

Job Burnout in Mental Health Providers:
A Meta-Analysis of 35 Years of Intervention Research

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Abstract

Objective: Burnout is prevalent among mental health providers and is associated with significant employee, consumer, and organizational costs. Over the past 35 years, numerous intervention studies have been conducted but have yet to be reviewed and synthesized using a quantitative approach. To fill this gap, we performed a meta-analysis on the effectiveness of burnout interventions for mental health workers. **Method:** We completed a systematic literature search of burnout intervention studies that spanned more than three decades (1980 to 2015). Each eligible study was independently coded by two researchers, and data were analyzed using a random-effects model with effect sizes based on the Hedges' g statistic. We computed an overall intervention effect size and performed moderator analyses. **Results:** Twenty-seven unique samples were included in the meta-analysis, representing 1,894 mental health workers. Interventions had a small but positive effect on provider burnout (Hedges' $g = .13, p = .006$). Moderator analyses suggested that person-directed interventions were more effective than organization-directed interventions at reducing emotional exhaustion ($Q_{\text{between}} = 6.70, p = .010$) and that job training/education was the most effective organizational intervention subtype ($Q_{\text{between}} = 12.50, p < .001$). Lower baseline burnout levels were associated with smaller intervention effects and accounted for a significant proportion of effect size variability. **Conclusions:** The field has made limited progress in ameliorating mental health provider burnout. Based on our findings, we suggest that researchers implement a wider breadth of interventions that are tailored to address unique organizational and staff needs and that incorporate longer follow-up periods.

Keywords: meta-analysis; job burnout; intervention research; mental health providers.

Job Burnout in Mental Health Providers: A Meta-Analysis of 35 Years of Intervention Research

Job burnout is a chronic form of occupational strain commonly characterized by feelings of emotional exhaustion, depersonalization/cynicism, and reduced personal accomplishment/efficacy (Maslach, Schaufeli, & Leiter, 2001). Burnout is widespread in the mental health field, with 21% to 67% of providers endorsing high levels of burnout (Morse, Salyers, Rollins, Monroe-DeVita, & Pfahler, 2012). This is not surprising, given that individuals in this profession work in a uniquely stressful and dynamic environment. For example, mental health providers are frequently exposed to intense emotional suffering, suicidal ideation, and the traumatic life events of mental health consumers (Sjølie, Binder, & Dundas, 2015). In addition to the difficult nature of providing mental health services, the mental health sector is often under significant financial strain, which can lead to job instability and under-staffing (Honberg, Kimball, Diehl, Usher, & Fitzpatrick, 2011; Sørgaard, Ryan, Hill, & Dawson, 2007). In spite of these challenges, it is critical for mental health providers to monitor the safety of consumers and ensure that their own emotional state does not interfere with sound decision-making (Fisk, Rakfeldt, Heffernan, & Rowe, 1999). This task is made harder when experiencing job burnout.

Indeed, burnout is consistently associated with a range of adverse outcomes for mental health providers, consumers, and service organizations (Morse, Salyers, Rollins, MonroeDeVita, & Pfahler, 2012; Salyers et al., 2015). For example, mental health providers with high levels of burnout often experience mental and physical health problems (Acker, 2010; Peterson et al., 2008) and demonstrate greater absenteeism (Borritz et al., 2006) and intentions to quit (Salyers et al., 2015). In turn, staff burnout can negatively impact the quality of consumer care (Happell & Koehn, 2011; Laschinger & Leiter, 2006). At the organization level, absenteeism and turnover can have substantial financial costs (Smoot & Gonzales, 1995; Waldman, Kelly,

Aurora, & Smith, 2004), further taxing the limited financial resources available in this service sector (Druss, 2006; Honberg, Diehl, Kimball, Gruttadaro, & Fitzpatrick, 2011).

Starting in the 1980s, a number of burnout interventions have been conducted and published, with the intervention types falling into three broad categories: *organization-directed*, *person-directed*, or a *combined approach*. Organization-directed interventions focus on modifying aspects of the work environment that contribute to employee burnout, such as low staff cohesion, poor communication, work overload, and/or insufficient job resources (Schaufeli & Enzmann, 1998). Typical interventions might involve starting a co-worker support group, enhancing the quality of clinical supervision, or offering continuing education opportunities to bolster staff competence.

Most organization-directed intervention studies conducted with mental health providers tested the impact of job training and education, and the results for this intervention subtype are generally promising (Gilbody et al., 2006; Morse et al., 2012). For example, one study provided psychosocial intervention training to mental health nurses and found a significant decrease in emotional exhaustion and depersonalization and a significant increase in personal accomplishment (Ewers, Bradshaw, McGovern, & Ewers, 2002). Another study trained psychiatric staff in behavioral interventions and reported a significant decrease in emotional exhaustion; however, there were no changes in depersonalization or personal accomplishment (Corrigan, McCracken, Edwards, Kommana, & Simpatico, 1997). Studies of other types of organizational interventions, such as clinical supervision, job redesign, and co-worker support groups, have not reported significant findings (Carson et al., 1999; Hallberg, 1994; Melchior et al., 1996), but methodological shortcomings—including small sample sizes, high rates of attrition, and implementation problems—make it challenging to draw conclusions.

Person-directed interventions aim to help providers reduce job burnout, usually through teaching personal coping skills, relaxation techniques, or ways of increasing social support (Cooper, 1998). These interventions often use classic cognitive-behavioral principles (e.g., cognitive restructuring, rational emotive training) or third-generation cognitive-behavioral techniques (e.g., meditation, mindfulness). Typically, these interventions are presented in a workshop and are context independent, meaning that they do not target specific organizational problems (Schaufeli & Enzmann, 1998). Past narrative reviews on the effectiveness of burnout interventions for mental health providers (Gilbody et al., 2006; Morse et al., 2012; Paris & Hoge, 2010) only identified two person-directed intervention studies, both of which were pilot studies. One study focused on developing staff assertiveness skills and found a significant improvement in depersonalization from pretest to posttest, but emotional exhaustion was unchanged and feelings of personal accomplishment were reduced (Scarnera, Bosco, Soleti, & Lancioni, 2009). The other study evaluated BREATHE (Burnout Reduction: Enhanced Awareness Tools, Handouts, and Education), a burnout prevention/reduction workshop (Salyers et al., 2011). At the six-week follow-up, participants reported a significant reduction in emotional exhaustion and depersonalization, but there was no change in personal accomplishment (Salyers et al., 2011). Taken together, these studies provide limited evidence that person-directed interventions may positively impact some burnout dimensions.

