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Are Australian teachers burned-out or depressed? A confirmatory factor analytic study involving the Occupational Depression Inventory

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ABSTRACT

Objective: There is mounting evidence that burnout problematically overlaps with depression. However, the generalizability of this finding remains debated. This study examined the burnout-depression distinction based on a recently developed measure of work-attributed depressive symptoms—the Occupational Depression Inventory (ODI).

Methods: We relied on a sample of 891 Australian teachers. The ODI was employed to assess work-attributed depressive symptoms. The Shirom-Melamed Burnout Measure (SMBM) and the Oldenburg Burnout Inventory (OLBI) were employed to assess burnout symptoms. The SMBM assesses burnout as a syndrome combining physical fatigue, cognitive weariness, and emotional exhaustion. The OLBI assesses burnout as a syndrome of exhaustion and disengagement.

Results: Confirmatory factor analysis indicated that the factors underlying burnout's components correlated more highly with the Occupational Depression factor than with each other, calling into question the syndromal unity of burnout. Moreover, the factors underlying burnout's components and the Occupational Depression factor were reflective of a common higher-order factor.

Conclusions: Our findings are consistent with the view that burnout symptoms are part of a depressive syndrome and do not reflect a unique or distinct entity. Conducted in the Australian context, this study strengthens the generalizability of the finding that burnout problematically overlaps with depression. Given the profound problems affecting the burnout construct, we recommend a paradigm shift from burnout to occupational depression. Such a shift raises the prospects of more reliably and validly assessing severity and prevalence of job-related distress and, consequently, of reaching more psychologically meaningful and productive conclusions regarding treatment, prevention, and public health decision-making.

1. Introduction

Burnout has long been presented as a syndrome that is distinct from depression. Over the last decade, however, evidence has accrued that weakens support for this distinction (e.g., [1,15]). Currently, burnout is regarded as a syndrome primarily characterized by symptoms of exhaustion and psychological detachment from work brought about by unmanageable job stress [20,33,40].

2. The burnout-depression distinction

The distinction between burnout and depression has largely been promoted on the basis that burnout is anchored in the workplace and interpretable primarily as an organizational or occupational problem, whereas depression is an individual, "clinical" problem [27,32]. Despite its popularity, this line of reasoning is epistemologically fragile, notably because burnout can be viewed as *both* an organizational-occupational problem and an individual and clinically relevant problem (e.g., [39]). Moreover, evidence has accumulated that adverse working conditions give rise to depressive symptoms and disorders [43,56]. Importantly, if burnout in fact represents a depressive condition, the bulk of research dedicated to investigating the burnout phenomenon has overlooked important aspects of the entity, such as symptoms not covered in burnout measures, that would better inform prevention and treatment

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strategies and allow for stronger worker protection. The perspectives of clinical psychology may have been perilously neglected.

An obstacle impeding research on burnout–depression overlap is the unclear definition of the burnout construct itself. While depression has been defined both dimensionally and diagnostically, burnout remains diagnostically uncharacterized [15,38]. The impossibility of diagnosing burnout has been a hindrance to case identification and prevalence estimation. In a review conducted more than two decades ago, Weber and Jaekel-Reinhard [52] stated that "[t]he prevalence rates [of burnout] published in the literature for individual occupations must be regarded sceptically, as the definitions and diagnostic criteria used are not uniform" (p. 513). In the time since Weber and Jaekel-Reinhard [52] published their paper, this problem has not been resolved. For example, in a recent review of 182 studies of physician burnout, Rotenstein et al. [38] isolated 142 unique definitions of burnout. This state of affairs means that we, in effect, are attempting to treat and prevent a condition that we are not able to clearly circumscribe and identify in the first place [45]. In more practical terms, relying on a loosely defined and nosologically uncharacterized entity such as burnout is problematic for worker protection, notably when it comes to benefits such as sick pay. Given the uncertainty surrounding the very nature of the burnout phenomenon, the overlap with depression warrants attention, especially considering depression's established nosological status, solid pathophysiological foundations, and empirically proven approaches to treatment and prevention [37,45,54].

Approached from a biological perspective, the characterization of burnout is even more problematic. van Dam [51] observed: "… from a biological point of view, it does not matter whether the chronic stress is caused by working conditions or private circumstances or both. It is about the consequences of (chronic) stress for the functioning of the biological processes in the organism that also affect psychological processes and social behaviour" (p. 1). In a similar vein, Bianchi et al. [14] indicated: "Any activity [either work-related or not] able to elicit an acute stress response in the organism can potentially elicit a chronic activation of the stress response… and, therefore, contribute to the development of burnout" (pp. 358–359). These reflections have received limited attention in burnout research to date.

