Burnout Among School Psychologists: A Meta-Analysis

by

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Abstract

Burnout is a syndrome characterized by feelings of emotional exhaustion, depersonalization, and reduced personal accomplishment. Primary research on burnout among school psychologists suggests that these practitioners may experience high levels of burnout, especially in the domain of emotional exhaustion. Existing studies also point to personal and job-related factors associated with the three dimensions of burnout. However, there are considerable inconsistencies in these findings. Using Conservation of Resources theory which centers resource gain and loss, the current study sought to clarify these inconsistencies through meta-analysis of existing research on burnout among school psychologists. Mean levels of emotional exhaustion, depersonalization, and personal accomplishment in this population were examined along with the effects of various study (e.g., year, publication status) and sample (e.g., gender, education level) characteristics as moderators. Meta-analyses of correlations were also conducted to determine the strength of associations between the three dimensions of burnout and resource gain (e.g., years of experience) and resource loss (e.g., caseload) variables. Eligible studies (n = 31) included published and unpublished records available in English or French examining burnout in practicing school psychologists using the Maslach Burnout Inventory (the dominant measure of burnout) Educators Survey or Human Services Survey. Mean levels of burnout reported by school psychologists were highest in the domain of emotional exhaustion and this mean was higher than levels found in meta-analyses of related fields. Mean levels of burnout in the other two domains (depersonalization and personal accomplishment) were lower than have been observed among related fields. Reported levels of emotional exhaustion (but not depersonalization or personal accomplishment) were moderated by participant gender and study year, with higher emotional exhaustion found in samples with greater proportions of non-men

and in more recent studies. Post-hoc analyses found that participants residing in states with higher per capita income reported higher personal accomplishment. Increased participant age was associated with lower emotional exhaustion. Greater years of work experience was associated with lower burnout in all three domains. Larger caseloads were associated with higher emotional exhaustion and depersonalization. Results from this research are useful for addressing the issue of burnout in the field of school psychology.

Keywords: burnout, emotional exhaustion, depersonalization, personal accomplishment, school psychologist

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Workers who endure chronic work-related stress are at risk for experiencing burnout (Maslach et al., 2001). Burnout is a syndrome characterized by feelings of emotional exhaustion, depersonalized attitudes toward others, and self-evaluations of reduced personal accomplishment in the context of one's work (Maslach, 1982; Maslach et al., 2001). Maslach's three-dimensional definition of burnout has been widely used in research to date and is reflected in the most recent edition of the International Classification of Diseases (ICD-11); it is important to note, however, that burnout is not classified as a medical condition by these conventions (Kaschka et al., 2011; World Health Organization, 2022).

Nevertheless, elevated levels of burnout in the three domains are associated with various adverse outcomes (Morse et al., 2012; Salvagioni et al., 2017). Higher burnout levels among workers in the human service sector have been linked to decreased quality of services (Rupert et al., 2015; Salyers et al., 2017), organizational commitment (Brown et al., 2019; Burke & Richardson, 1993; Lee & Ashforth, 1996), and job satisfaction (Lee et al., 2011; Salvagioni et al., 2017) as well as increased absenteeism (Salvagioni et al., 2017) and turnover intentions (Alarcon, 2011; Lee et al., 2011; Lee & Ashforth, 1996; Madigan & Kim, 2021). Burnout also impacts the wellbeing of workers (Lee, 2015; Stalker & Harvey, 2002). Many studies have tied increased burnout levels to various physical (e.g., cardiovascular disease, pain) and mental (e.g., depressive symptoms, insomnia; Kahill, 1988; Salvagioni et al., 2017) health concerns. Thus, there is a clear need to understand how this syndrome might develop and manifest in different occupations in order to mitigate burnout symptoms and promote wellbeing in the workplace (Lee, 2015; Salvagioni et al., 2017). Recently, burnout has been identified as a significant

problem within mental health-related professions (Paris & Hoge, 2010). The present study sought to examine burnout in the occupation of school psychology.

Multidimensionality of Burnout

While there is some variation in the conceptualization of burnout within the literature, most research on the topic assumes a multidimensional definition consisting of the three components outlined by Maslach and colleagues (emotional exhaustion, depersonalization, and reduced personal accomplishment; Burke & Richardsen, 1993). The Maslach Burnout Inventory (MBI; Maslach & Jackson, 1981; Maslach et al., 2018) is the most widely used measure of burnout, with numerous meta-analyses of burnout exclusively focusing on this measure (e.g., Alarcon, 2011; Bykov et al., 2022; Lee & Ashforth, 1996; Lee et al., 2011; Lim et al., 2010). Differential associations have been found between each of the three dimensions of the MBI and other relevant variables (e.g., Jackson et al., 1986; Lee & Ashforth, 1990; Lee & Ashforth, 1996; Lee et al., 2011), highlighting the importance of examining each of the three dimensions separately. Indeed, the authors of the MBI manual recommend that scores on each of the three subscales should be reported separately (as opposed to creating a composite "total burnout" score by combining the subscales; Maslach et al., 2018).

The MBI maintains a three-factor structure, demonstrates good reliability, and has been assessed for validity among various occupational groups (Lee & Ashforth, 1990; Leiter & Schaufeli, 1996; Maslach et al., 2018; Schaufeli et al., 1993; Wheeler et al., 2011). Using this instrument, elements of burnout are assessed continuously (i.e., there is no clear way to determine what constitutes the presence or absence of burnout; Maslach et al., 2018; Schaufeli & Buunk, 1996). The original MBI assessed the three dimensions of burnout in terms of both the frequency and intensity of symptoms; however, due to redundancy (i.e., correlations greater than

.90) between these two scale formats (Lee & Ashforth, 1996), later editions of the MBI manual only include the frequency scale (Maslach et al., 2018; Schaufeli et al., 1993). Items on the frequency scale are scored on a scale from zero to six (0 = *never*, 1 = *a few times a year or less*, 2 = *once a month or less*, 3 = *a few times a month or less*, 4 = *once a week*, 5 = *a few times a week*, 6 = *every day*; Maslach et al., 2018). The MBI manual recommends reporting either the sum or average scores for each dimension (Maslach et al., 2018).

In contrast to the MBI General Survey (MBI-GS), which assesses burnout in relation to work in general, items on the Human Services Survey (MBI-HSS) and Educators Survey (MBI-ES) largely centre around working with other people (Maslach et al., 2018). As a result, the MBI versions that were designed to be used in contexts where participants' work involves providing services to other people (i.e., MBI-HSS, MBI-ES) are labeled in accordance with the three dimensions outlined above (i.e., emotional exhaustion, depersonalization, and reduced personal accomplishment), while other versions (e.g., MBI-GS) use more generic subscale titles of exhaustion, cynicism, and reduced professional efficacy, respectively (Maslach et al., 2018).

Emotional Exhaustion

The emotional exhaustion dimension of burnout involves feelings of overextension and depleted energy at work (Leiter & Maslach, 2016; Maslach et al., 2001). Emotional exhaustion is typically viewed as central to the experience of burnout (Lee & Ashforth, 1990, 1993a, 1993b; Leiter, 1989, 1991; Leiter & Maslach, 1988; Maslach et al., 2001). Similar to the concept of physical exhaustion, symptoms of emotional exhaustion are believed to develop in response to demanding aspects of work (Lee & Ashforth, 1990; Leiter, 1989, 1991). Elevated levels of emotional exhaustion in human service work may show up in workers as a reduced capacity for

involvement and responsivity in meeting the needs of service recipients (Maslach et al., 2001; Maslach & Leiter, 2005).