Lastly, combined interventions are multifaceted, targeting both the individual and organization (Awa, Plaumann, & Walter, 2010). A stress management workshop, coupled with ongoing consultation to enable staff-driven organizational change, is one example of a combined intervention. Given the comprehensiveness of this intervention type, experts speculate that it may be the most effective (Morse et al., 2012). However, the comprehensiveness of this approach also

means it is the most difficult to implement. Previous qualitative reviews (i.e., Morse et al., 2012; Paris & Hoge, 2010) only identified one study that tested a combined intervention approach in a health service field. This intervention reduced emotional exhaustion and increased feelings of personal accomplishment, but the changes did not remain significant at the 12-month follow-up (van Dierendonck, Schaufeli, & Buunk, 1998).

Despite the importance of burnout in mental healthcare and the plethora of studies investigating burnout interventions, only narrative reviews have been conducted thus far (i.e., Gilbody et al., 2006; Morse et al., 2012; Paris & Hoge, 2010), which are limited by their inability to quantify effects and dependence on significance testing. The present meta-analysis addresses these shortcomings and is the first quantitative review to focus exclusively on burnout interventions in samples of mental health providers. The primary goals were to: (1) assess the overall effectiveness of burnout interventions, (2) assess the effectiveness of burnout interventions for the three commonly measured dimensions of burnout (i.e., emotional exhaustion, depersonalization/cynicism, and reduced personal accomplishment/efficacy), and (3) compare the effectiveness of intervention subtypes. Although prior studies have methodological shortcomings, their results along with theoretical expectations enabled us to make some tentative hypotheses. First, we hypothesized that the interventions would significantly reduce burnout. Previous burnout intervention studies have generally reported reductions in at least some dimensions of burnout (Gilbody et al., 2006; Morse et al., 2012; Paris & Hoge, 2010). Additionally, given that many of these studies were underpowered, we expected that intervention effects were underestimated in individual studies. We also hypothesized that job training/education would be more effective than other organization-directed intervention subtypes. In past narrative reviews, this has been a fairly consistent finding (Gilbody et al., 2006;

Morse et al., 2012). Given the present state of the literature, all other analyses were considered exploratory.

Method

Literature Search

From January 27, 2015 to March 7, 2015, we conducted a comprehensive literature search. The majority of records were identified through electronic database searches. Business Source Premier, CINAL Plus, Cochrane Library, ProQuest Dissertations & Theses Global, PsycINFO, PubMed, and Web of Science were searched on January 27, 2015, February 1, 2015, and February 3, 2015, providing coverage of published and unpublished empirical studies, systematic reviews, and conference proceedings that spanned the domains of industrialorganizational psychology, mental health, nursing, and other relevant fields. We used an extensive combination of search terms pertaining to eligible samples, intervention types, outcome measures, and research methodologies (see supplemental digital material, Table 1). Additional studies were identified via backward and forward searches. For the backward search, over 40 reference lists drawn from high impact job burnout review articles and systematic reviews of stress and/or burnout interventions were manually examined for pertinent citations. Reviews of stress interventions were searched because these papers often contained citations for burnout intervention studies. We also conducted forward searches of burnout measure manuals and validation studies. Lastly, when a potentially eligible study was identified, the author was contacted and asked to provide relevant unpublished data and/or to forward the request to a colleague who might have such data. Our last author correspondence occurred on March 7, 2015.

Study Inclusion and Exclusion Criteria

Studies were included in the meta-analysis if they met the following criteria: (1) written in English, (2) published (or conducted) in 1980 or later, (3) included at least one treatment condition aimed at reducing or preventing burnout, (4) mental health providers, defined as individuals providing services to those with a mental or substance use disorder, comprised at least 75% of the sample, (5) participants were employed during the study, (6) burnout was measured as an outcome, and (7) necessary statistics to calculate an effect size were reported or could be obtained through author contact. Studies with participants who served individuals with neurocognitive disorders or intellectual disabilities were excluded because these studies were conducted in nursing homes or other facilities where mental health treatment was not the primary focus. Additionally, samples with employees on sick leave or that consisted of more than 25% volunteers, students, or interns were excluded because the purpose was to evaluate the effectiveness of burnout interventions for actively and gainfully employed staff.

Data Extraction

We coded the eligible studies in a series of stages. First, two codebooks modeled after the recommendations of Lipsey and Wilson (2001) were developed. One codebook was used for encoding study characteristics (e.g., study design, participant demographics, and intervention features) and the other for study findings. These codebooks were then pilot-tested and subsequently revised to increase clarity. Following this, data from each eligible study was independently extracted by two coders who achieved an overall agreement level across all codes of 95.2%. Discrepancies were discussed until consensus was reached.

Study Quality

Rather than creating a single “study quality” variable, which can obscure important relationships, we followed Card’s (2012) recommendations to code discrete aspects of study quality and evaluate these as potential moderators. Specifically, we extracted information about study design (i.e., controlled versus uncontrolled), whether the intervention followed a treatment manual and if so, whether treatment fidelity was measured, the purity of the sample (i.e., did the sample include support staff or was it comprised solely of direct care providers), and the percentage of participants who dropped out of the study. Each aforementioned variable was examined as a potential moderator and descriptive statistics were also computed.

Analysis

A primary objective of the present meta-analysis was to assess the overall effectiveness of burnout interventions for mental health providers. Given that there were controlled and uncontrolled study designs, as well as different times of measurement, we examined (1) pretest to first posttest within-subjects effect sizes, (2) pretest to second posttest within-subjects effect sizes, and (3) pretest to first posttest controlled group effect sizes. All pretests were conducted prior to the start of the intervention, and all posttests were administered upon conclusion of the intervention, and thus reflect either short- or long-term maintenance effects. Four effect sizes were calculated for each study, based on the following outcome measures: (1) composite burnout, (2) emotional exhaustion, (3) depersonalization/cynicism, and (4) reduced personal accomplishment/efficacy. The composite outcome was computed by taking the average of all burnout effect sizes for a given study, and thus represents a general measure of burnout.

