement as a coping mechanism, in contrast to the other coping mechanisms included within the COPE, can include many behaviors such as engaging in another activity or daydreaming, which in turn may result in a lower reliability.

Daily Spiritual Experience Scale

The Daily Spiritual Experience Scale (DSES; Underwood & Teresi, 2002) is a 16-item scale which assesses one’s view of and perceived interaction with God in everyday life. The instructions to the scale indicate that although “God” is used, participants can substitute any

word they would like to use to refer to the divine. The first 15 items of the DSES are statements requiring participants to indicate the frequency with which they endorse each experience, using a Likert scale ranging from “many times a day” (score of 1) to “never or almost never” (score of 6). Examples of these items include “I feel deep inner peace or harmony” and “I desire to be closer to God or in union with Him.” These items are summed, with lower scores indicating higher rates of daily spiritual experiences. Total scores on the DSES range from 16 to 84. The final item is scored separately and prompts participants to evaluate the degree to which they feel close to God and respond on a 4-point scale ranging from “not close at all” (resulting in a score of 1) to “as close as possible” (resulting in a score of 4). Underwood and Teresi (2002) state that the DSES has high internal consistency ($\alpha = .94$ and $\alpha = .95$). Test-retest reliability was measured for six of the items and showed good response stability, with correlation coefficients being in the .70 to .80 range. Additionally, high internal consistency was established ($\alpha = .88$ for test and $\alpha = .92$ for retest). Internal consistency for the current study was calculated at $\alpha = .95$.

Generalized Anxiety Disorder 7-Item Scale

The Generalized Anxiety Disorder-7 (GAD-7; Spitzer et al., 2006) is a Likert-type scale consisting of seven items pertaining to generalized anxiety disorder (GAD). Participants are asked to assess the degree to which each of the symptoms of GAD have bothered them during the prior two weeks. Responses for items range from “not at all sure” (resulting in a score of 0) to “nearly every day” (resulting in a score of 3). Total scores on the GAD range from 0 to 21. Total scores ranging from 0 to 4 indicate minimal anxiety, scores of 5 to 9 indicate mild anxiety, scores of 10 to 14 indicate moderate anxiety, and scores of 15 to 21 indicate severe anxiety (Spitzer et al., 2006). Examples of items include, “Worrying too much about different things” and “Becoming easily annoyed or irritable.” A separate item measures how many of the

symptoms of anxiety have negatively impacted daily functioning and made life more difficult, with options ranging from “not difficult at all” (“1”) to “extremely difficult” (“4”). The GAD-7 is scored by adding up each of the response columns for the first seven items, and then adding up each of these sums. Internal consistency and test-retest reliability are high for the scale ($\alpha = .92$, intraclass $r = .83$). The Cronbach’s alpha for the current study was calculated at .92.

Encouragement of Spiritual Practices in High School

Participants were asked to what degree spiritual practices were encouraged in their high school. Options ranged from 1 to 5, with 1 indicating “not at all” and 5 indicating “very much.”

Procedure

Participants were recruited mid-semester, primarily using snowball sampling via email. Some of the participants were recruited through flyers placed around the campus. The survey itself was conducted using Qualtrics, which is an online survey platform. The study was reviewed and approved by the university’s Institutional Review Board. Informed consent was required prior to survey completion. Data was analyzed using IBM’s Statistical Package for the Social Sciences (SPSS; Version 26).

Data Analysis

The variables of spiritual practice, ways of coping, and encouragement of spiritual practice in high school were used as predictors for anxiety levels among the sample. Both the predictors and outcome variables were continuous. A standard multiple regression was used to answer whether, and the extent to which, spiritual practice, ways of coping, and encouragement of spiritual practice in high school predict anxiety levels among the sample. Prior to running the regression, all assumptions were checked. Specifically, relationships among COPE subscales, DSES, GAD-7, and the Likert scale pertaining to encouragement of spiritual practice in high

school were explored using Pearson correlations and chi squares where applicable. As no significant relationships were found between demographic variables (age, race/ethnic background, sexual orientation, familial income, spiritual affiliation, type of high school attended, and major) and the outcome variable of anxiety, these variables were dropped from the analysis. Additionally, only some of the COPE subscales (mental disengagement, focus on and venting of emotions, behavioral disengagement, and substance use) were significantly correlated with the GAD-7, and therefore those were retained in the analysis. Furthermore, as the separate measure on the DSES assessing closeness to God was found to be skewed, it was log transformed for the purpose of the analysis. Correlation coefficients were checked for multicollinearity, with the lowest tolerance value being .86 ($VIF = 1.16$). All other measures of multicollinearity were not violated. A review of the P-P plot did not suggest the presence of any outliers.

