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Burnout and Depression: Two Entities or One?

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Objectives: The purpose of this study was to examine the overlap in burnout and depression. **Method:** The sample comprised 1,386 schoolteachers (mean [M]_{age} = 43; M _{years taught} = 15; 77% women) from 18 different U.S. states. We assessed burnout, using the Shirom-Melamed Burnout Measure, and depression, using the depression module of the Patient Health Questionnaire. **Results:** Treated dimensionally, burnout and depressive symptoms were strongly correlated (.77; disattenuated correlation, .84). Burnout and depressive symptoms were similarly correlated with each of 3 stress-related factors, stressful life events, job adversity, and workplace support. In categorical analyses, 86% of the teachers identified as burned out met criteria for a provisional diagnosis of depression. Exploratory analyses revealed a link between burnout and anxiety. **Conclusions:** This study provides evidence that past research has underestimated burnout–depression overlap. The state of burnout is likely to be a form of depression. Given the magnitude of burnout–depression overlap, treatments for depression may help workers identified as “burned out.” © 2015 Wiley Periodicals, Inc. *J. Clin. Psychol.* 72:22–37, 2016.

Keywords: burnout; depression; depressive symptoms; job adversity; occupational stress; social support

Burnout and depression are constructs that have received a great deal of attention in psychology and medicine. Researchers have viewed both as adverse states that have been treated dimensionally, that is to say, as continua. For example, there are burnout and depressive symptoms scales. Both have also been treated as nosological entities. Depression is part of the psychiatric nomenclature (Diagnostic and Statistical Manual of Mental Disorders Fifth Edition [DSM-5] and International Classification of Diseases Tenth Revision [ICD-10]). Burnout has been treated categorically but it has not entered this nomenclature. It is, however, defined in the ICD-10 as a “state of vital exhaustion” (coded Z73.0; World Health Organization, 1992). The aim of the present study is to investigate the overlap in the entities, whether treated dimensionally or categorically.

Burnout

Burnout has been characterized as “a crisis in one’s relationship with work” (Maslach, Jackson, & Leiter, 1996, p. 20). Burnout has been viewed as a syndrome combining emotional exhaustion, depersonalization (cynical attitudes toward coworkers, students, and clients), and a reduced sense of personal accomplishment (Maslach et al., 1996), with emotional exhaustion burnout’s central component (Maslach, Schaufeli, & Leiter, 2001; Schaufeli & Enzmann, 1998). The Maslach Burnout Inventory (MBI), which reflects this characterization of burnout, has been the leading instrument in research on the construct (Maslach et al., 2001).

Alternative characterizations of burnout have also emerged, as have alternative assessment instruments. Using a rationale based on conservation of resources theory (Hobfoll, 1989), Shirom and Melamed (2006) have regarded burnout as a long-term, negative affective state comprising emotional exhaustion, physical fatigue, and cognitive weariness, and resulting from chronic exposure to unresolvable occupational stress (see also Weber & Jaekel-Reinhard, 2000). The

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Shirom-Melamed Burnout Measure (SMBM) is consistent with the above characterization. The SMBM conceptually approximates the emotional exhaustion component of the MBI. Shirom and Melamed (2006) found that the SMBM correlated with the latest version of the MBI, between .74 and .79, depending on the sample, and with the emotional exhaustion component of the MBI, between .80 and .82.

Depression

The World Health Organization ranked depression as the most burdensome disorder with regard to total disability among individuals in mid-life (Gotlib & Hammen, 2009). A diagnosis of major depression requires the presence of at least one of two core symptoms, depressed mood (also termed *dysphoria*) or sharply decreased interest or pleasure in most activities (also termed *anhedonia*). In addition to manifesting one of these two core symptoms, an individual has to experience at least four other symptoms (e.g., concentration and decision-making difficulties) almost every day for at least two weeks (American Psychiatric Association, 2013). Consistent with the literature on generic stress, the literature on occupational stress indicates that depressive disorders and elevations on depressive symptom scales can develop out of uncontrollable, stressful conditions in the workplace (Bonde, 2008; Netterstrøm et al., 2008; Rydmark et al., 2006; Tennant, 2001; Wang, 2005), underlining a key etiological similarity between burnout and depression. Evidence from many different countries links adverse, low-control workplace conditions to depressive disorders and depressive symptoms (e.g., Clays et al., 2007; Niedhammer, Goldberg, Leclerc, Bugel, & David, 1998).

Burnout–Depression Relationship

A link, which dates to the earliest identification of the construct of burnout, has been established between burnout and depression. Freudenberger (1974) described it in the context of a qualitative study of volunteer service workers at a free clinic for substance abusers. He noted that the burned-out individual “looks, acts and seems depressed” (Freudenberger, 1974, p. 161). Maslach and Leiter (1997) indicated that burnout involves not only the “presence of negative emotions” but also the “absence of positive ones” (p. 28), connecting burnout with dysphoria and anhedonia, the core symptoms of depression (American Psychiatric Association, 2013).

