

CONTRIBUTION OF SELF-COMPASSION TO COMPETENCE AND MENTAL HEALTH IN SOCIAL WORK STUDENTS

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This study examined the potential contribution of self-compassion to perceived competence and mental health in master's of social work students ($N=65$). It was hypothesized that the components of self-compassion (i.e., mindfulness, common humanity, self-kindness, overidentification, isolation, and self-judgment) would impact perceived competence (sense of coherence), which in turn would mediate mental health (depressive symptom level). Students completed the Self-Compassion Scale, the Sense of Coherence Questionnaire, and the California Psychological Inventory–Depression Scale. Results showed that overidentification directly and indirectly (as mediated by decreased coherence) affected depressive symptom level. Implications for social work education are discussed.

ABUNDANT EVIDENCE suggests that serving the most needy and underprivileged members of society (Acker, 1999; Bennett, Evans, & Tattersall, 1993; Lloyd, King, & Chenoweth, 2002) in the context of shrinking resources (Bocage, Homonoff, & Riley, 1995; Chapman, Oppenheim, Shibusawa, & Jackson, 2003; Jarman-Rohde, McFall, Kolar, & Strom, 1997) may place social workers at risk of professional burnout. Maslach (1986) defined *burnout* as "a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who work with people in some capacity" (p.

61), whereas Cherniss (1980) defined it as "a process in which a previously committed professional disengages from his or her work in response to stress and strain experienced in the job" (p. 18). The negative consequences of burnout include high job-turnover and premature departure from the profession (Maslach, Schaufeli, & Leiter, 2001), as well as distress that is expressed by physical (Adams, Matto, & Harrington, 2001; Strozier & Evans, 1998) and psychological symptoms (Bennett et al., 1993; Jenkins & Baird, 2002; Strozier & Evans, 1998). To ensure social workers' personal well-being, professional competence,

and a sustained work force, social work education should prepare students to effectively cope with professional challenges.

Although students may not yet suffer from professional burnout, social work education may nonetheless be a stressful experience (Koeske & Koeske, 1991). In the process of fostering a deeper and broader understanding of the world and oneself, adult education precipitates a disequilibrium as preexisting views are questioned (King & Baxter Magolda, 1999; Knowles, 1980). This challenging experience may exert a negative, if temporary, impact on self-concept and competence (Gitterman, 2004; King & Baxter Magolda, 1999; Knowles, 1980; Maciuka, Basseches, & Lipson, 1994) and result in psychological distress (Tobin & Carson, 1994). In particular, social work scholars have identified the subjects of diversity (Deal & Hyde, 2004) and research (Epstein, 1987) to be especially anxiety-provoking, because students worry about revealing personal biases and failing to master research. Thus, they may be in need of self-care methods to cope with these educational challenges.

Self-care consists of means to enhance mental, emotional, physical, and spiritual well-being (Faunce, cited in Porter, 1995). In addition to benefiting the professional, effective self-care also benefits clients by reducing the risk of unethical practice (Porter, 1995). Social support is the most often cited self-care method in social workers (Acker, 1999; Adams et al., 2001; Bennett et al., 1993; Lloyd et al., 2002). Although this is also true for social work students (Gelman, 2004; Home, 1993; Koeske & Koeske, 1989; Ying, 2008), recent research suggests that mindfulness (a component of self-compassion to be discussed) is a

more powerful buffer against emotional exhaustion in fieldwork (Ying, 2008). Building on this work, the current study examines whether the practice of self-compassion enhances sense of coherence and mental health in social work students, thereby serving as a potentially effective self-care method. The constructs of self-compassion and sense of coherence and their hypothesized relationship with mental health are discussed in the text that follows.

Self-Compassion

The term *compassion* is usually other-directed, reflecting a concern for and response to other people's suffering with kindness and assistance (Neff, 2003a). However, compassion may also be self-directed and has long been prominent in Buddhist philosophy (Hanh, 2005; Neff, 2003a; Shih, 1996; Suzuki, 1985). Only recently has it come to the attention of Western scientists (Goleman, 1997; Neff, 2003a; Walsh & Shapiro, 2006) and been operationalized for the purpose of empirical investigation (Neff, 2003b).

