

Does self-compassion mitigate the relationship between burnout and barriers to compassion? A cross-sectional quantitative study of 799 nurses

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ARTICLE INFO

Keywords:

Burnout
Compassion
Self-compassion
Barriers
Nursing
Compassion-fatigue
Resiliency

ABSTRACT

Background: Burnout has numerous negative consequences for nurses, potentially impairing their ability to deliver compassionate patient care. However, the association between burnout and compassion and, more specifically, barriers to compassion in medicine is unclear. This article evaluates the associations between burnout and barriers to compassion and examines whether dispositional self-compassion might mitigate this association.

Hypothesis: Consistent with prior work, the authors expected greater burnout to predict greater barriers to compassion. We also expected self-compassion – the ability to be kind to the self during times of distress – to weaken the association between burnout and barriers to compassion among nurses.

Methods: Registered nurses working in New Zealand medical contexts were recruited using non-random convenience sampling. Following consent, 799 valid participants completed a cross-sectional survey including the Copenhagen Burnout Inventory, the Barriers to Physician Compassion scale, and a measure of dispositional self-compassion.

Results: As expected, greater burnout predicted greater barriers to compassion while self-compassion predicted fewer barriers. However, self-compassion mitigated the association between burnout and burnout related barriers to compassion (but not other barriers). The interaction suggested that the association was stronger (rather than weaker) among those with greater self-compassion.

Discussion: Understanding the lack of compassion and the effects of burnout in patient care are priorities in health. This report extends evidence on the association between burnout and compassion-fatigue to show that burnout also predicts the experience of specific barriers to compassion. While self-compassion predicted lower burnout and barriers, it may not necessarily reduce the extent to which burnout contributes to the experience of barriers to compassion in medicine. Implications for understanding how burnout manifests in barriers to clinical compassion, interventions and professional training, and future directions in nursing are discussed.

What is already known about the topic?

- Burnout is widespread among nurses and thought to have numerous negative correlates, including those related to their ability to deliver compassionate care.
- Prior researchers have typically linked burnout with other compassion-related forms of burnout (such as compassion fatigue) and have failed to illuminate factors that might buffer or attenuate this relationship.

What this paper adds

- The paper extends knowledge beyond compassion fatigue to

consider how burnout may manifest in specific barriers to compassionate patient care.

- The development of self-compassion (the ability to care for the self in times of stress) may reduce the experience of carer, patient, environmental, and clinical barriers to compassion.

1. Introduction

Burnout is prevalent across a range of healthcare professions, including nursing (Beck, 1995; Poncet et al., 2007), and has serious consequences for both nurses (Parker and Kulik, 1995; Vahey et al., 2004) and patients (Aiken et al., 2002; McHugh et al., 2011). Burnout is generally defined as a set of symptoms relating to exhaustion, in the

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form of negative job attitudes, negative self-concepts, and a loss of concern and feeling for patients (Keidel, 2002). Given the central involvement of professional nurses in a variety of healthcare domains (Tingen et al., 2009), understanding the origins and consequences of burnout (Beck, 1995; McHugh et al., 2011; Poncet et al., 2007), particularly in terms of compassion-fatigue (Boyle, 2011; Coetzee and Kloppe, 2010; Flarity et al., 2013, 2016a,b; Sabo, 2006; Yoder, 2010) and lower job satisfaction (Aiken et al., 2002; Hayes et al., 2010; Lu et al., 2012; Utriainen and Kyngäs, 2009) is increasingly important. The current report contributes to this area of study by examining the links between burnout and specific barriers to compassion in a large sample of registered nurses and testing the possibility that a key intrapersonal resource, self-compassion, might mitigate this relationship. Specially, the authors evaluate the possibility that burnout is less closely associated with barriers to compassion among more self-compassionate nurses.

Prior studies of burnout show consistent links to negative mental and physical health outcomes. Greater burnout has been linked to poorer immune functioning (Nakamura et al., 1999), lower social support (Constable and Russell, 1986; Duquette et al., 1994; Eastburg et al., 1994), and greater substance-use (Lee et al., 2003; Shanafelt et al., 2002). Burnout also varies among nurses with different demographic characteristics (Duquette et al., 1994; Keidel, 2002; Lee et al., 2003), those working with different patient populations (Aiken et al., 2002), and in different clinical settings (Aiken et al., 2002; Constable and Russell, 1986; Duquette et al., 1994; Lee et al., 2003).