Building on findings from factor analyses (e.g., Bakker et al., 2000), burnout researchers, however, have interpreted their results to suggest that burnout and depression are distinct (e.g., Iacovides, Fountoulakis, Kaprinis, & Kaprinis, 2003; Schaufeli 2003). Maslach et al. (2001) affirmed that burnout is irreducible to depression because “burnout is specific to the work context, in contrast to depression, which tends to pervade every domain of a person’s life” (p. 404). A fundamental factor, however, that links burnout and depression is the stress of not having control over one’s environment. According to the learned helplessness theory, when an individual perceives that exerting control of his or her environment, particularly in aversive situations (and accessing important resources and pursuing major goals), is impossible, then the individual may no longer attempt to cope with such situations and become at risk for depression (Gilbert, 2000; Peterson, Maier, & Seligman, 1993). Many burnout patients exhibit motivational patterns reflective of learned helplessness (Peterson et al., 1993; Van Dam, Keijsers, Eling, & Becker, 2015).

Ahola et al. (2005) and Soares, Grossi, and Sundin (2007) found evidence of only partial nosological overlap between burnout and depression. Ahola et al. (2005), using the MBI, found that 53% of Finnish workers suffering from “severe” burnout also met criteria for depression. The results of Ahola et al.’s (2005) study have been questioned (Bianchi, Schonfeld, & Laurent, 2014a) because these authors employed a relatively liberal cutoff score to identify participants with “severe” burnout. The cutoff was lower than usually recommended (see Bianchi, Schonfeld, & Laurent, 2015a), making it susceptible to including many false positives among those identified as burned out. Soares et al. (2007), employing an instrument closely related to the SMBM, found that 41% of Swedish women with “high burnout” had above-threshold scores on the General Health Questionnaire (Goldberg, 1972), which was used as a proxy for depression. Soares et al.’s

(2007) results can also be questioned for the liberal cutoff they employed to identify cases of burnout in their sample. In a study of French schoolteachers (Bianchi et al., 2014a), 90% of the burned-out teachers met criteria for a provisional diagnosis of depression when a stringent cutoff on the MBI was used, a cutoff that minimized the inclusion of false positives among teachers identified as burned out.

Research carried out in the last 10 years has shown that a majority of individuals with relatively high frequencies of burnout symptoms met diagnostic criteria for depression (Ahola et al., 2005; Bianchi et al., 2014a). In addition, burnout and depressive symptoms have been found to change together over time, with increases (or decreases) in burnout symptoms paralleled by commensurate increases (or decreases) in depressive symptoms (Ahola, Hakanena, Perhoniemi, & Mutanen, 2014; Bianchi, Schonfeld, & Laurent, 2015b). Ahola et al. (2014) concluded that “burnout could be used as an equivalent to depressive symptoms in work life” (p. 35). That conclusion was similar to one drawn years earlier in a study involving a sample of U.S. teachers, stating that “a more fruitful way in which to conceptualize burnout is to view it as a syndrome of depressive symptoms that is caused by exposure to a work environment characterized by danger, disappointment, and lack of control” (Schonfeld, 1991, p. 15).

Additional research on the burnout–depression distinction questioned the relevance of that distinction. An eye-tracking study (Bianchi & Laurent, 2015) found that burnout and depressive symptoms predicted similar attentional-behavioral alterations, characterized by increased focusing on “dysphoric” information and decreased focusing on “positive” information. Burnout and depressive symptoms were interchangeable in the prediction of these patterns of results. Hintsala et al. (in press) observed that the relationship between burnout symptoms and allostatic load—a biological index of the cumulative effect of chronic stress on the organism—was *not* independent of depressive symptoms.

Research on burnout symptoms (Bakker et al., 2000; Bianchi, Boffy, Hingray, Truchot, & Laurent, 2013; Bianchi et al., 2014a; Bianchi et al., 2015a; Hakanen & Schaufeli, 2012) has shown that emotional exhaustion, the core of MBI-measured burnout, correlated more strongly with depressive symptoms than with the other two components of the MBI. Shirom and Ezrachi (2003) found that Pines’s Burnout Measure (Pines, Aronson, & Kafrey, 1981) also correlated highly ($r = .83$) with depressive symptoms. By contrast, research by Toker and her colleagues (Toker & Biron, 2012; Toker, Melamed, Berliner, Zeltser, & Shapira, 2012; Toker, Shirom, Shapira, Berliner, & Melamed (2005) showed more moderate correlations between burnout (assessed with the SMBM) and depressive symptoms ($.51 \leq r \leq .54$).

Dimensional measures of burnout and depressive symptoms have been found to have comparable relations with work *and* nonwork factors. Dimensional measures of burnout (Halbesleben, 2006; Maslach & Leiter, 2008) *and* depressive symptoms (Schonfeld, 2001) are associated with work-related adversities and support. Dimensional measures of burnout (Bianchi, Truchot, Laurent, Brisson, & Schonfeld, 2014b; Pines, Neal, Hammer, & Ickson, 2011), like dimensional and categorical measures of depression (Hammen, 2005; Hammen, Kim, Eberhart, & Brennan, 2009; Tennant, 2001), have also been linked to nonwork stressors. Lifetime history of mood disorders, and especially the combination of mood and anxiety disorders, and partnership (e.g., spousal) difficulties have been found to predict current burnout symptoms, suggesting that psychopathology and personal stressors contribute to symptoms of burnout (Rössler, Hengartner, Ajdacic-Gross, & Angst, 2015).

