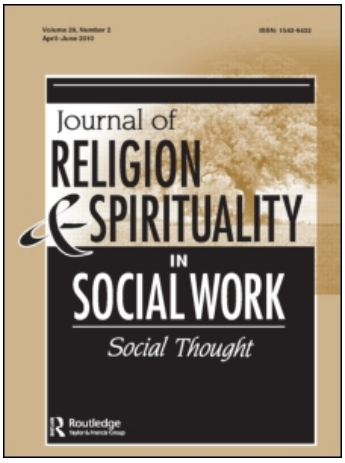

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What Predicts Mental Health in Religious and Nonreligious Social Work Students?

Yu-Wen Ying

ABSTRACT. This study examined religiosity, spirituality, mindfulness, and their association with mental health in religious and nonreligious social work students. A total of 65 MSW students participated in a paper-and-pencil survey. Of these, 25 were religious, i.e., claimed membership in an organized religion, and 33 did not. Religious students endorsed religious comfort and strain and spiritual involvement more strongly than nonreligious students. Religious comfort was associated with spiritual involvement in both groups, but religious comfort and strain were related only in nonreligious students. Using multivariate analysis, mindfulness emerged as the only significant predictor of reduced anxiety and depressive symptoms in both religious and nonreligious students alike. Implications of study findings are discussed.

KEYWORDS. Religiosity, spirituality, mindfulness, anxiety, depression, social work students

The practice of religiosity, spirituality, and mindfulness among social workers is gaining attention in the literature (Hodge & McGrew, 2006; Ying, 2008a, 2008c) for several reasons. First, the social work profession

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is increasingly concerned with meeting clients' spiritual needs (Council on Social Work Education Commission on Accreditation, 2003), and success in this endeavor has been linked to the worker's personal beliefs and practices (Mattison, Jayaratne, & Croxton, 2000; Stewart & Koeske, 2006). Second, serving the most needy and underprivileged members of our society exacts an emotional toll on social workers, raising the risk of burnout (Acker, 1999; Bennett, Evans, & Tattersall, 1993; Jayaratne, Chess, & Kunkel, 1986; Rushton, 1987), high job turnover, and premature departure from the profession (Maslach, Schaufeli, & Leiter, 2001). Notably, social work students are particularly vulnerable due to professional inexperience and underdeveloped coping skills (Acker, 1999; Maslach, 2003; Tobin & Carson, 1994). Thus, it is important to identify effective practices that promote self-care and protect against burnout. Finally, documentation of effective self-care methods may inform the development of appropriate curriculum to prevent burnout, promote competence, and sustain commitment to the profession.

An existing empirical literature suggests that religiosity (Koenig, 1997; Pargament, 1997), spirituality (Hawks, Hull, Thalman, & Richins, 1995; Kass, Friedman, Leserman, Zuttermeister, & Benson, 1991), and mindfulness (Brown & Ryan, 2003; Neff, 2003a) promote mental health, particularly during stressful situations. Thus far, only one empirical study has concurrently examined the impact of all three on the mental health of social work students (Ying, 2008a). In a sample of 65 master's of social work (MSW) students, mindfulness reduced anxiety and depressive symptoms, while religious strain increased anxiety level (Ying, 2008a). However, variation in religiosity, spirituality, mindfulness and their association with mental health between religious and nonreligious social work students has not been previously examined. The current study addresses this gap in the literature. Below, the constructs of religiosity, spirituality, and mindfulness are defined, followed by a discussion of the three main research questions, the relevant literature, and specific hypotheses associated with each.

DEFINITION OF RELIGIOSITY, SPIRITUALITY, AND MINDFULNESS

Religiosity refers to membership in an organized religious institution and adherence to its teachings (Emmons & Paloutzian,

2003). In a national study of 303 student members of the National Association of Social Workers, participants defined religion to be a set of organized beliefs or doctrines (25%), the practice of spirituality/faith such as rituals and worship (23%), personal values and traditions (13%), a belief in and experience of God (12%), and a belief in and experience of a higher power (11%; Hodge & McGrew, 2006). Consistent with findings based on the general American population (Kohut & Rogers, 2002; Kosmin, Mayer, & Keysar, 2001), over 90% of social work students (Hodge & McGrew, 2006) and 84% (Mattison et al., 2000) to 91% (Bergin & Jensen, 1990) of social workers were affiliated with an organized religion. Furthermore, religious beliefs informed the philosophy of life among most social workers (Bergin & Jensen, 1990).