Self-compassion has been defined by Neff (2003a) as being touched by and open to one's suffering, not avoiding or disconnecting from it, generating the desire to alleviate one's suffering and to heal oneself with kindness. Self-compassion also involves offering nonjudgmental understanding to one's pain, inadequacies, and failures, so that one's experience is seen as part of the larger human experience (p. 87).

As such, it is a self-orientation with three components: mindful awareness, belief in common humanity, and self-kindness. Specifically, mindfulness is the maintenance

of a moment-to-moment awareness of one's experience rather than overidentifying with subjective emotions and cognitions (Neff, 2003a). A belief in human interconnectedness leads to the recognition that failure and suffering are shared by all people, and protects against feeling singled out and withdrawing into our pain. Self-kindness results in forgiveness for our inadequacies and protects against critical judgment and self-blame (Neff, 2003a, 2003b). These components facilitate a recognition and acceptance of reality as it is, and enhance the capacity to respond effectively in any given situation (Neff, 2003a).

Self-compassion is likely to serve social workers and social work students well during educationally and professionally challenging times. Specifically, mindful awareness allows students to face educational difficulties with curiosity and equanimity, rather than yielding to emotional and cognitive reactivity. For professionals, it protects against unethical practices, such as acting out countertransference reactions, by increasing the likelihood of recognizing inappropriate reactions to clients before any action is taken (Chapman et al., 2003; Lammert, 1986; Ringel, 2003). Additionally, a belief in human interconnectedness is likely to sustain the social worker's empathy and continued commitment to serve those who may be less fortunate but no less human (Ying, 2008). It may protect social work students from self-doubt when faced with particularly challenging subjects (Deal & Hyde, 2004; Montcalm, 1999). Finally, the practice of self-kindness may provide social work students with the necessary self-care to embrace and benefit from their education currently and to thrive in the profession in the future. Not sur-

prisingly, these elements have also been recognized by other scholars as key elements of self-care (Maslach, 1986; Norcross, 2000).

Most of the available empirical research on self-compassion has been conducted with college students (Neff, 2003b). Results suggest its positive effect on functioning in general and during stressful situations in particular (Neff, Hsieh, & Dejterat, 2005). Furthermore, self-compassion appears to serve as an emotional regulation strategy that transforms negative emotions and thoughts into self-acceptance, thereby decreasing depression and anxiety and enhancing happiness, life satisfaction, and self-esteem (Gilbert & Proctor, 2006; Neff, 2003b; Neff, Kirkpatrick, & Rude, 2007; Neff, Rude, & Kirkpatrick, 2007).

Recent research also suggests that self-compassion enhances effective coping with professional challenges among social work students (Ying & Han, 2007). Specifically, mindfulness was negatively associated with perceived stress level, whereas common humanity was positively associated with effective coping. Additionally, less-mindful students reported more emotional contagion (Ying & Han, 2007) and emotional exhaustion in fieldwork (Ying, 2008). The current study builds on this literature by examining the impact of self-compassion on mental health as mediated by competence (sense of coherence).

Sense of Coherence

In the literature on self-efficacy, sense of coherence occupies an important position. Antonovsky (1979, 1987) initially proposed this construct to explain differential coping capacity in response to severe external challenges such as a serious illness and war. He

(1987) defined *coherence* as "a global orientation" (p. 19) comprised of comprehensibility, manageability, and meaningfulness and defined thus:

[The] extent to which one has a pervasive, enduring, though dynamic feeling of confidence that (1) The stimuli deriving from one's internal and external environments in the course of living are structured, predictable and explicable; (2) The resources are available to one to meet the demands posed by these stimuli; and (3) These demands are challenges worthy of investment and engagement. (p. 19)

A significant empirical literature has demonstrated that sense of coherence is associated with mental health, including diminished depressive symptom levels across populations (Antonovsky, 1993; Bernstein & Carmel, 1991; Carstens & Spangenberg, 1997; Pallant & Lae, 2002; Ying, Akutsu, Zhang, & Huang, 1997). Among social workers, sense of coherence has been found to protect against professional burnout (Baker, North, & Smith, 1997).