Depersonalization

As implied by the name, depersonalization refers to a perception of people in an impersonal way (Maslach et al., 2001). The depersonalization of service recipients is thought to be a coping strategy workers employ to distance themselves from exhausting work conditions (Lee & Ashforth, 1990, 1993; Leiter, 1989). Human service workers with elevated depersonalization levels tend to view service recipients in terms of their presenting concerns and may thus appear disengaged in their interactions with others (Maslach & Jackson, 1981).

Reduced Personal Accomplishment

The reduced personal accomplishment component of burnout refers to a negative appraisal of one's efficacy in their work (Maslach, 1982; Maslach et al., 2001). In contrast to the other two dimensions, low levels of personal accomplishment are indicative of increased burnout in this domain (Maslach et al., 2018). People are believed to experience a reduced sense of personal accomplishment at work when they feel they do not have the resources or capacity to adequately perform their duties (Maslach, 1993). In the context of work in the human services sector, those who exhibit a reduced sense of personal accomplishment tend to feel that they are unable to help service recipients (Maslach & Jackson, 1981).

Distinguishing Burnout from Related Constructs

In light of the increased attention that the concept of burnout has received in research and practice, it is important to distinguish it from related constructs. Firstly, burnout differs from work-related stress. Work-related stress refers to the perceived inability to meet demands within the context of one's work (Farber, 1983); it is a short-term response to stressors which typically

dissipates over time (Brill, 1984). Symptoms of burnout may develop when a person is exposed to prolonged periods of stress at work accompanied by a lack of available resources to manage this stress (i.e., high demands and low resources; Leiter, 1990; Schaufeli & Buunk, 2004; Schaufeli & Enzmann, 2020). Thus, while work-related stress may be a precursor to increased burnout levels, the two concepts are not synonymous.

Burnout also shares some similarities with symptoms of depression (Bianchi et al., 2013). Indeed, whether burnout and depression represent two distinct constructs has long been debated in the literature (e.g., Bianchi et al., 2013; Bianchi et al., 2015; Iacovides et al., 2003; Koutsimani et al., 2019; Maslach & Schaufeli, 1993; Schaufeli et al., 1993, 2001). Studies have found consistent associations between depression symptomology and the three burnout dimensions, with the emotional exhaustion dimension showing the strongest relation (Bianchi et al., 2015; Kahill, 1988; Koutsimani et al., 2019; Salvagioni et al., 2017). However, factor analysis studies comparing depression and burnout dimensions as measured by the MBI often conclude that while the two constructs share some similarities, they are distinct (see Bianchi et al., 2015 for a review). Results from a recent meta-analysis (Koutsimani et al., 2019) corroborate these findings, suggesting that depression and burnout are indeed unique constructs. A commonly cited distinction between these constructs refers to the respective life-domains affected (Iacovides et al., 2003; Koutsimani et al., 2019; Shirom, 2005). That is, while depression symptoms permeate all aspects of a person's life, burnout symptoms are specific to the work context (Schaufeli & Enzmann, 2020; Shirom, 2005).

Job satisfaction, which refers to the extent that a person feels satisfied with certain aspects of their job, is another related construct. Job satisfaction and burnout are similar in that they both represent affective responses to work (Zedeck et al. 1988). Research on the

relationship between job satisfaction and burnout suggests that these two constructs are inversely related, with lower job satisfaction (among various domains) being associated with higher levels of burnout in the three domains (Penn et al., 1988; Randall & Scott, 1988; Schaufeli et al., 1993; Tsigilis et al., 2004). Yet, research comparing the two constructs typically concludes that they are not opposite ends of the same spectrum (Maslach & Schaufeli, 1993; Tsigilis et al., 2004; Zedeck et al., 1988). Randall and Scott (1988) note that whereas job satisfaction is about the extent to which a person likes their job, burnout has to do with one's capacity to perform their job well. Therefore, although job satisfaction and burnout are two important elements of a person's experience with work, they are unique constructs. In sum, burnout represents a unique syndrome that is distinct from related constructs of work-related stress, depression, and job dissatisfaction.

Causes of Burnout

Various models exist regarding the onset of burnout symptoms and interrelation of the three dimensions (Burke & Richardsen, 1993). Although there has yet to be a consensus regarding the exact mechanism through which elevated levels of burnout develop in each of the three domains, existing models share two central points: burnout symptoms develop over time and as a result of difficulty managing work-related stress (Lee & Ashforth, 1993b; Schaufeli & Buunk, 1996). In line with the literature on stress in general, the depletion of resources is believed to play a central role in the process of burnout symptom development (Halbesleben & Buckley, 2004; Hobfoll, 1989). As such, various resource-related factors have been identified as antecedents of burnout (Alarcon 2011; Lee & Ashforth, 1993b, 1996). Specifically, increased burnout levels have commonly been associated with aspects of work that deplete one's resources, such as workload and role-related stress (e.g., role conflict and role ambiguity), while decreased

burnout levels are commonly associated with resource-gain aspects of work, such as autonomy, social support, and opportunities for job enhancement (Alarcon, 2011; Halbesleben, 2006; Lee, 2015; Lee & Ashforth, 1993b, 1996).

In addition to these general findings, occupation-specific characteristics likely influence the manifestation of burnout within different occupations. It is also likely that average levels of burnout in the three domains differ across occupations as a function of the unique sets of demands and resources within a particular line of work. In the school system, factors including student age, job satisfaction, self-efficacy, stress, coping, teacher education level, teaching experience, number of support personnel, support from school personnel, work hinderances, and emotional experience have been found to be related to burnout, according to a meta-analysis on special education teachers (Park & Shin, 2020). Moreover, Wood and McCarthy (2002) position control over work as an important factor in the prevention of burnout among teachers, highlighting the importance of autonomy on the job. Research on burnout in the area of professional psychology finds that greater control over work activities is related to decreased burnout as well (Rupert & Morgan, 2005). As school psychologists exercise differing levels of autonomy over their work conditions compared to their teacher and independent-practice psychologist colleagues, it is especially important to examine burnout among these practitioners. The proposed study examined levels of emotional exhaustion, depersonalization, and reduced personal accomplishment, along with various potentially influential factors (correlates) among school psychologists. The following section introduces a prevailing theory in burnout research which provides theoretical grounding for the exploration of various factors related to burnout in this study.

Conservation of Resources Theory

The conservation of resources (COR) theory (Hobfoll, 1988, 1989) is a general stress theory that offers a framework for understanding various factors related to the experience of stress. Since burnout is believed to develop in response to persistent difficulties managing stress in the workplace, COR theory can be applied to understand how such work stress and related factors may lead to burnout (Hobfoll & Freedy, 1993). Central to COR theory is the idea that people are motivated to obtain and maintain valuable resources (Hobfoll, 1989). Hobfoll (1988, 1989) defines resources as valued tangible or intangible factors, or factors that enable one to obtain those valued factors. Halbeselben and colleagues (2014) refined this definition of resources to factors that an individual perceives to be helpful in the attainment of their goals. COR theory identifies four types of resources that may be gained or lost: object resources (e.g., a house, money), conditions (e.g., marriage, job tenure), personal characteristics (e.g., traits, skills), and energies (e.g., time, knowledge; Hobfoll, 1988; 1989).

