

SELF-COMPASSION FOR HEALTHCARE COMMUNITIES

UNCORRECTED PROOF

**Caring for Others without Losing Yourself: An Adaptation of the Mindful Self-
Compassion Program for Healthcare Communities**

Kristin D. Neff¹

Marissa C. Knox¹

Phoebe Long²

Krista Gregory²

In Press,

Journal of Clinical Psychology

¹ University of Texas at Austin

² Dell Children's Medical Center of Central Texas

Corresponding Author:

Kristin Neff

Educational Psychology Department

University of Texas at Austin

e-mail: kneff@austin.utexas.edu

Author Note: This research was supported by a grant from an anonymous donor to the Dell Children's Foundation in support of the work of the Center for Resiliency at Dell Children's. Self-Compassion for Healthcare Communities (SCHC) is an adaptation of the Mindful Self-Compassion program, approved and disseminated by the Center for Mindful Self-Compassion (www.CenterforMSC.org)

Abstract

Objective: Two studies examined the efficacy of the Self-Compassion for Healthcare Communities (SCHC) program for enhancing wellbeing and reducing burnout among healthcare professionals.

Method: Study 1 (N = 58) had a quasi-experimental design and compared wellbeing outcomes for the SCHC group compared to a waitlist control group. Study 2 (N = 23) did not include a control group and examined the effect of SCHC on burnout.

Results: Study 1 found that SCHC significantly increased self-compassion and wellbeing. All gains were maintained for three months. Study 2 found that in addition to enhancing wellbeing, SCHC significantly reduced secondary traumatic stress and burnout. Changes in self-compassion explained gains in other outcomes, and initial levels of self-compassion moderated outcomes so that those initially low in self-compassion benefitted more.

Conclusions: Findings suggest that the SCHC program may be an effective way to increase self-compassion, enhance wellbeing and reduce burnout for healthcare professionals.

Keywords: healthcare, burnout, self-compassion, compassion fatigue, compassion satisfaction, secondary traumatic stress, physician wellbeing

Caring for others without losing yourself: An adaptation of the Mindful Self-Compassion program for healthcare communities

Healthcare professionals (HCPs) work to keep people well; yet, paradoxically, their own wellness is adversely affected by the intense demands of the job. As documented in a recent report by the National Academy of Medicine (NAM; 2019), extensive changes in how the healthcare system functions have put pressure on HCPs to handle increasing workloads, challenging technologies, and greater expectations of efficiency and production at the expense of patient care and personal and professional values. The lack of supportive resources for HCPs in the face of accumulating job demands contributes to chronic work stress, poor mental health, and burnout (NAM, 2019). In fact, the risk of burnout is twice as high in the healthcare community than it is for the general U.S. population after controlling for work and other factors (Shanafelt et al., 2012). HCPs are at risk for maladaptive coping strategies such as alcohol or substance abuse (Jackson et al., 2016; Salvagioni et al., 2017), and are at greater risk of heart disease, fatigue, digestive and respiratory issues, insomnia, and hospitalization for mental disorders because of their chronic stress (Salvagioni et al., 2017). Furthermore, the consequences of work-related stress and burnout extend beyond HCPs' physical and mental health and into patient care and safety, organizational productivity, and the cost of healthcare for American society at large (Han et al., 2019; Panagioti et al., 2018; West, Dyrbye, & Shanafelt, 2018). For this reason, there is an urgent need to find efficient ways to reduce burnout and enhance resilience among HCPs.

Another challenge facing HCPs is the emotional exhaustion of caring for patients first identified by Figley (1995) as "compassion fatigue." Although this phenomenon is very real, scholars have recently pointed out that the term is somewhat misleading (Hofmeyer, Kennedy, & Taylor, 2019; Sinclair et al., 2017). Instead, empathy fatigue or empathic distress may be a more

appropriate way to describe the emotional drain that results from empathizing with patients who are in severe psychological or physical pain (Klimecki & Singer, 2012; Hofmeyer, Kennedy, & Taylor, 2019). When HCPs empathize with patients' distress, to some extent it is felt and experienced as their own (Singer & Klimecki, 2014). In fact, neuroimaging studies show that empathizing with the pain of others activates the same parts of the brain involved in the self's pain processing (Klimecki et al., 2014). In contrast, having compassion towards another who is in pain activates parts of the brain associated with reward, affiliation, and protection from stress (Klimecki et al., 2014). This is because instead of one's awareness becoming absorbed by the other's distress, a caring perspective is adopted. By becoming compassionately aware of the other's pain without getting lost in it, its harmful effects are reduced. Moreover, the feelings of care and connection generated by compassion are positive and fulfilling rather than draining (Goetz, Keltner, & Simon-Thomas, 2010). Thus, while empathy for others' distress can be fatiguing, compassion is not, and can actually serve as a buffer against empathy fatigue (Klimecki & Singer, 2012).

Many HCPs enter the field of healthcare with personal and professional values of altruism, compassion, and care for others. Despite their natural inclination to be compassionate, some experience a decline in compassion satisfaction (Sprang, Clark & Whitt-Woosley, 2007). Compassion satisfaction refers to the fulfillment derived from doing effective and meaningful work that benefits others (Stamm, 2010). Compassion satisfaction supports HCPs' wellbeing at work and at home. For example, in a study of trauma nurses, greater compassion satisfaction was related to having a strong support system, adaptive coping strategies, and maintaining positive relationships with coworkers (Hinderer et al., 2014). Without compassion satisfaction, HCPs may lose motivation and experience increased stress, secondary traumatic stress, depression, and

burnout (Smart et al., 2014; Sorenson et al., 2016).

Self-compassion could be a valuable resource for HCPs struggling with the demands of their work (Raab, 2014). Self-compassion is a healthy way of relating to oneself when faced with difficulties including feelings of inadequacy and general life stressors. According to Neff (2003a, 2003b) self-compassion rests on three main pillars: self-kindness, common humanity, and mindfulness. Self-kindness entails treating oneself with warmth, respect, and care. Rather than harshly judging oneself for personal limitations or flaws, the self is offered unconditional acceptance and support. Self-kindness also involves actively soothing and comforting oneself in moments of distress. Common humanity involves an acknowledgment of the shared human experience, understanding that being human inherently includes the experience of pain, imperfection, and difficulty. Rather than feeling isolated by one's difficulties —egocentrically feeling as if "I" am alone in my struggles —one takes an expanded and more interconnected perspective when considering personal imperfections and challenges. Mindfulness entails a clear and balanced awareness of one's present moment experience of suffering, without exaggerating negative aspects of oneself or one's life experience (a process that is termed "over-identification").

An extensive body of research demonstrates that self-compassion is linked to psychological wellbeing (see Germer & Neff, 2019 for a review). One meta-analysis (MacBeth & Gumley, 2012) found a large effect size when examining the inverse relationship between self-compassion and depression, anxiety, and stress. Moreover, self-compassion is directly associated with psychological strengths such as happiness, optimism, and wisdom (Hollis-Walker & Colosimo, 2011; Neff, Rude, & Kirkpatrick, 2007). Self-compassion also greatly enhances resilience and coping. For example, studies show that combat veterans with more self-

compassion have better functioning in daily life (Dahm et al., 2015), are less likely to attempt suicide (Rabon et al., 2019) or develop PTSD (Hiraoka et al., 2015). Similar findings have been obtained for individuals encountering challenges such as chronic illness (Sirois, Molnar, & Hirsch, 2015), divorce (Sbarra, Smith, & Mehl, 2012), or raising a special needs child (Neff & Faso, 2015). Self-compassion provides individuals with internal emotional support, helping them to meet stressful situations without being overwhelmed (Sirois, 2015; Terry et al., 2013).

Self-compassion is a potentially important skill for HCPs because it offers a way of holding the distress experienced in healthcare settings with kindness, connection, and presence, providing protection against caregiver fatigue and burnout (Raab, 2014). Research indicates that medical trainees and pediatric residents with higher levels of self-compassion are more likely to have confidence in their ability to provide calm, compassionate care to others (Kemper et al., 2019; Olson & Kemper, 2014). Self-compassionate physicians report greater work engagement, less emotional and physical exhaustion, and greater satisfaction with professional life (Babenko et al., 2019). Self-compassionate HCPs report less stress and sleep disturbance as well as greater resilience and mental health (Kemper et al., 2019; Kemper et al., 2020; Kemper, Mo, & Khayat, 2015). Importantly, self-compassion is associated with higher compassion satisfaction and lower levels of burnout (Duarte, Pinto-Gouveia, & Cruz, 2016; Gracia-Gracia, & Oliván-Blázquez, 2017), suggesting it may be a valuable resource for HCPs.

