



Self-Compassion Explains Less Burnout Among Healthcare Professionals

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Abstract

Objectives Healthcare professionals are prone to experience burnout—a psychological syndrome resulting from chronic stressors at work. Some individual differences, like self-compassion—the non-judgmental observation of one’s own pain and failure, while understanding that these are part of being human—can protect against burnout.

Methods We administered the Maslach Burnout Inventory, the Self-Compassion Scale, and the Stressful Life Events Scale to a sample of healthcare professionals (medical residents, nurses, and physicians) in Lebanon ($N = 93$).

Results The sample demonstrated a high degree of Emotional Exhaustion ($M = 27$, $SD = 11.79$), average levels of Depersonalization ($M = 9.46$, $SD = 6.35$), and Personal Accomplishment ($M = 34.95$, $SD = 6.58$), and moderate levels of Self-compassion ($M = 3.25$). All burnout components were significantly and inversely associated with self-compassion, with the strongest association found between Emotional Exhaustion and Self-compassion ($r = -.37$, $p < .001$). Self-compassion significantly explained burnout, above and beyond sociodemographic and occupational variables (Emotional Exhaustion: $\Delta R^2 = .11$, $F(1.85) = 12.71$, $p < .01$; Depersonalization: $\Delta R^2 = .07$, $F(1.85) = 6.73$, $p = .01$; Low Personal Accomplishment: $\Delta R^2 = .11$, $F(1.85) = 11.29$, $p < .01$).

Conclusions Burnout is prevalent in the sample, yet self-compassion may be a possible protective factor.

Keywords Burnout · Self-compassion · Healthcare professionals · Workplace health

Healthcare professionals, such as primary care physicians, nurses, and psychotherapists, share a common ethos of treating and helping people through close interactions with them. While this might be rewarding and satisfying (Bria et al. 2012; Stamm 2010), these healthcare professionals are also prone to experiencing burnout, which can lead to harmful consequences for the healthcare provider, the service recipient, and the healthcare organization. Understanding individual variables that may protect against burnout can inform preventive efforts and interventions.

While burnout is a broad construct that has been defined in different ways, the most widely used definition, and the one recently adopted by the World Health Organization (WHO), is that of Maslach et al. (2018) who define it as a syndrome that is characterized by three essential feelings of (1) Emotional Exhaustion, (2) Depersonalization, and (3) Low Personal Accomplishment. While these descriptors slightly change depending on the population they are used for, the content remains largely the same. Among healthcare professionals, Emotional Exhaustion reflects being too depleted of one’s emotional resources to deal with work, Depersonalization refers to a detached response towards the recipients of care (e.g., patients), and Personal Accomplishment reflects feelings of incompetence and lack of achievement (Maslach et al. 2018). While burnout may result from repeated demands to be caring and compassionate towards others, it is also linked to environmental stressors such as administrative demands and over-crowding (Flarity et al. 2013). It is also worth noting that burnout and compassion fatigue can be seen as two distinct constructs. Compassion fatigue is an empathy-related problem that results from being repeatedly exposed to a

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client's trauma, while occupational burnout is not necessarily the result of drained empathy and compassion (Hunsaker et al. 2015; Ray et al. 2013; Thieleman and Cacciatore 2014).

Recent studies have found that 20–60% of physicians have reported symptoms of burnout, with urologists and pediatricians showing the highest and lowest rates respectively (Montero-Marin et al. 2016; Shanafelt et al. 2015). Additionally, one-third of primary care professionals exhibit high levels of burnout (Navarro-González et al. 2015). Burnout can have detrimental consequences on the healthcare worker, the client, and the organization at large. Those who experience burnout are more likely, than those with less burnout, to report physical ailments (Honkonen et al. 2006; Kim et al. 2011), difficulty with emotional regulation, and other behavioral problems that impact others, such as irritability (Golkar et al. 2014). Experiencing burnout may also increase the propensity for medical errors and result in poorer patient safety and outcomes (Montero-Marin et al. 2016). Finally, burnout has also been associated with increased absenteeism, and turnover, which translates into increased costs for organizations (Maslach et al. 2001).