Effect sizes were calculated using the Comprehensive Meta-Analysis 3 software program

(Borenstein, Hedges, Higgins, & Rothstein, 2014). Given the diversity of burnout intervention studies, a random-effects model was used over a fixed-effects model (Lipsey & Wilson, 2001). Studies were weighted by the inverse of their variance, meaning studies with greater precision were given more weight (Borenstein et al., 2014). To ensure statistical independence, each study contributed no more than one effect size per analysis (Lipsey & Wilson, 2001). Accordingly, studies with multiple outcome measures on a single construct were averaged (Card, 2012).

The effect sizes are based on the Hedges' g standardized mean difference statistic (Borenstein, Hedges, Higgins, & Rothstein, 2009). Unlike Cohen's d , which tends to overestimate effect sizes in studies with small samples, Hedges' g has a correction that provides a less biased estimate of the true effect (Borenstein et al., 2009). The interpretation of Hedges' g is equivalent to Cohen's d , in that effect sizes of .20 are considered small, .50 is considered medium, and .80 is considered large (Cohen, 1992). Forest plots of overall effect sizes were visually examined for outliers, and one-study removed sensitivity analyses were used to determine the impact of excluding a given study (Borenstein et al., 2009). Outliers were retained if their removal did not significantly alter the results.

To determine whether there was greater between-study variability than would be expected by chance, we ran heterogeneity analyses using Hedges' Q statistic and the I^2 index. Hedges' Q statistic tests the null hypothesis that the group of studies are homogenous, whereas the I^2 index quantifies the extent of heterogeneity across studies. Results from these indices were considered in tandem, and as is standard, Hedges' Q values of $p < .10$ (Fu et al., 2011; Higgins, Thompson, Deeks, & Altman, 2003; Rovai, Baker, & Ponton, 2014) and I^2 values greater than 25% (Huedo-Medina, Sánchez-Meca, Marín-Martínez, & Botella, 2006) were used as the cutoff for conducting moderator analyses.

Moderator analyses were conducted to compare the relative effectiveness of intervention subtypes, to assess the potential impact of study quality variables and intervention intensity (i.e., total intervention hours and number of intervention sessions), and to determine whether a sample's pretest level of burnout moderated the size of the effect. For categorical variables, a Hedges' g effect size was computed for each subgroup and Q -tests based on analysis of variance statistics were run (Borenstein et al., 2009). Q_{between} values were examined to determine if the difference in effect sizes between subgroups was statistically significant ($p < .05$). These analyses utilized a mixed-effects model, which allows for inferential generalizability beyond the studies included in the present meta-analysis (Borenstein et al., 2009). To test for moderation by continuous variables, meta-regressions were performed using a random effects model. Continuous variables were considered moderators if they had significant beta weights ($p < .05$; Huedo-Medina et al., 2006).

Lastly, evidence of publication bias was evaluated using three approaches. First, funnel plots were examined for asymmetry (Card, 2012). Second, given the subjectivity inherent to visual inspection, Egger's test, which regresses standardized effects onto precision, was employed (Egger, Smith, Schneider, & Minder, 1997). Some authors suggest a minimum of 10 studies to ensure adequate power to detect publication bias using this method (Kepes, Banks, McDaniel, & Whetzel, 2012; Sterne et al., 2011), but others suggest stricter guidelines. Card (2012) has proposed that at least 17 studies are needed to provide adequate power to detect severe bias, but that 50 to 60 are required to detect moderate bias. Using these guidelines, it is possible that Egger's regression test was underpowered to detect minor to moderate publication bias among the 27 included studies. However, unless publication bias is severe, key findings are unlikely to change (Borenstein et al., 2009). Finally, a categorical moderator analysis comparing

the effect sizes of published versus unpublished studies was performed. The risk of publication bias is considered higher when the effect sizes of these two groups differ significantly.

Results

Characteristics of Included Studies

The literature search yielded 1,348 records, resulting in 29 studies with 27 unique samples that met inclusion criteria (see Figure 1). The studies in this meta-analysis span more than three decades, from 1982 to 2014 (mean year = 2004, $SD = 9.2$). The majority of studies were published (81.5%) and most used the Maslach Burnout Inventory (96.3%; Maslach, Jackson, & Leiter, 1996). All of the studies measured burnout prior to the start of the intervention and closely following the conclusion of the intervention, but only five studies measured burnout a second time post-intervention. In these studies, the second posttest was administered between one to six months post-intervention. Studies conducted in the United States versus abroad were nearly equally represented (US = 48.1%). Table 1 provides individual study characteristics.

Across the 27 samples, there were a total of 1,894 participants. The majority of participants were women (70.6%), Caucasian (72.7%), and had a graduate degree (59.7%). The most common disciplines were nurses (44.1%) and therapists (34.7%). Participants averaged 11.8 ($SD = 3.2$) years of experience in the mental health field and were employed in a variety of settings, including hospitals, community mental health centers, and addiction care facilities. The majority of burnout interventions were organization-directed (70.4%), with job training/education being the most commonly reported subtype (44.4%). The total intervention length varied considerably (range = 3 to 314 hours), and averaged 32.9 hours ($SD = 46.6$). The duration of the intervention programs also had large variability, ranging from 1 day to 18 months. On average, interventions were comprised of 6.8 sessions ($SD = 4.7$).

With respect to study quality, controlled and uncontrolled study designs were nearly equally represented (controlled = 48.1%). Additionally, although more than half of the interventions followed a treatment manual (70.4%), only two studies measured treatment fidelity. Third, the majority of study samples were comprised of only direct-care providers (84.0%), as opposed to a mix of direct care providers and support staff. Finally, an average of 21.1% ($SD = 23.8\%$) of participants dropped out of the studies. The supplemental digital material, Table 2, provides a more detailed summary of participant, workplace, and intervention characteristics.