However, despite the volume of research linking burnout with negative outcomes, the relations between burnout and compassion are unclear. Most prior work has focused on the association between burnout and a *lack of compassion* (compassion-fatigue), rather than seeking to identify specific factors that might be relevant. Compassion, along with the related constructs of empathy, kindness, and concern, are essential components of effective patient care (Attree, 2001; Bramley and Matiti, 2014; Frost, 2011; Heffernan et al., 2010; Irurita, 1999; McQueen, 2000) and are likely to be negatively impacted by burnout. Research shows a negative relationship between burnout and patient care-satisfaction (Leiter et al., 1998; McHugh et al., 2011; Shanafelt et al., 2002; Vahey et al., 2004) but the reasons for this link remains unclear.

Ironically then, the relationship between burnout and factors likely to influence caring remains understudied while the association between burnout and compassion-fatigue has been widely investigated (Craig and Sprang, 2010; Keidel, 2002; Killian, 2008), including among nurses (Hooper et al., 2010; Maytum et al., 2004; Sabo, 2008). Although compassion fatigue is a complex construct and, at least in trauma environments, includes elements of both secondary traumatisation and burnout (Adams et al., 2006), the fact that the experience of feeling “unable to care” is a highly salient aspect feeling burnt out (Chen and McMurray, 2001) makes this association unsurprising. However, because compassion-fatigue is a type of burnout specific to those in the caring professions (Figley, 2002; Keidel, 2002), associations with general measures of burnout are difficult to interpret. Put simply, a significant proportion of the co-variation between general measures of burnout and measures of compassion fatigue (which incorporates burnout) likely reflects their conceptual overlap and shared measurement characteristics. With this issue in mind, the primary aim of this report was to extend prior research by examining the associations between burnout and specific measures of caregiver, patient, clinical, and institutional and environmental barriers to compassion among nurses.

A second aim was to evaluate if personality factors in nurses might buffer or attenuate the association between burnout and barriers to compassionate care. Specifically, the authors evaluated whether self-compassion (the ability or tendency to respond to the self in times of failure or distress with kindness and understanding) (Neff, 2003a) might mitigate the association between burnout and barriers. Self-compassion can be viewed as a resilience type factor (Neff and

McGehee, 2010) and early evidence denotes associations between burnout and lower self-compassion (Alkema et al., 2008; Barnard and Curry, 2012) as well as between self-compassion and lower compassion-fatigue (Alkema et al., 2008; Figley, 2002). In theory, these links reflect the notion that more self-compassionate individuals manage stress and burnout more effectively, letting demands exhaust less of their capacity to be caring (Alkema et al., 2008; Figley, 2002; Vigna et al., 2017).

More directly, several recent studies have shown that self-compassion buffers the association between negative psychological constructs and both mental (Denckla et al., 2017; Körner et al., 2015; Kyeong, 2013; Marshall et al., 2015; Phillips et al., 2017) and physical (Friis et al., 2015) health outcomes. Friis et al. (2015), for example, found that self-compassion weakened the association between greater diabetes distress and greater HbA1c among people with diabetes. Testing whether such “buffering” occurs in the association between burnout and barriers to compassion among nurses is the second aim of this report.

To summarise, while burnout is known to have numerous negative correlates among nurses, including those related to their ability to deliver compassionate care, most prior studies have linked burnout with other, compassion-related forms of burnout (i.e., compassion fatigue), and have failed to illuminate resiliency-type factors that might buffer this relationship. In contributing to work in this area, the current report documents the links between burnout and barriers to compassion and examines whether dispositional self-compassion might improve this association. Consistent with the above theory and research, the authors expected greater burnout to predict greater barriers to compassion among nurses (Hypothesis 1), and self-compassion to mitigate this association such that the association would be weaker among nurses with greater self-compassion (Hypothesis 2).