In the Arab region, healthcare workers are also subject to burnout. A systematic review of 19 studies (Elbarazi et al. 2017) in 7 Arab countries (Bahrain, Egypt, Jordan, Lebanon, Palestine, Saudi Arabia, and Yemen) showed a moderate-to-high prevalence of burnout, with the highest levels reported among obstetrics and gynecology, family medicine, anesthesia, intensive care, internal medicine, and cardiology specialties. In addition, Ashkar et al. (2010) found that among 155 medical residents in a Lebanese medical center, 80% had a high level of burnout in at least one of the three components, with the highest domain being Emotional Exhaustion.

Burnout has been studied in relation to a number of individual variables. Studies have shown that burnout is more prevalent among those younger than 30 to 40 (Maslach et al. 2001; Talih et al. 2016) and those with higher neuroticism, with lower levels of hardiness, with an external locus of control, with a passive and defensive style of coping, and with Type-A behaviors (Maslach et al. 2001).

Self-compassion is a fairly new individual variable, and it refers to the non-judgmental observation and understanding of one's own pain, failures, and mistakes (Neff 2003a). It is conceptualized as comprising of three interrelated components (1) self-kindness as opposed to self-judgment, whereby self-kindness involves offering kindness and empathy to oneself while refraining from judgment and self-criticism, while self-judgment involves being hostile towards one's thoughts, feelings, and overall worth (Neff 2003b); (2) common humanity versus isolation, whereby common humanity refers to a belief that everyone is prone to mistakes and failures, while isolation refers to feelings of being cut-off from others due to emotions of shame from one's inadequacies (Neff 2003b); and finally, (3) mindfulness versus overidentification or avoidance refers to

being aware and accepting of the present moment, and all the thoughts and feelings that come with it (whether positive or negative), without reacting to them or judging them, versus ruminating about one's limitations (Neff 2003b). Self-compassion, as defined above, has been positively related to a number of desirable behavioral outcomes, such as life satisfaction (Zessin et al. 2015), and negatively related to undesirable outcomes such as rumination (Johnson and O'Brien 2013; Odou and Brinker 2013; Raes 2010), avoidance (Krieger et al. 2013), and overall emotional dysregulation (Leary et al. 2007; Neff 2003a, b).

Recently, studies have examined the relationship between self-compassion and burnout, albeit using various conceptualizations and measures of burnout. Olson et al. (2015) found that having self-compassion and practicing mindfulness among 45 pediatric residents, significantly and inversely explained Maslach's Emotional Exhaustion component of burnout. Among Spanish primary healthcare professionals, low self-compassion was also related to higher levels of "frenetic" burnout, which is an alternative conceptualization of burnout, measured through the Burnout Clinical Subtypes Questionnaire, and is reflective of someone who is very motivated and ambitious, yet feels guilty for not meeting high standards of performance (Montero-Marin et al. 2016). Using the Professional Quality of Life (ProQOL; Stamm 2010), studies also found that components of self-compassion are inversely related to burnout among student midwives (Beaumont et al. 2016) and that self-compassion explains a large variance in burnout and secondary traumatic stress among nurses in Portugal and the UK (Duarte et al. 2016; Durkin et al. 2016).

In this paper, we investigate whether self-compassion can explain levels of healthcare burnout, using the Maslach conceptualization, above and beyond the demographic and occupational variables of age, gender, working hours, and years of experience. By understanding the role that self-compassion plays in explaining burnout, we can guide interventions, such as self-compassion training, to reduce or prevent burnout. In turn, a reduction in burnout can contribute to maintaining the well-being and productivity of the professional, and to providing a higher quality of care to patients/clients. We hypothesize that there will be an inverse relationship between burnout and overall self-compassion and that higher self-compassion will explain (lower) levels of burnout, above and beyond known occupational and sociodemographic variables. As a secondary aim, we also explore the relationship between burnout and lifestyle variables, such as healthy eating, exercise, and levels of stress.

Method

Participants

We calculated the required sample by considering the parameters of desired effect size, number of predictors, power, and

statistical analysis. Based on previous literature, the estimated effect size was .12 (Cohen 1988). To determine the sample size needed to obtain such a medium effect size with three predictors, we used the software G-Power (Faul et al. 2009). Power was set at 0.8 (Tabachnick and Fidell 2013), and the alpha was set at the conventional level of 0.05. Based on these parameters, the desired sample size was 105.