It is important that the distinction or overlap between burnout and depression be established. Strategies for treating cases of burnout are subordinate to our understanding of burnout’s nosological status. Bianchi et al. (2014a) noted that “depending on whether burnout is primarily characterized as fatigue or a depressive syndrome, different [treatment] measures should be taken” (p. 310). There has been some intervention research in which investigators have attempted to modify working conditions to protect workers against burnout (Awa, Plaumann, & Walter, 2010), as there has been intervention research on altering depressogenic working conditions (Egan et al., 2007). In other research on burnout, as in research on depression, cognitive behavioral interventions have been successfully employed (Awa et al., 2010) although it is not clear how often burned-out workers seek treatment. Bahlmann, Angermeyer, and Schomerus

(2013) observed that the use of the burnout label increased the risk that depressive disorders go untreated. Getting the nosology right is thus urgent.

Depression, Anxiety, and Burnout

Anxiety, treated either diagnostically or dimensionally (Barbee, 1998; Gorman, 1996; Innstrand, Langballe, & Falkum, 2012), has long been found to be associated with depressive symptoms/disorders. In comparison with the amount of research on the relation between burnout and depressive symptoms, however, research on the relation between burnout and anxiety symptoms has been limited, although there is evidence for a burnout–anxiety connection. Research has found moderate correlations between anxiety and burnout symptoms in Chicago area psychiatric hospital employees (Corrigan, Holmes, & Luchins, 1995), residents of a county in Sweden (Jansson-Fröjmark & Lindblom, 2010), Swiss community residents (Rössler et al., 2015), and Israeli army officers (Shirom & Ezrachi, 2003).

The Present Study

The present study expands upon research conducted by Bianchi et al. (2014a). While Bianchi et al.'s study involved *French* schoolteachers, research is needed to determine if the burnout–depression relation can be generalized geographically. The present study involves a large sample of teachers in the United States. Aside from the language difference between the two studies, in the French study burnout was operationalized with the MBI; the current study used the SMBM. It is important to determine if the burnout–depression relation (at both dimensional and nosological levels) holds for an alternative operationalization of burnout. The present study also extends previous research by comparing the magnitude of the relationship of burnout and depressive symptoms with the same stress-related factors.

We developed three hypotheses based on the available literature (e.g., Ahola et al., 2014; Bianchi et al., 2014a). First, we hypothesized that burnout and depressive symptoms, as measured dimensionally, would be *strongly* correlated with each other. Second, we hypothesized that dimensional measures of burnout and depressive symptoms would correlate similarly with each of these stress-related factors: (a) stressful life events, (b) job adversity, and (c) workplace support. Third, in treating burnout and depression as nosological entities, we hypothesized that there would be a high degree of overlap in the categories. In exploratory analyses, we examined the relation of burnout to the participants' self-described histories of anxiety disorders and anti-anxiety medication intake.

Methods

Participants

Recruitment of participants took place between October and April during the 2013–2014 school year. Being a teacher in a U.S. public school was the only eligibility requirement. A total of 1,386 teachers completed a survey housed on the Internet (mean [M]_{age} = 43¹; standard deviation [SD]_{age} = 11.40; M _{years taught} = 14.71; SD _{years taught} = 9.60; 77% women). No data on race and ethnicity were collected.

A little more than one third of the teachers taught in elementary schools, 30% taught in high schools, about 20% taught in middle schools, and 5% taught kindergarten or prekindergarten. Many of the remaining teachers had assignments that spanned multiple grades levels (e.g., taught music to middle and high school students). A small number had administrative assignments.

Teachers worked in schools in California ($n = 277$), New York City (NYC; $n = 168$), Ohio ($n = 132$), Missouri ($n = 128$), New York state outside of NYC ($n = 114$), Massachusetts ($n =$

¹A male teacher with 1 year of experience made a typographic error when recording his age. We assigned him the mean age of male teachers with 1 year of teaching experience.

105), Arkansas ($n = 88$), Florida ($n = 74$), and Washington state ($n = 71$). Smaller numbers of teachers taught in New Jersey, Idaho, New Hampshire, Indiana, Maine, Minnesota, Montana, Nebraska, Rhode Island, and Wyoming.

Procedures and Measures

The Institutional Review Boards (IRBs) of the City University of New York and the NYC Department of Education approved all procedures. Following a procedure we used in France (Bianchi et al., 2014a), U.S. teachers, except in NYC, were contacted via the Internet; we first contacted school administrators who in turn broadcast our e-mail request to their faculties. NYC teachers were initially contacted via flyers that were physically placed in their in-school mailboxes (a requirement of the NYC Department of Education's IRB). The flyers included an e-mail address to which a teacher could write and, in return, receive an e-mail containing a link to the survey. Full confidentiality for the teachers was assured. No names were collected and e-mail addresses were erased.