Burnout Intervention Effect Sizes across Intervention Types

The overall effectiveness of burnout interventions was examined, and the findings were consistent across study designs and time of measurement (see Table 2). For example, all of the intervention effect sizes based on composite burnout scores were small, positive, and significantly different from zero. Specifically, from pretest to first posttest, the mean composite within-subjects burnout effect size was .13 ($k = 26$, 95% CI = .04, .22), and from pretest to second posttest, the mean effect size was .22 ($k = 5$, 95% CI = .06, .37). For the subgroup of randomized controlled trials, the mean composite effect size was .20 ($k = 13$, 95% CI = .02, .38).

It is notable that the pretest to second posttest effect (Hedges' $g = .22$) was larger than the pretest to first posttest effect (Hedges' $g = .13$), which seems to indicate that the effect size increased over time. However, the pretest to second posttest effect size was based on a subset of only five studies. To provide a clearer picture of the role that time plays in intervention effects, we conducted an additional analysis of the pretest to first posttest effect using the same subset of five studies. In this analysis, the effect size was .21 (95% CI = .07, .35). This suggests that the effect of the intervention did not increase over time, but instead remained consistent.

Similar to the composite effect sizes, mean effect sizes for the emotional exhaustion and depersonalization/cynicism subscales were also small, positive, and significantly different from zero. In contrast, effect sizes based on the reduced personal accomplishment/efficacy subscale did not differ significantly from zero (see Table 2). These patterns were found for both the within-subjects effects and controlled effects at all assessment points. One-study removed sensitivity analyses showed that the findings were robust to outliers (see supplemental digital material, Figures 1 and 2).

There was evidence of cross-study heterogeneity, as indicated by significant Q-tests and I^2 values greater than 25%, so moderator analyses were performed on the within-subjects effects. Given the relatively small number of randomized controlled trials, moderator analyses were not performed on these studies in isolation because the number of studies was insufficient when examining subgroups (Fu et al., 2011; Higgins & Green, 2011).

Comparison of Intervention Types

The effectiveness of organization-directed and person-directed interventions were compared (see Table 3 for full results). Intervention subgroups did not differ significantly for composite burnout ($Q_{\text{between}} = 0.53, p = .467$) or reduced personal accomplishment/efficacy ($Q_{\text{between}} = 2.43, p = .119$). However, person-directed interventions were more effective than organization-directed interventions at targeting emotional exhaustion ($Q_{\text{between}} = 6.70, p = .010$). Given the substantial number of studies that focused on job training/education ($n = 12$), we also examined the relative effectiveness of this organizational intervention as compared to all other organization-directed intervention subtypes. Results indicate that job training/education interventions were significantly more effective than other organizational intervention subtypes at reducing overall burnout ($Q_{\text{between}} = 5.83, p = .016$) and feelings of reduced personal

accomplishment/efficacy ($Q_{\text{between}} = 12.50, p = .000$) but did not differ significantly with respect to changes in emotional exhaustion ($Q_{\text{between}} = 1.74, p = .187$).

Additional Moderator Analyses

Additional analyses were performed to assess whether study quality indicators (i.e., research design, manualized treatment/fidelity, sample purity, and percent of participant dropouts), publication status, or intervention intensity (i.e., total intervention hours and number of sessions) were significant moderators of the overall composite burnout effect size. We also examined whether baseline burnout levels moderated intervention effect sizes (see Table 4). For this particular analysis, only studies that utilized the MBI were included. Study quality indicators, intervention intensity, and publication status were not significant moderators. With respect to baseline levels of burnout, a sample's pretest level of emotional exhaustion significantly moderated the emotional exhaustion intervention effect sizes ($B = .02, p = .024, R^2 \text{ analogue} = 47\%$), and a sample's pretest level of depersonalization/cynicism significantly moderated the depersonalization/cynicism intervention effect sizes ($B = .03, p = .004, R^2 \text{ analogue} = 100\%$). Pretest levels of reduced personal accomplishment/efficacy did not significantly moderate the reduced personal accomplishment/efficacy intervention effect sizes.

Publication Bias

Funnel plots of within-subjects and between-groups overall burnout effect sizes were relatively symmetrical and triangular, suggesting the absence of publication bias (Card, 2012). Egger's test corroborated this appraisal. Specifically, the within-subjects intercept was $-.35$ and did not differ significantly from zero ($t(24) = .48, p = .634$), and the between-groups intercept was $.44$ and was also not significantly different from zero ($t(11) = .46, p = .654$). While this cannot rule out the possibility of minor to moderate publication bias, results suggest publication

bias is not severe in this meta-analysis. Lastly, as mentioned above, the composite effect sizes for published versus unpublished studies did not differ significantly ($Q_{\text{between}} = 0.12, p = .728$).

Discussion

The present review, which includes 27 studies spanning the years 1982 to 2014, is the first meta-analysis to examine the effectiveness of burnout interventions for mental health providers. As hypothesized, interventions significantly reduced overall levels of burnout. The average effect of these interventions was small, with standardized mean difference statistics ranging from .13 to .22, depending on study design and time of measurement. Although only five studies measured long-term maintenance effects, the results from this subsample suggest that the positive effects of burnout interventions are maintained over time. These findings are consistent with those reported in a recent meta-analysis on the effect of burnout interventions in an occupationally diverse sample of employees (Maricuțoiu, Sava, & Butta, 2016). Specifically, the intervention effect size for general burnout was .22 ($p < .05$), and the treatment effects persisted at follow-up. Placed within the broader context of the occupational stress literature, these burnout intervention effect sizes are eclipsed by more general work stress interventions, where effects between .34 to .75 are commonly reported in meta-analyses (e.g., Nicholson, Duncan, Hawkins, Belcastro, & Gold, 1988; Richardson & Rothstein, 2008; Ruotsalainen, Verbeek, Mariné, & Serra, 2014; Van der Klink, Blonk, Schene, & Van Dijk, 2001). This suggests that it may be more difficult to remediate burnout as compared to other forms of emotional distress. It is also possible that reducing burnout in mental health providers is particularly difficult, especially considering that these individuals work in highly stressful environments in which they are confronted with mental health crises and must contend with the job instability and understaffing

that are common in this service sector (Honberg et al., 2011; Sjølie et al., 2015; Sørgaard et al., 2007).