Data collection was conducted between August 2018 and April 2019. The sample ($N=93$) was predominately female (66%), single (63%), without children (77%), aged between 22 and 32 (68%), with an average age of 32 ($SD=9.59$). Expectedly, more than half had a Doctorate degree (MD, PhD, EdD), and 46% reported a salary between \$1001 and \$2000. This is not unusual because medical residents and nurses, who make up almost 70% of the sample, have salaries that are typically within this range in Lebanon. Finally, almost everyone had a 40-h full-time contract, yet a staggering 76% reported working more than 40 h. At the extreme, 13% reported working up to 80 h per week ($M=54$; $SD=18.65$). Interestingly, medical residents worked significantly longer hours than registered nurses ($F(3.86)=12.47$, $p<.001$; mean difference = 18.70, $p<.001$) and all other allied professionals (mean difference = 26.63, $p<.001$). We also found that working long hours was significantly correlated with increased reports of stressful life hassles/events ($r=.36$, $p<.001$), predominantly having difficult shifts, and not enough time to socialize or to rest. Additional information is included in Table 1.

Procedure

We recruited a sample of healthcare professionals from two large private medical centers in Beirut, Lebanon, both of which are teaching hospitals that deliver outpatient and inpatient primary and tertiary services across specialties. At site 1, potential participants' emails were selected at random from the pool of healthcare workers and were sent an invitation email with three reminders. At site 2, all healthcare professionals were sent an email and reminders. The email directed participants to an online link which included the informed consent and survey questions. We also posted ads on social media and attracted a few participants from other medical centers. The study obtained approval from the Institutional Review Board at AUB, and consent by the administration of the two sites.

Measures

Sociodemographic and Occupational Variable Survey This consisted of background information including age, gender, relationship status, number of children, level of education, occupation, length of service, working hours per week, type of employment contract, income bracket, number of vacations taken in the past year, self-reported level of “financial

Table 1 Participant characteristics

Variable	<i>N</i>	%	<i>M</i>	<i>SD</i>
Marital status				
Single	59	63%		
Married/domestic partnership	33	35%		
Number of children			0.49	1.02
Highest degree of education completed				
Doctorate	51	55%	-	-
Master's degree	20	22%	-	-
Undergraduate degree	20	22%		
Practical/vocational degree	1	1%	-	-
Occupation				
Attending physician	11	12%	-	-
Resident	43	47%	-	-
Clinical psychologist	8	9%	-	-
Dietitian/nutritionist	3	3%	-	-
Registered nurse	21	23%	-	-
Other ^a	6	6%	-	-
Years of experience	-	-	8.45	9.49
Working hours per week	-	-	54.10	18.65
Income				
< \$500	1	1%	-	-
\$500–\$2000	64	70%	-	-
\$2001–\$3500	10	11%	-	-
\$3501–\$7000	6	7%	-	-
> \$7000	10	11%	-	-
Financial comfort				
Comfortable	27	35%	-	-
Neutral	32	41%	-	-
Uncomfortable	19	24%	-	-
Sick leaves taken in past year	-	-	1.70	4.22
Vacations days taken per year, on average	-	-	22.84	10.20
Frequency of exercise				
Zero to 1 time per month	44	47%		
Almost once per week	31	33%		
Almost daily	17	18%		
Eating habits				
All healthy meals, almost daily	18	19%		
1–2 healthy meals, per day	27	29%		
1–2 non-healthy meals, per day	31	33%		
All unhealthy meals, almost daily	15	16%		

^a Other occupation includes speech therapist, physical therapist, healthcare support officer, and midwife

comfort,” number of sick leaves in the past year, frequency of exercise, and frequency of healthy eating.

Maslach Burnout Inventory-Health Services Survey (MBI-HSS)

The MBI-HSS is a 22-item survey that was developed by Maslach and Jackson (1981) to assess the prevalence of

burnout among people working in the field of human services. It is a 6-point Likert scale, ranging from 0 (“I have never experienced this feeling”) to 6 (“I experience this feeling every day”). Its internal structure is made of the 3-factors of (1) Emotional Exhaustion, (2) Depersonalization, and (3) (Low) Personal Accomplishment (Maslach et al. 2018). The scores of each subscale are calculated separately and are not usually combined into a total score. On each subscale, the minimum score is 0, while the maximum score is 54 for Emotional Exhaustion, 30 for Depersonalization, and 48 for Personal Accomplishment. The cut-off scores for each subscale are as follows: (a) Emotional Exhaustion (low = 0–16; average = 17–26; high = 27 or more), (b) Depersonalization (low = 0–6; average = 7–12; high = 13 or more), and (c) Low Personal Accomplishment (low = 0–31; average = 32–38; high = 39 or more). The presence of burnout is reflected by having high scores on the Emotional Exhaustion and Depersonalization components but low scores on the Personal Accomplishment component. In our sample, the internal reliability was excellent for Emotional Exhaustion ($\alpha = .90$), good for Depersonalization ($\alpha = .80$), and acceptable for Personal Accomplishment ($\alpha = .73$). Overall, the total scale had good internal reliability ($\alpha = .80$). These reliability coefficients resembled those found by Maslach et al. (1997).