2. Method

2.1. Participants

Of the 799 registered nurses included in this report, 93.90% were female. The participants' average age was 45.47 years (SD = 11.81), average clinical experience was 26.12 years (SD = 12.77), and they predominantly identified as New Zealand European (65.30%), followed by British (12.80%) (see Table 1 for details). Nearly three quarters (73.8%) were New Zealand educated, the remainder being educated in the United Kingdom (14.30%) and elsewhere. Approximately half (54.80%) of the sample worked standard day shifts, 26.40% rostered shifts, and the remainder some combination. Most (59.3%) worked in large cities, with smaller numbers in small cities (17%) and large towns (10%). Most nurses (38.80%) worked 35–40 h per week.

2.2. Bias and sample size

Attempts to control bias include consultation with a senior academic nurse (A.L.) and colleagues to ensure study measurement addressed issues of relevance to practicing nurses, anonymous participation (reducing selection bias), and the use of validated measures that are known to have low correlations with demographics and clinical practice variables. The sample size was based on convenience sampling.

2.3. Procedure

Permission to conduct the study was obtained from the relevant human participants' ethics committee (University of Auckland Human Participants Ethics Committee Approval Number: 7640). Participants were recruited via non-random convenience sampling, specifically via a lecture series conducted by one of the authors (A.F.) at medical and nursing meetings and grand rounds, via contacts and referrals in hospitals and clinics in New Zealand, and through e-mails to various nursing organisations. Interested participants were sent an invitation email

Table 1
Tabulation of participant characteristics.

Variable	Mean (SD) or percentage
Gender	
Female	93.90%
Age (years)	45.47 (11.81)
Clinical Experience (years)	26.12 (12.77)
Ethnicity	
New Zealand European	65.30%
British	12.80%
Filipino	3.80%
New Zealand Maori	2.60%
Indian	2.50%
South African	2.10%
Chinese	1.50%
Australian	1.40%
Other	8.00%
Country of Education	
New Zealand	73.80%
United Kingdom	14.30%
Other	11.90%
Typical Work Pattern	
Working Day Shifts	54.80%
Working Rostered Shifts	26.80%
Other	18.40%
Population of Town of Practice	
< 10,000	5.00%
10,000–50,000	8.60%
50,000–100,000	10.00%
100,000–500,000	17.00%
≥ 500,000	59.40%
Hours Worked (per week)	
> 20	7.50%
21–25	7.50%
26–30	6.80%
31–35	18.80%
36–40	38.80%
41–45	15.40%
> 45	5.20%

containing a link to study information and the survey. Response rates are difficult to determine as the anonymous nature of recruitment precluded our tracking the number of nurses who received e-mail invites or saw electronic advertisements. Participants followed links to Survey Monkey® to complete a 20-min survey, which included questions about demographics, characteristics of clinical practice, attitudes, and emotions and behaviours regarding patient care. Participation in the study was voluntary and anonymous, and completion of the questionnaire was taken to imply consent. Participants who completed the questionnaire were invited to enter a draw to win one of two \$100 vouchers. Inclusion required that the participants were practicing as registered nurses in New Zealand at the time of the study. Of the participants who provided data ($n = 801$), those who reported a current absence of active patient contact ($n = 2$) were excluded from analysis. Research support was provided by The University of Auckland. The organisation had no input into the study design, data collection, analyses, or interpretation.

2.4. Measures

Questionnaires measured the variables tested in this report as follows:

2.4.1. Background characteristics

Gender, ethnicity, and workload were assessed with items asking participants to indicate being 'male or female,' to indicate ethnicity (from a set of options including an "Other" response), and a question asking 'how would you characterize your overall workload as a nurse?' Responses were provided on a 5-point rating scale from 1 (too much) to 5 (too little). Years of clinical experience was calculated by subtracting

the participants' self-reported year of graduation from the current year (2018) and adding a year to it (as nursing students begin patient contact in the final year of their study in New Zealand and graduate in the year following their training).