It should be noted that there is an important difference between self-compassion and self-care. Self-care is commonly advocated to help prevent burnout among HCPs (e.g., Kravits et al., 2010; Skovholt & Trotter-Mathison, 2014), and involves behaviors such as exercise, healthy eating, listening to music, creating art, spending quality time with friends, and so on (Cook-Cottone, 2015; Hernandez, 2009; Kravits et al., 2010). Although self-care activities are

beneficial (Alkema, Linton, & Davies, 2008; Salloum et al., 2015) they have one major limitation - they typically happen off the job. When HCPs are suffering because they are empathically resonating with a patients' distress, they cannot simply leave to practice yoga or get a massage. Although self-compassionate individuals are more likely to engage in healthy self-care activities (e.g., Ferrari et al., 2017; Terry et al., 2013), self-compassion is actually practiced in the moment pain arises. HCPs can give themselves compassion for the feelings of stress, fatigue, and empathetic distress they experience while professionally caring for others, providing protection against its deleterious effects. Thus, self-compassion has the potential to offer HCPs more than self-care alone.

Fortunately, self-compassion is a skill that can be taught and developed with practice. A recent meta-analysis of 27 randomized controlled trials of self-compassion interventions (Ferrari et al., 2019) demonstrated not only large increases in self-compassion, but reductions in psychopathology with medium to large effect sizes. Germer and Neff (2019) have developed an eight-week training program called Mindful Self-Compassion (MSC) that helps individuals develop greater compassion for self and others, while also enhancing mindfulness as a foundation for self-compassion. A randomized controlled trial conducted by Neff and Germer (2013) found that participation in MSC led to significant increases in self-compassion, mindfulness, compassion for others, and life satisfaction, and decreases in depression, anxiety, stress, and emotional avoidance. All gains were maintained at six months and one-year follow-up, suggesting that the skills learned in MSC are sustained over time. Another randomized controlled trial with diabetes patients (Friis et al., 2016) found that MSC participants not only experienced reduced depression and diabetes-related distress, they had clinically meaningful reductions in blood sugar levels, suggesting benefits for physical and psychological wellbeing.

So far there is limited research on self-compassion training for HCPs. One exception is a pilot study conducted by Delaney (2018) who examined the efficacy of the 8-week MSC program with a small sample of nurses. Results indicated that participants had significant increases in self-compassion and mindfulness after participating in the program, greater resilience and compassion satisfaction, and less burnout and secondary trauma. Qualitative data indicated that nurses responded well to the program. They reported feeling more accepting and positive, less self-critical and stressed, and more able to cope with work demands. Other intervention programs such as Mindfulness-Based Stress Reduction (MBSR; Birnie, Speca, & Carlson, 2010; Shapiro et al., 2005) and Compassion Cultivating Training (CCT; Scarlet et al., 2017) have also been shown to increase self-compassion in HCPs and to yield beneficial effects.

All of these intervention programs, however - including MSC - have limited utility in healthcare settings because they are time intensive, involving training sessions of two to three hours per week held over the course of eight weeks. They also typically involve home practice outside the training sessions for 20 or 30 minutes a day. Given that the time pressure demands of working in healthcare are central to the burnout and stress experienced by HCPs, the time commitment required by these programs might unintentionally increase stress. Also, these programs typically involve meditation training. Meditation is a valuable tool for developing focus, deepening concentration, and increasing physical and mental wellness (Baer, 2003). However, some HCPs might be resistant to meditation not only due to time constraints but also for religious or cultural reasons (Schmidt, 2016). What appears to be most needed are easy, practical self-compassion tools that HCPs can use on the job to help them deal with their stress.

Neff and Germer (2013) found that informal practices such as putting one's hand on one's heart and speaking kindly to oneself in times of struggle were just as impactful in learning self-

compassion as formal meditation, suggesting that meditation is not necessary to learn the skill. In fact, one informal practice taught in MSC is particularly designed for caregivers (Germer & Neff, 2019). Called "Compassion with Equanimity," the practice involves first evoking phrases designed to remind caregivers that they can try to help others but aren't in complete control of the outcomes. This provides a sense of perspective and calm to caregiving interactions. Then the breath is used as a metaphoric vehicle for compassion. On the inbreath caregivers imagine that they are breathing in compassion for themselves, validating the difficulty they are experiencing due to empathic pain and other stressors, and giving themselves kindness and emotional support. On the outbreath they imagine that they are breathing out compassion to the person they are caring for, validating the pain of the other and emanating concern for their wellbeing. Caregivers are advised that they can focus more on the inbreath or outbreath as needed in the moment. The practice is designed to be applied in actual caregiving contexts. Because of the utility of informal self-compassion practices such as these for HCPs, we decided to develop a brief adaptation of the MSC program without meditation that can be used in healthcare settings, called Self-Compassion for Healthcare Communities (SCHC).

We included "communities" in the title of the program because HCPs work within interdisciplinary teams and the coping mechanisms of an individual affect an entire team. We developed the SCHC adaptation over the course of 3 years with multiple cohorts of HCPs working in a large Southwestern children's medical hospital. The original 8-week program with 2.5-hour weekly sessions and a half-day retreat was adapted to a 6-week program with 1-hour weekly sessions. Food was provided at sessions, which occurred at lunchtime, so that HCPs would not need to take extra time out of their busy day to practice this most basic form of self-care. SCHC was specifically informed by the needs, values, and context of HCPs. While the key

principles of the MSC program were retained (Germer & Neff, 2019), the organization, flow, and framing of the exercises were modified to better fit HCPs' time constraints. Rather than asking HCPs to practice at home in addition to attending weekly sessions, the invitation was for them to practice self-compassion while working, in moments of difficulty as they arise.

SCHC also used language that was reflective of HCPs' experiences. For instance, instead of using the word "suffering" as is typical in MSC, we used words like "difficulty," "struggle," or "stress." In pilot testing we found that the word "suffering" for HCPs was seen as more appropriate to describe the experience of patients and their families, and did not easily translate to personal distress. It was a priority to present HCPs with information that could be absorbed in a way that made sense to them, and to provide practical and accessible exercises that could be easily integrated into daily work life.

Study One

Our first study examined the efficacy of the SCHC program for HCPs as measured by change in self-compassion, mindfulness, and compassion for others. We also examined participants' wellbeing in terms of depression, anxiety, and stress. To determine if the program enhanced HCPs ability to enjoy their jobs, we measured compassion satisfaction. As a measure of burnout, we examined the levels of personal distress experienced by HCPs, given that empathic distress is a key marker of empathy fatigue (Singer & Klimecki, 2014).

Study One had a quasi-experimental design, involving an intervention and waitlist control group. In consideration of HCPs' complicated schedules, we decided not to randomly assign participants to groups. Rather, we recruited participants for the study and then allowed them to choose between two broad time periods to take the course, with the first cohort serving as the intervention group and the second as waitlist controls. We hypothesized that compared to waitlist

controls, participants who took the SCHC course would exhibit greater increases in self-compassion, mindfulness, compassion to others, wellbeing and compassion satisfaction, as well as decreases in personal distress. We also collected three-month follow-up data from the intervention group to determine if gains would be maintained over time.

To ensure that changes in the program were in fact due to increased self-compassion, we examined whether changes in self-compassion predicted change in the other outcomes. We also explored whether or not pre-existing levels of self-compassion moderated the efficacy of the program. Past research has shown that individuals who are very hard on themselves are more likely to benefit from self-compassion training (Kelly et al., 2010). Therefore, we expected that HCPs with lower levels of self-compassion initially might especially benefit from learning a more caring way of self-relating.

Methods

Participants

Participants were recruited from a large children's hospital in an urban setting in the Southwestern United States. A total of 58 people participated in the study, with 25 intervention participants and 33 people in the waitlist group. One intervention participant attended only a single session of the program and did not complete any post-test measures. The other 24 intervention participants attended at least four of six sessions and completed the post-test surveys at two-weeks and three months follow-up. Two waitlist participants did not complete the post-test survey. This means that the attrition rate was 4% for intervention participants and 6% for the waitlist control group. Since the completion of data collection, 18 participants in the waitlist control group have taken the SCHC training. Demographic characteristics were as follows: 86% female, M age = 42.95(range 28 - 65), 64% White, 16% Latino, 16% Asian American, and 5%

other ethnicities. Various HCP occupations were represented: 40% were nurses, 21% were physicians (e.g. MDs, residents), 7% were social workers, 14% were in ancillary services (e.g., laboratory, pharmacy, imaging, administration, chaplaincy), 10% were in therapeutic services (e.g., physical therapy, occupational therapy), and 9% held other positions.