Self-Compassion Scale The Self-Compassion Scale (SCS) (Neff 2003b) is a 26-item scale that measures self-kindness, common humanity, mindfulness, isolation, overidentification, and self-judgment on a 5-point Likert scale, (1 = almost never and 5 = almost always). The scale’s scoring method has been a subject of debate, due to inconsistent findings regarding its underlying factor structure across samples and cultures. While a review of the psychometric findings and scoring suggestions is beyond the scope of this paper, there seems to be evidence that the scale shows a bifactor model, whereby all items load on one or two (positive and negative) factors of self-compassion *and* also load on the six subscales (Cleare et al. 2018; Kumlander et al. 2018; Neff and Germer 2017). This means that a single unidimensional score, as well as two scores that reflect the positive (Self-Kindness, Common Humanity, and Mindfulness) and negative (Self-Judgment, Isolation, Overidentification) subscales, can still be useful (Cleare et al. 2018; Neff and Germer 2017). Therefore, we derived a total Self-Compassion score by computing a total mean score of all items, two sub-scores that reflect the positive and negative subcomponents separately, and six sub-scores for each of the six components. The total score was derived using reverse coding of negative items, so that higher scores are always more desirable. However, for ease of interpretation, the subscales were not reverse-scored. For the total score, a score of 1 to 2.5 indicates a low level of self-compassion, 2.5 to 3.5 indicates a moderate level of self-compassion, and 3.5 to 5.0 indicates a high level of self-compassion (Neff 2003b).

In the current sample, Cronbach’s alpha for each of the six subscales ranged from questionable (.66 for Common Humanity, .69 for Mindfulness, .72 for Self-Judgment, and .73 for Overidentification) to acceptable (.77 for Isolation and .82 for Self-Kindness). However, we found good internal reliability for the total scale ($\alpha = .88$), and for the negative and positive components. These values were slightly lower than those reported by Neff (2003b).

Adapted Stressful Life Events Scale This is a list of life changes developed for another ongoing study by Zeinoun et al. (in progress), after a review of existing life events scales (e.g., Holmes and Rahe Stressful Life events, Holmes and Rahe 1967) and consultations with employees and residents of medical centers in Beirut. The list contains 26 life events that are associated with positive and negative stress, relevant to students and employees living and working in Beirut. Participants choose whether they have experienced the event in the past 3 months (Yes/No) or indicate that the event does not apply to them (Does not Apply to Me). The scale is scored by adding all items endorsed to produce a total continuous score ranging from 0 to 26. The reason for including the scale is two-fold: (1) examining the level of reported stress in our sample, and comparing that against burnout scores, would allow us to discern whether burnout at work and stressful life events are related, and (2) knowing the most frequently reported stressors can inform future studies of what factors to consider when designing interventions for burnout that take into consideration environmental stressors.

Data Analyses

Data was analyzed using SPSS-25. After missing value analysis, we removed participants that had more than 50% of ratings missing, and imputed remaining data that were Missing Completely at Random using Estimation Maximization. To test the adequacy of the measures, we examined internal consistency using Cronbach’s alpha. We ran bivariate correlations to examine relationships among key continuous variables. We used *t* tests to examine differences in burnout and self-compassion scores across gender, marital status, and place of work. One-way ANOVA (followed by Games Howell post hoc tests) was used to examine the said differences across level of education, occupation, reported income, healthy eating habits, and frequency of exercise.

To examine the relationship between burnout and its predictors, we conducted three multiple regressions for each of the three burnout subscales as dependent variables (represented by their sum scores). The independent variables of gender, working hours per week, and years of experience were entered in the first step, and the total self-compassion mean score was entered in the second step. The same regression analyses were conducted using the alternative scoring of the self-compassion

measure, as independent variables in the second step. The alpha was set at 0.05.