Rooted in COR theory, Hobfoll (1989) explains that a person will experience stress when there is a potential or actual threat of resource loss. Specifically, stress occurs as a reaction to circumstances where there is a perceived or actual a) possibility of net resource loss, b) actual net resource loss, or c) insufficient gain following resource investment (Hobfoll, 1989). Whereas resource loss is directly related to increased stress, resource gain acts as a buffer, indirectly affecting stress in the opposite direction (Hobfoll et al., 2018; Hobfoll & Freedy, 1993). When work demands are elevated, one must invest resources to offset resource loss and to gain additional resources (Halbeselben et al., 2014; Hobfoll & Freedy, 1993). Thus, maintaining a balance of available resources to factors which deplete one's resources is necessary for optimal functioning in the workplace.

Prolonged experiences of stress at work coupled with a lack of additional resources to manage this stress is what leads to increases in burnout in the three domains (Hobfoll & Freedy, 1993). Specifically, one interpretation of COR theory suggests that conditions which deplete a person's resources will result in increased symptoms of emotional exhaustion (Leiter, 1993; Lee & Ashforth, 1993b). Then, a person may attempt to cope by distancing themselves from their work (i.e., depersonalization increases; Leiter, 1993; Lee & Ashforth, 1993b). At the same time, one may begin to increasingly perceive themselves as less capable of performing work duties (i.e., personal accomplishment decreases; Lee & Ashforth, 1993b). Gaining additional resources may mitigate the progression of heightened depersonalization and reduced personal accomplishment by facilitating adaptive coping strategies and more positive self-perceptions (Hobfoll & Freedy, 1993). Thus, the theory predicts that conditions which deplete a person's resources will be more closely related to the emotional exhaustion dimension of burnout, whereas conditions which facilitate resource gain will be more closely related to depersonalization and reduced personal accomplishment (Hobfoll & Freedy, 1993; Lee & Ashforth, 1990, 1996; Leiter & Maslach, 1988).

Additionally, one might expect differences in the availability or appraisal of resources based on a variety of personal characteristics (Hobfoll, 2001; Hobfoll & Freedy, 1993). For instance, certain demographic factors including family characteristics and the broader societal context in which a person works may impact burnout levels through differential experiences of work-nonwork conflict (Reichl et al., 2014). Findings from Reichl and colleagues (2014) suggests that social support from the family may mitigate the effects of work stress, thus influencing burnout levels.

Taken together, COR theory provides a theoretical basis for the examination of differences in burnout levels across various job- and personal-characteristics. The present study examined various resource-related factors in relation to burnout. In particular, it investigated burnout and related factors in the field of school psychology.

Burnout Among School Psychologists

School psychology is a sub-field of applied professional psychology situated at the intersection of the fields of education and psychology (Fagan, 2012). School psychologists provide a variety of psychological services to students, families, teachers, and the broader school community (Fagan, 2012; Farmer et al., 2021). While the majority of school psychologists work as practitioners in either public or private K-12 schools, they may also work in university or private practice settings (Walcott & Hyson, 2018; Goforth et al., 2021). Graduate-level training (e.g., master's, specialist, doctoral degrees) is required to practise as a school psychologist in most places (Canadian Psychological Association [CPA] 2007, 2014; Reschly, 2000); though, the specific requirements for certification may vary across and within countries. The National Association of School Psychologists (NASP) Practice Model (NASP, 2020) outlines the following 10 domains of service delivery that practicing school psychologists are required to maintain competency in: 1) data-based decision making, 2) consultation and collaboration, 3) academic interventions and instructional supports, 4) mental and behavioral health services and interventions, 5) school-wide practices to promote learning, 6) services to promote safe and supportive schools, 7) family, school, and community collaboration, 8) equitable practices for diverse student populations, 9) research and evidence-based practice, 10) legal, ethical, and professional practice (NASP, 2020). While the breadth and specific combinations of professional

activities of a particular school psychologist may vary, conducting psychoeducational assessments are often a main responsibility (Bramlett et al., 2002; Farmer et al., 2021).

The role of a school psychologist is unique and distinct from other providers of psychological services and members of school student service teams. Grapin and Kranzler (2023) note that although the role of a school psychologist shares similarities with other related professions, there are important differences in the training, certification, expertise, and responsibilities. For one, the profession of school psychology is similar, yet distinct from the related specialization of clinical child psychology. While practitioners in both of these specializations of applied psychology have expertise on various aspects of child psychology, school psychologists possess unique knowledge in the field of education (Grapin & Kranzler, 2023). As such, the work of a school psychologist is largely based in the K-12 school system, whereas clinical psychologists typically work in a variety of other settings (e.g., hospitals, community mental health, and private practice) rather than in schools (Grapin & Kranzler). The role of a school psychologist is also distinct from that of a school counsellor. Although there is some overlap in these two roles (e.g., they both have training in mental health intervention and crisis response and are based in the school system), there are many differences in the additional responsibilities assigned to each role. Unique roles of a school counsellor may include course and career planning, whereas psychoeducational assessment is unique to the role of a school psychologist (Grapin & Kranzler, 2023).

There is a shortage of qualified staff in the field of school psychology (Castillo et al., 2014). This lack of personnel undermines school psychologists' ability to engage in a full scope of practice necessary to meet the needs of the students they serve (Farmer et al., 2021; NASP, 2021). Indeed, although school psychologists often report a desire for expanded role

responsibilities, in line with the NASP (2020) Practice Model, this may not be possible due to limited time and high assessment demands (CPA, 2002; Reschly, 2000; Splett et al., 2013). Efforts to address this shortage include recommendations for the recruitment/re-specialization of new professionals into the field and the retention of existing staff (NASP, 2016). Burnout is an important factor to consider in school psychologist retention, as it is associated with decreased job satisfaction and a desire to leave field of school psychology (Huebner, 1992; Mackonienė & Norvilė, 2012). Thus, understanding how experiences of burnout might manifest in the profession of school psychology is an essential step in addressing this shortage.

It is estimated that 21-67% of mental health professionals report elevated levels of burnout (Morse et al., 2012). Research on burnout specifically within the profession of school psychology suggests that many of these professionals also experience high levels of burnout (Boccio et al., 2016; Huebner, 1992, 1993; Schilling et al., 2018). Notably, 90% of school psychologists surveyed by Schilling and colleagues (2018) report having felt symptoms of burnout. These figures are particularly concerning considering the ethical responsibility that psychologists have to care for their own wellbeing in order to provide the best possible services to recipients (Smith & Moss, 2009). According to ethical standard II.12 of the CPA Code of Ethics for Psychologists, practicing psychologists are expected to "engage in self-care activities that help to avoid conditions (e.g., burnout, addictions) that could result in impaired judgement and interfere with their ability to benefit and not harm others" (CPA, 2017, p. 20). The responsibility of taking steps to ensure one's wellbeing as a practicing psychologist is also reflected in the American Psychological Association (APA) ethics code, which outlines psychologists' responsibility to be conscious of factors that may impede their ability to provide services in line with principles of benefice and nonmaleficence (APA, 2017).