Results

The mean score for the sample on spirituality was 52.82 ($SD = 18.61$). Relating to how close participants felt to God, the mean was 1.83 ($SD = .83$); therefore, many participants did not report feeling close to God. Notably, 17.9% of participants selected their spiritual affiliation as atheist/agnostic/unaffiliated, which is in line with previous research showing the largest portion of adults (35%) who fall under this category are between the ages of 18 to 29 years old (Pew Research Center, 2014). See Table 2 for the means, standard deviations, and descriptions for all the significant COPE subscales.

With respect to levels of anxiety, the mean score for participants was 10.12 ($SD = 6.18$). The breakdown of anxiety scores for the participants was 22.2% (minimal levels of anxiety), 25.8% (mild levels of anxiety), 15% (moderate levels of anxiety), and 28.5% (severe levels of

anxiety). Additionally, the mean for participants' perceived difficulty in dealing with symptoms of anxiety was 2.20 ($SD = .79$), indicating that most participants found coping with symptoms "somewhat difficult."

Lastly, the mean for the degree to which participants indicated spiritual practices were encouraged and/or incorporated into their day at their high school was 1.80 ($SD = 1.39$). For students who attended private, parochial high schools ($n = 29$), 3.3% indicated spiritual practices were "not at all" incorporated into their school day, while 46.7% indicated they were "very much" a part of their day. For students who attended private, non-parochial schools ($n = 5$), 60% chose "not at all" and 20% chose "very much." For public high school graduates ($n = 101$), 89.2% reported spirituality was "not at all" encouraged at their school, while no members of this group indicated "very much." Majority of participants (70.3%) therefore stated that spiritual practices were "not at all" incorporated into their school days during high school.

Regression Analysis Predicting Anxiety Levels

Four variables were significant predictors of anxiety among the sample. These variables were mental disengagement, focus on and venting of emotions, behavioral disengagement, and degree to which spiritual practices were encouraged in high school. The variable with the highest significant standardized beta weight was behavioral disengagement ($\beta = .25, p < .01$). For every unit increase in the use of behavioral disengagement to deal with stressors, there was a .25 increase in anxiety levels among the sample. The variable with the lowest significant standardized beta weight was encouragement of spiritual practices in high school ($\beta = -.17, p = .04$). For every unit increase in the encouragement of spiritual practices in high school, there was a .17 decrease in anxiety levels in college-age women. Overall, the model accounted for

23.8% of the variance in anxiety levels among college-aged women in the sample (Adjusted $R^2 = .20$, $SE = 5.45$, $F(7, 125) = 5.59$, $p < .001$) (See Table 3).

Discussion

The main objective of this study was to examine the relationships among high school spiritual practice and current ways of coping, levels of anxiety, and spirituality among college-aged women. The driving hypothesis of the study was partially supported. Specifically, encouragement of spiritual practice in high school and ways of coping, significantly predicted anxiety levels among college-aged women in our sample. Compared to a normative sample (Löwe et al., 2008), levels of anxiety in this sample of college women were higher. In recent years, there have been increases in self-reported and diagnosed mental health issues, including anxiety, among college students (Oswalt et al., 2020). The anxiety levels of this sample therefore may reflect trends occurring in the general college population, making this study particularly timely and important.

Three ways of coping, as well as the encouragement of spiritual practices in high school, were found to be significant predictors of anxiety levels among college-aged women. The most significant predictor was behavioral disengagement, which, according to Carver and colleagues (1989), involves reducing efforts and/or giving up on trying to cope with the stressor. Past research findings by Carona and colleagues (2014) align with the maladaptive nature of this way of coping. They found that parents' use of behavioral disengagement to deal with the stressors of parenting a child with a neurodevelopmental disease was associated with decreased quality of life (Carona et al., 2014). Previous findings have indicated that behavioral disengagement is associated with increased distress (Langford et al., 2017; Tuncay & Musabak, 2015;).