Procedure

Appropriate IRB approval was obtained for this study. HCPs were informed of the study via emails, word of mouth, and flyers. The flyers that were distributed around the hospital advertised training to prevent burnout, and included a picture of a male doctor who looked stressed. Given that these types of interventions tend to draw more women than men (Germer & Neff, 2019), and given that the majority of HCPs in the hospital were women, we wanted to maximize the chances that men would sign up. Most inquiries were received from women, however. Although data was not collected on why people who inquired did not participate, it appeared that scheduling issues were the biggest barrier. No incentives were offered for participation other than lunch. Participants were asked if they could make one of two times offered for SCHC in the spring or else if they would prefer to take SCHC in the fall, being informed that all participants needed to complete study surveys in the spring. The intervention participants met in two SCHC groups in the spring, consisting of 14 and 11 participants each. Participants in the waitlist group were offered the intervention in fall after all data collection was complete. Baseline and post-test measures were completed online through Qualtrics two-weeks before and two-weeks after the program, as well as three months later for the intervention group only. Although we attempted to collect follow-up data for the control group, we discovered they were actively reading about self-compassion and learning practices from their colleagues, meaning they could no longer serve as neutral controls.

Measures

Self-Compassion. Self-compassion was measured using the 26-item Self-Compassion Scale (Neff, 2003), which assesses six different components of self-compassion: Self-Kindness (e.g., “I try to be understanding and patient toward aspects of my personality I don't like”), reduced Self-Judgment (e.g., “I’m disapproving and judgmental about my own flaws and inadequacies”), Common Humanity (e.g., “I try to see my failings as part of the human condition”), reduced Isolation (e.g., “When I think about my inadequacies it tends to make me feel more separate and cut off from the rest of the world”), Mindfulness (e.g., “When something painful happens I try to take a balanced view of the situation”), and reduced Over-identification (e.g., “When I’m feeling down I tend to obsess and fixate on everything that’s wrong”). Responses are given on a 5-point scale ranging from 1 (almost never) to 5 (almost always). Scores for negative items representing uncompassionate self-responding were reverse-coded to indicate their absence. To calculate a total self-compassion score, a grand mean of all six subscales was taken. Reliability was $\alpha = .94$ at both pre-test and post-test.

Mindfulness. Mindfulness was measured using the Cognitive and Affective Mindfulness Scale – Revised (Feldman et al., 2007). This scale examines the degree to which people can pay attention to and accept their experiences. Responses to items such as “I can accept the things I cannot change” and “It’s easy for me to keep track of my thoughts and feelings” are provided on a scale of 1 (rarely) to 4 (almost always). Items were averaged for a total score. Reliability was $\alpha = .81$ at both pre-test and post-test.

Compassion. Participants completed the 5-item Santa Clara Brief Compassion scale (Hwang, Plante & Lackey, 2008). Item examples include “When I hear about someone (a stranger) going through a difficult time, I feel a great deal of compassion for him or her” and “I

often have tender feelings toward people (strangers) when they seem to be in need.” Responses were provided on a scale of 1 (not at all true of me) to 7 (very true of me) and averaged for a total score. Reliability was $\alpha = .80$ at pre-test and $\alpha = .85$ at post-test.

Wellbeing. The Depression, Anxiety, and Stress Scale (Lovibond & Lovibond, 1995) measured symptoms experienced over the past week on a scale of 0 (never) to 3 (almost always). Item examples include “I couldn’t seem to experience any positive feeling at all” (depression); “I experience trembling (e.g. in the hands) (anxiety); and “I found it hard to wind down” (stress). Subscale items were summed for a total score in each category. Reliability for depression was $\alpha = .80$ at pre-test and $\alpha = .78$ at post-test; anxiety was $\alpha = .67$ at pre-test and $\alpha = .66$ at post-test; stress was $\alpha = .77$ at pre-test and $\alpha = .80$ at post-test.

Compassion satisfaction. Participants received the 10-item compassion satisfaction subscale of the Professional Quality of Life Scale (Stamm, 2010), which examines the degree to which people feel fulfilled by their job in a helping profession (e.g. “I feel invigorated after working with those I help.”) Responses are provided on a scale of 1 (never) to 5 (very often), and items were averaged for a total score. Reliability was $\alpha = .91$ at both pre-test and post-test.

Personal Distress. We utilized the personal distress subscale from the Interpersonal Reactivity Index (Davis, 1980). Sample items include “I tend to lose control during emergencies” and “When I see someone who badly needs help in an emergency, I go to pieces.” Responses are given on a scale of 1 (does not describe me well) to 5 (describes me very well). Items were averaged for a total score. Reliability was $\alpha = .67$ at pre-test and $\alpha = .80$ at post-test.

Analyses

We used linear mixed models using the R package “afex” (Singmann et al., 2018) to examine pre to post changes in outcomes over the course of the study. Linear mixed models

allowed us to use an intention-to-treat approach by including all participants in the analyses, rather than listwise deletion, which removes participants with incomplete data due to attrition. This approach provides more reliable estimates and maximizes power (McCoy, 2017). Because the study was quasi-experimental and not randomized, we felt it was important to conduct analyses of change within each group given that we couldn't be absolutely certain there were no differences between the groups based on when they decided to take the intervention. We expected to find significant changes for the intervention group but not the waitlist group. We also conducted between group analyses, however, to determine if taking the intervention yielded greater gains than simply setting the intention to take the intervention in the future. We compared outcomes at post-test to three-months follow-up for the intervention group to determine if changes were maintained over time. With a sample of 58 and alpha set at .05, this study had 80% power to detect an interaction effect of .38 (Faul et al., 2007). Effect sizes were interpreted according to Cohen (1988), with effect sizes below .50 considered small, between .50 and .80 as medium, and above .80 as large.

Intervention

This was an official adaptation of the MSC program, and its development was coordinated with and authorized by the nonprofit Center for Mindful Self-Compassion (www.CenterforMSC.org). To develop the intervention, we first conducted a series of pilot tests led by an experienced MSC instructor. Our initial protocol consisted of four 1.5-hour sessions held over four weeks. Although participants were generally happy with the contents of the program, we received feedback from participants and the instructor that the program felt rushed. Therefore, we altered the protocol so that the six hours of content was delivered in six one-hour sessions, giving participants a longer time span in which to digest what they had learned and to

integrate it into their lives.

The finalized SCHC program examined in this study was led by two trained Mindful Self-Compassion instructors. In each session, there were opportunities for participants to discuss practicing outside of class, then the instructors presented the topic of the day and guided participants through various exercises. Emails reminding participants of what they learned in the previous session were sent between each session. In Session 1, participants were introduced to the concept of self-compassion and research on the topic dispelling common misgivings about self-compassion (e.g., it makes you weak or complacent). Session 2 introduced self-compassion practices such as supportive touch or using self-talk to evoke the three components of self-compassion in moments of difficulty. It also introduced mindfulness practices that could be used to ground oneself when distressed. Session 3 focused on motivating oneself with compassion rather than self-criticism. Session 4 provided strategies for dealing with difficult emotions. Session 5 discussed the topic of caregiving fatigue and taught the practice “Compassion with Equanimity.” Finally, session 6 focused participants on their core values as caregivers and provided information on continued practice.

Results and Discussion

Preliminary analyses were conducted on the data to identify outliers by examining residuals with a Cook’s distance score above 2, which were then removed for final analyses (Bollen & Jackman, 1985). No more than one outlier was removed per analysis.

Table 1 presents the means and standard errors of all outcomes at pre-test, post-test, and 3 months follow-up for the SCHC group. Note that means are estimated marginal means that include the full intention-to-treat sample. It also presents percentage change from pre- to post-test. Table 2 presents the same information for the waitlist control group. First, we assessed

whether there were significant differences at pre-test between the intervention and waitlist group on any study variables, and none were found (all $ps >.05$). Next, we analyzed changes within each group from pre- to post-test using estimated marginal means. The SCHC intervention group reported significant increases in self-compassion and mindfulness. These findings suggest that despite its brief format SCHC was able to teach the basic skills associated with the MSC program. SCHC participants also reported significant increases in compassion satisfaction and decreases in stress and depression, key factors involved in caregiver fatigue. The significance of changes in compassion for others ($p = .068$) was marginal, meaning that findings approached but did not meet statistical significance using the standard value of $p \leq .05$. Changes in anxiety ($p = .174$) and personal distress ($p = .439$) were not significant. We also assessed whether or not gains for the intervention participants were maintained at 3-months follow-up. There were no significant differences between post-test and follow-up, suggesting that the skills gained in SCHC were not lost over time.

For the waitlist control group (see Table 2), no significant changes were observed on any measures from pre- to post-test, suggesting that effects were not simply due to the commitment to learn about self-compassion.

To compare changes in outcomes between groups, time and group were used as fixed effects in our linear mixed model, while participants were used as random effects (intercepts and slopes). Time included two factor levels—pre-intervention and post-intervention—and group included two factor levels—intervention and waitlist control. P-values for fixed effects were calculated with the Kenward-Roger estimation (Judd et al. 2012).

Results are presented in Table 3. The interaction of time X group was significant in our models for self-compassion, compassion satisfaction, and stress. The intervention group

exhibited significantly greater increases in self-compassion (medium effect size) and compassion satisfaction (small effect size), as well as decreases in stress (large effect size), compared to the control group.