In contrast, spirituality is more personal and experiential (Roof, 2000), does not necessitate an institutional affiliation, and is generally viewed as more encompassing than religiosity (Hawks et al., 1995). Spirituality has been defined in multiple ways, including a belief in and relationship with a higher power, such as God (May, 1982), transcendence of the material (Wong, 1998), a purpose of living (Wong, 1998), and an appreciation for the mystery of life (Hatch, Burg, Naberhaus, & Hellmich, 1998; MacDonald, 2000; Miller, 2004). Congruent with the literature, NASW student members defined spirituality as a personally constructed set of beliefs (33%), a belief in and experience of higher power (23%), a belief in/experience of God (13%), and a connection with the transcendent (11%; Hodge & McGrew, 2006). Furthermore, spirituality and religiosity are highly associated constructs among social work students (Hodge & McGrew, 2006; Ying, 2008a).

While religiosity and spirituality are characterized by specific beliefs (the what), mindfulness is concerned with process of living (the how). Conceptually similar to the idea of consciousness, mindfulness entails awareness of and attention to internal and external stimuli and has been likened to a state of being awake to the present moment (Bishop et al., 2004; Brown & Ryan, 2003). It has been likened to the open, curious, and accepting stance that an effective therapist employs with her client but, in this case, it is self-directed (Neff, 2003a). In contrast, mindlessness is characterized by lack of awareness and inattention and is manifested by a tendency toward both absorption and dissociation from experiences (Bishop et al.,

2004; Brown & Ryan, 2003; Neff, 2003a). Brown and Ryan (2003) illustrate mindfulness thus: "[W]hen eating a meal, one can be attuned to the moment-to-moment taste experience while also peripherally aware of the increasing feeling of fullness in one's stomach" (p. 823). Unlike religiosity and spirituality, mindfulness does not entail specific beliefs and has been found to be conceptually distinct from them among social work students (Ying, 2008a). Below, the study's three major research questions are presented and discussed.

Do Religious and Nonreligious Students Vary on Religiosity, Spirituality, Mindfulness, Anxiety, and Depressive Symptoms?

By definition, religious students are engaged in religiosity more than nonreligious students and are thus expected to score higher on religiosity. Also, as religiosity and spirituality are conceptually associated constructs (Hodge & McGrew, 2006; Scott, 2001; Ying, 2008a), religious students are likely to rate themselves more spiritual than nonreligious students. Thus, it was hypothesized that religious students would endorse religiosity and spirituality more than nonreligious students. However, in the absence of empirical evidence regarding variation in mindfulness between religious and nonreligious social work students, such a difference was not hypothesized a priori.

Are Religiosity, Spirituality, and Mindfulness Distinctive Constructs in Religious and Nonreligious Social Work Students?

As discussed above, religiosity and spirituality are highly correlated in social work students (Hodge & McGrew, 2006; Scott, 2001; Ying, 2008a), while mindfulness is conceptually distinct from these (Ying, 2008a). However, to our knowledge, the association of the three constructs has heretofore not been separately examined in religious and nonreligious students. Thus, no prediction was made a priori regarding their distinctiveness in the current study.

Are Religiosity, Spirituality, and Mindfulness Associated With Mental Health in Religious and Nonreligious Social Work Students?

The potential function of religiosity, spirituality, and mindfulness in promoting mental health among social work students is informed

by Lazarus and Folkman's (1984) theory of stress and coping. In daily living, stressors of varying magnitude arise. Lazarus and Folkman (1984) proposed the following steps during the stress and coping process. During primary appraisal, judgment is made about the nature of the event. During secondary appraisal, available coping resources are assessed. Both, in turn, mediate the third step of implementing coping responses to either overcome or tolerate the stressor. As such, effective coping is not primarily dependent upon the magnitude of the external stressor per se but the individual's appraisal and response (Folkman, 1984). In support, a national study of 185 clinical social workers showed it was self-perception rather than client distress that predicted effective coping and prevented burnout (Adams, Matto, & Harrington, 2001). Notably, an appraisal that the stressor is meaningful and that one possesses the capacity to respond, followed by a planful action represent positive and effective coping (Folkman, 1984; Lazarus & Folkman, 1984), and mediate positive mental health (see review of the empirical research in Folkman & Moskowitz, 2000).