Results

Burnout

As noted in Table 2, our sample showed high mean levels of Emotional Exhaustion, with a mean score of 27.18 ($SD = 11.79$). Participants that reported high Emotional Exhaustion were more likely to be female ($M = 3.19$, $SD = 1.22$) than male ($M = 2.63$, $SD = 1.39$; $t(90) = 1.99$, $p = 0.05$), to have longer working hours ($r = .35$, $p < .01$), and to report more sick leaves ($r = .31$, $p < .01$). In contrast, those with higher levels of Depersonalization showed a significant but small relationship with long working hours ($r = .22$, $p = .04$), while Personal Accomplishment scores were not related to any of the sociodemographic variables.

Additionally, the more daily stressors reported, the higher the scores on Emotional Exhaustion ($r = .48$, $p < .001$) and Depersonalization ($r = .25$, $p = .01$). Finally, participants who reported having mostly unhealthy meals were much more likely than those who reported having mostly healthy meals to score higher on Emotional Exhaustion ($F(3.87) = 4.46$, $p = .006$; mean difference = 1.41, $p = .003$), and lower on Personal Accomplishment ($F(3.87) = 4.69$, $p = .004$; mean difference = $-.77$, $p = .008$). Otherwise, there were no significant differences in burnout scores across marital status, place of work, level of education, occupation, and frequency of exercise.

Self-Compassion

As noted in Table 2, the average score on self-compassion was 3.25 ($SD = .58$) which falls within the “moderate” range of scores (2.5–3.5) (Neff 2003b). Also, those with higher total scores of Self-Compassion were more likely to report poorer eating habits than those with healthier eating habits ($F(3.87) = 10.35$, $p = .000$). There were no significant differences in scores across gender, marital status, place of work, level of education, occupation, and frequency of exercise.

Burnout, Individual Variables, and Self-Compassion

All of the burnout components were significantly associated with total Self-Compassion scores, in the predicted direction. The strongest association was found between Self-Compassion and Emotional Exhaustion ($r = -.37$, $p < .001$) and Personal Accomplishment ($r = .38$, $p < .001$). Interestingly, when we grouped the positive aspects of Self-Compassion into one score, we found that it correlated only with Personal Accomplishment ($r = .32$, $p = .002$), but not with the other Burnout components. In contrast, the negative aspects of Self-Compassion showed moderate to large significant correlations with all aspects of burnout, in the expected direction (Table 3).

Results of the regression analysis showed that sociodemographic and occupational variables alone predicted 18% of the variance of Emotional Exhaustion scores ($R^2 = .18$, $F(3.86) = 6.44$, $p < .01$). Among these variables, being female ($\beta = -.20$, $p = .04$) and working long hours per week ($\beta = .33$, $p < .01$) significantly explained Emotional Exhaustion. When self-compassion was added to the model,

Table 2 Scores of self-compassion, burnout, and reported stressful life events

Variable	<i>M</i>	<i>SD</i>	Qualitative descriptor ^a	Cronbach's alpha
SCS Total mean score	3.25	.58	Moderate	.89
SCS Positive components score	3.20	.67	NA	.87
SCS Self-kindness sub-score	3.08	.83	NA	.82
SCS Common humanity sub-score	3.24	.79	NA	.65
SCS Mindfulness sub-score	3.32	.73	NA	.69
SCS Negative components score	2.71	.73	NA	.87
SCS Self-judgment sub-score	2.67	.78	NA	.72
SCS Isolation sub-score	2.72	.95	NA	.77
SCS Overidentification sub-score	2.75	.86	NA	.73
MBI-HSS Sum emotional exhaustion	27.18	11.79	High	.90
MBI-HSS Sum depersonalization	9.46	6.35	Average	.80
MBI-HSS Sum personal accomplishment	34.95	6.58	Average	.73
ASLE Total score	5.34	3.50	NA	-

SCS, Self-Compassion Scale (Neff 2003a); MBI-HSS, Maslach Burnout Inventory-Health Services Survey (Maslach et al. (2018); ASLE, Adapted Stressful Life Events (Zeinoun, in preparation); NA, not applicable

^aQualitative descriptors based on the cut-off ranges suggested by Maslach et al. (1997), and by Neff (2003a)

it explained an additional 29% of the variance above and beyond the social and occupational variables ($\Delta R^2 = .29$, $F(1.85) = 12.71$, $p < .01$) (Table 4).