The overlap between burnout and depression and the problems identified in burnout's conceptualization and measurement have prompted the development of the Occupational Depression Inventory (ODI), a measure devised to assess depressive symptoms *that individuals ascribe to their job* [5]. The ODI was developed with reference to the nine diagnostic symptom criteria for major depression documented in the *Diagnostic and statistical manual of mental disorders*, fifth edition (*DSM-5*; [2]). By contrast with measures of burnout, the ODI allows for both a dimensional (continuum-based) and categorical (diagnostic) approach to job-related distress [5]. The instrument has demonstrated exceptionally robust psychometric and structural properties across countries, languages, and occupations [4–6,8,22].

As noted earlier, the distinction between burnout and depression has been maintained, to a large extent, on the grounds that burnout is anchored in the workplace, whereas depression is not. Leiter and Durup [27] contended that "[t]he distinction between burnout and depression derives in part from differences in their attributional patterns, and [their] context specificity" (p. 359), adding that the "frameworks provided by established perspectives of clinical psychology for explaining personal distress are not suited to explaining … largely interpersonal and organizational constructs [such as burnout]" (p. 357). Thus, burnout has been viewed as a social rather than an individual problem, to be dealt with in the organizational and occupational context [18,27,34].

The logic supporting the burnout-depression distinction is muddy because burnout may be work-anchored *and* depressive in nature without contradiction [15]. Moreover, the view that burnout is a social problem whereas depression is not appears to be untenable because both entities can be (and have been) approached from a social and an individual diathesis standpoint [9]. Interestingly, burnout as primarily a social problem also produces the paradoxical situation in which a social problem is assessed exclusively based on individual symptoms. Indeed, burnout scales focus on symptoms experienced by workers rather than working conditions. In any case, Leiter and Durup's [27] central concern regarding attributional patterns to work is addressed by the recently developed ODI, which assesses each core symptom of major depression using items incorporating attributions to work [5]. There has been a paucity of research on the overlap of burnout measures with the ODI to date.

3. The "syndromal hypothesis"

The overlap of burnout with depression has been recently addressed relying on the very definition of what constitutes a syndrome [15]. By definition, a syndrome refers to a "grouping of signs and symptoms, based on their frequent co-occurrence" ([2]; for a similar definition applying in burnout research, see [46]). On this basis, it has been hypothesized that if burnout is a distinct syndrome from depression, then burnout's symptoms should be associated more strongly with each other than with depressive symptoms. We refer to this hypothesis under the label of "syndromal hypothesis." The importance of the syndromal hypothesis for burnout's distinctiveness has been underlined by many investigators, including Maslach et al. [31].

4. The present study

This study investigated the overlap between burnout and depression using the recently developed ODI and two widely used burnout measures, the Shirom-Melamed Burnout Measure (SMBM) and the Oldenburg Burnout Inventory (OLBI). We tested the previously described syndromal hypothesis using confirmatory factor analysis (CFA). CFA is particularly well-suited to infer syndromal connections [12]. Based on the state of the art, we hypothesized that (a) the factors linked to the SMBM, the OLBI, and the ODI would correlate highly with each other, (b) the factors linked to the SMBM and the OLBI would correlate less highly with each other than with the factor linked to the ODI, and (c) a second-order factor model comprising first-order factors based on the configurations of the items in the abovementioned (sub)scales would fit the data.

We conducted the research by studying a sample of schoolteachers. Teachers are an apt group for research into burnout and occupational depression, because teachers are particularly susceptible to workplace stress; their roles often include excessive workloads, managing disruptive or emotionally demanding classroom behaviour, and can include being subjected to physical intimidation and violence [30,41,42,48,50]. The rates of teachers leaving the profession have also been linked to burnout syndrome, although in the Australian context, teacher attrition rates are difficult to estimate [49,53].

The present study is intended to contribute to the research literature in several ways. First, the previously mentioned problems inhering in the burnout construct do not appear any closer to resolution. Clarifying the extent to which burnout overlaps with depression may constitute a critical step in resolving the definitional confusion surrounding burnout and informing the way the World Health Organization and national health institutions should approach burnout. Second, this study may provide evidence supporting the deployment of a new measure, the ODI, which is designed to facilitate identification of clinically relevant levels of job-related distress (case identification) and allow for prevalence estimation of occupational depression. As such, this study may help clarify the extent to which a paradigm shift in the way we conceive of job-related distress is warranted. Third, this study is one of the first empirical studies targeting the overlap between burnout and depression in the Australian context. The present study may inform the development of new treatment and prevention strategies and offer public health policymakers more solid grounds on which to base their decisions

regarding the pervasive problem of job-related distress.