For religious students, both comfort and strain may be derived from their religious beliefs and practices (Exline, Yali, & Sanderson, 2000; Koenig, 1997; Pargament, 1997). On the one hand, religion provides meaning to the stressor during primary appraisal, promotes a belief in personal competence and God's support to solve the problem during secondary appraisal, and enhances the implementation of coping responses that result in positive outcomes (Koenig, 1997; Pargament, 1997). On the other hand, a view of God/higher power as malevolent and punitive and self-blame for failure to abide by religious principles may yield negative primary and secondary appraisal and precipitate negative coping, resulting in anxiety, depression, and other negative mental health outcomes (Exline et al., 2000; Pargament, Smith, Koenig, & Perez, 1998; Trentholm, Trent, & Compton, 1998). Thus, it was hypothesized that religious comfort would enhance while religious strain would diminish well-being in religious social work students, but neither would play a role in nonreligious students.

Additionally, a significant literature suggests that nonreligious spirituality enhances coping during stressful situations by promoting meaning-making and a sense of personal competence, resulting in effective responding and positive mental health outcomes, such as

reduced depression (Fehring, Brennan, & Keller, 1987; Mascaro, Rosen, & Morey, 2004) and anxiety (Mascaro et al., 2004). Thus, it was hypothesized that spirituality would enhance well-being in both religious and nonreligious social works students. However, as spirituality is significantly correlated with religiosity in both the general population (Scott, 2001) and among social work students (Hodge & McGrew, 2006; Ying, 2008a), it was also hypothesized that it would be a stronger predictor of well-being in religious than nonreligious students.

Finally, during the stress and coping process, mindfulness awareness and attentiveness serve to enhance clear and accurate assessment of the stressor (primary appraisal) and available resources (secondary appraisal) and result in effective coping strategies (Brown & Ryan, 2003; Neff, 2003a). In particular, effective regulation of emotional and cognitive reactivity through mindfulness reduces misjudgment during primary and secondary appraisal and the adoption of destructive coping behaviors (Brown & Ryan, 2003; Hodgins & Knee, 2002; Neff, 2003a).

To illustrate, a recent study of social work students showed that mindfulness reduced emotional exhaustion among social work students (Ying, 2008b). When faced with a challenging client at fieldwork, a mindful student demonstrated awareness of and attention to multiple contributors to the problem, not just personal incompetence (''This type of kid does not fit not any of the systems. His situation isn't bad enough that he should be removed, but there are no proper supports to go into the home to help him. … I think the systems is failing.''). She was able to accept and forgive herself for her still developing professional skills, thereby deriving satisfaction in a difficult situation (''I've never done therapy, never worked in the county before. … I'm in the middle of a process—learning emotionally and professionally how to deal with these things.'') In contrast, a less mindful student showed significant emotionally and cognitively reactivity, allowed her experience with one client to color her entire internship/academic experience, and placed the blame solely upon herself (''[This client] never opened up and I would feel disappointed because I couldn't get her to talk about things that I thought she needed to talk about and others thought she needed to talk about. … I dreaded my internship so much because of it. It made me unhappy the whole first semester. I [felt] like a failure as a social

work student … thought I wasn't a good social worker. That maybe I was wrong for the field.") In contrast to the mindful student, she expressed dissatisfaction with her response to the clinical challenge.

Consistent with the above examples, extensive empirical research demonstrates the positive effect of mindfulness on well-being and mental health in various populations (Kabat-Zinn, 2003; Neff, 2003b), including social and health service providers (S. Shapiro, Schwartz, & Bonner, 1998; S. L. Shapiro, Astin, Bishop, & Cordova, 2005) and social work students (Ying, 2008a, 2008c). In light of this literature and the lack of association between religiosity and mindfulness in social work students (Ying, 2007a), it was hypothesized that mindfulness would enhance well-being in both religious and nonreligious students.

METHODS

Data Collection Procedure

Upon receiving approval from the Committee for the Protection of Human Subjects at a public university in the Western United States, all first- and second-year MSW students were invited by the investigator to participate in a study on "Orientation to Living in Social Work Students" via mass E-mail and an invitation letter placed in student mailboxes. Since the study site does not offer a part-time MSW program, all were full-time students. For easy access, blank consent forms and surveys were placed above student mailboxes. During the data collection period of the first 6 weeks of the semester, three reminder E-mails were sent to all students to encourage participation. Also, a doctoral-level research assistant attended a required large lecture class to answer questions and encourage participation. Respondents signed the consent form and completed the survey at a time and place of their choosing. When they submitted the completed survey to the doctoral level research assistant, participants received $10 in subject payment. The participants' identities were known to the research assistant but not the principal investigator. The research assistant kept a key of the participants' names and study ID numbers for the purpose of follow-up in the future.