The second significant predictor was mental disengagement, characterized by focusing on other tasks or activities to try to forget about and/or avoid dealing with the stressor (Carver et al., 1989). Although mental disengagement, like behavioral disengagement, is an avoidant coping mechanism, Bishop and others (2019) found that use of these types of mechanisms allowed first-year college students to better mediate the relationship between their attachment to their parents and their adjustment to living away from home. In contrast, a study by van Ingen and colleagues (2018) found that in people aged 16 and older, going online as a form of mental disengagement decreased self-esteem, optimism, and satisfaction with life. Overall, maladaptive coping played a prominent role among the sample from the current study, predicting an increase in anxiety levels. Maladaptive coping has been found to be a significant predictor of depression, anxiety, and stress among young college-aged adults (Mahmoud et al., 2012). This points to the increased need for interventions, such as mindfulness training and cognitive-behavioral therapy, to increase use and access to more adaptive ways of coping (Halland et al., 2015; Terp et al., 2019).

Furthermore, the encouragement of spiritual practices in high school was predictive of decreased anxiety. This is in line with what previous researchers have found, which is that spiritual college students show increases in subjective well-being (Abdel-Khlaek & Lester, 2012). However, these former studies have not examined anxiety levels of college-age adults in relation to a nurturing high school environment that promotes spiritual practice. The finding from the current study is potentially a novel contribution and combines aspects of this prior research. Our findings may suggest that the encouragement of spiritual practices prior to college can have a positive effect on anxiety levels during college years.

Lastly, the least significant predictor of anxiety levels among undergraduate women was focus on and venting of emotions, which involves paying attention to and expressing emotions

pertaining to the stressor (Carver et al., 1989). In line with findings in the current study, Maidaniuc-Chirilă (2015) found that focus on and venting of emotions as a way of coping was associated with a decrease in resilience and an increase in mental strain.

Limitations and Future Directions

It is important to note a few factors that may limit the generalizability of the findings in this study. First, the sample for this study was relatively small and homogenous, consisting mostly of White-identified females. Future research focusing on the diverse lived experiences represented on college campuses may shed more light in this area.

Additionally, given the Catholic affiliation of the university at which the study took place, it is possible that many students grew up in spiritual households and had spiritual practices incorporated into their lives (including outside of school) from a young age, even if they no longer adhere to them. Furthermore, there is a possibility that questions about spiritual practice may introduce some pressure on participants to respond in a way that is socially desirable, as analyzed in a study by Jones and Elliot (2017). Moreover, the use of a single retrospective variable (the encouragement of spiritual practices in high school), which ended up being a significant predictor, may be a limitation. Future research needs to be conducted with more than one retrospective variable, or perhaps both a retrospective and concurrent variable relating to encouragement of spiritual practice.

Lastly, a few weeks of data collection took place during Spring 2020, after the transition to remote learning and the enactment of social distancing in the Northeast United States due to the COVID-19 pandemic. A Multivariate Analysis of Variance (MANOVA) revealed a significant interaction effect impacting anxiety levels when social distancing and race/ethnicity

were factored together. This finding is examined further in a sub-study that is currently under review (Harris & Balogun-Mwangi, 2023).

In conclusion, the data from this study suggests that college-aged women primarily use maladaptive coping mechanisms to deal with stress. The use of maladaptive ways of coping points to a need for targeted interventions among this population.

References

- Abdel-Khalek, A. M., & Lester, D. (2012). Constructions of religiosity, subjective well-being, anxiety, and depression in two cultures: Kuwait and USA. *International Journal of Social Psychiatry, 58*(2), 138–145. <https://doi.org/10.1177/0020764010387545>
- Aysan, F., Thompson, D., & Hamarat, E. (2001). Test anxiety, coping strategies, and perceived health in a group of high school students: A Turkish sample. *The Journal of Genetic Psychology: Research and Theory on Human Development, 162*(4), 402–411. <https://doi.org/10.1080/00221320109597492>
- Bagley, C., & Mallick, K. (1997). Self-esteem and religiosity: Comparison of 13- to 15-year-old students in Catholic and public junior high schools. *Canadian Journal of Education, 22*(1), 89–92. <https://doi.org/10.2307/1585814>
- Baumstarck, K., Alessandrini, M., Hamidou, Z., Auquier, P., Leroy, T., & Boyer, L. (2017). Assessment of coping: A new French four-factor structure of the brief COPE inventory. *Health and Quality of Life Outcomes, 15*. <https://doi.org/10.1186/s12955-016-0581-9>
- Benson, P. L., Roehlkepartain, E. C., & Scales, P. C. (2012). *Spirituality and positive youth development*. In L. J. Miller (Ed.), *Oxford library of psychology. The Oxford handbook of psychology and spirituality* (p. 468–485). Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780199729920.013.0030>
- Bishop, D.I., Hansen, A.M., Keil, A.J., & Phoenix, I.V. (2019). Parental attachment and adjustment to college: The mediating role of avoidant coping. *The Journal of Genetic Psychology: Research and Theory on Human Development, 180*(1), 31-44. <https://doi.org/10.1080/00221325.2019.1577797>