2.4.2. Burnout

Professional burnout was assessed using the Copenhagen Burnout Inventory (Kristensen et al., 2005). The 19-item Copenhagen Burnout Inventory is among the most widely used self-report measures of burnout, capturing elements of exhaustion, negative job attitudes, negative self-concepts, and a loss of concern and feeling for patients. Items are rated on a 5-point rating scale from 1 (never) to 5 (always), with three subscales - personal burnout, work-related burnout and client-related burnout (Kristensen et al., 2005). The scale has robust psychometric properties, according to some studies, outperforming the Maslach Burnout Inventory, at least in terms of predictive validity (Kristensen et al., 2005). Internal reliability is commonly above 0.80 (Cronbach's $\alpha = 0.85$ – 0.87) and the measure has high face, convergent, divergent, and predictive validity (Campos et al., 2011; Kristensen et al., 2005; Robinson et al., 2008). Internal reliability for the total score was strong in the current report (Cronbach's $\alpha = 0.92$).

2.4.3. Barriers to compassion

Barriers to compassion were assessed using the Barriers to Physician Compassion Questionnaire (Fernando and Consedine, 2014b). Based in the Transactional Model of Physician Compassion (Fernando and Consedine, 2014a), the Barriers to Physician Compassion Questionnaire is currently the only self-report-based measure assessing barriers to compassion in health. Participants rate 34 items on 1 (minimal) to 7 (great deal) scale (Fernando and Consedine, 2014b). Early evidence among physicians suggests high internal reliability (Cronbach's $\alpha = 0.75$ – 0.85) and good face, content, convergent, and divergent validity (Fernando and Consedine, 2014b; Fernando and Consedine, 2017). However, because the working conditions and modal responsibilities of physicians and nurses differ, a pilot sample of academic and clinical nurses trialled the items and provide feedback on questions; no major issues were noted. Component analyses suggest that the measure indexes four types of barrier: a component indexing an inability to care because of stress/burnout (e.g., having too many patients to see in a limited time), a component indexing the extent to which environmental factors interfere with compassion (e.g., multiple interruptions during the patient care (e.g. pages, phone calls, texts)), the experience of patient and family-related barriers to compassion (e.g., concern that patients may complain or sue), and barriers related to the clinical picture (e.g., current treatments have caused unexpected side effects). All subscales had high internal reliabilities in the current report (Cronbach's $\alpha = 0.88$ – 0.91).

2.4.4. Self-compassion

Self-compassion was assessed using the Self-Compassion Scale–Short Form (Neff, 2003a; Raes et al., 2011). The 12-item Self-Compassion Scale–Short Form is a commonly used self-report measure and indexes the ability or tendency to respond to oneself with kindness and understanding in times of failure or distress. Participants use a 1 (almost never) to 5 (almost always) scale to make ratings. The Self-Compassion Scale–Short Form has robust psychometric properties, possessing high internal reliability (Cronbach's $\alpha \geq 0.86$), and high face, content, convergent and divergent validity (Neff, 2003a; Neff, 2016; Raes et al., 2011). Examinations of the structure of the short form instrument are ongoing (Raes et al., 2011) hence, for the current report, the overall score was used. Internal reliability was sufficient (Cronbach's $\alpha = 0.84$).

2.5. Analytic strategy

All data were screened for missing values and to ensure that statistical assumptions were met; no violations were evident. Of all variables related to the analyses presented here, two missing values were found for age and were imputed using the sample mean (45.47 years). The analyses proceeded in two phases.

First, Pearson's and Spearman's correlations were used to examine the associations among primary variables and potential confounds (experience, gender and workload). Greater age and experience have previously been associated with lower burnout (Erickson and Grove, 2008; Rich and Rich, 1987), lower barriers to compassion (Fernando and Consedine, 2017), and greater self-compassion (Neff and Vonk, 2009). Similarly, greater workload has been associated with greater burnout (Greenglass et al., 2001) and greater barriers (Fernando and Consedine, 2017). Females report greater burnout (Linzer et al., 2002; Williams, 1989), greater barriers (Fernando and Consedine, 2017), and less self-compassion (Neff, 2003b; Neff and McGehee, 2010).

Second, two-step multiple regressions were used to examine the relationship between burnout and each of the four barriers to compassion. Confounds were entered in Step 1, together with burnout and self-compassion scores. Consistent with standard practice, the interaction between the centred (z-standardized) barrier and self-compassion scores was entered in a second step to test the possibility of self-compassion mitigating the association between burnout and barriers to compassion.