Sample Representation of Study Population

A total of 37 out of 94 first-year students and 28 out of 94 second-year students participated in the study, yielding a response rate of 39.36 and 29.79%, respectively. To ascertain the sample's representativeness, they were compared to the study population on available characteristics. As Table 1 shows, neither first- nor second-year participants varied from their respective class with regard to age, gender, ethnicity, and specialization.

Participants

In the convenience sample of 65 MSW students, 7 identified with both an organized religion (e.g., "Christian") and a nonorganized religion (e.g., "spiritual"; see Measures section for detail on variable operationalization) and were deleted from further analysis. Of the remaining 58 students, 25 students (or 43.10%) were religious and identified a religious affiliation; specifically, 19.0% were Catholic,17.2% were Christian, 6.9% were Jewish, 1.7% were Hindu, 6.9% were Buddhist, and 1.7% were Muslim. The remaining 33 students comprised the nonreligious group. Of these, 43.1% had no religion, 3.4% were agnostic, 3.4% named yoga, 1.7% were spiritual, and 1.7% were atheist.

Table 2 shows the demographic characteristics for the whole sample and the religious and nonreligious students. Since no effort

TABLE 1. Comparison of Sample and Study Population on Available Characteristics

	First Year Students		Second Year Students	
	Sample (n=37)	Population (n=94)	Sample (n=28)	Population (n=94)
Mean Age (SD)	28.51(6.56)	27.73(5.72)	27.61(3.37)	26.99(5.19)
% Female	86.5%	85.1%	92.9%	85.1%
% European American	73.0%	65.9%	64.3%	56.5%
% by Specialization				
Children and Families	32.4%	31.9%	32.1%	34.0%
Community Mental Health	24.3%	29.8%	32.1%	28.7%
Gerontology	16.2%	8.5%	10.7%	9.6%
Health	13.5%	17.0%	10.7%	12.8%
Management and Planning	13.5%	12.8%	14.3%	14.9%

TABLE 2. Demographics of Participants

	All (n=58)	Religious (n=25)	Nonreligious (n=33)
Mean Age (SD)	28.10 (5.51)	27.72 (4.49)	28.39 (6.23)
Mean Father's Education (SD)	17.95 (11.45)	20.28 (16.81)	16.18 (3.75)
Mean Mother's Education (SD)	15.64 (4.13)	15.84 (4.96)	15.48 (3.43)
% First Year	63.8%	60.0%	66.7%
% Female	89.7%	92.0%	87.9%
% European American*	70.7%	56.0%	81.8%
% Heterosexual	82.8%	84.0%	81.8%
% Specialization			
Children and Families	32.8%	28.0%	36.4%
Community Mental Health	24.1%	24.0%	24.2%
Gerontology	15.5%	28.0%	6.1%
Health	13.8%	16.0%	12.1%
Management and Planning	13.8%	4.0%	21.2%

* European Americans are more likely to be nonreligious (Chi-Square 4.58, df=I, p=.03)

was made to match religious and nonreligious students, variation between the groups was statistically tested. The two groups did not vary on the demographic characteristics other than ethnicity. European American students were underrepresented among the religious (56.0%) and overrepresented among the nonreligious (81.8%), chi-square=4.58, df=1, p=.03. Additionally, the mean age for the whole sample was 28.10 years (SD=5.51). Their father's and mother's mean educational levels were 17.95 years (SD=11.45) and 15.64 years (SD=4.13), respectively. About two thirds of the participants (63.8%) were first-year students; 89.7% were female; and 82.8% were heterosexual, with the rest self-identifying as gay/bisexual. All social work specializations were represented: 32.8% children and families, 24.1% community mental health, 15.5% gerontology, 13.8% health, and 13.8% management and planning.

Measures

The one-hour survey examined social work students' orientation to living and was pilot-tested on three master's-level social workers. Except for the demographics questions, all items come from preexisting measures. The instruments used for the current study are discussed below.

Religious versus nonreligious groups were determined by a demographic question: "Your current religious affiliation is …" Possible answers included: Buddhist, Catholic, Hindu, Jewish, Muslim, Protestant/Christian, Other (please specify). Students who identified membership in a recognized, religious organization (e.g., Jewish, Christian, Catholic, Muslim) were coded as religious. Those who did not name such an affiliation (e.g., were agnostic, atheist, none) or cited a nonrecognized religion (e.g., spiritual) were coded as nonreligious. Seven respondents who self-identified as both religious and nonreligious were deleted from further analysis.