Rationale for the Present Study

Over a decade ago, a group of researchers conducted two meta-analyses (Lee et al., 2011; Lim et al., 2010) on burnout (assessed using the MBI) among mental health professionals. Both of these articles included studies written in English that were published between the years 1988 and 2008 and neither reported mean burnout levels. The first study (Lim et al., 2010) included 15 articles examining burnout among various types of mental health professionals; only two of the included articles explored burnout specifically among school psychologists. Weighted mean correlations were reported for the following personal- and work-related correlates: age, gender, education level, work hours, work experience, and work setting (e.g., agency versus private practice; Lim et al., 2010). Results suggest that each of these factors are associated with burnout levels, with different patterns of associations being found for the three dimensions (Lim et al., 2010). Results from weighted mean correlations for emotional exhaustion that are comparable to the variables examined in the present study are as follows: education level ($r = .11$, $p < .05$), gender (non-significant), age ($r = -.20$, $p < .01$), years of experience (non-significant). Relevant weighted mean correlations for depersonalization were: education level (non-significant), gender ($r = .11$, $p < .01$), age ($r = -.18$, $p < .01$), years of experience (non-significant). Weighted mean correlations for personal accomplishment were: education level ($r = .14$, $p < .01$), gender (non-significant), age ($r = .09$, $p < .01$), years of experience ($r = .09$, $p < .01$). Of these factors, participant age showed the strongest association with each of the three dimensions of burnout (Lim et al., 2010).

The second study (Lee et al., 2011) included 17 articles on burnout among psychotherapists using the COR theory framework. Seven of the studies included in this meta-analysis examined burnout in school-based practitioners (i.e., school counsellors or school

psychologists); however, only three of these studies specifically examined burnout among school psychologists (Lee et al., 2011). Weighted effect sizes were reported for antecedents (job stress, over-involvement, control, job support, and professional identity) and consequences (job satisfaction, turnover intentions) in relation to the three burnout dimensions (Lee et al., 2011). Significant associations were found for each of the antecedent variables in this study, with factors related to resource loss (i.e., job stress, over-involvement) being associated with increased burnout and factors related to resource gain (i.e., job support, professional identity) being associated with decreased burnout (Lee et al., 2011).

More recently, another meta-analysis (O'Connor et al., 2018) was conducted examining burnout levels among workers in various fields grouped together under the umbrella term mental health professionals, including nurses, doctors, psychologists, occupational therapists, and social workers. This study included 33 articles published in English between the years 1997 and 2016; 10 of these studies included psychologists as participants but none were explicitly with school psychologists. Estimated mean burnout levels as measured by the MBI were as follows: 21.25 (95% CI [19.92, 22.58]) for emotional exhaustion, 6.82 (95% CI [6.13, 7.48] for depersonalization, and 34.61 (95% CI [32.97, 42.24]) for personal accomplishment (O'Connor et al., 2018). Significant differences in burnout levels were reported as a function of study quality (lower emotional exhaustion, lower depersonalization, and higher personal accomplishment when only studies rated 'good' quality were included), geographical region (personal accomplishment significantly increased when only studies conducted in North America were included), participant age (significantly positively associated with personal accomplishment), study size, the percentage of samples that were nurses (lower emotional exhaustion and depersonalization in samples with greater percentages of nurses), and the percentage of samples

that were psychologists (lower depersonalization and higher personal accomplishment in samples with greater percentages of psychologists; O'Connor et al., 2018). These differences in burnout levels by occupation highlight the importance of investigating burnout separately for different occupations.

Given the considerable variability of occupations under the umbrella of "mental health professionals" or "psychotherapists," it is difficult to identify exactly how burnout shows up in specific occupations within these broader fields, though existing research in allied professions can provide some context. For example, in a meta-analysis of nine studies published between 2000 and 2017 on burnout levels (assessed using the MBI) specifically among psychiatrists, Rotstein et al. (2019) found the following pooled mean burnout estimates: 22.03 (95% CI [19.71, 24.34]) for emotional exhaustion, 7.41 (95% CI [5.91, 8.90]) for depersonalization, and 30.00 (95% CI [24.75, 35.27]). Rotstein et al. (2019) did not examine factors associated with burnout in this population.

Another meta-analysis (Park & Shin, 2020) examined Maslach's three burnout dimensions specifically among special education teachers including 41 studies (publications and dissertations) from 1983 to 2018. This study did not report mean burnout levels. Significant associations were found with various student-related (i.e., student age and "other"), teacher-related (i.e., education level, teaching experience, self-efficacy, satisfaction, stress, coping, and "other"), and school-related (i.e., number of support personnel, support from school personnel, work hinderances, and emotional experience) correlates. Results from emotional exhaustion correlation analyses that are comparable to the variables examined in the present study are as follows: teacher age (non-significant), education level (non-significant), gender (non-significant), teaching experience (non-significant). Relevant results from correlations with

depersonalization are as follows: teacher age (non-significant), education level (Fisher's Z = -.0110, Q = .171; with higher education being associated with lower depersonalization), gender (non-significant), and teaching experience (non-significant). Correlations with personal accomplishment were: teacher age (non-significant), education level (non-significant), gender (non-significant), and teaching experience (Fisher's Z = .075, Q = .257; with greater teaching experience being associated with higher personal accomplishment).

While these studies offer a helpful starting point for understanding factors related to increased emotional exhaustion, depersonalization, and reduced personal accomplishment in the mental health-related workforce and school system, there are some clear limitations. Given the different roles and experiences of different occupations under the umbrella of "mental health professionals" or "psychotherapists," it is important to consider the unique factors related to burnout within occupations separately and specifically among school psychologists. It is also important to examine unpublished research (e.g., theses, dissertations, government reports) to identify any differences in burnout levels and related correlates observed across different types of records; while Park and Shin (2020) included dissertations, all of the abovementioned meta-analyses on mental health professionals in general (i.e., Lee et al., 2011; Lim et al., 2010; O'Connor et al., 2018) only include published works.

Although burnout has been identified as a problem within the field of school psychology (Schilling et al., 2018), there exists considerable inconsistencies in the reported percentage of school psychologists scoring "high" in each of the burnout domains. For instance, some studies have found that around 40% of school psychologists report high levels of emotional exhaustion (Boccio et al., 2016; Huebner, 1992; Schilling et al., 2018), while a study by Huebner (1993) found that only 25% of school psychologists reported high levels of emotional exhaustion.

Among these studies, percentages of the samples reporting high levels of depersonalization range from 3 to 9.8% (Boccio et al., 2016; Huebner, 1992, 1993; Schilling et al., 2018). In terms of reduced personal accomplishment, some studies have found that that about 12% of school psychologists report levels of personal accomplishment that fall in the lower third of normative data (indicating high levels of this dimension of burnout; Huebner, 1993, Boccio et al., 2016), while others report much higher percentages of 25.7% (Schilling et al., 2018) and 27.9% (Huebner, 1992) of samples scoring low on this domain. Overall, there appears to be considerable variability in the rates of high levels of emotional exhaustion, depersonalization, and reduced personal accomplishment among school psychologists, highlighting the need to clarify research in this area and identify factors responsible for this variability in order to provide evidence-based avenues for intervention. The present study sought to resolve these inconsistencies through meta-analytic examination of mean levels and associated moderators of emotional exhaustion, depersonalization, and reduced personal accomplishment across existing studies that report burnout among school psychologists. Various correlates of emotional exhaustion, depersonalization, and personal accomplishment were also examined through meta-analysis.

It is worth noting that although many studies report the percentage of their sample that score “high” on a particular domain of burnout, the categorization of burnout levels in this way is not advised (Mind Garden, 2018; Schaufeli & Buunk, 1996; Burke & Richardsen, 1993). This is because cutoff scores for determining what constitutes high/moderate/low were created by arbitrarily dividing scores from the normative data in the MBI manual into thirds (Maslach et al., 2018; Schaufeli & Buunk, 1996). Moreover, some authors have highlighted problems of generalizability of these norms from workers in the United States to other contexts (Schaufeli &

Van Dierendonck, 1995). To this end, the present study refrains from categorizing burnout altogether, instead, examining reported mean levels.