Although Antonovsky (1979, 1987) initially postulated sense of coherence to be a stable trait, empirical research has shown its variability among adults over a 5-year period (Feldt, Leskinen, Kinnunen, & Ruoppila, 2003; Nilsson, Holmgren, Stegmayr, & Westman, 2003). Among medical students, Bernstein and Carmel (1991) found that the sense of coherence declined, whereas anxiety increased during their first 2 years of study. Although these scholars attribute the change

in coherence to shifts in the socioeconomic condition of the society at large (Feldt et al., 2003), personal health condition (Nilsson et al., 2003), and academic distress (Bernstein & Carmel, 1991), stress and coping scholars argue that the impact of any stressor is mediated by subjective appraisal and perceived capacity to cope (Lazarus & Folkman, 1984). Thus, it is the subjective response that determines whether a stressor negatively impacts coherence. As the components of self-compassion enhance appraisal and coping (as discussed in the section on self-compassion), it is also likely to promote sense of coherence. Although this relationship has not been previously tested, self-compassion has been empirically linked to the characteristics of curiosity and exploration, initiative taking, and extroversion, all of which result in greater functional competence (Neff, Rude, et al., 2007).

The Current Study

Informed by the literature, the current study examines whether the various components of self-compassion identified by Neff (2003b) contribute to social work students' perceived functioning (sense of coherence) and mental health (depressive symptom level). Additionally, the mediating function of sense of coherence in the association of the self-compassion components with depressive symptoms is assessed.

Although Neff (2003b) empirically developed six distinct subscales to measure the three components of self-compassion both positively (mindfulness, common humanity, and self-kindness) and negatively (overidentification, isolation, and self-judgment), her research has treated self-compassion as a uni-

form construct (Neff, 2003b, Neff et al., 2005). She argued (2003b) that these components are highly correlated and mutually enhance one another. For instance, a mindful awareness reduces the risk of self-blame (and increases self-kindness) by not allowing strong negative emotions to color the experience. Concomitantly, self-kindness may enhance mindfulness by allowing the emergence of self-acceptance and a more balanced view of the experience. Similarly, mindfulness engenders the recognition of a commonality in human experiences, whereas the latter promotes a more balanced perspective, that is, mindful awareness. Nonetheless, the three constructs are conceptually distinct, and identifying the strongest predictor(s) of social work students' competence and mental health allows for the specification of curriculum content to enhance self-care. Thus, in the current study the three constructs are separately assessed by the six positive and negative subscales.

The specific study hypotheses reflect the criteria for determining a mediation effect (Baron & Kenny, 1986). Specifically, it was hypothesized that (1) the components of self-compassion (independent variables: mindfulness, common humanity, self-kindness, over-identification, isolation, and self-judgment) would predict depressive symptoms (dependent variable); (2) the components of self-compassion would predict sense of coherence (mediator); (3) sense of coherence would predict depressive symptoms; and (4) with inclusion of sense of coherence, the effect of the self-compassion components on depressive symptoms would be diminished, thereby showing mediation. Furthermore, because some literature suggests women report more depression

than men, possibly as a result of lower social status or greater emotional sensitivity, or both (McGrath, Keita, Strickland, & Russo, 1990; Nolen-Hoeksema, Larson, & Grayson, 1999; Thayer, Rossy, Ruiz-Padial, & Johnson, 2003), gender was included as a control variable in the depressive symptom models.