3. Results

3.1. Correlational analysis

Preliminary correlational analysis (see Fig. 1 and Table 2) showed that while increased experience was positively associated with lower barriers and greater self-compassion, being female predicted less self-compassion. Interestingly, workload was positively associated with burnout and environmental barriers but not with patient/family or clinical barriers; these three variables were retained as controls in primary analyses. As expected, there was a positive association between greater burnout and higher scores on all four barriers.

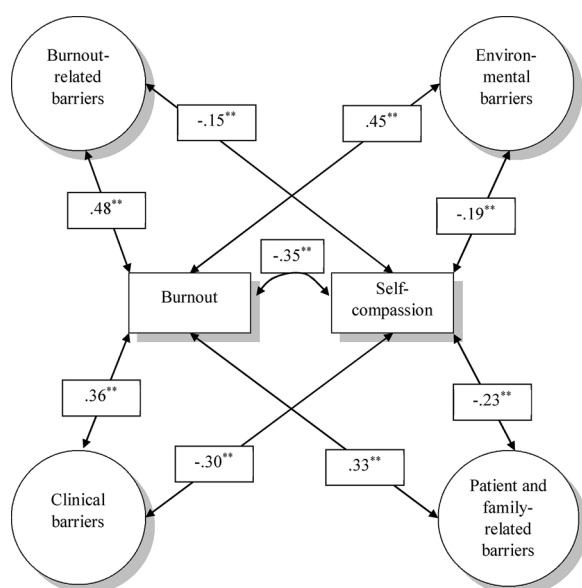


Fig. 1. Correlations between burnout, barriers to compassion, and trait self-compassion.

3.2. Testing primary research questions

The primary research questions were examined separately in relation to each of the four barriers to compassion.

3.2.1. Barriers relating to feeling burnt out

At Step 1, the regression model explained 29.30% of the variance in burnout-related barriers, $F(5,793) = 65.72$, $p < .01$. Lower experience, greater workload, and greater burnout all predicted reports of greater burnout-related barriers to compassion; self-compassion did not predict barriers in this model. With the addition of the interaction at Step 2, the model explained 29.70% of the variance, $F(6,792) = 55.87$, an increase of 0.40%, $R^2\Delta = 0.004$, $F\Delta(1,792) = 4.98$, $p = .03$. Lower experience, greater workload, and greater burnout continued to predict reports of greater burnout-related barriers, but the interaction between burnout and self-compassion was significant, indicating that the association between burnout and burnout-related barriers varied as a function of trait self-compassion (see Table 3). In contrast to expectation, however, the association between burnout and burnout-related barriers to compassion was stronger among those with greater self-compassion.

3.2.2. Barriers relating to the work environment

At Step 1, the regression model explained 22.80% of the variance in environmental barriers, $F(5,793) = 46.79$, $p < .01$. Lower experience, greater workload, and greater burnout also predicted reports of greater environmental barriers to compassion; again, self-compassion did not predict barriers. At Step 2, the model explained 23.10% of the variance, $F(6,792) = 39.66$, a non-significant increase of 0.30%, $R^2\Delta = 0.003$, $F\Delta(1,792) = 3.29$, $p = .07$. Lower experience, greater workload, and greater burnout continued to predict reports of greater environmental barriers but the interaction between burnout and self-compassion was non-significant, indicating that the association between burnout and environmental barriers did not vary as a function of trait self-compassion (see Table 3).

3.2.3. Barriers relating to patient and family

The model for patient/family barriers was similar but with some important differences. At Step 1, the regression model explained 14.60% of the variance in patient and family-related barriers, $F(5,793) = 27.15$, $p < .01$. Specifically, lower experience, workload and self-compassion, and greater burnout, all predicted reports of greater patient/family barriers to compassion. At Step 2, the model explained 14.80% of the variance, $F(6,792) = 22.87$, a non-significant increase of 0.20%, $R^2\Delta = 0.002$, $F\Delta(1,792) = 1.43$, $p = .23$. Lower experience, workload and self-compassion, and greater burnout, continued to predict reports of greater patient/family barriers but the interaction between burnout and self-compassion was non-significant. This indicates that while self-compassion did not “buffer” the negative impact of burnout on barriers, the positive effect of trait self-compassion was consistent across levels of burnout (see Table 4).