Religious comfort and religious strain were assessed by the Religious Comfort and Strain Scale (Exline et al., 2000). This measure includes a 7-item Comfort subscale (a sample item is "Feeling loved by God/Higher Being") and 13-item Strain subscale (a sample item is "Belief that sin has caused your problems"). Responses were scored on a 4-point Likert-type scale, with 0 indicating strong disagreement and 3 indicating strong agreement. The range of possible scores is from 0 to 3. The construct validity of these subscales was demonstrated by the significant correlation of religious comfort with religious participation and belief salience ($r=.57$, $p<.001$, and $r=.24$, $p<.01$) and religious strain with fear and guilt ($r=.57$, $p<.001$) in 200 undergraduate college students (Exline et al., 2000). In the current sample, internal consistency was .91 for religious comfort and .81 for religious strain. Their convergent validity was supported by their positive association with religious involvement (Ying, 2008a).

Spiritual involvement was assessed by the Spiritual Involvement and Beliefs Scale (Hatch et al., 1998). This 26-item measure examines purpose of life, belief in an external power, spiritual practices such as prayer, humility, and the application of spiritual principles in daily life. A sample item is "My spiritual life fulfills me in ways that material possessions do not." Reponses are coded on a 5-point Likert-type scale with 1 indicating strong disagreement and 5 indicating strong agreement. After reverse-coding negative worded items (1, 3, 5, 9, 13, 15, 16, and 18), responses are summed, yielding a possible range of scores of 19–95. In the original sample of medical professionals and patients, the scale showed high internal consistency (coefficient alpha reliability=.92) and 8-month test–retest reliability ($r=.92$, Hatch et al., 1998). Its construct validity was supported by its

significant positive association with spirituality as measured by the Spiritual Well-Being Scale (r=.79, Hatch et al., 1998). In the current sample, its internal reliability was .89. Its convergent validity was supported by its positive association with the Miller's (2004) measure of spirituality (Ying, 2008a).

Mindfulness was measured by the Mindful Attention Awareness Scale (Brown & Ryan, 2003). This 15-item measure assesses mindfulness and attention across "cognitive, emotional, physical, interpersonal, and general domains" (Brown & Ryan, 2003, p. 825). A sample item is "I find it difficult to stay focused on what's happening in the present." Items are scored on a 6-point Likert-type scale, with 1 indicating almost always and 6 indicating almost never, with a higher score reflective of greater mindfulness. The range of possible scores is from 1 to 6. Across seven samples of university undergraduates and community adults, its Cronbach alpha ranged from .80 to .87 (Brown & Ryan, 2003). One-month test–retest reliability in college students was .81 (Brown & Ryan, 2003). Its convergent validity was supported by its significant association with clarity of emotional state (r=.45 to r=.49) and engagement (r=.33 to r=.39) in college students (Brown & Ryan, 2003). In our sample, its Cronbach alpha reliability was .84. Its convergent validity was supported by its significant positive association with Neff's (2003b) mindfulness sub scale (Ying, 2008a).

Mental health was measured by anxiety and depressive symptom level. The Spielberger Trait Anxiety Inventory (STAI; Spielberger, Gorsuch, & Lushene, 1970) assesses proneness to anxiety across time. Since its creation, this 20-item measure has been widely used (Marteau & Bekker, 1992). A sample item is "I am calm, cool, and collected" (reverse-coded). All questions are scored on a 5-point Likert-type scale, with 1 indicating almost never and 5 indicating almost always. Items 1, 6, 7, 10, 13, 16, and 19 are reverse-coded. The possible range of scores is from 20 to 80, with higher scores suggesting greater anxiety. The STAI's internal consistency is high (r=.91, Marteau & Bekker, 1992), and its construct validity is supported by its association with depression and other personality measures (Dobson, 1985). In the current sample, the Cronbach alpha is .89.

Depressive symptoms were assessed by the California Psychological Inventory (CPI)—Depression Scale (Gough, 1987;

Jay & John, 2004). This 33-item CPI subscale examines depressive personality trait that develops over an extended period of time, including depressed mood, lack of interest, worthlessness, hopelessness, limited concentration, fatigue, and vegetative signs. A sample item is "I cannot do anything well." All items are scored as "true" (coded as 1) or "false" (coded as 0). Negatively worded items (3, 4, 9, 10, 15, 17, 19, and 28) are reverse-coded before creating the sum scores, with a possible range from 0 to 33 and higher scores indicating more symptoms. The scale's internal consistency ranged from .88 to .90 in college students (Jay & John, 2004). Its convergent validity with other depressive symptom measures was high (r=.69 to .79 with the Center for Epidemiological Studies—Depression Scale; and r=.78 to .81 with the Beck Depression Inventory in undergraduates; Jay & John, 2004). In the current sample, its Cronbach alpha is .80.