Sociodemographic and occupational variables predicted only 9% of the variance in Depersonalization ($R^2 = .09$, $F(3.86) = 2.83$, $p = .043$) and only 3% of the variance in the Personal Accomplishment scores ($R^2 = .03$, $F(3.86) = .33$, $p = .44$). However, none of the demographic variables alone showed significant contribution. When Self-Compassion was added to the model, it explained an additional 16% of the variance in the Depersonalization scores ($\Delta R^2 = .16$, $F(1.85) = 6.73$, $p = .01$) and an additional 14% of the variance in Personal Accomplishment scores ($\Delta R^2 = .14$, $F(1.85) = 11.29$, $p < .01$) (Table 5).

With regard to the debate on the scoring method of the Self-Compassion Scale (Cleare et al. 2018; Kumlander et al. 2018; Muris and Petrocchi 2016), we conducted the same regression analyses by using different scoring methods—we derived two scores subsuming the three positive and negative aspects respectively, and also derived six scores of self-compassion reflecting each of the six components. We found that using scores of positive and negative aspects alone did not show any significant contribution to the model. Using six scores showed some significant contributions, but without a clear pattern. For example, while self-judgment alone consistently explained incremental variance in all burnout components - Exhaustion ($\Delta R^2 = .12$, $F(1.85) = 14.42$, $p = .000$), Depersonalization ($\Delta R^2 = .12$, $F(1.85) = 12.79$, $p = .001$), and Personal Accomplishment ($\Delta R^2 = .05$, $F(1.85) = 5.53$, $p = .021$), none of the other aspects of self-compassion showed any clear pattern of association with burnout. Results are reported in the supplementary material.

Discussion

The main aim of this study was to examine the extent to which self-compassion explains burnout, above and beyond known variables, among healthcare providers at two major Lebanese hospitals. We found that self-compassion significantly and incrementally explains levels of burnout (mostly Emotional Exhaustion), more than gender, and number of working hours.

Self-Compassion and Burnout

Having self-compassion explained levels of burnout more than social and demographic variables in people from similar healthcare occupations. In line with studies that frame self-compassion as a facilitator of positive coping (Allen and Leary 2010; Jenaro et al. 2007; Leary et al. 2007), it is plausible that self-compassion allows for better coping with work-related tension and therefore prevents the development of burnout. It is possible that self-compassion slows down or interrupts the gradual development of burnout, when the latter is conceptualized as a sequential process whereby individuals first develop a sense of being overwhelmed and exhausted by work, then become hardened and cynical towards the service recipients, and eventually perceive themselves as inadequate at work (Leiter 1993). It is possible for someone to be exhausted, but copes using self-compassion principles—maintaining a balanced perspective towards negative events, holding a compassionate stance towards the self, being open to observing yet not become consumed by the exhaustion, and thus preventing the next stages of burnout. Alternatively, the practice of self-compassion might be effective in buffering against so-called burnout *latent profiles*. Leiter and Maslach

Table 3 Correlations between subcomponents of burnout, self-compassion, and reported stressful life events

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Emotional Exhaustion	-											
2. Depersonalization	.588**	-										
3. Personal Accomplishment	-.228*	-.385**	-									
4. Self-Kindness	-.208*	-.122	.218*	-								
5. Common Humanity	.029	.006	.334**	.488**	-							
6. Mindfulness	-.181	-.108	.263*	.686**	.535**	-						
7. Self-Judgment	.380**	.399**	-.273**	-.414**	-.093	-.228*	-					
8. Isolation	.315**	.248*	-.326**	-.375**	-.084	-.401**	.624**	-				
9. Overidentification	.476**	.363**	-.202	-.295**	-.108	-.325**	.638**	.564**	-			
10. Positive Self Compassion	-.151	-.093	.315**	.889**	.778**	.862**	-.311**	-.346**	-.291**	-		
11. Negative Self Compassion	.450**	.391**	-.313**	-.422**	-.110	-.368**	.883**	.853**	.842**	-.368**	-	
12. Total Self Compassion	-.370**	-.298**	.384**	.764**	.528**	.738**	-.721**	-.746**	-.709**	.808**	-.843**	-
13. Stressful Events	.477**	.252*	-.063	-.321**	-.143	-.257*	.347**	.299**	.327**	-.293**	.377**	-.405**