Factors Related to Burnout in School Psychology

In addition to the inconsistencies observed in the literature with respect to reported levels of burnout among school psychologists, there is also a lack of clarity about the specific job characteristics that are associated with burnout among practitioners in the field. Brown and Sobel (2021) conducted a systematic review of research on school psychologists' job attitudes. They identified excessive demands, factors related to the work role (e.g., breadth of duties, role ambiguity, discrepancies between actual and ideal roles), and personal characteristics to be salient factors influencing school psychologists' appraisals of their work (Brown & Sobel, 2021). Another systematic review (i.e., McCormack et al., 2018) identified factors related to burnout in studies on a broader population of applied psychologists; these were: workload, work setting, age, years of experience, sex, and other less commonly investigated resources (e.g., control over work, workplace support, self-efficacy, self care; McCormack et al., 2018). While these reviews are helpful for identifying various factors that may potentially be related to burnout in school psychologists, conclusions cannot be drawn regarding the strength and direction of these factors in relation to burnout. The present study aimed to bring clarity to this issue by quantitatively synthesizing existing research on factors related to burnout in this population statistically through meta-analysis.

As with any profession, the work of school psychologists involves unique circumstances and resources which may, in turn, impact their experiences of burnout. As noted earlier, the COR theoretical framework may be used to ground investigations of factors in relation to the three dimensions of burnout. Based on a preliminary search of the available literature on burnout

among school psychologists, various study- and participant-level variables were identified as potentially influential in relation to burnout levels among school psychologists and which were proposed to be included as either moderators or correlates within the present study. They are outlined below.

Participant-Level Moderators. It is possible that mean levels of burnout may vary as a function of the composition of the samples based on participant-level characteristics within these studies. That is, perhaps the percentage of participants within participant-level demographic and/or work characteristic groupings could account for the observed differences in levels of emotional exhaustion, depersonalization, and reduced personal accomplishment among school psychologists. These factors are discussed in the following sections.

Participant Demographics. As noted earlier, the availability or appraisal of resources likely differs across demographic characteristics. For instance, family characteristics such as having a partner and/or children may facilitate the attainment of resources such as social support and time for recovery from work and thus prevent the development of burnout symptoms (Reichl et al., 2014). While marital and parental status have not been explicitly examined in the published literature on burnout among school psychologists, some studies report the proportion of their samples according to these variables. These two family characteristics were proposed as potential moderators of burnout levels in the present study.

The education level of participants is another factor that may influence the availability of resources. While no significant associations have been found between school psychologists' education level and emotional exhaustion or depersonalization (Huebner, 1992; Huebner, 1993; Mills & Huebner, 1998), findings regarding its relation to the personal accomplishment domain have been less clear. Particularly, Huebner (1992) found significant positive associations

between the highest degree attained and personal accomplishment ($r = .15$, $p < .05$), while other studies found no significant associations (Huebner, 1993; Mills & Huebner, 1998).

Another demographic characteristic that may influence burnout levels among school psychologists is participant gender. As it pertains to COR theory, gender may influence a person's access to resources, thus potentially impacting experiences of burnout. Gender has been frequently examined in relation to burnout. Purvanova and Muros (2010) conducted a meta-analysis of gender differences across various occupations and found that men report significantly higher levels of depersonalization compared to women, while women report higher emotional exhaustion. Research on school psychologists tends to find that gender is not associated with burnout levels among these professionals (e.g., Huebner, 1993; Mills & Huebner, 1998). These findings may be due to a low power to detect effects in primary studies; a limitation meta-analysis can overcome.

Work Characteristics. Differences may also be observed in reported levels of emotional exhaustion, depersonalization, and personal accomplishment across groupings of participant work characteristics. For instance, perhaps school psychologists who work in different geographic locations (e.g., rural, urban, suburban) experience differing levels of burnout. While this has not been the focus of research on burnout in the field of school psychology to date, one might expect differences in the available resources associated with work in different settings, thus impacting reported burnout levels across geographic location groupings. Meta-analysis can be used to examine such differences across studies. To this end, geographical location of work was proposed as a potential moderator of levels of emotional exhaustion, depersonalization, and reduced personal accomplishment in existing research among school psychologists.

Another factor that may influence reported levels of burnout among school psychologists is their grade level assignments. Considering differences in school dynamics across elementary, middle, and secondary schools, the experiences of school psychologists at each of these levels likely differ. Skaalvik and Skaalvik (2017) examined burnout among teachers and found that stressors that are more prevalent in earlier school years (e.g., discipline problems, time pressure) and later years (e.g., low student motivation) were associated with differing levels of burnout. Assuming that factors associated with different school levels are perceived as resources (or threats to resources), levels of burnout among school psychologists may differ across school psychologists assigned to different school levels, within the COR framework. To explore this potential relationship, the present aimed to examine grade level assignment as a potential moderator of burnout levels among school psychologists.

As noted previously, the role of a school psychologist encompasses a broad spectrum of activities and responsibilities. The proportion of time spent engaging in these different activities may also influence burnout levels among these professionals; however, little is currently known about this. Given that many school psychologists desire a role with expanded responsibilities yet may be limited by the heightened need for assessment activities (CPA, 2002; Reschly, 2000; Splett et al., 2013), differing levels of burnout may be observed as a function of role responsibilities. To gain an understanding of how performing different role responsibilities might be related to experiences of burnout, the proposed study aimed to examine participants' reported proportion of time spent on certain activities as a moderator of burnout levels in the three domains.

Participant salary may also be viewed as a resource impacting burnout levels. That is, reported levels of burnout may differ based on the composition of study samples based on salary.

While studies on burnout among school psychologists seldom examine salary in relation to burnout levels, other research suggests that lower burnout levels are associated with increased salary (Font, 2012) and salary satisfaction (Leu et al., 2020). The present study proposed to examine salary as a moderator.

The number of schools that a given school psychologist is assigned to may also influence reported burnout levels. Specifically, being assigned to more schools may consume more of a workers' time and energy. From a preliminary search of the literature, only one published study was identified which examines this variable in relation to burnout (Mills & Huebner, 1998). However, other studies may report on this variable alone allowing its inclusion as a moderator variable.

Study-Level Moderators. In addition to participant-level factors, it is also possible that study-level differences may account for the differing levels of burnout in school psychologists observed within the literature. Meta analysis is a useful technique for the examination of such larger-scope factors, as primary studies are typically unable to do so.

One such study-level variable is the year of publication. Over time, the role of a school psychologist has continuously evolved to meet the needs of the students, families, and schools they serve within changing social contexts (Sullivan et al., 2022). For one, practicing psychologists report an increase in case severity over time (Benton et al., 2003). Moreover, since the beginning of the COVID-19 pandemic, trends of increased numbers of referrals and a greater need for mental health services have been observed (APA, 2021, 2022). These factors may make for differences in the resources available to school psychologists and may thus be associated with differences in reported burnout levels, according to the COR framework. The present study examined publication year as a moderator of burnout levels to examine whether trends exist in

the reported levels of emotional exhaustion, depersonalization, and reduced personal accomplishment in school psychologists over time.

Another study-level variable that may influence mean levels of burnout reported among school psychologists is the publication status of available research. According to Borenstein et al. (2021), publication bias is a phenomenon wherein studies that are published in peer-reviewed journals represent disproportionate rates of "positive" results (i.e., statistical significance is found more often) compared to unpublished works, due to a tendency for publishers to favour studies with significant findings. This means that studies with significant results are more likely to be found through a conventional literature search than unpublished papers, reports, and theses and dissertations with non-significant results. Meta-analysis can be useful to examine the extent of this potential issue within a body of literature. Publication status was included as moderator in the present study to examine how reported burnout levels among school psychologists may differ across studies as a function of their publication status.