The Internet survey comprised the SMBM (Toker, Melamed, Berliner, Zeltser, & Shapira, 2012), the nine-item depression module of the Patient Health Questionnaire (PHQ-9; Kroenke & Spitzer, 2002), and measures that assess job adversity, workplace support, and stressful life events occurring outside of work, as well as a demographic and health form. Research on Internet surveys indicates that they are as reliable and valid as traditional, paper-and-pencil questionnaires (Gosling, Vazire, Srivastava, & John, 2004; Jones, Fernyhough, de-Wit, & Meins, 2008; Ritter, Lorig, Laurent, & Matthews, 2004). We note that our purpose was not to determine the prevalence of burnout or depressive symptoms in a representative sample of teachers. Our study was conducted for an analytic, rather than a descriptive, purpose (Kristensen, 1995). Our analytic purpose was to determine the extent to which burnout and depression overlap, both dimensionally and categorically (see below).

SMBM. The 14-item version of the SMBM (Toker et al., 2012) ascertains recent "feelings of physical fatigue, cognitive weariness, and emotional exhaustion at work" and provides a burnout score. Items (e.g., I feel tired; I feel I am unable to be sensitive to the needs of coworkers and students²; "My thinking process is slow") range from 1 (*never or almost never*) to 7 (*always or almost always*). We added two positively worded filler items excerpted from Rosenberg's (1965) self-esteem scale (not counted in score calculations) to help break tendencies toward response set and blur the purpose of the scales.

Converting continuous variables into categorical ones leads to a loss of information and statistical power (Bangdiwala, 2014; MacCallum, Zhang, Preacher, & Rucker, 2002); however, for the purpose of the nosological component of the study, cutoff scores were defined based on symptom frequencies. The SMBM or its predecessor scale has previously been used to identify clinical samples of individuals affected with burnout (e.g., Armon, Shirom, Shapira, & Melamed, 2008). To be assigned to the burnout group, a teacher had to obtain an SMBM score of at least 5.50. Such a score indicates that burnout symptoms are, on average, experienced more than "quite frequently," consistent with the idea of Maslach et al. (1996) that burnout represents a crisis in a person's relationship with work. Moreover, in the absence of consensual diagnostic criteria for burnout, the use of conservative cut-points, corresponding to relatively high frequencies of symptoms, has been recommended (Bianchi et al., 2015a).

A total of 124 teachers (approximately 9%; $M = 6.02$) met this inclusion criterion. There may be a concern that because a person is working, it is unlikely that he or she is experiencing clinical burnout (Schaufeli & Enzmann, 1998). Siegrist (1996), however, observed that workers employed in highly stressful jobs often remain in those jobs because they face very high costs in quitting, and less stressful alternative opportunities for which an individual is qualified tend to be few.

²Given the context, we changed the word "customers" to "students" in the relevant items.

Table 1
Correlation Matrix Involving Burnout, Depression, Stressful Life Events, Job Adversity, and Workplace Support

		<i>M</i>	<i>SD</i>	α	1	2	3	4
1	Burnout	3.60	1.38	.96				
2	Depression	8.82	6.07	.88	.77			
3	Stressful life events	1.20	1.18	na	.10	.14		
4	Job adversity	1.20	0.70	.76	.30	.30	.12	
5	Workplace support	1.96	0.72	.76	-.30	-.24	-.06	-.08

Note. *M* = mean; *SD* = standard deviation; na = not applicable. Any correlation the absolute value of which is greater than .08 is significant at $p < .001$ ($n = 1,386$). A correlation of $(-.06)$ is significant at the .05 level and a correlation of $(-.08)$ is significant at the .01 level.

The no-burnout group ($n = 215$; 16%; $M = 1.47$) comprised teachers having a score on the SMBM of 2 or less, a cutoff score indicating that burnout symptoms were experienced at most “very infrequently.” Because the cutoff scores we used were on opposite ends of the scale, we were able to accurately identify burned-out teachers, on the one hand, and teachers who were free from burnout, on the other. In additional analyses, we adjusted the abovementioned criterion for identifying burned-out teachers by systematically lowering it, and observing how changes in burnout’s definition affected the results.

PHQ-9. The PHQ-9 (Kroenke & Spitzer, 2002) references the nine symptoms of depression found in the DSM-5. The instrument helps establish a provisional diagnosis of depressive disorder. It also grades symptoms for severity by means of a frequency scale ranging from 0 (*not at all*) to 3 (*nearly every day*). Although the PHQ-9 was created during the DSM-IV era, we note that there were no changes in the diagnosis of a major depressive episode between DSM-IV and DSM-5 (American Psychiatric Association, 1994, 2013). One other provisional DSM-5 disorder, other specified depressive disorder with insufficient symptoms (311 [F32.8]), was assessed.

Kroenke and Spitzer (2002) established cut-points of 5, 10, 15, and 20 to identify thresholds for mild, moderate, moderately severe, and severe depression, respectively. Kroenke and Spitzer found that a threshold of 10 yielded a sensitivity of more than 99% and a threshold of 15 yielded a sensitivity of 86%. A threshold of 10 yielded a specificity of 91% and a threshold of 15 yielded a specificity of more than 99%. These properties make the PHQ-9 an efficient means of case finding.

Other measures. We employed a brief job adversity scale. Its six items (e.g., “Student[s] disrupted your class.” never . . . daily), which largely assessed student-related stressors, were excerpted from Schonfeld’s (2001) episodic stressor scale for teachers. We also employed a brief workplace support scale. Its four items (e.g., “How much can the following people be relied on when difficulties occur at your school?” Supervisors, Fellow teachers; not at all . . . very much) were excerpted from Schonfeld’s (2001) colleague and supervisor support scales.