Blain, M., & Revell, L. (2002). Patterns of spiritual and moral development in religious and public schools in Chicago. *Journal of Beliefs and Values, 23*(2), 179-189.

<https://doi.org/10.1080/1361767022000010833>

Blanco, C., Okuda, M., Wright, C., Hasin, D.S., Grant, B.F., Liu, S., & Olfson, M. (2008).

Mental health of college students and their non-college-attending peers: Results from the National Epidemiologic Study on Alcohol and Related Conditions. *Archives of General Psychiatry, 65*(12), 1429-1437. <https://doi.org/10.1001/archpsyc.65.12.1429>

Carey, E., Devine, A., Hill, F., & Szűcs, D. (2017). Differentiating anxiety forms and their role in academic performance from primary to secondary school. *PLoS ONE, 12*(3).

<https://doi.org/10.1371/journal.pone.0174418>

Carona, C., Silva, N., Crespo, C., & Canavarro, M.C. (2014). Caregiving burden and parent-child quality of life outcomes in neurodevelopmental conditions: The mediating role of behavioral disengagement. *Journal of Clinical Psychology in Medical Settings, 21*(4), 320-328. <https://doi.org/10.1007/s10880-014-9412-5>

Carver, C.S. (1997). You want to measuring coping but your protocol's too long: Consider the Brief COPE. *International Journal of Behavioral Medicine, 4*(1), 92-100.

https://doi.org/10.1207/s15327558ijbm0401_6

Carver, C.S., Scheier, M.F., & Weintraub, J.K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology, 56*(2), 267-283. <https://doi.org/10.1037/0022-3514.56.2.267>

Cattelino, E., Glowacz, F., Born, M., Testa, S., Bina, M., & Calandri, E. (2014). Adolescent risk behaviours and protective factors against peer influence. *Journal of Adolescence, 37*(8), 1353–1362. <https://doi.org/10.1016/j.adolescence.2014.09.013>

Cronjé, F. J., Sommers, L. S., Faulkner, J. K., Meintjes, W. A. J., Wijk, C. H., & Turner, R. P.

(2017). Effect of a faith-based education program on self-assessed physical, mental and spiritual (religious) health parameters. *Journal of Religion and Health*, 56(1), 89–108.

<https://doi.org/10.1007/s10943-015-0129-z>

de Matos, M. G., Camacho, I., Reis, M., Costa, D., & Galvão, D. (2016). Worries, coping strategies and well-being in adolescence: Highlights from HBSC study in Portugal.

Vulnerable Children and Youth Studies, 11(3), 274–280.

<https://doi.org/10.1080/17450128.2016.1220655>

Donaldson, K., Friesen, M. D., & Gage, J. D. (2019). The psychological salience of religiosity and spirituality among Christian young people in New Zealand: A mixed-methods study.

Psychology of Religion and Spirituality, 11(1), 42–54. <https://doi.org/10.1037/rel0000170>

Dreyer, C.S., Ocampo, J.R., & Núñez, T.P. (2010). Espiritualidad juvenil en Chile hoy:

características y ámbitos. *Ultima década*, 18(33), 201-255.

<https://doi.org/10.4067/S0718-22362010000200010>

Eisenbarth, C. A. (2019). Coping with stress: Gender differences among college students. *College Student Journal*, 53(2), 151-162.

Ekwoyee, A.U., Shelkumar, N., & Phung, V. (2020). Spirituality: A psychological resource for managing academic-related stressors. *Mental Health, Religion & Culture*, 23(9), 826-839.