Method

Sample and Procedure

A convenience sample of 65 master's of social work (MSW) students was recruited at a public university in the western United States. After receiving approval from the study site's Committee for the Protection of Human Subjects, all MSW students were invited to participate via mass e-mail and an invitation letter placed in their student mailboxes. For easy access, blank consent forms and surveys were placed above their mailboxes. Interested students signed the consent form, completed the survey at a time and place of their choosing and submitted them to a research assistant. Participants were paid \$10 for completing the survey.

A total of 37 of 94 first-year students and 28 of 94 second-year students participated in the study, yielding a response rate of 39.4% and 29.8%, respectively. To ascertain the sample's representativeness, the participants were compared to the study population on available characteristics. As Table 1 shows, neither 1st- nor 2nd-year participants varied from their classmates with regard to age, gender, ethnicity, and specialization.

The sample's mean age was 28.12 years ($SD=5.40$), and the mean education levels of the father and mother were 16.33 years

($SD=3.63$) and 15.69 years ($SD=3.96$), respectively. About half of the sample (56.9%, $n=37$) were 1st-year students; 89.2% ($n=58$) were women; 69.2% ($n=45$) were European American, with the rest of Asian, African, Latino, and bi- or multiracial students descent; and 81.54% ($n=53$) were heterosexual, with the rest self-identifying as gay or bisexual. With regard to religion, 15.4% ($n=10$) were Protestant, 16.9% ($n=11$) were Catholic, 7.7% ($n=5$) were Jewish, 1.5% ($n=1$) were Hindu, 6.2% ($n=4$) were Buddhist, 1.5% ($n=1$) were Muslim, 1.5% ($n=1$) were atheist, 4.6% ($n=3$) were agnostic, 4.6% ($n=3$) named yoga, 1.5% ($n=1$) named 12-step, and 43.1% ($n=28$) did not affiliate with any religion. All social work specializations were represented (Children and Families: 32.3%, $n=21$; Community Mental Health: 27.7%, $n=18$; Gerontology: 13.9%, $n=9$; Health: 12.3%, $n=8$; and Management and Planning: 13.9%, $n=9$).

Measures

Self-Compassion was measured by Neff's (2003b) six Self-Compassion subscales, three with positively worded items and three with negatively worded items. The positive subscales are the four-item Mindfulness subscale (sample item: When I'm feeling down, I try to approach my feelings with curiosity and openness), the four-item Common Humanity subscale (sample item: When things are going badly for me, I see the difficulties as part of life that everyone goes through), and the five-item Self-Kindness subscale (sample item: I'm kind to myself when I'm experiencing suffering). The negative subscales are the four-item Overidentification subscale (sample item: When I'm feeling down I tend to obsess and fixate on everything that's wrong), the four-item Isolation subscale (sample item: When I'm feeling down I tend to feel like most peo-

TABLE 1. Comparison of Sample ($N=65$) and Study Population ($N=188$) on Available Characteristics

| | 1st-Year Students | | | | 2nd-Year Students | | | |
|-------------------------|-------------------|--------|------------|--------|-------------------|--------|------------|--------|
| | Sample | | Population | | Sample | | Population | |
| | % | $n=37$ | % | $n=94$ | % | $n=28$ | % | $n=94$ |
| Female | 86.5 | 32 | 85.1 | 80 | 92.9 | 26 | 85.1 | 80 |
| European American | 73.0 | 27 | 65.9 | 62 | 64.3 | 18 | 56.5 | 53 |
| | Specialization | | | | | | | |
| Children and families | 32.4 | 12 | 31.9 | 30 | 32.1 | 9 | 34.0 | 32 |
| Community mental health | 24.3 | 9 | 29.8 | 28 | 32.1 | 9 | 28.7 | 27 |
| Gerontology | 16.2 | 6 | 8.5 | 8 | 10.7 | 3 | 9.6 | 9 |
| Health | 13.5 | 5 | 17.0 | 16 | 10.7 | 3 | 12.8 | 12 |
| Management and planning | 13.5 | 5 | 12.8 | 12 | 14.3 | 4 | 14.9 | 14 |

ple are probably happier than I am), and the five-item Self-Judgment subscale (sample item: I'm disapproving and judgmental about my own flaws and inadequacies). The items were rated on a 5-point Likert-type scale, with 1 indicating *almost never* and 5 indicating *almost always*. Higher scores reflect greater endorsement of the construct.