5. Methods

5.1. Participants

Our sample consisted of 891 qualified schoolteachers recruited in Australia. All participants had worked as a classroom teacher at some point in their career ($M_{AGE} = 41$; $SD_{AGE} = 10.32$). Female teachers ($n = 826$; 93%) overwhelmingly outnumbered male teachers. This somewhat contrasts with the proportion of females in full time teaching roles in Australia in 2020 at 71% [3]. The median length of service as a teacher was roughly 13 years, with the largest proportion of participants reporting as being in service from 0 to 5 years (24%). In this sample, 7.2% of participants had been teaching for more than 30 years, and only 1.5% of participants reported as not currently in-service as a teacher.

The sample was recruited in May and June 2021 through several means. Individual school administrations—private and public—and private teacher organisations agreed to assist in recruitment by circulating a survey-flyer email among staff and members. The flyers contained a brief description of the study, its context, estimated completion time, and potential benefits, along with a link to an electronic online questionnaire on Qualtrics. Advertisements were also posted on Australian teacher social media pages. More detailed information about the study was provided on an introductory page to the electronic survey. Participation was entirely voluntary. Respondents provided consent to participate. Eligibility criteria were that participants were qualified Australian school teachers at any level, who were currently or had previously been employed as a classroom teacher. Approval for the study was granted by the MASKED FOR REVIEW Human Research Ethics Committee.

5.2. Measures

5.2.1. Measures of burnout

Burnout symptoms were assessed using the SMBM [47] and the OLBI [20]. Both measures are work-contextualised questionnaires that have been increasingly used in burnout research. Both measures are available free of charge, in contrast to measures of burnout such as the Maslach Burnout Inventory [31], which are quite costly. Descriptive statistics are displayed in Table 1.

The SMBM comprises 14 items asking participants to rate on a 7-point Likert-type scale the frequency—ranging from "almost never" (1) to "all of the time" (7)—with which they experienced symptoms of burnout. Burnout symptoms were assessed over the preceding two weeks. The SMBM is comprised of three components: *physical fatigue*, *cognitive weariness*, and *emotional exhaustion*. In this study, Cronbach's alphas were 0.923 for physical fatigue, 0.955 for cognitive weariness, and 0.936 for emotional exhaustion.

The OLBI assesses burnout symptoms based on two components—*exhaustion* and *disengagement*—and comprises 16 items rated on a Likert scale, from 1 for "strongly disagree" to 5 for "strongly agree" [20]. Items are both negatively and positively worded. Cronbach's alphas were 0.763 for disengagement and 0.754 for exhaustion.

Table 1
Descriptive statistics.

	M	*SD*	Skewness	Kurtosis
Occupational depression (ODI)	1.576	0.699	0.002	−0.646
Physical fatigue (SMBM)	4.907	1.188	−0.443	−0.273
Cognitive weariness (SMBM)	3.944	1.307	0.113	−0.537
Emotional exhaustion (SMBM)	3.094	1.347	0.529	−0.226
Burnout (SMBM)	3.983	1.061	−0.043	−0.372
Disengagement (OLBI)	3.284	0.681	−0.369	−0.037
Exhaustion (OLBI)	3.889	0.641	−0.661	0.658
Burnout (OLBI)	3.588	0.575	−0.580	0.537

Notes. ODI: Occupational Depression Inventory; SMBM: Shirom-Melamed Burnout Measure; OLBI: Oldenburg Burnout Inventory.

5.2.2. Measure of occupational depression

Work-attributed depressive symptoms were measured by the ODI [5]. The ODI assesses work-attributed depressive symptoms [5,6,8]. The ODI was developed as a unidimensional instrument with reference to the nine diagnostic symptom criteria for major depression of the *DSM-5* [2]. Respondents report on symptoms experienced over the preceding two weeks using a 4-point Likert-type scale, rating frequency from 0 ("never or almost never") to 3 ("nearly every day"). Using the ODI's diagnostic algorithm [5], we found that about 34% of the teachers in our sample met the criteria for a provisional diagnosis of occupational depression. The instrument's reliability was excellent, Cronbach's alpha = 0.903. The ODI has shown robust psychometric and structural properties to date [4–6,8,22]. The ODI is available at no cost. Descriptive statistics are displayed in Table 1.