<https://doi.org/10.1080/13674676.2020.1823951>

Felicilda-Reynaldo, R.F.D., Cruz, J.P., Papathanasiou, I.V., Shaji, J.C.H., Kamau, S.M., Adams, K.A., and Valdez, G.F.D. (2019). Quality of life and the predictive roles of religiosity and spiritual coping among nursing students: A multi-country study. *Journal of Religion and Health*, 58(5), 1573-1591. <https://doi.org/10.1007/s10943-019-00771-4>

- Folkman, S., & Moskowitz, J.T. (2000). Positive affect and the other side of coping. *American Psychologist*, 55(6), 647-654. <https://doi.org/10.1037//0003-066x.55.6.647>
- Fry, R. (2019). US women near milestone in the college-educated labor force. *Pew Research Center*, 20.
- Halland, E., Vibe, M.D.E., Solhaug, I., Friberg, O., Rosenvinge, J.H., Tyssen, R., Sørli, T., & Bjørndal, A. (2015) Mindfulness training improves problem-focused coping in psychology and medical students: Results from a randomized controlled trial. *College Student Journal*, 49(3), 387-398.
- Haney, A. M., & Rollock, D. (2018). A matter of faith: The role of religion, doubt, and personality in emerging adult mental health. *Psychology of Religion and Spirituality*. <https://doi.org/10.1037/rel0000231>
- Harris, M.C., & Balogun-Mwangi, O. (2023). *Contending with COVID: An increase in mental disengagement among undergraduates in the wake of the pandemic*. [Unpublished manuscript].
- Jansen, K. L., Motley, R., & Hovey, J. (2010). Anxiety, depression and students' religiosity. *Mental Health, Religion & Culture*, 13(3), 267–271. <https://doi.org/10.1080/13674670903352837>
- Jones, A.E., & Elliott, M. (2017). Examining social desirability in measures of religion and spirituality using the bogus pipeline. *Review of Religious Research*, 59, 47-64. <https://doi.org/10.1007/s13644-016-0261-6>
- Kessler, R.C., Amminger, G.P., Aguilar-Gaxiola, S., Alonso, J., Lee, S., & Ustun, T.B. (2007). Age of onset of mental disorders: A review of recent literature. *Current Opinion in Psychiatry*, 20(4), 359-364. <https://doi.org/10.1097/YCO.0b013e32816ebc8c>

- Krägeloh, C.U., Chai, P.P.M., Shepherd, D., & Billington, R. (2012). How religious coping is used relative to other coping strategies depends on the individual's level of religiosity and spirituality. *Journal of Religion and Health, 51*, 1137-1151.
<https://doi.org/10.1007/s10943-010-9416-x>
- Kroshus, E., Hawrilenko, M., & Browning, A. (2021). Stress, self-compassion, and well-being during the transition to college. *Social Science & Medicine, 269*, 113514.
- Langford, D.J., Cooper, B., Paul, S., Humphreys, J., Keagy, C., Conley, Y.P., Hammer, M.J., Levine, J.D., Wright, F., Melisko, M., Miaskowski, C., & Dunn, L.B. (2017). Evaluation of coping as a mediator of the relationship between stressful life events and cancer-related distress. *Health Psychology, 36*(12), 1147-1160.
<https://doi.org/10.1037/hea0000524>
- Lomax, J. W., & Carlin, N. (2016). Utilizing religious and spiritual material in clinical care: Two cases of religious mourning. *Spirituality in Clinical Practice, 3*(1), 59–68.
<https://doi.org/10.1037/scp0000088>
- Löwe, B., Decker, O., Müller, S., Brähler, E., Schellberg, D., Herzog, W., & Herzberg, P.Y. (2008). Validation and standardization of the General Anxiety Disorder screener (GAD-7) in the general population. *Medical Care, 46*(3), 266-274. <https://doi.org/10.1097/MLR.0b013e318160d093>
- Lowe, S.R., Tineo, P., & Young, M.N. (2019). Perceived discrimination and major depression and generalized anxiety symptoms: In Muslim American college students. *Journal of Religion and Health, 58*, 1136-1145. <https://doi.org/10.1007/s10943-018-0684-1>