In addition to overall burnout, effect sizes for emotional exhaustion, depersonalization/cynicism, and reduced personal accomplishment/efficacy were computed across intervention types; results were largely consistent with our expectations. Levels of emotional exhaustion and depersonalization/cynicism were reduced following the burnout interventions. Contrary to our hypotheses, but consistent with a recent meta-analysis on burnout interventions in a mixed occupational sample (Maricuțoiu et al., 2016), overall intervention effects for personal accomplishment were not significant. This dimension of burnout is sometimes criticized on the grounds that it is not a core component of burnout but is instead a potential consequence (Demerouti, Bakker, Vardakou, & Kantas, 2003). As such, addressing feelings of reduced personal accomplishment/efficacy may require a longer-term process. It may also be that specific intervention types are needed for the different aspects of burnout. For example, we found that person-directed interventions were more effective than organizationdirected interventions at reducing emotional exhaustion. Similarly, the job training/education organizational-intervention subtype was more effective than other interventions at addressing the reduced personal accomplishment/efficacy dimension of burnout. These findings suggest that different types of interventions may be uniquely poised to address specific burnout dimensions.

It is notable that, as a group, non-job training/education organizational interventions such as clinical supervision, co-worker support groups, job redesign/restructuring, and increasing team communication did not have a significant effect on burnout. These interventions seemingly address key issues associated with job burnout, including low staff cohesion, work overload, and

poor communication (Schaufeli & Enzmann, 1998). Previous reviews have suggested that methodological shortcomings may account for the non-significant findings (Gilbody et al., 2006; Morse et al., 2012). However, the present meta-analysis helps to overcome the problem of small sample sizes (Lipsey & Wilson, 2001) and did not find that study quality was related to the size of the effect. Another possibility, not raised by past reviewers, is that some organizational interventions might not be directly targeting burnout as the sole or primary focus. To illustrate, the job redesign/restructuring study by Melchior et al. (1996), which was conducted in a sample of psychiatric nurses, utilized an intervention called primary nursing. Past research on primary nursing has shown that this model enhances perceived autonomy (MacGuire & Botting, 1990), which is associated with lower burnout (Bakker, Demerouti, & Euwema, 2005; Maslach et al., 2001). However, this model has also been found to increase emotional involvement with consumers and lead to extra job responsibilities, which are both associated with higher stress (Akinlami & Blake, 1989). Thus, while this intervention helped target one factor associated with job burnout, it may have unintentionally increased the intensity of several other factors that are known to stimulate burnout. A second example is provided by Carson et al. (1999), in which researchers facilitated a social support group to reduce stress and burnout. The intervention suffered from poor attendance due to ongoing staffing crises. Ironically, it appears that the factors this organization-directed intervention was intended to address (e.g., stress, burnout, high turnover, etc.) played a part in undermining the intervention. These case examples highlight that researchers have a responsibility not only to be aware of possible intervention ramifications but also to tailor interventions to meet the specific needs of an organization. The failure to do so may explain why some of the organizational-interventions were not effective at reducing job burnout.

Further, we found that baseline levels of burnout significantly moderated intervention effect sizes, such that samples with lower initial levels of burnout had smaller intervention effects. This “floor” effect does not appear to be unique to the mental health field, as a recent meta-analysis on the effectiveness of interventions to reduce burnout in general employee samples also discussed this issue (Maricuțoiu et al., 2016). Given that mental health organizations often have limited resources, it could be beneficial to conduct targeted recruitment (e.g., pre-screening) to help ensure that the intervention program is relevant to those who enroll. This may be even more important for programs that are designed to remediate burnout, as opposed to programs designed to prevent it.

Our analysis of the past 35 years of work on burnout interventions concerning mental health providers identified several key areas for future research. First, studies with longer-term follow-up are needed. Most researchers measured burnout only twice—prior to the start of the intervention and closely following the conclusion of the intervention. A mere five studies had a second posttest assessment, with follow-up periods ranging from one to six months subsequent to intervention conclusion. This may be a significant limitation given that burnout likely encompasses a wider temporal frame than was captured by most studies (Schaufeli, Maslach, & Marek, 1993). Second, greater transparency in terms of reporting sample and intervention descriptive data will be useful for future synthesis of the literature. For example, ethnicity was reported in only 26.9% of studies, education in 34.6%, job tenure in 23.1%, and session attendance in 30.8%. With few studies providing information on these factors, it is not possible to thoroughly describe the included studies or to assess what associations, if any, these variables have with outcome measures of interest. Third, over 96% of studies measured burnout with the

Maslach Burnout Inventory. Although this measure has sound psychometric properties (Aguayo, Vargas, de la Fuente, & Lozano, 2011; Maslach et al., 1996), complementing the Maslach Burnout Inventory with other burnout measures would mitigate limitations that stem from using a single measure. Fourth, intervention fidelity assessments will be critical in moving the field forward. In the present meta-analysis, only two studies measured fidelity. Without fidelity assessments, it is impossible to disentangle whether an intervention is simply ineffective, or whether it was improperly implemented. Researchers suggest that ensuring model adherence in program evaluation studies enables the exploration and identification of critical aspects of the intervention (Bond, Evans, Salyers, Williams, & Kim, 2000). Lastly, more studies evaluating the combined intervention approach and organizational interventions (beyond job training/education) are needed.

With respect to how the present meta-analysis was conducted, several limitations should be noted. First, as is common with meta-analytic reviews, our study is subject to the “file drawer” problem—wherein studies with non-significant results are less likely to be included (Card, 2012). However, during our comprehensive literature search we took steps to minimize this issue by thoroughly searching for dissertations and theses and by contacting authors for unpublished data. Second, due to the small number of available studies, we were unable to examine the effectiveness of the combined intervention approach or specific organizational subtypes beyond job training/education. Finally, our power to detect significance in moderator analyses was likely low, as is found in most meta-analyses (Borenstein et al., 2009; Hedges & Pigott, 2004), which may have contributed to some of the non-significant findings regarding study quality variables and intervention intensity.