In her original study Neff (2003b) demonstrated the scale's excellent psychometric properties. For instance, discriminant validity was supported by showing that Buddhist practitioners scored higher than college students on the three positive self-compassion subscales and lower on the three negative subscales. In this sample of social work students the internal alpha reliability of the subscales was as follows: .75 for mindfulness, .76 for common humanity, .84 for self-kindness, .78 for overidentification, .74 for isolation, and .81 for self-judgment.

Sense of Coherence was measured by Antonovsky's (1987) 13-item Sense of Coherence Questionnaire. A sample item was "Many people—even those with a strong character—sometimes feel like losers in certain situations. How often have you felt this way in the past?" The items were coded on a 7-point scale reflecting various levels of endorsement. Negatively worded items were reverse coded. The range of possible sum scores was from 13 to 91, with higher scores indicating greater coherence. The psychometric properties of the Sense of Coherence Questionnaire have been well-demonstrated in numerous previous research studies (Antonovsky, 1993). In this study its internal reliability was .90 ($N=65$).

Depressive Symptom Level was measured by the 33-item California Psychological Inventory–Depression Scale (Jay & John, 2004) that assessed the presence of depressed mood, lack of interest, worthlessness, hopelessness, diminished concentration, fatigue, and vegetative signs. Participants responded to these symptoms with *true* (coded as 1) or *false* (coded as 0). Eight items were reverse coded, yielding a possible range of scores from 0 to 33, with higher numbers indicating the presence of more depressive symptoms. Its psychometric properties have been previously reported (Jay & John, 2004). For instance, its convergent validity was supported by its significant association with other depressive symptom measures, such as the Center for Epidemiological Studies–Depression Scale and the Beck Depression Inventory (with the correlation ranging from .69 to .81 across samples). In our study its internal reliability was .90 ($N=65$).

Demographics such as age, gender, race, sexual orientation, parental education, religion, and social work specialization were assessed to describe the sample.

Results

On a possible range of 1 to 5, the mean scores on self-compassion subscales were as follows: 3.52 ($SD=.70$) for mindfulness, 3.25 ($SD=.80$) for common humanity, 3.07 ($SD=.76$) for self-kindness, 3.12 ($SD=.91$) for over-identification, 3.00 ($SD=.88$) for isolation, and 3.21 ($SD=.77$) for self-judgment. The mean sense of coherence score was 64.17 ($SD=9.59$) on a possible range of scores of 13 to 91. The students' depressive symptom level was 7.48 ($SD=4.56$) on a possible

range of 0 to 33. These mean scores suggest moderate levels of self-compassion, coherence, and depressive symptom level.

Bivariate analyses of study variables were conducted before multivariate analyses were used to test the hypotheses. Table 2 shows a correlation matrix of the study variables. Congruent with Neff's (2003a) postulation, virtually all of the self-compassion subscales were significantly correlated with one another (two-tailed tests). The only exception was that common humanity and overidentification were not associated. Furthermore, all of the self-compassion subscales were significantly related to sense of coherence in the expected direction; that is, the positive subscales were positively correlated and the negative subscales were negatively correlated with coherence. Finally, except for common humanity all of the self-compassion subscores and coherence were significantly related to depressive symptom level in the expected direction. Common humanity was marginally significantly correlated with depressive symptoms ($r = -.23, p = .07$).

Additionally, a *t* test was conducted to assess gender differences in depressive symptom level. Women scored slightly higher than men ($M = 11.55, SD = 8.58$ vs. $M = 10.29, SD = 9.00$), but the difference was not statistically significant. Thus, gender was excluded from further analysis in the depression models.