5.3. Data analysis

We conducted our CFAs in Mplus 8.6 [36]. The items of the instruments were treated as ordinal, and the weighted least squares—mean and variance adjusted—(WSLMV) estimation method was employed [28]. Model fit was assessed with the following indices: the Root Mean Square Error of Approximation (RMSEA; cut-off value, 0.080), the Comparative Fit Index (CFI; cut-off, 0.950), the Tucker-Lewis Index (TLI; cut-off, 0.950), and the Standardised Root Mean Square Residual (SRMR; cut-off, 0.050; [24,25]).

To inquire into the correlations among the latent variables linked to each of our (sub)scales of interest, we conducted a first-order CFA. Exhaustion, Disengagement, Physical Fatigue, Cognitive Weariness, Emotional Exhaustion, and Occupational Depression factors were defined consistent with the configuration of each original (sub)scale. Thus, for instance, the six physical fatigue items of the SMBM were allowed to load on a Physical Fatigue factor, and the nine occupational depression items of the ODI were allowed to load on an Occupational Depression factor. A key objective of this first-order CFA was to ascertain whether the Exhaustion, Disengagement, Physical Fatigue, Cognitive Weariness, and Emotional Exhaustion factors correlated more strongly with each other than with the Occupational Depression factor. A second-order CFA was then run to determine whether the Exhaustion, Disengagement, Physical Fatigue, Cognitive Weariness, Emotional Exhaustion, and Occupational Depression factors would load substantially on a common higher-order factor.

6. Results

Our first-order confirmatory factor analytic model showed an acceptable fit: RMSEA = 0.066 (90% confidence interval [CI]: 0.064–0.068); CFI = 0.962; TLI = 0.959; SRMR = 0.047; χ^2 (687) = 3369.134. The six factors substantially correlated with each other—-from 0.415 to 0.769 ($M = 0.622$, $SD = 0.110$; Table 2). The five latent factors linked to the OLBI and SMBM correlated less strongly with each other—a mean of 0.587—than with the Occupational Depression factor—a mean of 0.693. The Exhaustion and Disengagement factors (linked to the OLBI) correlated 0.720 with one another and 0.730 with the Occupational Depression factor (linked to the ODI). The Physical Fatigue, Cognitive Weariness, and Emotional Exhaustion factors (linked to the SMBM) correlated 0.574 with each other and 0.668 with the Occupational Depression factor (linked to the ODI). Factor loadings are displayed in Supplemental Table 1.

Our second-order confirmatory factor analytic model, involving the Exhaustion, Disengagement, Physical Fatigue, Cognitive Weariness, Emotional Exhaustion, and Occupational Depression factors as first-order factors, showed a fit that was essentially as satisfactory as the fit of our first-order model: RMSEA = 0.066 (90% CI: 0.064, 0.068); CFI =

Table 2
Correlations among the latent factors in the first-order confirmatory factor analysis.

	Occupational Depression (ODI)	Physical Fatigue (SMBM)	Cognitive Weariness (SMBM)	Emotional Exhaustion (SMBM)	Disengagement (OLBI)
Physical Fatigue (SMBM)	0.769	—			
Cognitive Weariness (SMBM)	0.700	0.681	—		
Emotional Exhaustion (SMBM)	0.535	0.516	0.524	—	
Disengagement (OLBI)	0.732	0.714	0.546	0.537	—
Exhaustion (OLBI)	0.727	0.682	0.533	0.415	0.720

Notes. ODI: Occupational Depression Inventory; SMBM: Shirom-Melamed Burnout Measure; OLBI: Oldenburg Burnout Inventory. All correlations are statistically significant at $p < .001$.

0.962; TLI = 0.959; SRMR = 0.050; χ^2 (696) = 3414.897. All first-order factors strongly loaded on the higher-order factor—from 0.617 for Emotional Exhaustion to 0.900 for Occupational Depression ($M = 0.791$, $SD = 0.100$).

7. Discussion

The present study assessed the extent of overlap between burnout and depression relying on two prominent measures of burnout—the SMBM and the OLBI—and a recently developed measure of occupational depression—the ODI. The study, conducted within the Australian educational context, assessed the syndromal hypothesis, which holds that if burnout is a syndrome distinct from depression, then burnout's symptoms should be associated more strongly with each other than with depressive symptoms. Our findings indicate that the syndromal hypothesis does not hold.