To assess the occurrence of stressors outside of work, we used a brief checklist reflecting non-motivationally stressful life events (e.g., major illness/injury experienced by the teacher or someone close to the teacher). The seven checklist items were excerpted from items that Dohrenwend, Krasnoff, Askenasy, and Dohrenwend (1982) and Paykel (1978) used. The demographic and health form ascertained sociodemographic (age, gender, years working as a teacher, and years in current school) and health data. The health data included information on lifetime histories of depressive and anxiety disorders and current intake of antidepressant and antianxiety medications.

Table 1 provides the means, standard deviations, and alpha coefficients of the PHQ-9, the SMBM, and the job adversity and workplace support scales and a count of stressful life events.

Results

Table 1 shows the correlations among the study variables. The PHQ-9 scores correlated .77 with the SMBM scores, and the disattenuated correlation (Cohen, Cohen, West, & Aiken, 2003) was .84. The table also indicates that stressful life events, job adversity, and workplace support were each similarly correlated with the SMBM and the PHQ-9. Men had slightly lower mean scores on the SMBM ($M = 3.42$, $SD = 1.39$ vs. $M = 3.65$; $SD = 1.38$; $d = 0.17$), $t(1384) = 2.68$, $p < .01$, and the PHQ-9 ($M = 8.40$, $SD = 6.22$ vs. $M = 8.95$, $SD = 6.02$; $d = 0.09$), $t(1384) = 1.41$, nonsignificant [*ns*]; however, the correlation between burnout and depressive symptoms in men ($r = .80$) and women ($r = .76$) were similar.

In the nosological portion of the study, we compared the burnout group with the no-burnout group (see Table 2). The no-burnout group contained a significantly higher proportion of males ($p < .05$). The group was on average almost 4 years older ($p < .01$) and spent marginally more time teaching ($p < .10$). Both groups spent about the same amount of time in their current schools. The burnout group had significantly higher PHQ-9 scores and scored significantly higher on every PHQ-9 item. The large symptom-level effect sizes in the comparisons between the burnout and no-burnout groups were echoed in the magnitudes of the total sample correlations seen in the table.

Fewer than 1% of the no-burnout group met criteria for a provisional diagnosis of depression, whereas 86% of the burnout group met these criteria, $p < .001$ (Table 2), mainly for a provisional diagnosis of major depression (83%), with the remainder meeting criteria for a provisional diagnosis of depressive disorder with insufficient symptoms (3%). The proportions of men (96%) and women (84%) identified as burned out who also met criteria for a provisional diagnosis of depression were similar (*ns*). About 85% of burned-out teachers who met criteria scored 15 or higher on the PHQ-9, an indicator that pharmacologic and/or psychotherapeutic treatment is warranted (Kroenke & Spitzer, 2002; Kroenke, Spitzer, & Williams, 2001); 74% indicated that depressive symptoms made their daily lives *very* or *extremely difficult*; 40% experienced suicidal ideation.

In comparison with the teachers in the no-burnout group, the teachers in the burnout group were about three times as likely to have a history of depression and almost four times as likely to be currently taking antidepressant medication. Teachers in the burnout group were more than twice as likely to report a history of anxiety disorders and almost three times as likely to be currently taking anti-anxiety drugs. We reran *all* the analyses described in Table 2, controlling for age and gender, and the findings remained unchanged.

For comparison purposes, Table 3 displays (a) the percentages of teachers who met criteria for a provisional diagnosis of depression and (b) the mean PHQ-9 scores among those who were burned out, as identified by six different cutoffs on the SMBM. As the criterion for burnout became less stringent, both the mean of the PHQ-9 scores and the percentage of teachers identified as burned out who also met criteria for a provisional diagnosis decreased.

Finally, we conducted an analysis of variance for the purpose of examining the relation of the level of depressive symptoms to the level of burnout symptoms, over the entire sample, $F(4, 1381) = 455.84$, $p < .001$, $\eta^2 = 0.57$. Tukey's post hoc tests indicated that every group was significantly different from every other group, $ps < .001$. Every increment in the severity of depressive symptoms was accompanied by a stepwise, monotonic increase in burnout symptoms (Figure 1).

Discussion

The aim of this study was to further investigate burnout–depression overlap. Treated dimensionally, burnout and depression were strongly correlated (.77; disattenuated correlation, .84). Burnout and depressive symptoms correlated similarly with each of the three stress-related factors that we examined: stressful life events, job adversity, and workplace support. When burnout was treated as a diagnostic category, wide differences between the burnout and burnout-free groups were observed, including differences on the PHQ-9 total score and the scores on each PHQ-9 symptom item. The between-group comparisons were echoed in the magnitudes of the

Table 2
Comparison of the No-Burnout and Burnout Groups on the PHQ Total Score, PHQ Items, Demographic Variables, Medication, and Current and Past Depression; Total Sample Correlations of Burnout (SMBM) Score With Each Factor