These findings represent the first quantitative synthesis of burnout intervention research in mental health providers. The small but positive effect sizes suggest that limited progress has

been made in mitigating job burnout in this employment sector. It is important to note, however, that baseline burnout levels were often low and the Maslach Burnout Inventory was used almost exclusively. Thus, range restriction and an ability to detect more nuanced forms of burnout may be contributing to the small effect sizes. Moving forward, the field would be well-served by more transparent reporting, the implementation of a wider breadth of intervention types that are tailored to address key organizational and staff needs, and the use of a greater variety of burnout measures. Given the foreseeable strain on the delivery of mental health services due to increasing healthcare costs alongside funding cuts (Druss, 2006; Honberg et al., 2011), future research on job burnout will be critical for the benefit of both providers and the populations they serve.

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Table 1

Characteristics of Included Studies

Study	Participants	N _a	Setting	Country	Research Design	Intervention Type/ Subtype	Burnout Measure
Anderson (1982)*	Professional direct care staff	40	Community mental health center	USA	RCT	Organizationdirected/ Coworker support groups	MBIHSS
Berry et al. (2012)	Professional and paraprofessional direct care staff	25	Hospital/ inpatient	GBR	UC	Organizationdirected/ Job training and education	MBIHSS

Brady, O'Connor, Burgermeister, and Hanson (2012)	Professional and paraprofessional direct care and support staff	23	Hospital/ inpatient	USA	UC	Person-directed/ Mindfulness	MBIHSS
Carmel, Fruzzetti, and Rose (2014)	Professional and paraprofessional direct care staff	34	Community mental health center	USA	UC	Organizationdirected/ Job training and education	CBI
Carson et al. (1999)/Carson, Butterworth, and Burnard (1998)	Professional and paraprofessional direct care staff	53	Hospital/ inpatient	GBR	RCT	Organizationdirected/ Coworker support groups	MBIHSS
Caruso et al. (2013)	Professional direct care staff	12	Hospital/ inpatient	ITA	UC	Organizationdirected/ Job training and education	MBIHSS
Çoban (2004)*	Professional direct care staff	19	School	TUR	UC	Organizationdirected/ Coworker support groups	MBI-TUR

Study	Participants	<i>N</i> _a	Setting	Country	Research Design	Intervention Type/ Subtype	Burnout Measure
Corrigan et al. (1997)	Professional and paraprofessional direct care staff	35	Hospital/ inpatient	USA	UC	Organizationdirected/ Job training and education	MBIHSS
Doyle, Kelly, Clarke, and Braynion (2007)	Professional direct care staff	26	Forensics	GBR	RCT	Organizationdirected/ Job training and education	MBIHSS

Ewers et al. (2002) ^b	Professional direct care staff	20	Forensics	GBR	RCT	Organizationdirected/ Job training and education	MBIHSS
Hallberg (1994)	Professional and paraprofessional direct care staff	11	Hospital/ inpatient	SWE	UC	Organizationdirected/ Clinical supervision	MBIHSS
Hayes et al. (2004)	Professional direct care staff (unclear if paraprofessionals were also included)	90	Mixed	USA	RCT	Organizationdirected/ Job training and education	MBIHSS
Hill, Atnas, Ryan, Ashby, and Winnington (2010)	Professional and paraprofessional direct care staff	19	Addiction care	GBR	UC	Combined/ Stress management workgroup	MBIHSS
Hunnicuttt and MacMillan (1983)	Direct care staff (unclear if support staff were also included)	181	Community mental health center	USA	RCT	Combined/ Workshop + ongoing workgroups and organizational consultation	MBIHSS

Study	Participants	<i>N</i> _a	Setting	Country	Research Design	Intervention Type/ Subtype	Burnout Measure
Leykin, Cucciare, and Weingardt (2011) / Weingardt, Cucciare, Bellotti, and Lai (2009)	Professional and paraprofessional direct care staff	149	Addiction care	USA	RCT	Organizationdirected/ Job training and education	MBIHSS

Little (2000)*	Direct care staff (professional status unclear)	37	Mixed	USA	UC	Organizationdirected/ Job training and education	MBIHSS
Livni, Crowe, and Gonsalvez (2012)	Professional direct care staff (unclear if paraprofessionals were also included)	42	Addiction care	AUS	RCT	Organizationdirected/ Clinical supervision	MBIHSS
Luoma and Vilardaga (2013)	Direct care staff (professional status of sample unclear)	11	Mixed	USA	RCT	Organizationdirected/ Job training and education	MBIHSS
Mehr, Senteney, and Creadie (1994)	Professional direct care staff	38	Community mental health center	USA	UC	Person-directed/ Stress management workshop	MBIHSS
Melchior et al. (1996)	Professional and paraprofessional direct care staff	326	Hospital/ inpatient	NLD	UC	Organizationdirected/ Job redesign and restructuring	MBIHSS
Onyett, Rees, Borrill, Shapiro, and Boldison (2009)	Professional and paraprofessional direct care and support staff	327	Mixed	GBR	UC	Organizationdirected/ Team communication	MBIHSS
Ossebaard (2000)	Direct care staff (professional status of sample unclear)	45	Addiction care	NLD	RCT	Person-directed/ Brain wave	MBI-NL
Study	Participants	<i>N</i> _a	Setting	Country	Research Design	Intervention Type/ Subtype	Burnout Measure

Perseius, Kåver, Ekdahl, Åsberg, and Samuelsson (2007)	Professional and paraprofessional direct care staff	22	Mixed	SWE	UC	Organizationdirected/ Job training and education	MBI-GS
Redhead, Bradshaw, Braynion, and Doyle (2011)	Professional direct care staff	21	Hospital/ inpatient	GBR	RCT	Organizationdirected/ Job training and education	MBIHSS
Rollins et al. (in progress)*	Professional and paraprofessional direct care and support staff	147	Mixed	USA	RCT	Person-directed/ Stress management workshop	MBIHSS
Salyers et al. (2011)	Professional and paraprofessional direct care and support staff	103	Community mental health center	USA	UC	Person-directed/ Stress management workshop	MBIHSS
Warren (1993)*	Professional direct care staff	38	School	USA	RCT	Person-directed/ Rational emotive therapy	MBIHSS

Note. UC = Uncontrolled study design. MBI = Maslach Burnout Inventory. HSS = Human Services Survey. GS = General Survey. NL = Dutch version of MBI. TUR = Turkish version of MBI. CBI = Copenhagen Burnout Inventory.