Next, we assessed whether gains in self-compassion observed for intervention participants accounted for changes in other outcomes. We did so by creating standardized difference scores, then regressing changes in outcomes on changes in self-compassion. As seen in Table 4, gains in self-compassion significantly predicted changes in mindfulness, stress, anxiety, and depression. These findings support the interpretation that self-compassion was a key mechanism of intervention effectiveness.

Finally, we looked at whether initial self-compassion levels would moderate the effect of the intervention on outcomes. To do so, we created an interaction term by multiplying initial self-compassion scores by 1 (for intervention) or 0 (for control). We then ran a linear regression model, with the interaction term and group assignment as predictors of pre-post changes in other outcomes. SCHC intervention participants who started out low in self-compassion exhibited significantly larger increases in self-compassion compared to those initially high in self-compassion: $\beta = -1.01$, $t(2, 53) = -3.78$, $p < .05$. They also reported larger decreases in depression: $\beta = -1.18$, $t(2, 53) = -4.30$, $p < .05$. All other moderation tests were non-significant ($p > .05$). This suggests that the SCHC program may be especially relevant for HCPs who tend to be hard on themselves.

Finally, there were no significant changes observed in personal distress as an outcome of the SCHC program using the personal distress measure of the Davis IRI (1980). This measure was not designed for HCPs, however, and may not be an ideal measure of empathic distress for this population. Many items measure distress in emergency situations (e.g. "When I see someone

who badly needs help in an emergency, I go to pieces"), which highly trained HCPs are unlikely to endorse. Based on feedback from study participants we felt that the SCHC program did reduce the fatigue of being a professional caregiver in a way that wasn't fully captured by the particular measure we used in Study One. For this reason, we decided to conduct a second study using a variety of fatigue and burnout measures.

Study Two

One way to conceptualize empathy fatigue is in terms of the secondary traumatic stress experienced by caregivers. People who support or help persons experiencing trauma can experience symptoms similar to those associated with post-traumatic stress disorder: exhaustion, hypervigilance, avoidance, and numbing (Stamm, 1995). In view of HCPs' repeated exposure to both physical and emotional trauma, we felt that a reduction in secondary traumatic stress was likely to be an outcome of learning to be more self-compassionate. The Professional Quality of Life scale (Stamm, 2010) used in Study One not only measures compassion satisfaction, but also secondary traumatic stress and caregiver burnout, so we included all three subscales of this measure in our study. Maslach (1982) conceptualizes the burnout experienced by HCPs in terms of three main qualities: prolonged stress rooted in exhaustion (i.e., debilitating sense of physical and emotional fatigue), depersonalization (i.e., disconnection, cynicism, hostility), and reduced feelings of personal accomplishment (i.e., feeling ineffective in job roles). We therefore employed the Maslach Burnout Inventory (Maslach, Jackson & Leiter, 1996) to assess these dimensions of burnout.

We also used a different measure of compassion for others. Study One found a marginally significant increase in compassion using the Santa Clara Brief Compassion scale (Hwang et al., 2008). This scale specifically focuses on compassion for strangers, however,

which may not align with the message of common humanity taught in SCHC. Therefore, we employed a new measure of compassion (Pommier, Neff, & Tóth-Király, 2019) that assessed feelings of common humanity as part of the construct. We hypothesized that participants taking SCHC would report gains in self-compassion, mindfulness, compassion to others, wellbeing, and compassion satisfaction, as well as reductions in symptoms of empathy fatigue and caregiver burnout.

Unfortunately, we were not able to include a control group for Study Two due to limited administrative resources. Still, a second study provided the opportunity to observe if gains associated with SCHC in Study 1 would be replicated, and to determine if changes in burnout were apparent using more appropriate measures. We also wanted to see if the finding that change in self-compassion explained changes in other outcomes would replicate, and to see if pre-existing levels of self-compassion would once again moderate gains so that those initially low in self-compassion benefitted more from the program.

Methods

Participants

A total of 23 participants met in a single SCHC group. Two attended three of the six sessions, while the remaining attended at least four of the six sessions. All participants completed the pre- and post-test surveys, meaning there was no attrition. Demographic characteristics were as follows: 96% female, *M* age = 37.57 (range 27 - 60); 74% White, 17% Latino, 4% Asian American and 4% other. Participant occupations included 35% in ancillary services; 22% physicians; 17% social workers; 13% in therapeutic services; 9% nurses; 4% other.

Procedure

Appropriate IRB approval was obtained for this study. HCPs were informed of the study

via fliers, emails, and word of mouth. Again, no incentives were provided for participation other than lunch. The intervention was led by two trained Mindful Self-Compassion teachers. Baseline and post-test measures were completed two-weeks before and two-weeks after the program.

Measures

Self-Compassion. See Study 1 for a description. Reliability was $\alpha = .89$ at pre-test and $\alpha = .94$ at post-test.

Mindfulness. See Study 1 for a description. Reliability was $\alpha = .84$ at pre-test and post-test.

Compassion. The Compassion Scale (Pommier et al., 2019) was given to participants, which includes 16-items and has a similar structure as the Self-Compassion Scale (Neff, 2003). Sample items include, “I pay careful attention when other people talk to me about their troubles” and “Despite my differences with others, I know that everyone feels pain just like me.” Items are rated on a scale of 1 (almost never) to 5 (almost always). Item responses are averaged; higher scores indicate greater compassion. Reliability was $\alpha = .78$ at pre-test and $\alpha = .79$ at post-test.

Wellbeing. See Study 1 for a description. Reliability for depression was $\alpha = .84$ at pre-test and $\alpha = .68$ at posttest; anxiety was $\alpha = .81$ at pre-test and $\alpha = .84$ at post-test; stress was $\alpha = .67$ at pre-test and $\alpha = .62$ at post-test.

Compassion Satisfaction, Burnout, and Secondary Traumatic Stress. The Professional Quality of Life scale (Stamm, 2010) not only measures compassion satisfaction (see Study 1), but also burnout and secondary traumatic stress. The burnout subscale includes items measuring feelings of hopelessness on the job (“I feel trapped by my job as a helper”). The secondary traumatic stress subscale measures one’s degree of exposure to others’ trauma (“I think that I might have been affected by the traumatic stress of those I help”). Responses are

provided on a scale of 1 (never) to 5 (very often). Items within each subscale were averaged for a total score. Reliability for compassion satisfaction was $\alpha = .89$ at pre-test and post-test; burnout was $\alpha = .82$ at pre-test and $\alpha = .75$ at post-test; secondary traumatic stress was $\alpha = .80$ at pre-test and $\alpha = .75$ at post-test.

Dimensions of burnout. The Maslach Burnout Inventory (Maslach, Jackson & Leiter, 1996) measures three dimensions of burnout: emotional exhaustion (e.g., "I feel burned out from my work"), depersonalization (e.g. "I don't really care what happens to some patients"), and personal accomplishment (e.g. "I have accomplished many worthwhile things in this job"). Responses are given on a scale of 0 (never) to 6 (everyday). Items within each subscale were averaged for a total score. Reliability for emotional exhaustion was $\alpha = .93$ at pre-test and $\alpha = .87$ at post-test; depersonalization was $\alpha = .76$ at pre-test and $\alpha = .84$ at post-test; personal accomplishment was $\alpha = .87$ at pre-test and post-test.

Results

Residuals were examined in preliminary sensitivity analyses to identify outliers with a Cook's distance score above 2, which were then removed for analyses. No more than one outlier was removed per analysis.

Table 5 displays the estimated marginal means, standard deviations, and percentage change in outcomes with significant change for the SCHC group at pre- and post-test. Matched-paired t-tests were conducted on the group's pre- and post-test scores. All tests were significant except for depersonalization, which was marginally significant at ($p = .064$) and anxiety, which was non-significant ($p = .758$). Results indicate that participants experienced significant gains in self-compassion, mindfulness, and compassion for others, providing additional evidence suggesting that SCHC teaches the core skills associated with MSC training. Participants also

experienced enhanced wellbeing in the form of reduced depression and stress. Moreover, HCPs received benefits directly related to caregiver fatigue - increased compassion satisfaction and feelings of personal accomplishment, as well as significant decreases in secondary traumatic stress, burnout, and emotional exhaustion. The majority of effect sizes were medium to large. These findings suggest that SCHC provides a protective buffer against caregiver distress.

Next, outcome difference scores were regressed on self-compassion difference scores in the same manner as described in Study 1, in order to determine whether increased self-compassion seemed to be the explanatory mechanism for the beneficial outcomes associated with the intervention. As can be seen in Table 6, gains in self-compassion over the course of the intervention were significantly associated with changes in all outcomes except depression. Once again, this supports the idea that the SCHC program effectively teaches self-compassion skills for use in daily life that yields relevant benefits for HCPs.