- Magyar-Russell, G. M., & Griffith, J. L. (2016). Addressing unhealthy and potentially harmful expressions of religiousness and spirituality in clinical practice. *Spirituality in Clinical Practice, 3*(3), 159–162. <https://doi.org/10.1037/scp0000111>
- Mahmoud, J.S., Staten, R., Hall, L.A., & Lennie, T.A. (2012). The relationship among young adult college students' depression, anxiety, stress, demographics, life satisfaction, and coping styles. *Issues in Mental Health Nursing, 33*(3), 149-156. <https://doi.org/10.3109/01612840.2011.632708>
- Maidaniuc-Chirilă, T. (2015). A multi-mediation model of the relationship among workplace bullying, coping strategies, resilience and employees' strain: Insights for a training programme. *Human Resources Psychology/Psihologia Resurselor Umane, 13*(1), 63-82.
- Merlino, A. L. (2005). *Spirituality and education: High school seniors' perceptions*. Seattle University.
- Mihaljevic, S., Aukst-Margetic, B., Karnicnik, S., Vuksan-Cusa, B., & Milosevic, M. (2016). Do spirituality and religiousness differ with regard to personality and recovery from depression? A follow-up study. *Comprehensive Psychiatry, 70*, 17–24. <https://doi.org/10.1016/j.comppsy.2016.06.003>
- Nadeem, M., Ali, A., & Buzdar, M.A. (2017). The association between Muslim religiosity and young adult college students' depression, anxiety, and stress. *Journal of Religion and Health, 56*, 1170-1179. <https://doi.org/10.1007/s10943-016-0338-0>
- National Institute of Mental Health (2017). Prevalence of any Anxiety Disorder among Adults. <https://www.nimh.nih.gov/health/statistics/any-anxiety-disorder.shtml>
- Oswalt, S.B., Lederer, A.M., Chestnut-Steich, K., Day, C., Halbritter, A., & Ortiz, D. (2020). Trends in college students' mental health diagnoses and utilization of services, 2009-

2015. *Journal of American College Health*, 68(1), 41-51.
<https://doi.org/10.1080/07448481.2018.1515748>
- Pedrelli, P., Nyer, M., Yeung, A., Zulauf, C., & Wilens, T. (2015). College students: Mental health problems and treatment considerations. *Academic Psychiatry*, 39(5), 503-511.
<https://doi.org/10.1007/s40596-014-0205-9>
- Peres, M. F. P., Kamei, H. H., Tobo, P. R., & Lucchetti, G. (2018). Mechanisms behind religiosity and spirituality's effect on mental health, quality of life and well-being. *Journal of Religion and Health*, 57(5), 1842–1855. <https://doi.org/10.1007/s10943-017-0400-6>
- Pew Research Center. (2014). *Age distribution*. <https://www.pewforum.org/religious-landscape-study/age-distribution/>
- Sancakğlu, S., & Sayar, M. K. (2012). Relation between socioeconomic status and depression, anxiety, and self-esteem in early adolescents. *Yeni Symposium: Psikiyatri, Nöroloji ve Davranış Bilimleri Dergisi*, 50(4), 207–220.
- Spitzer, R.L., Kroenke, K., Williams, J.B.W., & Lowe, B. (2006). A brief measure for assessing generalized anxiety disorder. *Archives of Internal Medicine*, 166(10), 1092-1097.
<https://doi.org/10.1001/archinte.166.10.1092>
- Sternthal, M. J., Williams, D. R., Musick, M. A., & Buck, A. C. (2010). Depression, anxiety, and religious life: A search for mediators. *Journal of Health and Social Behavior*, 51(3), 343–359. <https://doi.org/10.1177/0022146510378237>
- Sutton, J. P., & Galloway, R. S. (2000). College success of students from three high school settings. *Journal of Research & Development in Education*, 33(3), 137–146.

Terp, U., Bisholt, B., & Hjärthag, F. (2019). Not just tools to handle it: A qualitative study of nursing students' experiences from participating in a cognitive behavioral stress management intervention. *Health Education & Behavior, 46*(6), 922-929.