	No-burnout group (n = 215)		Burnout group (n = 124)		Cohen's <i>d</i>	Between groups <i>p</i>	SMBM score (n = 1386)	Correlation <i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
	<i>r</i>							
PHQ-9 ^a	2.40	2.30	17.75	4.66	4.18	<.001	0.77	<.001
Anhedonia	0.18	0.48	2.16	0.84	2.89	<.001	0.61	<.001
Depressed mood	0.16	0.39	2.23	0.84	3.16	<.001	0.64	<.001
Altered sleep	0.58	0.74	2.27	0.92	2.02	<.001	0.48	<.001
Fatigue	0.64	0.63	2.73	0.55	3.53	<.001	0.66	<.001
Altered appetite	0.44	0.76	2.18	0.96	2.01	<.001	0.52	<.001
Guilt and self-blame	0.16	0.43	2.15	0.96	2.68	<.001	0.60	<.001
Cognitive impairment	0.14	0.36	2.02	0.86	2.85	<.001	0.59	<.001
Psychomotor alteration	0.07	0.28	1.36	1.08	1.64	<.001	0.47	<.001
Suicidal ideation	0.03	0.19	0.65	1.00	0.86	<.001	0.29	<.001
Age (years)	47.1	12.3	43.4	11.2	-0.31	<.01	-0.14	<.001
Years as teacher	17.5	11.5	15.4	9.7	-0.15	<.10	-0.11	<.001
Years in current school	9.6	9.5	10.6	8.9	0.11	<i>ns</i>	-0.01	<i>ns</i>
Male participants		% (n)		% (n)				
		30 (65)		18 (22)	-0.14 ^c	<.05	-0.07	<.01
Current depression ^a		1 (0.5)		86 (107) ^b	0.30 ^c	<.001	.15	<.001
Current suicidal ideation ^a		2 (5)		36 (44)	0.61 ^c	<.001	.28	<.001
History of depressive disorders ^a		13 (27)		37 (46)	0.34 ^c	<.001	.17	<.001
Participants currently on AD ^a		7 (16)		26 (32)	0.30 ^c	<.001	.15	<.001
History of anxiety disorders ^a		13 (27)		30 (37)	0.30 ^c	<.001	.15	<.001
Participants currently on AAD ^a		6 (12)		14 (17)	0.26 ^c	<.05	.13	<.001

Note. *M* = mean; *SD* = standard deviation; *ns* = nonsignificant; PHQ-9 = Patient Health Questionnaire; SMBM = Shirom-Melamed Burnout Measure; AD = antidepressant medications; AAD = anti-anxiety medications.

^aNone of the results described in the table changed when age and gender were controlled.

^bOf the 107 teachers identified as suffering severe burnout and depression, 103 met criteria for a provisional diagnosis of major depression and 4 met criteria for a provisional diagnosis of other specified depressive disorder.

^cFor consistency with the above-mentioned analyses, each phi coefficient obtained from analyses of the fourfold tables was converted to Cohen's *d*.

Table 3
Percentage Depressed and Mean PHQ-9 as the Cutoff Score Marking Burnout on the SMBM Changes

	Cutoff scores defining cases on the SMBM					
	3.0 (n = 916)	3.5 (n = 757)	4.0 (n = 580)	4.5 (n = 393)	5.0 (n = 237)	5.5 (n = 124)
% depressed participants	41	47	56	66	78	86
PHQ-9 mean score (SD)	11.39 (5.59)	12.26 (5.46)	13.39 (5.23)	14.88 (4.98)	16.30 (4.80)	17.75 (4.66)
SMBM mean score (SD)	4.40 (0.91)	4.64 (0.80)	4.93 (0.70)	5.26 (0.61)	5.63 (0.52)	6.02 (0.42)

Note. SD = standard deviation; SMBM = Shirom-Melamed Burnout Measure; PHQ-9 = Patient Health Questionnaire.

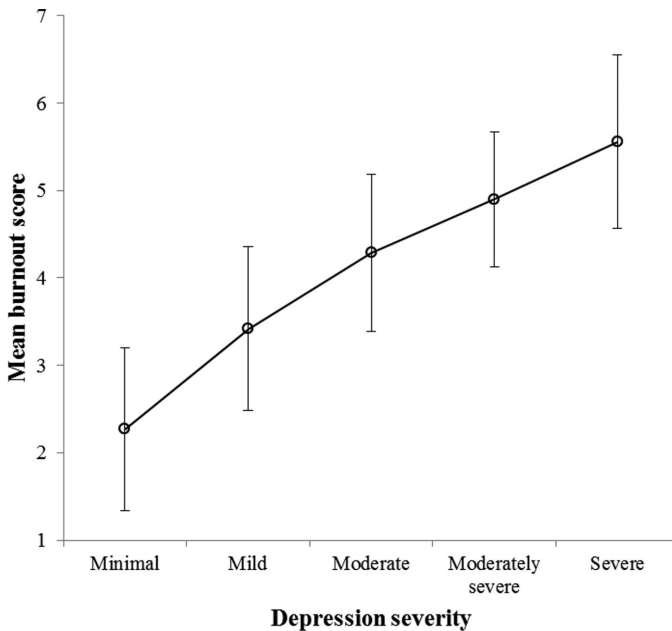


Figure 1. Depression severity and mean score on the Shirom-Melamed Burnout Measure.
Note. The graph shows mean burnout symptoms (assessed with the Shirom-Melamed Burnout Measure) as a function of the level of depression (± 1 standard deviation [SD]), assessed with the nine-item depression module of the Patient Health Questionnaire (PHQ-9). PHQ-9 scores of 5, 10, 15, and 20 reflect the cutoffs for mild, moderate, moderately severe, and severe depression, respectively (Kroenke & Spitzer, 2002). The vertical lines represent the standard deviations ($.77 < SD < .99$) of the burnout score at each level of depression severity.

total sample correlations between the SMBM and each PHQ-9 symptom. A high rate of suicidal ideation was found in burned-out teachers.