**Correlation is significant at the 0.01 level (2-tailed)

*Correlation is significant at the 0.05 level (2-tailed)

Table 4 Summary of regression analysis for three components of burnout

Model	<i>R</i>	<i>R</i> ²	Adjusted <i>R</i> ²	SE of estimate	<i>R</i> ² change	<i>F</i> Change	df1	df2	Sig. <i>f</i> change
Emotional exhaustion									
1	.43	.18	.16	10.84	.18	6.44	3	86	.001
2	.54	.29	.26	10.17	.11	12.71	1	85	.001
Depersonalization									
1	.30	.09	.06	6.25	.09	2.83	3	86	.043
2	.40	.16	.18	6.05	.07	6.73	1	85	.011
Personal accomplishment									
1	.18	.03	-.00	6.58	.03	.911	3	86	.439
2	.38	.14	.10	6.22	.11	11.29	1	85	.001

^a Variables in model 1 include gender, working hours per week, and years of experience

^b Variables in model 2 include gender, working hours, years of experience, and self-compassion

Table 5 Contribution of individual variables in explaining components of burnout

Model	Unstandardized coefficients		Standardized coefficients Beta	<i>t</i>	Sig.	
	<i>B</i>	Std. Error				
Emotional exhaustion						
1	(Constant)	23.91	4.980		4.802	.000
	Gender	-4.91	2.411	-.199	-2.035	.045*
	Working hours/week	.21	.062	.330	3.370	.001*
	Years of experience	-.17	.127	-.132	-1.345	.182
2	(Constant)	46.40	7.85		5.91	.000
	Gender	-5.08	2.26	-.21	-2.25	.027*
	Working hours/week	.19	.06	.31	3.35	.001*
	Years of experience	-.07	.12	-.05	-.57	.573
	Self-compassion	-6.8	1.92	-.34	-3.57	.001*
Depersonalization						
1	(Constant)	5.82	2.87		2.03	.046
	Gender	.84	1.39	.06	.61	.547
	Working hours/week	.07	.04	.19	1.92	.058
	Years of experience	-.142	.07	-.20	-1.93	.056
2	(Constant)	15.56	4.67		3.33	.001
	Gender	.77	1.35	.06	.57	.571
	Working hours/week	.06	.04	.18	1.81	.074
	Years of experience	-.09	.07	-.14	-1.34	.184
	Self-compassion	-2.97	1.15	-.27	-2.60	.011*
Personal accomplishment						
1	(Constant)	35.19	3.02		11.65	.000
	Gender	-.90	1.46	-.07	-.62	.540
	Working hours/week	-.001	.04	-.002	-.02	.988
	Years of experience	.12	.08	.18	1.56	.122
2	(Constant)	22.24	4.80		4.63	.000
	Gender	-.80	1.38	-.06	-.58	.565
	Working hours/week	.01	.04	.02	.21	.838
	Years of experience	.06	.08	.09	.83	.410
	Self-compassion	3.95	1.18	.35	3.36	.001*

Note. * $p \leq 0.05$; ** $p \leq 0.001$

(2016) identified five different profiles of burnout that differ based on a combination of high and low scores on its subcomponents. Self-compassion might be effective in ameliorating the burnout profile characterized mostly by exhaustion (Overextended), but not profiles that show undesirable scores on all three subcomponents. While such explanations are plausible, they remain tentative and more needs to be understood in terms of the causal mechanisms and pathways of self-compassion on burnout.

In light of similar findings that show the positive effect of self-compassion on burnout (Duarte et al. 2016; Durkin et al. 2016; Montero-Marín et al. 2016; Olson et al. 2015) or that position it as a moderator between burnout and well-being (Kyeong 2013), organizations can play a role in reducing, or preventing, burnout by implementing changes to the workplace. Examples of initiatives include mindfulness training, which has already been used to reduce stress among healthcare professionals (Aycock and Boyle 2009; Zeller and Levin 2013). Training programs, such as Mindful Self-Compassion Program (MSC) and Compassion Cultivation Training (CCT), have also been developed to improve self-compassion (Zessin et al. 2015).

The Role of Gender

We found that women reported higher levels of Emotional Exhaustion. This is contrary to the majority of findings in the non-Arab literature that broadly report no gender differences in levels of burnout (Bria et al. 2012; Maslach et al. 2001). Among Arab samples, the evidence is mixed with some studies finding females to be more vulnerable to burnout than males (Ashkar et al. 2010; Elbarazi et al. 2017; Sabbah et al. 2012), while others finding no significant differences (Talih et al. 2016).