Last, we regressed outcome difference scores on initial levels of self-compassion to determine if they moderated outcomes. Pre-intervention self-compassion scores significantly predicted change in self-compassion and depersonalization from pre- to post-intervention, such that those who began the intervention with initially lower levels of self-compassion experienced greater gains in self-compassion, $\beta = -.91$, $t(1, 21) = -2.46$, $p < .05$, and greater decreases in depersonalization $\beta = -.90$, $t(1, 21) = -2.42$, $p < .05$. The fact that depersonalization decreased more strongly for those originally low in self-compassion may be because of the sense of common humanity engendered in SCHC, allowing them to feel more connected to patients. Once again, this suggests that HCP who struggled with self-compassion before taking the program got the most out of it.

Conclusions

Overall, results from these two preliminary studies suggest that the SCHC program may be an effective way to teach HCPs to be more self-compassionate, and that this resource may help HCPs cope with job stress in a way that increases wellbeing and reduces empathy fatigue and burnout. Although more research will be needed to confirm results using more rigorous methodologies and larger sample sizes, initial findings are encouraging. First, it should be noted that the attrition rate was extremely low for those receiving the intervention. Given the extremely busy schedules of HCPs, this speaks to the feasibility and acceptability of the program for participants. Results suggest that SCHC was effective in its primary aim of using a brief intervention to teach self-compassion to HCPs: In both studies, participants who took the SCHC program experienced significant increases in self-compassion. Participants also displayed significant gains in compassion for others and mindfulness. Considering that caregivers need to show compassion for their patients and be mindful in their interactions, the program appears to provide HCPs with a range of useful resources. While other research has demonstrated that self-compassion, mindfulness, and compassion can be increased among HCPs through 8-week training programs such as MSC, CCT, or MBSR (Burton et al., 2016; Delaney, 2018; Scarlet et al., 2017), the fact that significant effects were found after a relatively brief training that did not involve meditation is striking. Results from these studies are hopeful as they suggest these skills can be learned in a format that is more conducive to the time constraints of a healthcare setting.

Participation in the program also appeared to protect the wellbeing of HCPs, in part by reducing stress. Because perceived stress is one of the most important contributing factors to burnout, the large effect size obtained for reductions in stress in Study One is notable, although large effect sizes are more common in small samples (Dechartres et al., 2013) and results will need to be confirmed in a larger sample. Depression was also significantly reduced, supporting

the idea that giving compassion to one's empathic pain and distress can provide a buffer against its negative effects. The program was not found to directly reduce anxiety in either study. Since anxiety is related to fear of uncertainty, and systemic issues in healthcare (e.g., budget cuts, layoffs) can exacerbate a sense of instability, it may be that it was beyond the scope of the intervention to directly impact HCPs' anxiety. Also, mean levels of anxiety were relatively low to begin with.

The training also significantly increased compassion satisfaction and feelings of personal accomplishment, allowing participants to retain a sense of meaning and value in their work. By helping HCPs to balance compassion for self and others, it may provide them with the resources to give to others in a way that is more personally fulfilling (Tremblay & Messervey, 2011). SCHC also includes exercises designed to give participants opportunities to reflect and realign with their personal and professional values, which appeared to translate into an enriched work life (NAM, 2019).

Finally, the findings of Study Two suggest that participation in SCHC significantly reduced secondary traumatic stress, burnout, exhaustion, and depersonalization (although findings for depersonalization were marginal). Of course, caution must be used when interpreting these findings because a control group was not included. Still, results are encouraging. By learning to give themselves compassion as they were caring for others, HCPs may have been less likely to take on the trauma of their patients and better able to sustain the act of caregiving without becoming drained or depleted.

In both studies change in self-compassion significantly predicted change in most other outcomes, supporting the idea that increased self-compassion was the primary mechanism of program effectiveness. A moderation effect was also found in both studies which suggested that

the SCHC program was especially helpful for individuals who were initially low in self-compassion. Individuals lacking self-compassion experienced larger increases in self-compassion in both studies, and experienced greater decreases in depression in Study One and depersonalization in Study Two. These are encouraging findings because they suggest that even HCPs who tend to be hard on themselves can learn a new way of relating to themselves.

One of the most powerful aspects of self-compassion training is that it provides concrete practices and tools that can be used in the moment, on the job, not just in the supportive context of the SCHC group. HCPs who took the program maintained all gains at least three months after the program ended. Given the constant stress of the healthcare environment, the ability to be compassionate and supportive to oneself in moments of distress is a gift that keeps on giving.

Taken as a whole, results suggest that the SCHC may be an effective antidote to caregiver fatigue and that self-compassion could provide an important buffer against the intense demands of being an HCP. Further research using larger samples and more rigorous designs will be needed to confirm results however.

Participants in Study Two were interviewed about their experience of taking the SCHC program after data collection was completed, and an in-depth qualitative analysis of the interviews is currently underway. We include a few illustrative examples from those interviews here. One participant commented, “I appreciated learning specific exercises that I could do when I’m in the middle of a very busy day. Something that wouldn’t take very long, but could immediately change the dynamic of how I was feeling.” Another described how she used the Compassion with Equanimity practice in her work with patients: “I have it taped to my computer: everyone is on their own life journey. Although I’m standing by this person’s situation, I know it’s not entirely within my power to make it go away, even if I wish I could.

That's something that I know I have to tell myself a lot, especially with those patients' whose situation I can't change." One participant summed up her experience as follows: "I think it's so necessary--everybody should do it. It's really, really, really positive and helpful. But it surprises me after going through it that no other hospital I've worked for has ever done anything like this before." Comments like these suggest that self-compassion training could be a novel and effective way to help HCPs deal with the stress of their jobs in a manner that reduces the risk of burnout and helps them thrive.

The prevailing cultural norm in healthcare has historically been for HCPs to work tirelessly and to selflessly put patients' needs over one's own (Burks & Kobus, 2012; McGaghie et al., 2002). HCPs may become so immersed in this other-oriented culture, which emphasizes patient satisfaction at all costs, that they may not know how to recognize and tend to their own struggles. Results from this study suggest that such norms may be due for an overhaul. Giving compassion to oneself in the act of caring for others is what actually allows HCPs to sustain giving to others without burning out. In fact, the idea that we can fully separate our own wellbeing from those of others is a fallacy. We are affected by the mental and emotional state of others, just as others are affected by our own internal states. When HCPs give themselves compassion for the difficulty and distress of caring for patients, their inner state becomes more peaceful, and patients then resonate with their caregiver's more positive mental state. Compassion is aimed at the alleviation of suffering, with the understanding that suffering is part of the shared human experience. To sustain compassion, therefore, self and other must be included. The SCHC program provides concrete tools for HCPs to do just that.

Limitations and Future Directions

While the results of these studies are hopeful, it is important to acknowledge their

limitations. First of all, due to the challenge of coordinating HCPs' schedules, participants were not randomly assigned to groups in Study One. Without randomization, there may have been unaccounted for variables influencing results. Also, because a waitlist control group was used in Study One instead of an active control group, one cannot be sure that benefits of group participation were actually attributable to the content of the SCHC program. Perhaps the act of gathering in community each week provided an element of peer support that was responsible for some of the participants' positive experience, given that peer support also helps to mitigate HCPs' stress, stigma, and isolation (Shapiro & Galowitz, 2016). Future research could examine the difference between a guided program like SCHC and a peer support group to determine if one approach has benefits over the other. Additionally, we did not include a comparison group in Study Two, which limits the external validity and generalizability of the findings. Although results suggested that increased self-compassion explained the benefits of participation, future research should include an active control group and randomization to strengthen confidence in findings.

Additionally, HCPs who elected to participate in the study clearly had an inclination or interest in learning emotional resilience and self-compassion skills in contrast to those who did not sign up. The intervention may be less effective for those with greater skepticism and resistance to self-compassion (Robinson et al., 2016), and future research should examine the blocks that prevent people from benefitting from self-compassion training.

One notable feature of these studies was that despite our efforts to draw male participants, the large majority of participants were female. This is a typical limitation in research on mindfulness and self-compassion interventions, with meta-analyses indicating that typically over 75% of participants are female (Ferrari et al., 2019; Khoury et al., 2015). Of

course, given that women are more likely to take self-compassion training than men, one could argue that it is appropriate to examine the effect of the program with females since this is the population that will be likely to take SCHC. Cultural gender-role socialization appears to impact males' interest in self-compassion, and research will be needed to understand how to make self-compassion training more attractive to men (see Germer & Neff, 2019 and Yarnell et al., 2018 for a discussion of these issues).