We found that the factors underlying burnout's components correlated more highly with the Occupational Depression factor than with each other, suggesting that burnout symptoms are part of a depressive syndrome and do not reflect a unique or distinct entity. Moreover, the factors underlying burnout's components and the Occupational Depression factor were reflective of a common higher-order factor. These findings indicate that burnout's distinctiveness vis-à-vis depression is problematic, consistent with the results of previous CFA studies [12], longitudinal investigations [1], and recent meta-analyses in which the correlations among burnout's components were compared to the correlations of burnout's components with depression [15,44]. Furthermore, our findings are in keeping with the view that the burnout construct captures depressive symptoms, but in a truncated manner—with an overemphasis on exhaustion and psychological detachment from work.

The correlations among the latent factors linked to the SMBM, OLBI, and the ODI were conspicuously large. Our results are in keeping with those of recent meta-analyses showing high correlations between burnout (sub)scales and (general) depression scales [16,35]. We note that in these meta-analyses, the correlations among the measures of burnout and depression were not corrected for measurement error. Moreover, these meta-analyses did not compare the correlations among burnout's components with the correlations of burnout's components with depression, thus leaving the syndromal hypothesis unaddressed.

Burnout–depression overlap is worth discussing in the broader context of construct redundancy and construct proliferation in psychology, a set of problems that has led to criticisms that researchers do not take construct validity, particularly discriminant validity, seriously enough [11,23,26]. The "replication crisis" currently sweeping the field has been largely attributed to methodological shortcomings [29]. Effective, theory-grounded scale construction and stringent psychometric and structural examinations are imperative for the scales we use in research and practice. Psychological research and practice are heavily dependent on the quality of the measures employed. If we are to cultivate rigour and trustworthiness in our findings, discriminant validity must be part of the *minimum* standards for scale use. The constructs in our psychological theories and the instruments we use to assess those constructs must rest on evidence of validity; contrary evidence requires close inspection [17,23]. As Hodson [23] wrote, "construct proliferation congests psychology journals and offers the field less (not more) insight into human nature" (p. 1). He added that "[w]hat could be more critical to a scientific discipline … than failures to accurately capture the phenomenon of investigation?" (p. 1).

Burnout remains uncharacterized and unrecognized as a disorder or medical condition by the *ICD-11* and *DSM-5* [2,19,55]. The impossibility of diagnosing burnout obstructs case identification, prevalence estimation, and treatment planning, and has implications for matters of public health policymaking and industrial relations [9,10]. In light of the limitations of the burnout construct and the overlap of burnout with depression, the introduction of the ODI opens the possibility of a paradigm shift from burnout to occupational depression. The ODI represents a possible solution to the aforementioned problems of case identification, prevalence estimation, and treatment planning [5,7,45]. Approaching job-related distress within the domain of depression may also facilitate workers' access to sick pay and other forms of compensation (e.g., treatment payment).

7.1. Limitations and strengths

This study has at least four limitations. First, we focused exclusively on the teaching profession, which might limit the generalizability of the findings. We note, however, that the patterns of associations between burnout and occupational depression are not expected to vary based on the occupation of interest [1]. Second, we used a convenience sample with unknown representativeness (e.g., in terms of age, sex, or health status). Third, the sample was 93% female. Examining a higher number of men would have been preferable. Fourth, distressed teachers may have been over-represented. Indeed, about one third of the teachers in our sample met the criteria for a provisional diagnosis of occupational depression. Future studies may benefit from the use of probability sampling methods.

The present study also has several strengths, such as the use of advanced statistical analyses, the inclusion of two different burnout scales (the OLBI and the SMBM), and the examination of burnout-depression overlap in Australia—a country in which the issue has received little attention. Instead of relying on "classical," cause-neutral depression scales, this study employed the ODI, which specifically focuses on work-attributed depressive symptoms, and as such yields evidence that contributes to overcoming a lengthy standoff in understanding the nature of burnout [35]. In a similar vein, being one of the first studies assessing the overlap between burnout and *occupational* depression, it contains evidence supportive of the idea of adapting existing treatments for depression for addressing job-related distress, a prospect that has been obfuscated on the grounds that burnout is not a depressive phenomenon.

7.2. Concluding remarks

The present study carries further the notion that the burnout–depression distinction is problematic. Our findings indicate that

burnout symptoms are part of a depressive syndrome and do not reflect a unique or distinct entity. The ODI is superior to burnout measures in many ways (see [7], and [13]). For instance, the ODI offers a broader symptom coverage, allows for both a dimensional (continuum-based) and a categorical (diagnostic) approach to job-related distress, and exhibits excellent psychometric and structural properties. Given the profound problems affecting the burnout construct and the overlap of burnout with depression, we recommend that occupational health specialists interested in job-related distress turn to the construct of occupational depression and use the ODI.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.jpsychores.2022.110783.

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