*Denotes unpublished study (includes theses and dissertations).

^a *N* = Number of participants who enrolled in the study (excludes participants from subgroups that are not relevant to the metaanalysis).

^b Study lacked sufficient information to compute a within-subjects (pre/post) effect size. However, there was sufficient information to compute the between-groups (treatment vs. control) effect size.

Running head: BURNOUT IN MENTAL HEALTH PROVIDERS

Table 2

Summary of Mean Burnout Effect Sizes across Intervention Types

Scale	<i>k</i>	ES	SE	95% CI	<i>p</i>	<i>Q</i>	<i>p</i>	<i>I</i> ²
Pretest/First Posttest Within-Subjects Effect Sizes								
Composite	26	.13	.05	[.04, .22]	.006	41.617	.020	40
Emotional Exhaustion	23	.20	.05	[.10, .29]	.000	40.228	.010	45
Depersonalization/Cynicism	23	.15	.04	[.07, .22]	.000	25.230	.286	13
Reduced Personal Accomplishment/Efficacy	24	.08	.06	[-.03, .19]	.144	53.805	.000	57
Pretest/Second Posttest Within-Subjects Effect Sizes								
Composite	5	.22	.08	[.06, .37]	.005	4.02	.403	1
Emotional Exhaustion	5	.34	.11	[.12, .56]	.003	7.70	.103	48
Depersonalization/Cynicism	5	.18	.08	[.03, .33]	.017	1.15	.886	0
Reduced Personal Accomplishment/Efficacy	5	.23	.15	[-.06, .53]	.116	12.91	.012	69
Pretest/First Posttest Controlled Effect Sizes								
Composite	13	.20	.09	[.02, .38]	.030	18.28	.107	34
Emotional Exhaustion	13	.21	.09	[.04, .39]	.019	18.04	.115	34
Depersonalization/Cynicism	13	.36	.12	[.13, .59]	.002	29.04	.004	59

Reduced Personal Accomplishment/Efficacy	13	.03	.15	[-.26, .31]	.842	44.91	.000	73
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Note. k = number of studies used in the calculation of the mean effect size. ES = Hedges' g effect size statistic. SE = standard error. 95% CI = 95% confidence interval. p = 2-tailed p-value associated with the test of statistical significance. Q = test for homogeneity. A significant Q indicates greater between-study variability than would be expected by chance. I^2 = indicates the percentage of between-study variability. Values larger than 25 suggest the presence of moderators. Composite = overall burnout effect size based on average of subscales.

Table 3

Comparison of Intervention Subtypes

ORGANIZATION VS. PERSON-DIRECTED INTERVENTIONS						
Scale	<i>k</i>	ES	<i>SE</i>	95% CI	<i>p</i>	<i>Q_{bet}, df (p-value)</i>
Composite						
Org-Directed	18	.09	.06	[-.03, .21]	.126	
Person-Directed	6	.17	.09	[-.01, .36]	.068	
Overall	24	.11	.05	[.02, .21]	.023	.53, 1 (.467)
Emotional Exhaustion						
Org-Directed	15	.13	.05	[.02, .23]	.019	
Person-Directed	6	.38	.08	[.22, .53]	.000	
Overall	21	.20	.05	[.12, .29]	.000	6.70, 1 (.010)
Reduced Personal Accomplishment/Efficacy						
Org-Directed	16	.11	.07	[-.02, .24]	.111	
Person-Directed	6	-.09	.10	[-.29, .12]	.408	
Overall	22	.05	.06	[-.06, .16]	.375	2.43, 1 (.119)
JOB TRAINING/EDUCATION VS. ALL OTHER ORGANIZATIONAL SUBTYPES						
Scale	<i>k</i>	ES	<i>SE</i>	95% CI	<i>p</i>	<i>Q_{bet}, df (p-value)</i>
Composite						
Job Training/Edu	11	.21	.07	[.07, .36]	.004	
Other Subtypes	7	-.05	.08	[-.21, .11]	.503	
Overall	18	.09	.06	[-.02, .20]	.097	5.83, 1 (.016)
Emotional Exhaustion						
Job Training/Edu	9	.19	.07	[.06, .32]	.005	
Other Subtypes	6	.07	.06	[-.05, .19]	.261	

Overall	15	.13	.05	[.04, .21]	.006	1.74, 1 (.187)
<hr/>						
Reduced Personal Accomplishment/Efficacy						
Job Training/Edu	10	.24	.07	[.11, .37]	.000	
Other Subtypes	6	-.09	.07	[-.22, .04]	.184	
<hr/>						
Overall	16	.08	.047	[-.01, .17]	.081	12.50, 1 (.000)
<hr/>						

Note. k = number of studies used in the calculation of the mean effect size. ES = Hedges' g effect size statistic. SE = standard error. 95% CI = 95% confidence interval. p = 2-tailed p -value associated with the test of statistical significance. Q_{bet} = variance between subgroups. Composite = overall burnout effect size based on average of subscales.