Cultural norms, such as tendencies toward individualist versus collectivist ways of living, may also impact appraisals of resources, thus, potentially influencing burnout levels (Reichl et al., 2014). While it is difficult to ascertain how burnout may be experienced across different cultures in a primary study, meta-analysis can be used to examine such larger-scale differences. In the present study, countries where primary studies have been conducted was to be used as a proxy for the broader culture in which the study's participants live and this variable was proposed to be examined as a moderator of burnout levels. In addition to the abovementioned moderators, the present study examined various correlates of burnout within the COR framework. They are outlined below.

Resource Gain Correlates of Burnout in School Psychology. Based on a preliminary search of the literature on burnout among school psychologists, the following variables were identified as factors related to resource gain: participant age, years of work experience, and number of school psychologists on staff. Applying the COR theory, each of these factors may facilitate resource gain, such as expertise, experience, confidence, and social support. These variables were thus expected to be inversely related to burnout levels. Existing research on the relationship between each of these factors and burnout in the field of school psychology are discussed below.

Younger professionals tend to face high demands at home and at work and they also likely possess fewer resources to offset these demands compared to their older counterparts (Reichl et al., 2014). To the extent that increased age facilitates resource gain, increased age will likely be associated with lower levels of burnout, according to the COR theory. However, findings have been mixed in terms of the relationship between age and burnout levels among school psychologists. For instance, Huebner (1993) and Huebner (1994) found significant negative correlations between age and emotional exhaustion (r = -.27 and -.23, respectively), indicating that increased participant age was associated with lower levels of emotional exhaustion, while other studies have found no significant associations (Huebner, 1992; Mills & Huebner, 1998; Schilling et al., 2023; Weaver & Allen, 2017). As it relates to the depersonalization dimension, Huebner (1992), Huebner (1994), and Weaver and Allen (2017) found increased age to be significantly associated with decreased levels of depersonalization (r = -.17, -.25, -.24, respectively), yet others found no significant association (Mills & Huebner; 1998; Schilling et al., 2023). Interestingly, one study (Huebner, 1993) reports a relationship in the opposite direction, with increased age being associated with higher depersonalization scores

($r = .27$, $p < .05$). Mixed results also exist for the reduced personal accomplishment dimension, with two studies reporting significant positive relationships ($r = .37$; Schilling et al., 2013 and $r = .18$; Weaver & Allen, 2017), three reporting no significant associations (Heebner, 1992; Huebner, 1994; Mills & Huebner, 1998), and one reporting a significant relationship in the opposite direction ($r = -.22$; Huebner, 1993).

The amount of experience a person has working in a specific occupation may also facilitate resource gain. For instance, more experienced workers likely possess greater skills and confidence in their ability to perform duties, thus positioning them at an advantage in terms of opportunities for resource gain. Yet, findings have been less conclusive in the field of school psychology. For emotional exhaustion, Huebner (1993) found a significant correlation ($r = -.17$, $p < .05$), while the other two studies looking at this relationship report no significant association (Boccio & Weisz, 2016; Mills & Huebner, 1998; Schilling et al., 2023). None of the published records report significant associations between years of experience and depersonalization (Boccio & Weisz, 2016; Huebner, 1993; Huebner & Mills, 1998; Schilling et al., 2023). Results on reduced personal accomplishment are also mixed. Specifically, Boccio et al. (2016) and Schilling et al. (2023) found significant positive correlations between years of experience and personal accomplishment ($r = .16$ and .25, respectively), indicating that an increased number of years working in the field was associated with higher levels of personal accomplishment (i.e., lower levels of this aspect of burnout), while the others found no significant association (Huebner, 1993; Mills & Huebner, 1998).

The number of school psychologists assigned to a particular school division or district may also facilitate resource gain. Particularly, the presence of more school psychologists in a division/district may facilitate resource gain through increased available support from

colleagues. Huebner (1992) found a significant negative association with emotional exhaustion (r = -.17, p < .05), such that a greater number of school psychologists on staff corresponded to decreased levels of emotional exhaustion, yet another study found no significant association (Mills & Huebner, 1998). Both studies found no significant associations for depersonalization or personal accomplishment dimensions (Huebner, 1992; Huebner & Mills, 1998).

Resource Loss Correlate of Burnout in School Psychology. From a preliminary search of the literature on burnout among school psychologists, the following factor was identified as factor related to resource loss: caseload. Using the COR framework, this factor may contribute to the depletion of valued resources, such as time and the ability to perform a full scope of practice. This variable is thus expected to be associated with increased burnout.

Caseload, or the total number of students that a school psychologist is assigned to (including both referred and non-referred students), may influence the resources available to school psychologists and thus burnout. The average number of students assigned to one school psychologist (i.e., psychologist-to-student ratio) is approximately 1500 (Boccio et al., 2016); a figure considerably higher than the ratio recommended by NASP, which suggests that there should be no more than 500 students assigned to each school psychologist when comprehensive services are being provided (NASP, 2020). Interestingly, none of the published studies examining this variable in relation to burnout report significant associations (Boccio & Weisz, 2016; Huebner 1992, 1993; Mills & Huebner, 1998), with the exception of one study (Huebner, 1994) which found increased caseload to be associated with higher depersonalization (r = .22, p < .05). This study reported no significant associations with the other dimensions (Huebner, 1994). Meta-analysis may have greater power to detect such effects. Moreover, while Huebner (1992) found that caseload itself was not associated with burnout scores, they did find that an

increased discrepancy between participants' actual and ideal caseloads were associated with higher levels of burnout in all three dimensions (Huebner, 1992). Unfortunately, a search of the literature identified only one published study which reports on such a caseload discrepancy variable, preventing its inclusion as a variable in the present meta-analysis.

The Current Study

Research on burnout among school psychologists is mixed; it is unclear which factors are related to burnout and to what extent. The proposed study sought to clarify this by answering the following research questions:

1. What are the mean levels of a) emotional exhaustion, b) depersonalization, and c) personal accomplishment among school psychologists?
2. Does the mean level of a) emotional exhaustion, b) depersonalization, and c) personal accomplishment among school psychologists differ based on participant demographic characteristics (marital status, parental status, education level, gender), work characteristics (work location, grade level assignment, role responsibility, salary, number of schools served), or study variables (study year, publication status, country of study)?
3. How large is the association between levels of a) emotional exhaustion, b) depersonalization, and c) personal accomplishment and identified resource gain factors (age, years of work experience, number of school psychologists on staff)?
4. How large is the association between levels of a) emotional exhaustion, b) depersonalization, and c) personal accomplishment and the identified resource loss factor (caseload)?

Method

Search Strategy and Identification of Studies

The Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) guidelines were followed to identify, screen, and determine eligible studies (Moher et al., 2009). The PsycINFO, Educational Resources Information Centre (ERIC), and PubMed databases were searched for records that were available in either English or French. The following set of keywords was used to search each of the databases: school psycholog*/psycholog* scolaire, education* psycholog*/psychopédagogue, burnout/épuisement professionnel, Maslach Burnout Inventory, emotional exhaustion/épuisement émotionnel, depersonalization/dépersonnalisation, personal accomplishment/accomplissement personnel. Backward searches (i.e., examination of a study's reference list) and forward searches (i.e., examination of later works citing a study) were conducted for each eligible article to identify any additional studies; these studies then underwent screening and eligibility assessment.