Another block may be the organizational culture of healthcare itself, in which compassion for others is emphasized more than self-compassion (Gustin & Wagner, 2012). Future research might fruitfully explore whether participation in SCHC changes the larger healthcare culture. While this was not examined in the current studies, there were signs that a wider cultural change may have been initiated. For instance, after data collection was completed, positive word of mouth led to four more SCHC classes being taught at the hospital, with more scheduled for the near future. Other local hospitals and caregiving facilities have also expressed interest in the program. Moreover, the language and concepts of self-compassion are beginning to infiltrate discussions in the hospital where the intervention took place, including those who have not taken SCHC. This demonstrates how change in individuals can have a cascading effect on others.

It would be valuable to investigate in future research whether the SCHC intervention affects HCPs' interactions with patients and their families in a way that enhances patient outcomes (Panagioti et al., 2018). Because self-compassion increases the ability to admit mistakes and increases the motivation to repair them (Zhang & Chen, 2016), it may be that self-compassionate HCPs are more able to accept, acknowledge, and take responsibility for medical errors and thus improve patient care (Carroll & Quijada, 2004; Kapp, 2001). Moreover, because

compassion satisfaction and reduced burnout have been found to increase confidence and improve patient care (Kemper et al., 2019; McHugh et al., 2011; Smart et al., 2014), it may be that self-compassion benefits patients as well as HCPs.

Another limitation of the studies was that the majority of participants were White, and more research will be needed to determine if modifications are necessary to make the program more relevant and accessible to other populations. Future research should also examine whether SCHC is effective earlier in the course of professional training, and investigate its efficacy for medical students and residents. Considering that high rates of stress and burnout are found early on in medical training (Dyrbye et al., 2014), it may be that programs such as SCHC should be part of HCPs' training curriculum.

The format of SCHC may also be appropriate for other caregivers such as teachers and parents who could benefit from self-compassion training but are also subject to time constraints. In fact, a version of the SCHC program has been developed for the parents of chronically ill children being seen at the children's hospital where the intervention was developed, and initial results are quite promising. Parents report that self-compassion has transformed their ability to care for their children in a sustainable manner.

Finally, although we found that training in self-compassion reduces burnout among HCPs, it is important to recognize that burnout is not primarily caused by individual factors. Thus, it can only be partially addressed through individual, person-focused interventions. The NAM (2019) advocates for a systems approach to target the root causes and consequences of burnout. Although interventions such as SCHC may help HCPs cope with the stress of their profession, especially the empathic distress that it is an inherent part of caring for those who are suffering, it is important that the responsibility for reducing burnout isn't shifted to HCPs

themselves. Rather, structural changes in the way the healthcare organizations operate must be implemented, including improving resources (e.g., usefulness of technologies, support for mental health), adapting management processes to reduce administrative burden, and integrating policies and protocols that align with professional values and cultivate greater meaning and purpose (NAM, 2019). To truly care for professional caregivers, change must be incorporated at organizational, interpersonal, and personal levels (Maslach & Leiter, 2017).

References

- Alkema, K., Linton, J. M., & Davies, R. (2008). A study of the relationship between self-care, compassion satisfaction, compassion fatigue, and burnout among hospice professionals. *Journal of Social Work in End-of-Life & Palliative Care*, 4(2), 101-119.
- Babenko, O., Mosewich, A. D., Lee, A., & Koppula, S. (2019). Association of physicians' self-compassion with work engagement, exhaustion, and professional life satisfaction. *Medical Sciences*, 7(2), 29.
- Baer, R. A. (2003). Mindfulness training as a clinical intervention: A conceptual and empirical review. *Clinical psychology: Science and practice*, 10(2), 125-143.
- Birnie, K., Speca, M., & Carlson, L. E. (2010). Exploring self-compassion and empathy in the context of mindfulness-based stress reduction (MBSR). *Stress and Health*, 26(5), 359-371.
- Bollen, K. A., & Jackman, R. W. (1985). Regression diagnostics: An expository treatment of outliers and influential cases. *Sociological Methods & Research*, 13(4), 510-542.
- Burks, D. J., & Kobus, A. M. (2012). The legacy of altruism in health care: the promotion of empathy, prosociality and humanism. *Medical Education*, 46(3), 317-325.
- Burton, A., Burgess, C., Dean, S., Koutsopoulou, G. Z., & Hugh-Jones, S. (2017). How effective are mindfulness-based interventions for reducing stress among healthcare professionals? A systematic review and meta-analysis. *Stress and Health*, 33(1), 3-13.
- Carroll, J. S., & Quijada, M. A. (2004). Redirecting traditional professional values to support safety: changing organisational culture in health care. *BMJ Quality & Safety*, 13(suppl 2), ii16-ii21.
- Cohen, J. (1988). The effect size index: d. *Statistical power analysis for the behavioral*

sciences, 2, 284-288.

- Cook-Cottone, C. P. (2015). *Mindfulness and yoga for self-regulation: A primer for mental health professionals*. Springer Publishing Company.
- Dahm, K. A., Meyer, E. C., Neff, K. D., Kimbrel, N. A., Gulliver, S. B., & Morissette, S. B. (2015). Mindfulness, self-compassion, posttraumatic stress disorder symptoms, and functional disability in US Iraq and Afghanistan war veterans. *Journal of Traumatic Stress*, 28(5), 460-464.
- Davis, M. H. (1980). *Interpersonal reactivity index*. Edwin Mellen Press.
- Dechartres, A., Trinquart, L., Boutron, I., & Ravaud, P. (2013). Influence of trial sample size on treatment effect estimates: meta-epidemiological study. *Bmj*, 346, f2304.
- Delaney, M. C. (2018). Caring for the caregivers: Evaluation of the effect of an eight-week pilot mindful self-compassion (MSC) training program on nurses' compassion fatigue and resilience. *PloS one*, 13(11).
- Duarte, J., Pinto-Gouveia, J., & Cruz, B. (2016). Relationships between nurses' empathy, self-compassion and dimensions of professional quality of life: A cross-sectional study. *International Journal of Nursing Studies*, 60, 1-11.
- Dyrbye, L. N., West, C. P., Satele, D., Boone, S., Tan, L., Sloan, J., & Shanafelt, T. D. (2014). Burnout among US medical students, residents, and early career physicians relative to the general US population. *Academic Medicine*, 89(3), 443-451.
- Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39, 175-191.
- Feldman, G., Hayes, A., Kumar, S., Greeson, J., & Laurenceau, J. P. (2007). Mindfulness and

- emotion regulation: The development and initial validation of the Cognitive and Affective Mindfulness Scale-Revised (CAMS-R). *Journal of Psychopathology and Behavioral Assessment*, 29(3), 177.
- Ferrari, M., Dal Cin, M., & Steele, M. (2017). Self-compassion is associated with optimum self-care behaviour, medical outcomes and psychological well-being in a cross-sectional sample of adults with diabetes. *Diabetic Medicine*, 34(11), 1546-1553.
- Ferrari, M., Hunt, C., Harrysunker, A., Abbott, M. J., Beath, A. P., & Einstein, D. A. (2019). Self-compassion interventions and psychosocial outcomes: a meta-analysis of RCTs. *Mindfulness*, 10(8), 1455-1473.
- Figley, C. R. (1995). Compassion fatigue: Toward a new understanding of the costs of caring.
- Friis, A. M., Johnson, M. H., Cutfield, R. G., & Consedine, N. S. (2016). Kindness matters: a randomized controlled trial of a mindful self-compassion intervention improves depression, distress, and HbA1c among patients with diabetes. *Diabetes Care*, 39(11), 1963-1971.
- Germer, C., & Neff, K. (2019). *Teaching the mindful self-compassion program: A guide for professionals*. Guilford Publications.
- Goetz, J. L., Keltner, D., & Simon-Thomas, E. (2010). Compassion: An evolutionary analysis and empirical review. *Psychological Bulletin*, 136, 351–374.
- Gracia-Gracia, P., & Oliván-Blázquez, B. (2017). Burnout and Mindfulness Self-Compassion in Nurses of Intensive Care Units: Cross-Sectional Study. *Holistic Nursing Practice*, 31(4), 225-233.
- Gustin, L. W. & Wagner, L (2012). The butterfly effect of caring – clinical nursing teachers understanding of self-compassion as a source to compassionate care. *Scandinavian*

Journal of Caring Sciences. doi: 10.1111/j.1471- 6712.2012.01033

- Han, S., Shanafelt, T. D., Sinsky, C. A., Awad, K. M., Dyrbye, L. N., Fiscus, L. C., ... & Goh, J. (2019). Estimating the attributable cost of physician burnout in the United States. *Annals of Internal Medicine*, *170*(11), 784-790.
- Hernandez, G. (2009). The heART of self-CARING: a journey to becoming an optimal healing presence to ourselves and our patients. *Creative Nursing*, *15*(3), 129-133.
- Hinderer, K. A., VonRueden, K. T., Friedmann, E., McQuillan, K. A., Gilmore, R., Kramer, B., & Murray, M. (2014). Burnout, compassion fatigue, compassion satisfaction, and secondary traumatic stress in trauma nurses. *Journal of Trauma Nursing*, *21*(4), 160-169.
- Hiraoka, R., Meyer, E. C., Kimbrel, N. A., DeBeer, B. B., Gulliver, S. B., & Morissette, S. B. (2015). Self-compassion as a prospective predictor of PTSD symptom severity among trauma-exposed US Iraq and Afghanistan war veterans. *Journal of Traumatic Stress*, *28*(2), 127-133.
- Hofmeyer, A., Kennedy, K., & Taylor, R. (2019). Contesting the term ‘compassion fatigue’: Integrating findings from social neuroscience and self-care research. *Collegian*.
- Hollis-Walker, L., & Colosimo, K. (2011). Mindfulness, self-compassion, and happiness in non-meditators: A theoretical and empirical examination. *Personality and Individual Differences*, *50*(2), 222-227.
- Hwang, J. Y., Plante, T., & Lackey, K. (2008). The development of the Santa Clara brief compassion scale: An abbreviation of Sprecher and Fehr’s compassionate love scale. *Pastoral Psychology*, *56*(4), 421-428.
- Jackson, E. R., Shanafelt, T. D., Hasan, O., Satele, D. V., & Dyrbye, L. N. (2016). Burnout and alcohol abuse/dependence among US medical students. *Academic Medicine*, *91*(9), 1251-

1256.