<https://doi.org/10.1177/1090198119865319>

Torevell, D. (2019). A Catholic approach to youth depression: Implications for those working in Catholic schools, colleges, and universities. *International Studies in Catholic Education, 11*(2), 233-246. <https://doi.org/10.1080/19422539.2019.1641054>

Tuncay, T., & Musabak, I. (2015). Problem-focused coping strategies predict posttraumatic growth in veterans with lower-limb amputations. *Journal of Social Service Research, 41*(4), 466-483. <https://doi.org/10.1080/01488376.2015.1033584>

Underwood, L. G. & Teresi, J. (2002). The daily spiritual experience scale: Development, theoretical description, reliability, exploratory factor analysis, and preliminary construct validity using health related data. *Annals of Behavioral Medicine, 24*, 22-33.

https://doi.org/10.1207/S15324796ABM2401_04

van Ingen, E., Utz, S., & Toepoel, V. (2018). Online coping after negative life events: Measurement, prevalence, and relation with internet activities and well-being. *Social Science Computer Review, 34*(5), 511-529. <https://doi.org/10.1177/0894439315600322>

Waasdorp, T. E., Berg, J., Debnam, K. J., Stuart, E. A., & Bradshaw, C. P. (2018). Comparing social, emotional, and behavioral health risks among youth attending public versus parochial schools. *Journal of School Violence, 17*(3), 381-391.

<https://doi.org/10.1080/15388220.2017.1387130>

- Yun, K., Kim, S., & Awasu, C. (2019). Stress and impact of spirituality as a mediator of coping methods among social work college students. *Journal of Human Behavior in the Social Environment*, 29(1), 125-136. <https://doi.org/10.1080/10911359.2018.1491918>
- Zeidner, M. (1996). How do high school and college students cope with test situations? *British Journal of Educational Psychology*, 66(1), 115–128. <https://doi.org/10.1111/j.2044-8279.1996.tb01181.x>

Table 1*Demographic Characteristics of Participants*

Characteristic	<i>n</i>	%
Age		
18	26	18.6
19	31	22.1
20	35	25
21	24	17.1
22	13	9.3
23	1	0.7
Not reported	10	7.1
Race/Ethnic Background		
Asian/Pacific Islander	4	2.9
Hispanic/Latino	14	10
Mixed Race	4	2.9
White	114	81.4
Other	4	2.8
Sexual Orientation		
Bisexual	18	12.9
Heterosexual	114	81.4
Lesbian	3	2.1
Other	5	3.6
Familial Income		
\$10,000-\$24,999	5	3.6
\$25,000-\$49,999	6	4.3
\$50,000-\$74,999	18	12.9
\$75,000-\$99,999	23	16.4
≥\$100,000	39	27.9
Unsure/prefer not to say	49	35
Religious Affiliation		
Atheist/Agnostic/Unaffiliated	25	17.9
Catholic Christian	86	61.4
Protestant Christian	11	7.9
Other	18	12.8
Type of High School Attended		
Private: Faith-based	30	21.4
Private: Non-faith-based	5	3.6
Public	102	72.9
Other	3	2.1
Major		
Administration of Justice	6	4.3
Chemistry	8	5.7
Cultural/Environmental/Global Studies	7	5
Education	21	15
English/Communications and Media	9	6.4
History	4	17.9
Nursing	25	34.3
Psychology	48	19.4
Other	12	

Table 2*Significant COPE Subscales: Descriptions and Sample Means*

Subscale	<i>M</i>	<i>SD</i>	<i>n</i>	Description ^a
Mental disengagement	10.92	2.77	139	Focusing on other tasks and activities in order to try to forget about and not deal with the stressor
Focus on and venting of emotions	10.62	3.33	138	Paying attention to and expressing emotions pertaining to the stressor
Behavioral disengagement	5.77	2.25	137	Reducing efforts or giving up on trying to cope with the stressor
Substance use	9.51	2.78	137	Using alcohol or other drugs to feel better about the stressor

^aAdapted from Carver et al. (1989) and Carver (1997).
Scores for subscales range from 4 to 16.

Table 3*Beta Weights*

Variable	B	95% CI	β	<i>t</i>	<i>p</i>
(Constant)	-1.67	[-5.74, 2.40]		-.41	.68
Mental disengagement	.39	[.21, .57]	.18*	2.15	.03
Focus on and venting of emotions	.31	[.16, .46]	.17*	2.05	.04
Behavioral disengagement	.68	[.45, .91]	.25*	2.96	.00
Substance use	.29	[.11, .47]	.13	1.58	.12
DSES	-.02	[-.06, .02]	-.07	-.51	.61
DSES: Closeness to God	-.38	[-4.25, 3.49]	-.01	-.10	.92
Encouragement of spiritual practices in high school	-.73	[-1.08, -.38]	-.17*	-2.10	.04

Note. Dependent Variable: GAD-7.

* $p < .05$.