Criteria for Study Selection

The following criteria was used to determine study eligibility: 1) the study was reported in English or French, and 2) the study reported a measure of emotional exhaustion, depersonalization, and/or reduced personal accomplishment in practicing school psychologists as measured by a version of the MBI that refers to working with other people (i.e., MBI-ES or MBI-HSS). Alarcon (2011) found that associations between burnout and relevant job factors was moderated by the MBI version used (i.e., MBI-HSS vs MBI-GS); hence, studies assessing burnout using the MBI-GS were to be excluded (though none of the reports assessed for eligibility used this measure). See Appendix A for an eligibility checklist. Only primary research studies, which analyze data collected for a specific study, were eligible for inclusion (i.e.,

secondary data analyses, such as reviews and meta-analyses were excluded). Both published and unpublished studies were eligible for inclusion. Although it is common practice in meta-analysis to include only published studies which have undergone peer review, there is value in also searching unpublished grey literature (Borenstein et al., 2021; e.g., theses, dissertations, government reports). Namely, if these such forms of unpublished literature are included, meta-analysis can compare findings between published and unpublished records to identify and reduce potential publication bias. As noted previously, this was a goal of the present study. In cases where it appeared that multiple reports may have used the same data, Wood's (2008) procedure for detecting duplication was followed and only the most comprehensive report was included.

Though the MBI is the leading measure used to assess burnout in the literature, various other measures have also been used, such as the Copenhagen Burnout Inventory (Kristensen et al., 2005) and Oldenburg Burnout Inventory (Halbesleben & Demerouti, 2005). Since the present study conceptualizes burnout in terms of Maslach's definition, comparison of scores on the MBI subscales with other measures representing different facets of burnout may not yield meaningful results. For instance, the subscales of the Copenhagen Burnout Inventory (i.e., personal burnout, work burnout, patient burnout; Kristensen et al., 2005) are considerably different from the dimensions of emotional exhaustion, depersonalization, and reduced personal accomplishment used in the MBI. Therefore, studies using such a measure were excluded from this meta-analysis. The distinction between Maslach's definition and burnout assessed by other measures is less clear. For example, the Oldenburg Burnout Inventory is made up of two subscales (exhaustion and disengagement) which resemble the emotional exhaustion and depersonalization subscales of the MBI (Halbesleben & Demerouti, 2005). Yet, upon further inspection, important distinctions can be identified in the way burnout is defined according to these different scales in relation to

the MBI. Thus, in order to ensure interpretability of results, only studies assessing burnout using the MBI were included in the present study and those assessing burnout with other measures were excluded. Many other meta-analyses have included only studies using the MBI (e.g., Alarcon, 2011; Bykov et al., 2022; Lee & Ashforth, 1996; Lee et al., 2011; Lim et al., 2010).

Since the first edition of the Maslah Burnout Inventory was created in 1981, searches were limited to the time period from 1981 to present. Given that the MBI manual recommends reporting each of the three subscales (i.e., emotional exhaustion, depersonalization, and personal accomplishment) separately, studies that only report a "total" composite score for burnout were excluded. Additionally, given the high degree of overlap between frequency and intensity subscales of the MBI (as noted previously; Schaufeli et al., 1993), the present study included studies that reported either of these two metrics. For instances where data for both subscales were reported, the frequency subscale was used. As the MBI uses a seven-point Likert scale (options ranging from 0 to 6 for *frequency* and 1 to 7 for *intensity*), data from studies using any other scale were planned to be transformed for analysis (though none of the eligible studies reported using a different scale).

Practicing school psychologists were defined as those who are currently practicing in the profession of school psychology within the K-12 school system. That is, studies examining burnout among psychologists-in-training and practicing school psychologists who work solely in other settings were excluded. Studies examining burnout in different sectors of professional psychology (e.g., clinical psychology) were excluded.

Data Extraction and Coding

Articles extracted from these databases were stored and managed using Covidence software (Covidence, n.d.). Search results were first compared against each other to identify and

remove any duplicates. Next, the article titles and abstracts were screened by two independent reviewers using the above set of eligibility criteria. Discrepancies were resolved through discussion between the two reviewers. Articles that appeared relevant at this stage then underwent a full-text review to determine eligibility. Studies that met the eligibility criteria were included and studies that did not meet the criteria were excluded. Each study was then independently coded by two separate reviewers, following a pre-determined, structured coding manual (Appendix B) based on the research questions for this study. A coding form (Appendix C) was filled out by each of the two reviewers for each of the studies screened at the full-text level. Discrepancies at this stage were resolved through discussion between the two reviewers. Descriptive data that was extracted included: 1) study author(s), 2) study year, 3) type of publication, 4) study country, 5) participants and sample sizes, 6) MBI version, scale type, and Likert-scale points, and 6) the composition of samples by each of the proposed moderators (participant gender, marital status, parental status, work location, grade level, role responsibility, salary, number of schools served). Study country was to be used as a proxy variable for cultural background; however, analysis of this variable was precluded by a lack of variability across studies. Additionally, quantitative data on the reported levels of emotional exhaustion, depersonalization, and/or personal accomplishment among school psychologist participants was extracted along with correlation statistics for the correlates outlined previously. For instances where data was reported at more than one time point, pre-test data was included. When it was found that relevant data was missing from a record, the study's corresponding author was contacted requesting this information. In one instance (i.e., Mills & Huebner, 1998; publication that was included), missing information was retrieved from another report that used the same data (i.e., Mills, 1995; dissertation that was excluded due to duplicate data). For studies that did

not provide contact information (e.g., theses and dissertations), the name of the author was searched online to locate an email address. Nine authors were contacted requesting additional information. Of these, three provided additional data, five were unable to provide the requested data, and one did not respond.

Statistical Analysis

Statistical analyses were conducted using Comprehensive Meta Analysis (CMA) software (Biostat, Inc, n.d.). Under a random-effects model (Borenstein et al., 2021), meta-analyses examined the mean levels of emotional exhaustion, depersonalization, and personal accomplishment in practicing school psychologists and the effect of a number of study and sample characteristics as moderators. Separate meta-analyses were conducted for each of the burnout dimensions (i.e., emotional exhaustion, depersonalization, and personal accomplishment).

Moderator analyses were conducted on all variables that had at least 10 studies with data on a given variable, in line with recommendations from experts in the field of meta-analysis (i.e., Deeks et al., 2019). As a result, the following variables were included in moderator analyses: gender (% non-men), work location (% non-rural), education level (% doctorate), publication status (published vs. not published), and study year. Moderator analyses were not conducted on the following variables due to insufficient data: marital status, parental status, grade level, role responsibilities, salary, and number of schools served. Meta-regression analyses were conducted for continuous variables using the Knapp-Hartung adjustment, as it provides a more accurate confidence interval (Borenstein et al., 2021). Subgroup analyses were conducted for the categorical variable of publication status (i.e., coded as published or unpublished).

Correlation analyses were conducted on all identified correlates that had at least four studies reporting on the given association, since assumptions of a random effects models cannot be met with fewer studies. Hence, correlation analyses were not conducted on the number of school psychologists on staff variable. Separate correlation analyses for emotional exhaustion, depersonalization, and personal accomplishment were conducted on the following variables: age, caseload, and years of experience.