These contradicting findings between and within Arab and non-Arab samples require further examination. In our sample, there were no gender differences in any of the sociodemographic or occupational variables, except that men were slightly more likely to report being financially uncomfortable (despite no differences in reported salary), making this an unlikely reason behind the gender difference. Another plausible explanation is that women were more comfortable than men, in reporting Emotional Exhaustion. Future studies can investigate social desirability and gender roles as possible factors that impact reporting of burnout and self-compassion across the genders.

Long Working Hours and Medical Residents

Another important finding is the moderate and significant association between long working hours and burnout. The average number of reported working hours per week was 55 h, which is 15 h more than a full-time 40-h job contract. In

addition, 13% of the sample reported working a staggering 80 h per week, with medical residents working significantly more than nurses and other allied professionals. Such long working hours, especially among medical residents, can have detrimental consequences on the worker, the patients, and the organization at large. Two studies in Lebanon found that approximately 14% of residents (Talih et al. 2016) and nurses (Talih et al. 2018a) reported illicit drug use, while another study found that the prevalence of illicit drug use was almost 35% among residents (Talih et al. 2018b). The same authors also found that those who consume caffeine, who use non-prescribed sedatives or benzodiazepines, and who have currently or previously used self-prescribed psychotropics were more likely to report burnout (Talih et al. 2018a). It is possible that these are ways to cope with burnout. Therefore, what may have begun as Exhaustion in our sample may snowball into an increased likelihood of substance use. This does not only affect the healthcare provider alone but also may put the patients' safety and treatment at risk.

It is important to bear in mind that although we are examining average levels of burnout and long working hours, it takes only one or more *very* burned-out professionals to commit a major and irreversible medical error. Almost 20–25% of medical residents reported *always* feeling emotionally drained and fatigued, 10–15% reported *always* feeling uncaring and emotionally hardened, and 5% felt that they do not really care about their patients. These numbers ought to be red flags for organizations to address the issue of working hours and burnout, which seems to be related to these attitudes. By highlighting the association between long working hours and burnout, organizations can focus on implementing systemic interventions at the level of organizational policies, and not only on the level of individuals. Indeed, several countries have introduced limits on the working week and the number of consecutive hours worked (Ashkar et al. 2010). While residency programs in Beirut have similar work restriction policies, the implementation may not be strictly followed.

Limitations and Future Research

There are a number of limitations to our study. Mainly, the study had a low response rate. While we could not assess the actual reasons behind the low response rate since the survey was administered anonymously online, we suspect that this might be due to the nature of our sample, which consists of overworked healthcare professionals, who might not have the time to participate in research studies or who, as our findings suggest, are burned out, and hence, are unmotivated to respond. Despite the response rate, our sample size was similar to that of other studies in Lebanon who sampled between 91 and 118 individuals (Talih et al. 2016; Talih et al. 2018a). Another limitation is that our study employed a cross-sectional design that precludes causation. This is particularly

important if we position burnout as a sequential process that develops over time, and where self-compassion can drive the outcome to more or less burnout. Finally, like many studies that require participants to self-report on a number of behaviors in one survey, our results likely reflect common method bias (Podsakoff et al. 2003). This means that the correlations between self-compassion and burnout might include measurement error resulting from the method by which the surveys were administered.

Follow-up studies can employ more sophisticated methods and statistical techniques such as repeated designs and pathway analysis to understand the differential effect of self-compassion on the various stages of burnout as it develops. Additionally, the construct and measurement of self-compassion needs to be further refined through cross-cultural studies that can investigate invariance across samples and methods. This could better ascertain the internal structure of the Self-Compassion Scale and its nomological network, so that future research can use a homogeneous and comparable method of measurement.

Author Contribution ZH executed the study, analyzed the data, and contributed to manuscript writing. PZ conceived and supervised the design and execution of the study, and contributed to writing and editing the manuscript. All authors approved the final version of the manuscript for publication.

Compliance with Ethical Standards

Conflict of Interest The authors are affiliated as student and healthcare professional with the recruitment sites.

Informed Consent All participants provided informed consent prior to their inclusion in the study.

Research Involving Human Participants This study was approved by the Institutional Review Board of the American University of Beirut.

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