3.2.4. Barriers relating to the clinical picture

The model for clinical barriers was similar. At Step 1, the regression model explained 18.70% of the variance in clinical barriers, $F(5,793) = 36.42$, $p < .01$. Lower experience, greater workload, being female, and greater burnout, all predicted reports of greater patient/family barriers to compassion; self-compassion was, again, associated with lower barriers. At Step 2 too, the model explained 18.70% of the variance, $F(6,792) = 30.37$, an increase of 0%, $R^2\Delta = 0.000$, $F\Delta(1,792) = 0.28$, $p = .60$. Lower experience, being female, greater workload, greater burnout, and lower self-compassion, all predicted greater reports of clinical barriers to compassion, but the interaction was non-significant. Again, this indicated that the association between burnout and clinical barriers did not vary as a function of trait self-compassion (see Table 4).

Table 2

Correlations between demographics, burnout, barriers to compassion, and trait self-compassion.

	Burnout	Experience	Gender	Workload	Burnout barriers	Environmental barriers	Patient and family barriers	Clinical barriers	Self-compassion
Burnout	–	–.22**	–.00	.36**	.48**	.45**	.33**	.36**	–.35**
Experience		–	.04	–.07	–.27**	–.20**	–.21**	–.21**	.14*
Gender ^a			–	–.05	–.03	–.05	–.04	–.04	–.07*
Workload				–	.35**	.25**	.04	.04	.03
Burnout barriers					–	.74**	.53**	.55**	–.15**
Environmental barriers						–	.69**	.68**	–.19**
Patient and family barriers							–	.73**	–.22**
Clinical barriers								–	–.30**
Self-compassion									–

* $p < .05$.** $p < .01$.^a Spearman's Rank-Order correlation; gender coded such that 0 = male and 1 = female.**Table 3**

Statistics for Multiple Regression Analysis Associated with Burnout-Related and Environmental Barriers to Compassion.

Model	Burnout-Related Barriers				Environmental Barriers			
	B	Standard Error	Standardised Beta	Squared Part Correlations	B	Standard Error	Standardised Beta	Squared Part Correlations
1 (Constant)	3.07	0.46			3.33	0.38		
Experience	–0.02	0.00	–.17**	0.0285	–0.01	0.00	–.10**	0.0094
Gender ^a	–0.06	0.20	–.01	0.0001	–0.23	0.16	–.04	0.0020
Workload	0.38	0.06	.20**	0.0346	0.16	0.05	.11**	0.0098
Burnout	0.58	0.06	.36**	0.0940	0.46	0.05	.37**	0.0977
Self-compassion	–0.01	0.05	–.01	0.0000	–0.07	0.04	–.06	0.0026
2 (Constant)	3.19	0.47			3.41	0.38		
Experience	–0.02	0.00	–.17**	0.0278	–0.01	0.00	–.10**	0.0090
Gender ^a	–0.09	0.20	–.01	0.0002	–0.25	0.16	–.05	0.0022
Workload	0.37	0.06	.20**	0.0322	0.15	0.05	.10**	0.0088
Burnout	0.58	0.06	.36**	0.0942	0.46	0.05	.37**	0.0978
Self-compassion	–0.02	0.05	–.01	0.0001	–0.07	0.04	–.06	0.0029
Self-compassion x Burnout	0.10	0.05	.07*	0.0044	0.07	0.04	.06	0.0032

* $p < .05$.** $p < .01$.^a Gender coded such that 0 = male and 1 = female.**Table 4**

Statistics for Multiple Regression Analysis Associated with Patient and Family-Related and Clinical Barriers to Compassion.