Data Analysis

The survey data were entered, cleaned, and managed by a doctoral-level research assistant using SPSS 11.0. To assess variation between religious and nonreligious students on the study variables, independent t-tests were conducted. To assess the conceptual distinctiveness of religiosity, spirituality, and mindfulness in religious and nonreligious students, a separate correlation analysis was conducted for each group. To assess the association of religiosity, spirituality, and mindfulness with depressive and anxiety symptoms in religious and nonreligious students, bivariate correlation and multivariate multiple regression models were separately conducted for the two groups.

RESULTS

The findings are presented below by each research question.

Do Religious and Nonreligious Social Work Students Vary on Religiosity, Spirituality, Mindfulness, and Mental Health?

As Table 3 shows, and consistent with hypothesis 1, religious students reported more religious comfort (mean=2.04, SD=.75

TABLE 3. Descriptives for Study Variables (n=65)

	Religious Mean (SD)	Nonreligious Mean (SD)	Significant Difference
Religious Comfort	2.04 (.75)	.88 (.67)	t=6.20, df=56 p<.001
Religious Strain	.96 (.44)	.66 (.45)	t=2.45, df=56 p=.01
Spiritual Involvement	74.64 (10.71)	63.30 (12.45)	t=3.64, df=56 P<.001
Mindfulness	3.85 (.62)	3.79 (.72)	not significant
Anxiety Symptoms	40.72 (8.24)	41.21 (8.95)	not significant
Depressive Symptoms	7.08 (3.98)	8.09 (5.11)	not significant

versus mean=.88, SD=.67, t=6.20, df=56, p<.001, one-tailed test) and religious strain (mean=.96, SD=.44 versus mean=.66, SD=.45, t=2.45, df=56, p=.01, one-tailed test) than nonreligious students. Also, as predicted, religious students were more involved with spirituality than their nonreligious peers (mean=74.64, SD=10.71 versus mean=63.30, SD=12.45, respectively, t=3.64, df=56, p<.001, one-tailed test). Finally, the two groups did not vary on mindfulness and anxiety and depressive symptom levels.

Are Religiosity, Spirituality, and Mindfulness Distinct Constructs in Religious and Nonreligious Social Work Students?

Tables 4 and 5 present correlation matrices of all study variables for religious and nonreligious students, respectively. Using a two-tailed test, religious comfort and strain were significantly positively associated in the nonreligious group (r=.45, p=.008) but only marginally associated in the religious group (r=.34, p=.10). Religious comfort was significantly correlated with spiritual involvement in both the religious (r=.79, p<.001) and nonreligious students (r=.72, p<.001), suggesting their conceptual overlap. Mindfulness was not associated with religious comfort, religious strain, and spiritual involvement in either group, supporting its conceptual distinctiveness.

TABLE 4. Correlation of Religiosity, Spirituality, Mindfulness, and Mental Health in Religious Students

	Religious Strain	Spiritual Involvement	Mindfulness	Anxiety Symptoms	Depressive Symptoms
Religious Comfort	.34	.79***	.05	−.06	.01
Religious Strain		.36	.03	.08	−.04
Spiritual Involvement			.07	−.09	.02
Mindfulness				−.59**	−.49**
Anxiety Symptoms					.80***
Depressive Symptoms					

*p≤.05, **p≤.01, ***p≤.001

TABLE 5. Correlation of Religiosity, Spirituality, Mindfulness, and Mental Health in Nonreligious Students

	Religious Strain	Spiritual Involvement	Mindfulness	Anxiety Symptoms	Depressive Symptoms
Religious Comfort	.45**	.72***	.25	−.14	−.23
Religious Strain		.18	.01	.29	.17
Spiritual Involvement			.09	−.08	−.19
Mindfulness				−.38*	−.48**
Anxiety Symptoms					.75***
Depressive Symptoms					

*p≤.05, **p≤.01, ***p≤.001

Are Religiosity, Spirituality, and Mindfulness Associated With Mental Health in Religious and Nonreligious Social Work Students?

This research question was first assessed using a bivariate correlation analysis and the results are presented in the last two columns of Tables 4 (for the religious group) and 5 (for the nonreligious group). As hypothesized and using one-tailed tests, mindfulness was significantly associated with mental health in both groups: in the case of anxiety, $r=-.59$, $p=.001$ for the religious group, and $r=-.38$, $p=.015$ for the nonreligious group; in the case of depressive symptoms, $r=-.49$, $p=.005$ for the religious group and $r=-.48$, $p=.0025$ for the nonreligious group.