In light of the strong intercorrelation of the self-compassion subscale scores and to identify the most salient predictors of coherence and depressive symptoms, four stepwise multiple regression analyses were conducted to test the study hypotheses. Also, as per Cohen (1988), effect size was calculated as the proportion of variance explained by the independent variables divided by the proportion of variance attributed to error [$R^2 / (1 - R^2)$].

The more conservative two-tailed test was used. Supporting the first hypothesis regarding the contribution of the self-compassion subscales to depressive symptom level, the model was significant ($\Delta R^2 = .34, F(1, 63) = 34.02, p < .001, d = .63$), and overidentification emerged as a significant predictor,

TABLE 2. Intercorrelations for Scores on Measures of Self-Compassion, Sense of Coherence, and Depressive Symptom Level (N=65)

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|------------------------|---------|---------|---------|---------|---------|---------|---------|---|
| 1. Mindfulness | — | | | | | | | |
| 2. Common humanity | .64*** | — | | | | | | |
| 3. Self-kindness | .63*** | .38** | — | | | | | |
| 4. Overidentification | -.50*** | -.16 | -.56*** | — | | | | |
| 5. Isolation | -.37** | -.40*** | -.42*** | .66*** | — | | | |
| 6. Self-judgment | -.50*** | -.34** | -.72*** | .69*** | .65*** | — | | |
| 7. Sense of coherence | .29* | .28* | .43*** | -.54*** | -.51*** | -.48*** | — | |
| 8. Depressive symptoms | -.42*** | -.23 | -.49*** | .59*** | .43*** | .49*** | 0.64*** | — |

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

($B=2.97$, $SE=.51$, $\beta=.59$, $p<.001$). Supporting the second hypothesis that self-compassion would be associated with sense of coherence ($\Delta R^2=.31$, $F(2, 62)=15.53$, $p<.001$, $d=.49$) overidentification ($B=-.37$, $SE=1.45$, $\beta=-.35$, $p=.01$) and isolation ($B=-3.07$, $SE=1.49$, $\beta=-.28$, $p=.04$) emerged as significant predictors. The third model examined the hypothesis that sense of coherence would predict depressive symptom level and was supported ($\Delta R^2=.39$, $F(1, 63)=42.62$, $p<.001$, $d=.66$, $B=-.30$, $SE=.05$, $\beta=-.64$, $p<.001$). The final model tested the joint contribution of the self-compassion subscales and sense of coherence to depressive symptom level. The model was significant ($\Delta R^2=.48$, $F(2, 62)=30.04$, $p<.001$, $d=.96$), and overidentification ($B=1.77$, $SE=.54$, $\beta=.35$, $p=.002$) and sense of coherence ($B=-.21$, $SE=.05$, $\beta=-.45$, $p<.001$) emerged as significant predictors. A comparison of the first and fourth models showed that the predictive power of overidentification diminished once coherence was included in the model. Furthermore, Sobel's test of mediation was conducted (Sobel, as cited in Baron & Kenny, 1986). The test was significant ($z=2.18$, $p=.03$), suggesting that sense of coherence partially mediated the effect of overidentification on depression symptom level.

Discussion

The study demonstrated the importance of self-compassion in promoting perceived competence and mental health in social work students. In particular, the strong correlation of the self-compassion subscale scores with sense of coherence and depressive symptom level suggests that self-care methods aimed at

increasing its positive components and reducing its negative components are likely to be beneficial. Interestingly, although the mindfulness and overidentification subscales are intended to measure the same construct of mindfulness positively and negatively (Neff, 2003b), overidentification emerged as a more powerful predictor in the correlation matrix (Table 2) and the only significant predictor of competence and mental health in the multivariate models. One possible explanation may be the greater variance found in the responses to the overidentification subscale ($SD=.91$ vs. $.70$ for mindfulness), which increased its predictive power. It is also possible that beyond a certain level mindfulness exerts no further benefits on competence and mental health. This deserves further study. Interestingly, human interconnectedness and self-kindness did not emerge as significant predictors in the regression models. This may suggest an order to the development of the three components of self-compassion, with the presence of mindfulness serving as a prerequisite to the recognition that all humans face similar challenges, which in turn engenders self- and other-kindness (Shih, 1996; Suzuki, 1985).