In categorical analyses, 86% of the teachers identified as burned out met criteria for a provisional diagnosis of depression, in comparison with fewer than 1% in the no-burnout group. The burnout group also showed elevated rates of a history of depression, current consumption of antidepressant medications, history of anxiety disorders, and current consumption of anti-anxiety medications. Further analyses revealed a clear stepwise increase in mean burnout scores with each increment in the intensity of depressive symptoms.

The results are compatible with the view that burnout overlaps with depression (e.g., Bianchi et al., 2013; Bianchi et al., 2014a). The high correlation between the SMBM and PHQ-9 scores is consistent with prior research showing a strong, linear relation between burnout and depressive symptoms. For example, in the study of French schoolteachers (see Bianchi et al., 2014a), the disattenuated correlation between MBI emotional exhaustion and the PHQ-9 was .79. Moreover, in the U.S. sample, as in the French sample, high proportions of burned-out teachers met criteria for a provisional diagnosis of depression, suggesting substantial overlap.

That burnout and depressive symptoms were similarly related to job adversity also underlines burnout–depression overlap. The job adversity scale that we used mainly taps student misbehavior. Student behavior is an important driver of teacher distress. A meta-analysis (Aloe, Shisler, Norris, Nickerson, & Rinker, 2014) indicates that the average effect size for student misbehavior on teacher burnout is moderate, in line with the correlation of the job adversity scale with the SMBM and PHQ-9. Students commonly bring weapons to school and engage in school fighting (O’Keefe, 1997; Robers, Kemp, & Truman, 2013; Schonfeld, 2006; Schonfeld & Feinman, 2012; Valois & McKeown, 1998). In some schools, teachers are at risk for threats and assaults (Robers, Kemp, & Truman, 2013). These kinds of exposures affect the risk of burnout (Reddy et al. 2013), depression (Schonfeld, 2001), and probably anxiety.

Burnout as an End Stage

A growing body of research indicates that the burnout–depression overlap is considerably more than previously thought, notably when conservative cutoff scores are used to categorize burnout (Ahola et al., 2014; Bianchi & Laurent, 2015; Bianchi et al., 2013; Bianchi et al., 2014a; Bianchi et al., 2015b; Hintsä et al., in press). It is worth noting that identifying cases of burnout on the basis of low-symptom frequencies is inconsistent with Leiter and Maslach’s (2005) conceptualization of burnout as a condition in which a worker is “constantly overwhelmed, stressed and exhausted” (p. 2). The state of burnout is *not* a passing response to a transient stressor; it is supposed to reflect the end stage of a process of resource depletion at which the sufferer, drained, experiences an adaptive breakdown (Schaufeli & Buunk, 2004). We selected a cutoff of 5.5 on the SMBM to reflect that end stage. The liberal cutoff scores (e.g., Ahola et al., 2005; Soares et al., 2007) used previously probably account for some of the result discrepancies that have been observed.

Exhaustion as a Distinctive Feature of Burnout

Although exhaustion is part of the definition of burnout, fatigue does not differentiate burnout and depression. There is evidence that the level of fatigue and appraised fatigue in depressed patients is no less than that found in burnout patients (Van Dam et al., 2015). Insomnia, with its implications for fatigue, is prospectively related to increased risk of depression (Baglioni et al., 2011). The presence of fatigue in depressed patients should not be surprising given chronobiological changes in depressed patients, including effects on circadian rhythms (Levitan, Hasey, & Sloman, 2000).

The Comorbidity Hypothesis

In our view, the idea of tandem development between burnout and depression (Hakanen & Schaufeli, 2012) is premature because of the absence of a clear clinical distinction between the two entities. International nosological classifications do not hold burnout to be a distinct form of pathology (Bianchi et al., 2013). To argue for comorbidity would be to assume that the nosological distinctiveness of burnout has been established, when it has not.

Underestimating the Overlap

The results of the current study, combined with existing evidence (Ahola et al., 2014; Bianchi & Laurent, 2015; Bianchi et al., 2013; Bianchi et al., 2014a; Bianchi et al., 2015b; Hintsä et al.,

in press), are consistent with the hypothesis that burnout overlaps with depression. The study demonstrates a huge overlap of burnout with depression, at both dimensional and categorical levels, using an instrument other than the MBI in a U.S. sample.