- Kapp, M. B. (2001). Medical mistakes and older patients: admitting errors and improving care. *Journal of the American Geriatrics Society*, *49*(10), 1361-1365.
- Kelly, A. C., Zuroff, D. C., Foa, C. L., & Gilbert, P. (2010). Who benefits from training in self-compassionate self-regulation? A study of smoking reduction. *Journal of Social and Clinical Psychology*, *29*(7), 727-755.
- Kemper, K. J., Mo, X., & Khayat, R. (2015). Are mindfulness and self-compassion associated with sleep and resilience in health professionals? *The Journal of Alternative and Complementary Medicine*, *21*(8), 496-503.
- Kemper, K. J., McClafferty, H., Wilson, P. M., Serwint, J. R., Batra, M., Mahan, J. D., ... & Pediatric Resident Burnout-Resilience Study Consortium. (2019). Do mindfulness and self-compassion predict burnout in pediatric residents?. *Academic Medicine*, *94*(6), 876-884.
- Kemper, K. J., Schwartz, A., Wilson, P. M., Mahan, J. D., Schubert, C. J., Staples, B. B., ... & Batra, M. (2020). Burnout in pediatric residents: three years of national survey data. *Pediatrics*, *145*(1).
- Khoury, B., Sharma, M., Rush, S. E., & Fournier, C. (2015). Mindfulness-based stress reduction for healthy individuals: A meta-analysis. *Journal of Psychosomatic Research*, *78*(6), 519-528.
- Klimecki, O. M., Leiberg, S., Ricard, M., & Singer, T. (2014). Differential pattern of functional brain plasticity after compassion and empathy training. *Social Cognitive and Affective Neuroscience*, *9*(6), 873-879.
- Klimecki, O., & Singer, T. (2012). Empathic distress fatigue rather than compassion fatigue?

- Integrating findings from empathy research in psychology and social neuroscience. *Pathological Altruism*, 368-383.
- Kravits, K., McAllister-Black, R., Grant, M., & Kirk, C. (2010). Self-care strategies for nurses: A psycho-educational intervention for stress reduction and the prevention of burnout. *Applied Nursing Research*, 23(3), 130-138.
- Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour Research and Therapy*, 33(3), 335-343.
- MacBeth, A., & Gumley, A. (2012). Exploring compassion: A meta-analysis of the association between self-compassion and psychopathology. *Clinical Psychology Review*, 32(6), 545-552.
- Maslach, C. (1982). *Burnout: The cost of caring*. New York: Prentice Hall.
- Maslach, C., Jackson, S.E., & Leiter, M.P. (1996). *Maslach Burnout Inventory Manual* (3rd ed.). Palo Alto, CA: Consulting Psychologists Press.
- Maslach, C., & Leiter, M. P. (2017). New insights into burnout and health care: Strategies for improving civility and alleviating burnout. *Medical Teacher*, 39(2), 160-163.
- McCoy, C. E. (2017). Understanding the intention-to-treat principle in randomized controlled trials. *Western Journal of Emergency Medicine*, 18(6), 1075.
- McGaghie, W. C., Mytko, J. J., Brown, W. N., & Cameron, J. R. (2002). Altruism and compassion in the health professions: a search for clarity and precision. *Medical Teacher*, 24(4), 374-378.
- McHugh, M. D., A. Kutney-Lee, J. P. Cimiotti, D. M. Sloane, and L. H. Aiken. 2011. Nurses' widespread job dissatisfaction, burnout, and frustration with health benefits signal

- problems for patient care. *Health Affairs* 30(2):202–210.
- National Academies of Medicine (2019). *Taking Action Against Clinician Burnout: A Systems Approach to Professional Well-Being*. Washington, DC: The National Academies Press.
- Neff, K.D. (2003a). Self-compassion: An alternative conceptualization of a healthy attitude toward oneself. *Self and Identity*, 2(2), 85-101.
- Neff, K. D. (2003b). The development and validation of a scale to measure self-compassion. *Self and Identity*, 2(3), 223-250.
- Neff, K. D., & Faso, D. J. (2015). Self-compassion and well-being in parents of children with autism. *Mindfulness*, 6(4), 938-947.
- Neff, K. D., & Germer, C. K. (2013). A pilot study and randomized controlled trial of the mindful self-compassion program. *Journal of Clinical Psychology*, 69(1), 28-44.
- Neff, K. D., Rude, S. S., & Kirkpatrick, K. L. (2007). An examination of self-compassion in relation to positive psychological functioning and personality traits. *Journal of Research in Personality*, 41(4), 908-916.
- Olson, K., & Kemper, K. J. (2014). Factors associated with well-being and confidence in providing compassionate care. *Journal of Evidence-Based Complementary & Alternative Medicine*, 19(4), 292-296.
- Panagioti, M., Geraghty, K., Johnson, J., Zhou, A., Panagopoulou, E., Chew-Graham, C., ... & Esmail, A. (2018). Association between physician burnout and patient safety, professionalism, and patient satisfaction: a systematic review and meta-analysis. *JAMA Internal Medicine*, 178(10), 1317-1331.
- Pommier, E., Neff, K. D., & Tóth-Király, I. (2020). The Development and Validation of the Compassion Scale. *Assessment*, 27(1), 21-39.

- Raab, K. (2014). Mindfulness, self-compassion, and empathy among health care professionals: a review of the literature. *Journal of Health Care Chaplaincy*, 20(3), 95-108.
- Rabon, J. K., Hirsch, J. K., Kaniuka, A. R., Sirois, F., Brooks, B. D., & Neff, K.D. (2019). Self-compassion and suicide risk in veterans: when the going gets tough, do the tough benefit more from self-kindness? *Mindfulness*.
- Robinson, K. J., Mayer, S., Allen, A. B., Terry, M., Chilton, A., & Leary, M. R. (2016). Resisting self-compassion: Why are some people opposed to being kind to themselves?. *Self and Identity*, 15(5), 505-524.
- Salloum, A., Kondrat, D. C., Johnco, C., & Olson, K. R. (2015). The role of self-care on compassion satisfaction, burnout and secondary trauma among child welfare workers. *Children and Youth Services Review*, 49, 54-61.
- Salvagioni, D. A. J., Melanda, F. N., Mesas, A. E., González, A. D., Gabani, F. L., & de Andrade, S. M. (2017). Physical, psychological and occupational consequences of job burnout: A systematic review of prospective studies. *PloS one*, 12(10), e0185781.
- Sbarra, D. A., Smith, H. L., & Mehl, M. R. (2012). When leaving your ex, love yourself: Observational ratings of self-compassion predict the course of emotional recovery following marital separation. *Psychological Science*, 23(3), 261-269.
- Scarlet, J., Altmeyer, N., Knier, S., & Harpin, R. E. (2017). The effects of Compassion Cultivation Training (CCT) on health-care workers. *Clinical Psychologist*, 21(2), 116-124.
- Schmidt, A. T. (2016). The ethics and politics of mindfulness-based interventions. *Journal of Medical Ethics*, 42(7), 450-454.
- Shanafelt, T. D., Boone, S., Tan, L., Dyrbye, L. N., Sotile, W., Satele, D., ... & Oreskovich, M.