Table 4

Additional Moderator Analyses¹

Variable	<i>k</i>	ES	<i>SE</i>	95% CI	<i>p</i>	<i>Q_{bet}, df (p-value)</i>
Research Design						
Uncontrolled	14	.15	.06	[.02, .28]	.020	
RCT	12	.10	.07	[-.04, .23]	.157	
<u>Overall</u>	<u>26</u>	<u>.13</u>	<u>.05</u>	<u>[.03, .22]</u>	<u>.008</u>	<u>.30, 1 (.587)</u>
Fidelity/Manual^a						
Yes	18	.15	.06	[.04, .26]	.009	
No	8	.08	.09	[-.09, .25]	.368	
<u>Overall</u>	<u>26</u>	<u>.13</u>	<u>.05</u>	<u>[.03, .22]</u>	<u>.008</u>	<u>.44, 1 (.509)</u>
Sample Purity^b						
Direct Care Only	21	.09	.06	[-.02, .20]	.101	
Direct Care + Support	4	.22	.10	[.01, .42]	.036	
<u>Overall</u>	<u>25</u>	<u>.12</u>	<u>.05</u>	<u>[.02, .22]</u>	<u>.014</u>	<u>1.08, 1 (.299)</u>
Publication Status						
Published	21	.12	.05	[.02, .22]	.024	
Unpublished	5	.16	.11	[-.05, .37]	.135	
<u>Overall</u>	<u>26</u>	<u>.13</u>	<u>.05</u>	<u>[.03, .22]</u>	<u>.007</u>	<u>.12, 1 (.728)</u>
Variable	<i>k</i>	<i>B</i>	<i>SE</i>	95% CI	<i>p</i>	<i>R</i> ²
<u>Total Intervention Hours</u>	<u>21</u>	<u>.00</u>	<u>.00</u>	<u>[-.00, .00]</u>		<u>0%</u>
<u>Number of Intervention Sessions</u>	<u>22</u>	<u>-.01</u>	<u>.01</u>	<u>[-.04, .01]</u>	<u>.221</u>	<u>4%</u>
Burnout Pretest Score						
Emotional Exhaustion	23	.02	.01	[.00, .03]	.024	47%
Depersonalization/Cynicism	23	.03	.01	[.00, .05]	.004	100%
Reduced Personal Accomplishment/Efficacy	23	-.01	.01	[-.02, .01]	.202	3%
					<u>.207</u>	
<u>Participant Dropouts (%)</u>	<u>25</u>	<u>.00</u>	<u>.00</u>	<u>[-.01, .00]</u>	<u>.846</u>	<u>5%</u>

¹Study quality indicators, publication status, and total intervention hours are examined as potential moderators of the overall (composite) burnout effect size. Burnout pretest scores are examined as potential moderators of the effect sizes for their respective burnout dimensions.

Note. k = number of studies. ES = Hedges' g effect size statistic. SE = standard error. 95% CI = 95% confidence interval. p = 2tailed p -value associated with the test of statistical significance. Q_{bet} = variance between subgroups. B = regression coefficient. $R^2 = R^2$ analogue. Due to sampling error, values can fall outside the 0 to 100% range. When this happens, negative values are set to 0% and values above 100% are set to 100%.

^aFidelity to the intervention was measured and/or the intervention followed a treatment manual.

^bDirect care = supervisors and staff who directly work with consumers. Support = staff who do not work with consumers (e.g., accounting, janitorial, etc.).

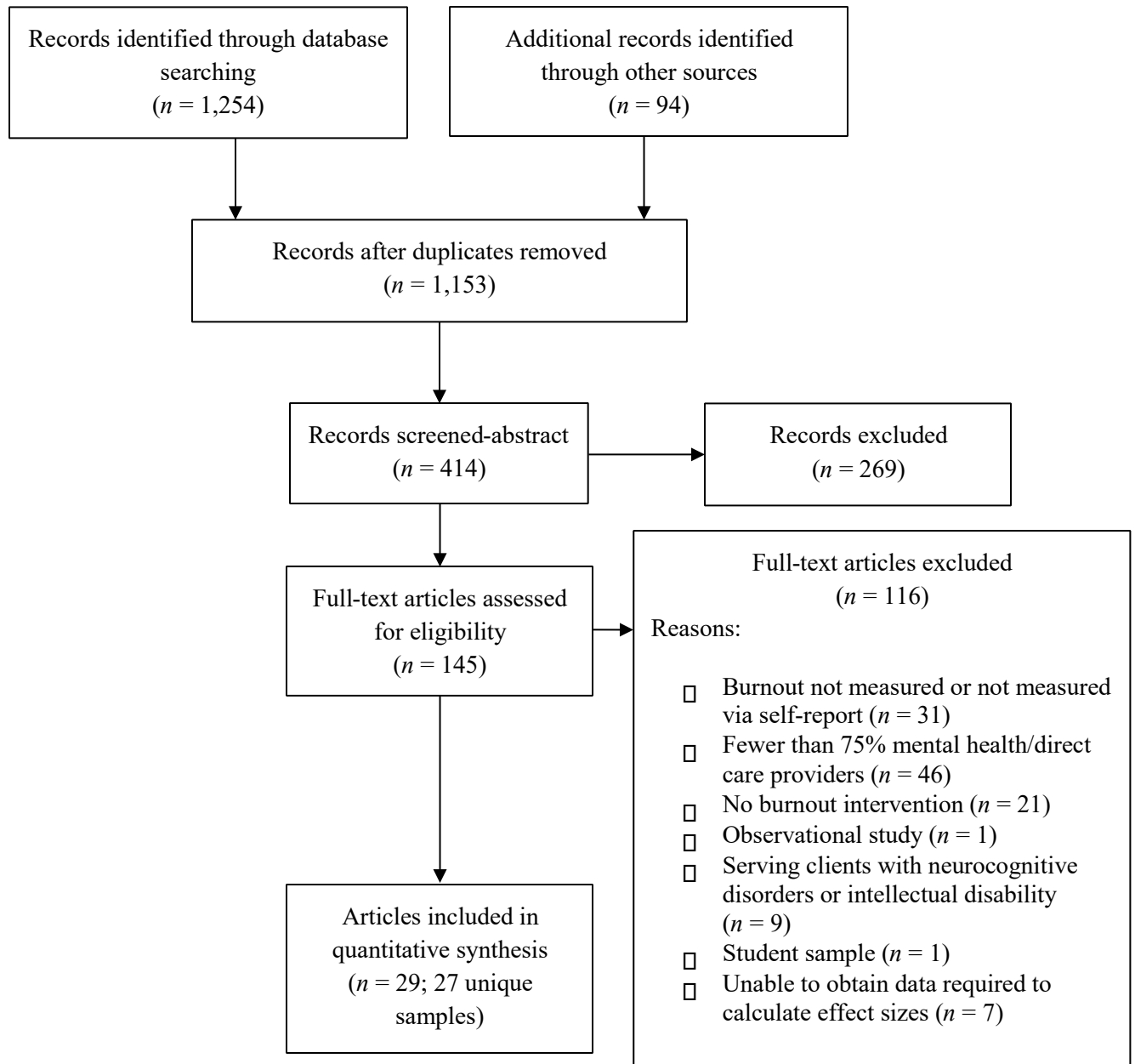


Figure 1. Literature retrieval flowchart.