Cox, Tisserand, and Taris (2005) observed that practice in burnout research has been to study burnout in workers who are actually *not* burned out. Under such conditions, burnout may have misleadingly appeared as distinct from depression. In a procedure that parallels a procedure performed by Bianchi et al. (2014a), Table 3 shows how the proportion of U.S. teachers identified as burned out *and* depressed was diluted as we systematically lowered the cutoff used to identify burned-out teachers. In view of the overlap between burnout and depression, it seems increasingly difficult to isolate burnout from the spectrum of depressive conditions.

The research literature demonstrates that depression is treatable (Butler, Chapman, Forman, & Beck, 2006; Gitlin, 2009). There is evidence for the efficacy of several types of treatment (cognitive behavior therapy, interpersonal therapy, tricyclics, selective serotonin reuptake inhibitors, monoamine oxidase inhibitors, electroconvulsive therapy, etc.) for depression. There is some agreement favoring pharmacologic treatment for depressions with high levels of symptom severity (Fournier et al., 2010; Mouchabac, 2009), although there remains evidence that psychological treatments can be effective with severe cases (Lampe, Coulston, & Berk, 2013). Given the degree of heterogeneity in how depression presents itself, treatment recommendations vary by depressive features or subtypes, for example, depression with melancholic or atypical features (Baghai et al., 2011). Although there is a literature devoted to the effect of burnout prevention and burnout reduction interventions (e.g., Awa et al., 2010), the quality of the studies does not measure up to the quality of the clinical trials designed to evaluate the efficacy of treatments for depression (Leiter & Maslach, 2014; Naghieh, Montgomery, Bonell, Thompson, & Aber, 2015; Ruotsalainen, Serra, Marine, & Verbeek, 2008).

Limitations

The study has at least six limitations. First, diagnoses were based on responses to questionnaire items, making diagnoses provisional. Although the PHQ-9 references DSM-5 criteria and is characterized by solid psychometric properties (Andrews et al., 2007; Kroenke & Spitzer, 2002; Kroenke et al., 2001), a structured clinical interview is nevertheless the preferred method for diagnosing depression (Ingram & Siegle, 2009). Second, because the study was cross-sectional, it did not permit us to examine the trajectory of symptoms of burnout and depression over time (Ahola et al., 2014; Bianchi et al., 2015b).

Third, the study did not address depression with atypical features that may overlap with burnout. Although not assessed in this study, results involving a different sample (Bianchi et al., 2014a) revealed that many burned-out teachers who met criteria for a provisional diagnosis of depression reported atypical features. Atypical depressive presentations have similarities with burnout, including fatigue, chronicity, and hypocortisolism (Boksem & Tops, 2008; Levitan et al., 2000).

Fourth, the sample was one of convenience. Therefore, its representativeness is unknown. We note that Kristensen (1995) observed that representativeness matters most in descriptive studies but is of little value in analytical studies. In analytical studies variation in exposures and outcomes matter most, an idea well understood in occupational medicine (e.g., studies on the health effects of lead exposure). This study identified teachers reflecting a range of burnout statuses and how depressive symptoms and provisional diagnoses varied along that range.

Fifth, because the study relied on self-report instruments, and considering its cross-sectional design, common method variance may have affected participant responding, inflating the burnout–depression relationship. Two considerations, however, suggest otherwise. One is that when well-validated instruments are employed, method variance is not a biasing artifact, even when common methods are used (Spector, 1987; Spector, 2006). The other consideration is that the self-report job adversity scale was specifically constructed using neutrally worded items to minimize bias (Kasl, 1987). The job adversity scale was indeed found to have a minimal relationship to preexisting depressive symptoms (Schonfeld, 2001), yet the scale was similarly,

concurrently related to the SMBM and PHQ-9 scores, consistent with the idea that burnout and depressive symptoms are comparable.

Sixth, the level of depressive symptomatology in a teacher could have biased teachers' responses on the SMBM and inflated the correlation between the scales. Earlier research (Bianchi et al., 2014a) on the MBI, however, is inconsistent with that view. If depressive symptomatology cast a shadow on MBI responding in the earlier study, then one would expect the PHQ-9, the depression measure used by Bianchi et al., to be similarly correlated with each of the three MBI scales. This was not the case. The PHQ-9 was more closely related to emotional exhaustion, the MBI component most similar to the SMBM, than to depersonalization and personal accomplishment, the other two components of the MBI. This correlational pattern emerged despite the MBI scales' items being mixed together in the same instrument *and* having the same response alternatives, response alternatives clearly different from that of the PHQ-9.

Conclusion

The view that burnout and depression are distinct entities sometimes conveys the idea that burnout is a less troubling condition (Maslach & Leiter, 1997). Such a view can discourage individuals who identify themselves as burned out from seeking professional help. If the state of burnout is recognized as a depressive syndrome, then sufferers may be more inclined to engage in healthcare-seeking behaviors, such as visiting a clinician when experiencing troublesome symptoms. If burnout signifies depression arising from chronic occupational stress, then working people suffering from "burnout" may benefit from the array of efficacious treatments for depression. A burned-out, depressed teacher who is in treatment with a skilled clinician, however, may still be at risk of being drained of energetic resources if the teacher's school does nothing to improve working conditions (e.g., curb disrespectful and violent student behavior). However, if some schools are recognized as depressogenic, energy-draining workplaces, then they are likely to be subject to change under pressure from teacher organizations and public-spirited individuals concerned about the well-being of educators.

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