This question was further assessed using multivariate regression analysis. Due to the problem of multicollinearity, stepwise regression was employed. Table 6 shows the results are consistent with those of the bivariate correlation. Across both groups and in both the anxiety and depressive symptom models, using a one-tailed test, mindfulness emerged as the only significant predictor. For the religious group: adjusted R^2=.31, $F(1, 23)=11.98$, p=.002, standardized beta for mindfulness=−.59, p=.001 for anxiety symptoms; and adjusted R^2=.21, $F(1, 23)=7.33$, p=.01, standardized beta for mindfulness=−.49, p=.005 for depressive symptoms. For the nonreligious group, adjusted R=.12, $F(1, 31)=5.20$, $p<.03$, standardized beta for mindfulness=−.38, p=.015 for anxiety symptoms; and adjusted R^2=.20, $F(1, 31)=9.14$, p=.005, standardized beta for mindfulness=−.48, p=.0025 for depressive symptoms.

DISCUSSION

The study findings are further discussed below by each research question, followed by study limitations and implications for social work education.

Do Religious and Nonreligious Social Work Students Vary on Religiosity, Spirituality, Mindfulness, and Mental Health?

As hypothesized, religious social work students derived more religious comfort but also suffered more religious strain than their

TABLE 6. Stepwise Regression Models Predicting Mental Health in Religious and Nonreligious Student

	Religious		Nonreligious	
	Anxiety Symptoms	Depressive Symptoms	Anxiety Symptoms	Depressive Symptoms
Adjusted R-Square:	.31	.21	.12	.20
F Statistic	11.98 (p=.002)	7.33 (p=.01)	5.20 (p=.03)	9.14 (p=.005)
Step 1: Mindfulness standardized beta	−.59***	−.49**	−.38*	−.48**

*p≤.05, **p≤.01, ***p≤.001, one-tailed tests

nonreligious peers. This is consistent with the literature that documents both the benefits and liabilities of religious affiliation (Exline et al., 2000; Koenig, 1997; Pargament, 1997). Also, as hypothesized, religious students were more spiritual than nonreligious students, reflecting the high correlation of the constructs of religiosity and spirituality (Hodge & McGrew, 2006; Scott, 2001; Ying, 2008a). Consistent with our prediction, the two groups did not vary on mindfulness or anxiety and depressive symptom levels.

Are Religiosity, Spirituality, and Mindfulness Distinct Constructs in Religious and Nonreligious Social Work Students?

By and large, the relationship of constructs under study was found to be similar in religious and nonreligious students. The finding that religious comfort and strain are significantly associated in the nonreligious group but only marginally so in the religious group may be due to the latter's smaller sample size. Consistent with the existing literature showing a conceptual overlap of religiosity and spirituality (Hodge & McGrew, 2006; Scott, 2001; Ying, 2008a), religious comfort was significantly associated with spiritual involvement among both religious and nonreligious students. As expected and consistent with previous research (Ying, 2008a), mindfulness was not associated with religiosity and spirituality in either religious or nonreligious students. As discussed above, mindfulness does not entail specific beliefs but reflects a moment-to-moment attentiveness to one's experiences without judgment (Brown & Ryan, 2003; Neff, 2003a). As such, it does not interfere with existing religious and spiritual practices.

Are Religiosity, Spirituality, and Mindfulness Associated With Mental Health in Religious and Nonreligious Social Work Students?

The bivariate and multivariate analyses showed that mindfulness alone significantly reduced anxiety and depressive symptoms in both religious and nonreligious social work students. As discussed above, mindfulness is a process-oriented practice that assists with the maintenance of equanimity, thereby protecting against depressive and anxious affect, cognitions, and behaviors (Brown & Ryan, 2003; Neff, 2003a).

Inconsistent with the existing literature (Exline et al., 2000; Hawks et al., 1995; Kass et al., 1991; Koenig, 1997; Pargament, 1997; Ying, 2008a) and our hypothesis, religious comfort and strain were not significantly associated with mental health in religious students. One possible explanation is that religious beliefs may not be activated in daily living and thus do not inform well-being. Similarly, spirituality may have failed to predict mental health in both groups because its beliefs do not necessarily translate into behavior. Thus, it is possible to claim the importance of compassion without actually practicing it. As such, religiosity and spirituality may play a more distal role in social work students' mental health. In contrast, mindfulness does not entail specific beliefs but is a behavioral practice of being conscious of and attending to the current moment. As such, it is more proximal predictor of mental health, yielding the immediate positive consequences of clarity and accuracy in assessing internal and external reality, maintenance of equanimity, and effective coping.