Model	Patient and Family-Related Barriers				Clinical Barriers			
	B	Standard Error	Standardised Beta	Squared Part Correlations	B	Standard Error	Standardised Beta	Squared Part Correlations
1 (Constant)	4.04	0.42			3.38	0.30		
Experience	–0.01	0.00	–.13**	0.0169	–0.01	0.00	–.12**	0.0141
Gender ^a	–0.24	0.18	–.04	0.0018	–0.32	0.13	–.08*	0.0066
Workload	–0.11	0.06	–.07*	0.0043	–0.08	0.04	–.07*	0.0042
Burnout	0.38	0.05	.29**	0.0594	0.27	0.04	.29**	0.0603
Self-compassion	–0.14	0.05	–.11**	0.0093	–0.17	0.03	–.18**	0.0274
2 (Constant)	4.10	0.42			3.40	0.30		
Experience	–0.01	0.00	–.13**	0.0166	–0.01	0.00	–.12**	0.0139
Gender ^a	–0.25	0.18	–.05	0.0020	–0.32	0.13	–.08*	0.0067
Workload	–0.12	0.06	–.08*	0.0048	–0.08	0.04	–.07*	0.0044
Burnout	0.38	0.05	.29**	0.0595	0.27	0.04	.29**	0.0604
Self-compassion	–0.14	0.05	–.11**	0.0096	–0.17	0.03	–.18**	0.0276
Self-compassion x Burnout	0.05	0.04	.04	0.0015	0.02	0.03	0.02	0.0003

* $p < .05$.** $p < .01$.^a Gender coded such that 0 = male and 1 = female.

4. Discussion

In extending prior research linking professional burnout to compassion-related outcomes, the current report found the expected association in which greater burnout predicted greater burnout-related, patient and family, clinical, and environmental barriers to compassion in a large sample of nurses. In seeking to identify personal, resiliency-type factors of relevance, we also tested whether self-compassion (a) predicted lower barriers and (b) might weaken these relationships. However, while analyses provided evidence that self-compassion was associated with lower reports of patient/family and clinical (but not burnout or environmental) barriers, the single interaction indicated that greater self-compassion was associated with a stronger relationship between burnout and burnout-related barriers among registered nurses. Below, these findings are revisited in light of prior studies linking burnout to clinically relevant outcomes among nurses, some preliminary interpretations are offered, study limitations are discussed, and directions for future study are given.

As expected, the findings of the study indicated greater burnout predicted greater barriers to compassion, a pattern that is consistent with prior work showing positive associations between burnout and reports of compassion-fatigue (Craig and Sprang, 2010; Keidel, 2002; Killian, 2008), including among nurses (Hooper et al., 2010; Maytum et al., 2004; Sabo, 2008). These data thus extend current literature in suggesting that burnout may negatively impact the capacity to deliver care by increasing the experience of barriers to compassion. Indeed, rather than only impacting compassion-fatigue, a construct reflecting both burnout and secondary traumatic stress (Flarity et al., 2013; Flarity et al., 2016a,b), professional burnout may have consequences for (and be reflected in) how nurses experience their working environments, patients and their families, and their clinical responsibilities.

Also consistent with expectation, greater trait self-compassion was associated with lower burnout and predicted lower barriers to compassion. Broadly speaking, this finding is consistent with evidence linking burnout to lower self-compassion (Alkema et al., 2008; Barnard and Curry, 2012) and greater self-compassion with lower compassion-fatigue (Alkema et al., 2008; Figley, 2002). As a resilience type resource (Neff and McGehee, 2010), it has been suggested that self-compassion is associated with better outcomes because more self-compassionate individuals manage stress more effectively such that burnout exhausts less of their capacity to be caring and compassionate towards others (Alkema et al., 2008; Figley, 2002; Vigna et al., 2017). Interestingly in multivariate analyses, however, the association between self-compassion and barriers to compassion was only significant for patient/family and clinical barriers to compassion. Thus, after controlling for confounds, self-compassion did not predict burnout or environmental barriers to compassion. Although the absence of prior work makes interpretation necessarily preliminary, our suspicion here is that, as an intrapersonal, resilience-type resource, self-compassion is primarily relevant to barriers that reflect self-management tendencies or capacities rather than barriers to compassion that exist outside the individual. Put simply, the capacity to be kind to the self is perhaps more relevant to barriers reflecting one's own conduct rather than factors in the workplace that are outside of the individual's control.