Implications for Social Work Education

The negative effect of overidentification on sense of coherence and mental health is consistent with existing research that suggests its positive association with the risk of emotional contagion (Ying & Han, 2007) and emotional exhaustion in fieldwork (Ying, 2008) among social work students. These findings indicate that addressing overidentification in the social

work curriculum may enhance student well-being. Growing research suggests meditation training effectively reduces overidentification and enhances mindfulness (Bishop et al., 2004; Kabat-Zinn, 2003).

Defined as "a self-regulation practice that focus(es) on training attention and awareness in order to bring mental processes under greater voluntary control and thereby foster general mental well-being and development and/or specific capacities such as calm, clarity, and concentration" (Walsh & Shapiro, 2006, pp. 228-229), meditation focuses on deep breathing, self-awareness, and attentiveness to daily activities, thereby reducing the tendency to cling to subjective views that distort external reality (overidentification) and enhancing acceptance and appraisal of reality as it is (Kabat-Zinn, 2003). Randomized controlled trials have shown meditation's positive effect on functional competence and mental health (Astin, 1997; Shapiro, Schwartz, & Bonner, 1998; Williams, Kolar, Roger, & Peterson, 2001). Meditation also has been found to increase self-acceptance (Germer, Siegel, & Fulton, 2005) and promote social workers' and helping professionals' effectiveness by facilitating attentiveness and engagement with clients (Brenner & Homonoff, 2004; Germer et al., 2005; Keefe, 1986; Shapiro, Astin, Bishop, & Cordova, 2005; Shapiro et al., 1998). Additionally, social work students have expressed a desire to learn meditation to enhance self-care (Gelman, 2004).

In light of the current findings that the presence of mindfulness was positively associated with competence and mental health in the bivariate analyses, and its absence (as measured by overidentification) was nega-

tively associated with the outcome variables in both the bivariate and multivariate models, meditation may be an appropriate intervention for social work students. However, as mindfulness did not emerge as a significant predictor in the multivariate models, it may be that students who strongly overidentify are most likely to benefit and should be targeted.

To my knowledge, no intervention has been developed to modify sense of coherence directly. However, Antonovsky (1979, 1987) proposed that available resources such as education, materialistic possessions, and social support are likely to enhance it, whereas deficits such as unstable living conditions and other significant external stressors are likely to diminish it. Of these, social support is the most readily modifiable. It has been empirically demonstrated to increase coherence (Ying, Lee, & Tsai, 2007; Nilsson et al., 2003). Furthermore, social support enhances mental health in the general population (for review see Pierce, Lakey, Sarason, & Sarason, 1997) and among social work students (Ying, 2008; Gelman, 2004; Home, 1993). Thus, efforts to promote social support from peers and faculty may enhance social work students' competence and mental health.

Study Limitations and Directions for Future Research

The study suffers from several limitations that deserve attention in future research. First is its small sample size. Although the sample did not vary from the study population on available demographic characteristics, they represent only a third of the students at the study site. Thus, the findings may not be generalizable to the entire study body. Also, as the study

was conducted at a liberal public university in Northern California, it may have limited external validity. The study needs to be replicated in other parts of the country. Furthermore, because of the small sample size it was not possible to assess potential variation based on the sample's diversity, such as ethnicity, sexual orientation, and religion. Also, the differential effect of the mindfulness and overidentification subscales on sense of coherence and depression in the multivariate models suggests that future research should examine whether they truly measure the same construct positively and negatively. Finally, the use of a cross-sectional design precludes definitive conclusions regarding causal relationships. As a self-orientation, self-compassion should precede sense of coherence, an orientation toward the world, but future research should employ a longitudinal design to empirically assess this postulation.

In spite of these limitations the study makes a significant contribution to the social work education literature. It shows the deleterious effect of overidentification and low sense of coherence on students' mental health and suggests the need to address them in the social work curriculum.

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