STUDY LIMITATIONS AND DIRECTION FOR FUTURE RESEARCH

The study suffers from several limitations that deserve attention in future research. First is the small sample size and sample selection bias. Due to the small sample size, variability of the study variables may be compromised, thereby threatening internal validity. Furthermore, statistical power is significantly compromised. Future research should employ larger samples. Also, as the study was implemented at a highly liberal public university in Northern California, its finding may have limited external validity. For instance, while over 80% of Americans nationwide identify with a religion (Kohut & Rogers, 2002; Kosmin et al., 2001), only the minority of this sample did so. Furthermore, among Hodge and McGrew's (2006) national sample of social work students, 35% were Christian, 24% were Catholic, and 8% had no faith, as compared to 17.2% Christian, 19.0% Catholic, and 56.90% without a religious affiliation in the current sample. Thus, whether religiosity and spirituality may serve a protective function against mental health problems in social work students residing in other parts of the country deserves further study.

Second are measurement limitations. While the use of self-report is currently the most common method to assess the constructs under study, they maybe biased. Future research should employ non-self-report methods, such as unobtrusive observation, observer reports or physiological measures to enhance validity (Hill & Pargament, 2003). Like other available instruments of religiosity, the Religious Comfort and Strain Scale (Exline et al., 2000) is informed by Christian beliefs that predominate in this country. Although the majority of the religious students endorsed Christianity/Catholicism, its content validity for non-Christian participants is questionable. Given our nation's growing religious diversity, assessment instruments need to be developed to more fully capture the various forms of religious practices of Americans. Finally, the mental health measures utilized for the study assessed depressive and anxiety traits rather than states. They were chosen to provide a more stable measure of mental health that is less likely to fluctuate with varying academic demands during the semester. However, this raises the question of whether the depressive and anxiety symptoms reported here may precede religious preference and/or religiosity, spirituality, and mindfulness. This limitation should be addressed in future research.

Third, and related to the above limitation, the study utilized a cross-sectional design. As such, it is not possible to draw definitive conclusions regarding causal relationships. While, conceptually, it is likely that religiosity, spirituality, and mindfulness precede mental health, this should be empirically demonstrated using a longitudinal design. Finally, having determined that mindfulness enhances well-being in both religious and nonreligious social work students, future research should assess its function in stressful situations to ascertain its actual use and protective and moderating function.

Implications for Social Work Education

The significant protective function of mindfulness against depressive and anxiety symptoms in both religious and nonreligious social work students suggests its utility in enhancing their self-care. A growing empirical literature shows that mindfulness may be enhanced through mediation training (Bishop et al., 2004; Kabat-Zinn, 2003). In spite of the popular view that mindfulness is a Buddhist practice, it is not associated with Buddhist dogma and therefore not in conflict

with non-Buddhist beliefs (Batchelor, 1997; Walsh & Shapiro, 2006), as evidenced by its conceptual distinctiveness from religiosity and spirituality in the current study. In fact, contemplative practices that enhance awareness and reflectivity are found across all major religious and cultural traditions, such as Christian contemplation (Walsh & Shapiro, 2006). In support, while the number of American Buddhists is 1.5 million (Kosmin et al., 2001), over 10 million Americans currently practice meditation (Deurr, 2004). Recent research also suggests that social work students are interested in learning meditation to enhance self-care and manage stress (Gelman, 2004).

Furthermore, the development of mindfulness through meditation is consistent with the aim of social work education to promote professional competence. Specifically, the educational policy and accreditation standards of the Council on Social Work Education (2003) state that students should acquire knowledge and skills in "engaging clients in an appropriate working relationship, identifying issues, problems, needs, resources, and assets; collecting and assessing information; and planning for service delivery" (p. 35). In support of these objectives, empirical research with social workers and other social service providers shows meditation enhances attentiveness, engagement, and effectiveness in professional encounter with clients (Brenner & Homonoff, 2004; Keefe, 1986; Shapiro et al., 1998; Shapiro et al., 2005).

In conclusion, the study findings warrant future research on the effect of mindfulness on social work students. Replication of the current study findings would implicate the utility of incorporating mindfulness training into the social work curriculum to enhance student well-being and professional competence.

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