Finally, while trait self-compassion mitigated the association between burnout and barriers, the direction of this mitigation was unexpected. Specifically, analyses indicated that greater self-compassion was associated with a stronger relationship between burnout and burnout-related barriers to compassion. This observation is in contrast with the findings of studies indicating that self-compassion may *weaken* the links between negative psychological constructs and both mental (Denckla et al., 2017; Körner et al., 2015; Kyeong, 2013; Marshall et al., 2015; Phillips et al., 2017) and physical (Friis et al., 2015) health outcomes, suggesting that self-compassion does not necessarily buffer different types of associations in the same way.

Again, interpretations of this pattern are necessarily preliminary. One possibility is that the association reflects the fact that more self-compassionate individuals are more likely to understand, recognise, or report that their stress and fatigue has serious consequences for their work in caring. Some individuals lack the awareness to recognise their own lack of self-kindness (Neff, 2003a), and it may be that helping nurses to acknowledge and be mindful of their experience of burnout will help them recognise its impact and thus facilitate coping and self-management strategies that prevent the burnout from manifesting in the individuals' behaviours. Alternately, this effect may reflect unmeasured associations between self-compassion and other aspects of psychological functioning. For example, self-compassion is positively associated with conscientiousness (Baker and McNulty, 2011; Neff et al., 2007). In turn, conscientiousness has known links with perfectionism (Stoeber et al., 2009), a characteristic that is known to predict greater compassion-fatigue (Benoit et al., 2007; Lee et al., 2015). One possibility is that more self-compassionate nurses concurrently possess greater perfectionist traits, characteristics that, among health professionals, have been associated with a tendency to view the self as an 'omnipotent rescuer' (Benson and Magraith, 2005). Such traits have the potential to hamper insight into the early signs of work-related dysfunction, thus being translated as barriers to compassion, as individuals justify personal behaviour as being necessary for the benefit of patients (Benson and Magraith, 2005).

5. Limitations, future directions, and practical implications

Although this report provides a useful contribution to work linking burnout and compassion in the helping professions, it has several limitations. The report relies on a convenience sample completing self-report measures, employed a cross-sectional and observational design, and did not evaluate specific types of burnout and self-compassion. The associations among self-report measures may be exaggerated by method factors (Podsakoff et al., 2012) or by social desirability, self-presentational, and recall biases (Podsakoff and Organ, 1986; Podsakoff et al., 2012). This limitation noted, self-compassion is difficult to measure outside of self-report, although implicit cognition or behavioural measures may help. These data do not enable us to speak to causality and experimental/interventional designs are needed. Finally, analyses did not evaluate specific elements of either burnout or self-compassion and the observed relationship between burnout and barriers to compassion may be different for various subcomponents.

Despite such limitations, however, this report provides the first evidence that burnout predicts the experience of greater barriers to compassion among nurses. It extends evidence of the association between burnout and compassion-fatigue to a more differentiated measure of the specific barriers to compassion in health and suggests that, while self-compassion may predict lower levels of some barriers, it does not buffer the association between burnout and issues in caring. It may thus help raise awareness among health professionals regarding the ways in which their burnout translates into barriers against the care and compassion they provide to their patients. For nurses, these data highlight the fact that the development of greater self-compassion might protect them from burnout and/or the experience of being unable to care. Self-compassion can be trained (Friis et al., 2016) and there is no reason to suspect that standardized trainings would not be of benefit in either practicing or trainee nurses. Importantly, however, being more self-compassionate may not directly reduce the extent to which burnout is associated with greater barriers to compassion. Interventions that increase self-compassion (e.g., Compassion Focused Therapy or Mindful Self-Compassion) may concurrently increase nurses' *awareness* of the impact burnout is having on their work. Rather than "soldiering on," the consequences of burnout may become more experientially salient and thus remediable. A recognition that burnout is interfering with care may prompt nurses to seek professional support. Although these possibilities would need examination in future work, the data presented

here are clear in denoting a clear link between the ability to be kind to the self (self-compassion) and the capacity to care. Nurses who are gentler with themselves in times of difficulty experience less burnout and are likely better able to sustain compassionate care over time.

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