- R. (2012). Burnout and satisfaction with work-life balance among US physicians relative to the general US population. *Archives of Internal Medicine*, *172*(18), 1377-1385.
- Shanafelt, T. D., Dyrbye, L. N., Sinsky, C., Hasan, O., Satele, D., Sloan, J., & West, C. P. (2016, July). Relationship between clerical burden and characteristics of the electronic environment with physician burnout and professional satisfaction. In *Mayo Clinic Proceedings* (Vol. 91, No. 7, pp. 836-848). Elsevier.
- Shapiro, S. L., Astin, J. A., Bishop, S. R., & Cordova, M. (2005). Mindfulness-based stress reduction for health care professionals: results from a randomized trial. *International Journal of Stress Management*, *12*(2), 164.
- Shapiro, J., & Galowitz, P. (2016). Peer support for clinicians: a programmatic approach. *Academic Medicine*, *91*(9), 1200-1204.
- Sinclair, S., Raffin-Bouchal, S., Venturato, L., Mijovic-Kondejewski, J., & Smith-MacDonald, L. (2017). Compassion fatigue: A meta-narrative review of the healthcare literature. *International Journal of Nursing Studies*, *69*, 9-24.
- Singer, T., & Klimecki, O. M. (2014). Empathy and compassion. *Current Biology*, *24*(18), R875-R878.
- Sirois, F. M. (2015). A self-regulation resource model of self-compassion and health behavior intentions in emerging adults. *Preventive Medicine Reports*, *2*, 218-222.
- Sirois, F. M., Molnar, D. S., & Hirsch, J. K. (2015). Self-compassion, stress, and coping in the context of chronic illness. *Self and Identity*, *14*(3), 334-347.
- Skovholt, T. M., & Trotter-Mathison, M. (2014). *The resilient practitioner: Burnout prevention and self-care strategies for counselors, therapists, teachers, and health professionals*. Routledge.

- Smart, D., English, A., James, J., Wilson, M., Daratha, K. B., Childers, B., & Magera, C. (2014). Compassion fatigue and satisfaction: A cross-sectional survey among US healthcare workers. *Nursing & Health Sciences, 16*(1), 3-10.
- Sprang, G., Clark, J. J., & Whitt-Woosley, A. (2007). Compassion fatigue, compassion satisfaction, and burnout: Factors impacting a professional's quality of life. *Journal of Loss and Trauma, 12*(3), 259-280.
- Sorenson, C., Bolick, B., Wright, K., & Hamilton, R. (2016). Understanding compassion fatigue in healthcare providers: A review of current literature. *Journal of Nursing Scholarship, 48*(5), 456-465.
- Stamm, B. (1995). *Secondary traumatic stress: Self-care issues for clinicians, researchers, and educators*. The Sidran Press.
- Stamm, B. H. (2010). The concise ProQOL manual.
- Terry, M. L., Leary, M. R., Mehta, S., & Henderson, K. (2013). Self-compassionate reactions to health threats. *Personality and Social Psychology Bulletin, 39*(7), 911-926.
- Tremblay, M. A., & Messervey, D. (2011). The Job Demands-Resources model: Further evidence for the buffering effect of personal resources. *SA Journal of Industrial Psychology, 37*(2), 10-19.
- West, C. P., Dyrbye, L. N., & Shanafelt, T. D. (2018). Physician burnout: contributors, consequences and solutions. *Journal of Internal Medicine, 283*(6), 516-529.
- Yarnell, L. M., Neff, K. D., Davidson, O. A., & Mullarkey, M. (2018). Gender differences in self-compassion: Examining the role of gender role orientation. *Mindfulness, 1*-17.
- Zhang, J. W., & Chen, S. (2016). Self-Compassion Promotes Personal Improvement From Regret Experiences via Acceptance. *Personality and Social Psychology Bulletin, 42*(2),

244-258.

Table 1*Study 1: SCHC group (n = 25) outcome means and standard errors*

Outcome	Pre-test <i>M (SE)</i>	Post-test <i>M (SE)</i>	Pre/Post % Change	Pre/Post <i>t-statistic</i>	3-Month <i>M (SE)</i>	Post/3mo <i>t-statistic</i>
Self-Compassion	3.01 (.14)	3.48 (.14)	16%	4.44*	3.61 (.12)	1.57
Mindfulness	2.68 (.08)	2.87 (.08)	07%	2.47*	2.91 (.08)	.57
Compassion	5.12 (.21)	5.37 (.21)	05%	1.86+	5.43 (.18)	.41
Comp. Satisfaction	4.08 (.11)	4.36 (.11)	07%	3.64**	4.15 (.11)	-1.87
Depression ^a	3.92 (.49)	2.71 (.50)	-31%	-2.28*	3.17 (.47)	.68
Anxiety ^a	2.57 (.44)	2.06 (.44)	-20%	-1.38	2.08 (.38)	.12
Stress	7.12 (.63)	4.84 (.64)	-32%	-3.81*	5.21 (.56)	-.62
Personal Distress	1.98 (.11)	1.92 (.11)	-03%	-.78	1.87 (.11)	-.59

Note: ** $p \leq .001$; * $p \leq .05$; + $p < .07$; ^aone outlier removed for analysis

Table 2*Study 1: Waitlist group (n = 33) outcome means and standard error*

Outcome	Pre-test <i>M (SE)</i>	Post-test <i>M (SE)</i>	Pre/Post % Change	Pre/Post <i>t-statistic</i>
Self-Compassion	3.19 (.12)	3.23 (.12)	01%	.44
Mindfulness	2.83 (.07)	2.83 (.08)	00%	.02
Compassion ^a	5.36 (.19)	5.39 (.19)	01%	.56
Compassion Satisfaction ^a	4.30 (.10)	4.33 (.10)	01%	.37
Depression	2.97 (.43)	2.69 (.45)	-09%	-.59
Anxiety	2.61 (.39)	2.14 (.41)	-18%	-1.27
Stress	5.82 (.55)	6.18 (.57)	06%	.67
Personal Distress	1.92 (.10)	1.90 (.10)	-01%	-.32

Note: All *ps* > .05; ^a=one outlier removed from analysis

Table 3

Study 1 (N=58): Results of linear mixed models comparing change in pre- to post- outcomes between the intervention and waitlist groups.

Outcome	<i>F</i>	<i>p</i>	Cohen's <i>d</i>
Self-compassion	9.26	.004	.61
Mindfulness	3.47	.068	.34
Compassion for Others	1.40	.241	.15
Compassion Satisfaction	5.89	.018	.45
Depression	1.69	.199	.13
Anxiety	0.36	.551	.04
Stress	10.75	.002	.81
Personal Distress	0.13	.718	.04

Table 4

Study 1: Change in outcomes predicted by change in self-compassion for SCHC group (n = 25)

	β	R^2
Mindfulness	.70***	.49
Compassion for Others	-.17	.03
Compassion Satisfaction	.14	.02
Stress	-.68***	.47
Anxiety	-.49*	.24
Depression	-.59**	.35
Personal Distress	-.27	.08

Note: *** $p \leq .001$; ** $p \leq .01$; * $p \leq .05$

Table 5*Study 2 (N = 23): Outcome means, standard deviations, and t-statistics*

	Pre-test	Post-test	Pre/Post	Pre/Post	Cohen's
Outcome	<i>M (SD)</i>	<i>M (SD)</i>	% Change	<i>t-statistic</i>	<i>d</i>
Self-compassion	3.08 (.52)	3.70 (.62)	20%	4.50***	.94
Mindfulness	2.57 (.49)	2.84 (.42)	11%	2.91**	.62
Compassion	4.03 (.40)	4.42 (.37)	10%	5.71***	1.19
Compassion Satisfaction	4.08 (.54)	4.33 (.49)	06%	2.83**	.59
Depression	3.36 (2.11)	2.27 (1.86)	-13%	-2.06*	.44
Anxiety	3.32 (3.23)	3.18 (3.35)	-04%	-0.31	.07
Stress	7.70 (3.01)	5.70 (2.42)	-26%	-2.79**	.58
Burnout	2.48 (.54)	2.17 (.39)	-14%	-3.11**	.66
Secondary Traumatic Stress	2.30 (.49)	2.07 (.39)	-26%	-3.23**	.67
Emotional Exhaustion	27.61 (11.47)	23.18 (8.42)	-16%	-2.11*	.45
Depersonalization	6.74 (5.63)	5.18 (5.27)	-23%	-2.00+	.42
Personal Accomplishment	37.22 (8.71)	39.86 (7.72)	07%	2.14*	.46

*Note: *** $p \leq 001$; ** $p \leq .01$; * $p \leq .05$; + $p < .07$*

Table 6*Study Two (N = 23): Change in outcomes predicted by change in self-compassion*

	β	R_2
Mindfulness	.51*	.26
Compassion	.55**	.31
Compassion Satisfaction	.77***	.60
Burnout	-.63**	.40
Secondary Traumatic Stress	-.49*	.24
Emotional Exhaustion	-.45*	.20
Depersonalization	-.65**	.42
Stress	-.64**	.41
Anxiety	-.41*	.17
Depression	-.19	.04

Note: *** $p \leq .001$; ** $p \leq .01$; * $p \leq .05$