The concepts of observed and true effects in secondary data analysis mirror that of sample and population parameters in primary data analysis. The present study is a secondary data analysis (meta-analysis) whereby the "sample" consists of identified primary studies examining burnout among school psychologists. Observed effects are understood as the effect of a given statistic in a sample of studies on a particular topic (e.g., the studies included in a meta-analysis). A true effect represents the underlying effect of a given statistic (effect size) that would be expected if it were possible to conduct an infinite number of studies. Whereas fixed effects models assume that there is a common underlying "true" effect for a given statistic across studies in a meta-analysis, random effects models allow for variation in the true effect across studies, such that each study may have its own underlying true effect (Borenstein et al., 2021). As noted earlier, the present study followed a random-effects model. Heterogeneity statistics can be used to quantify the variation (or dispersion) in effects across studies within this type of model. In the present study, prediction intervals are used to assess heterogeneity in effect sizes across studies (Higgins & Thompson, 2002). Confidence intervals are also reported representing the precision of effect sizes.

Additional statistics that are reported for the present study include Q, τ, τ^2, I^2, and fail-safe N. The Q-statistic is a null hypothesis significance test which tells us whether the true effect

size is the same across studies. Significant *Q*-values ($p < .10$) suggest that effect sizes indeed vary across studies. The τ statistic represents the standard deviation and τ^2 represents the variance in effect sizes between studies. Pooled estimates of τ^2 were computed for subgroup analyses. The I^2 statistic was used to examine the proportion of observed variance across studies that is attributable to actual differences in true effects of the studies (as opposed to sampling error; Borenstein et al., 2021). As such, higher I^2 values represent a greater proportion of variance in observed effects across studies that is due to a true effect (Borenstein et al., 2021). Rosenthal's fail-safe *N* was also computed to assess publication bias.

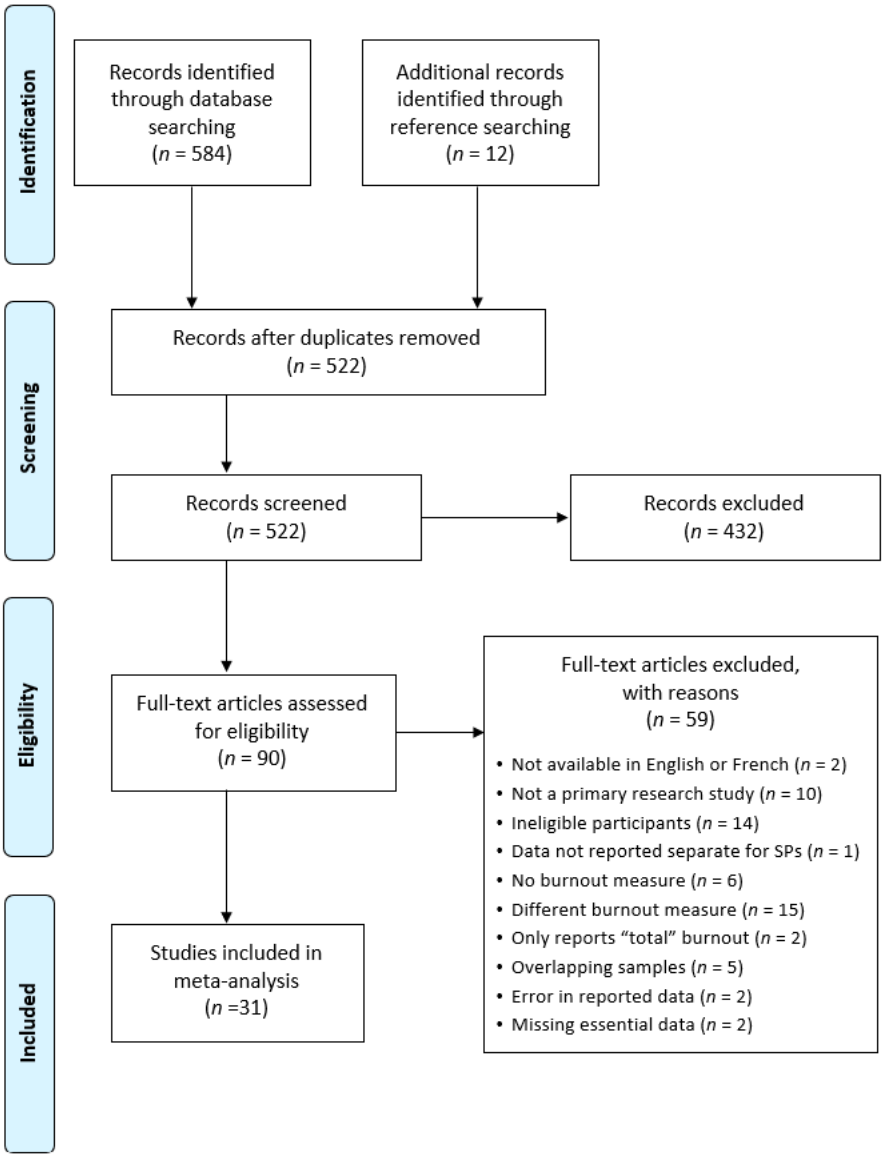
Results

Study Characteristics

Search results from three databases yielded 522 unique articles. Through the process of manual backward and forward searches, 12 additional articles were identified; two of which were later deemed eligible (Beer, 2023; Pike et al., 2025) and included in the final analyses. A total of 90 full-text articles were reviewed and screened for eligibility. Thirty-one of these articles met all of the inclusion criteria to be included in the analyses (Figure 1). The studies were published from 1983 to 2025. All studies were conducted in the United States, with one U.S-based study that recruited Canadian participants.

Figure 1

PRISMA 2009 Flow Diagram



Note. SP = School Psychologist

The number of individual effect size entries *(k*) used to answer each research question ranged from four to 33. Sample sizes of school psychologist participants for each individual effect size entry ranged from 19 (Warren 1992a; Warren, 1992b) to 1001 (Buck Pursell, 2018). Eleven records used the MBI-HSS version, five used the MBI-ES, and 17 did not specify which MBI version that was used. Most used only the MBI *frequency* scale ($k = 26$), one used only the *intensity* scale, three studies used both, and three studies did not specify which scale that was used. Records included journal articles ($k = 11$), doctoral dissertations ($k = 20$), master's theses ($k = 1$), and conference papers ($k = 1$). The proportion of samples that were non-men ranged from 42.1% (Warren 1992a) to 96.8% (Buck Pursell, 2018). The proportion of samples that worked in a non-rural location ranged from 49% (Wyglinski, 2008) to 88% (Zupkus, 2024). The proportion of study samples that were at the doctorate education level ranged from 9.3% (Goodfellow, 2015) to 32.3% (Small, 1988). See Table 1 for detailed study characteristics.

Table 1

Study-Level Characteristics

Study	Total *N*	State	Pub. Type	MBI Ver.	MBI Scale	EE *M* (*SD*)	DP *M* (*SD*)	PA *M* (*SD*)	Gender (% non-men)	Location (% non-rural)	Education (% doctoral)
Alvarez (1999)	71	FL	DD	HSS	F	19.63 (8.85)	4.63 (4.25)	38.93 (5.58)	68 [a]	-	20
Beer (2023)	50	OH	DD	ES	ns	27.40 (13.05)	4.66 (4.59)	34.76 (7.68)	88 [a]	-	-
Berger (1983)	625	NY	DD	ns	F & I	19.40 (9.30)	5.88 (5.85)	36.68 (6.00)	43 [a]	80.6	25.7 [g]
Boccio et al. (2016)	291	ns	JA	HSS	F	22.94 (10.84)	4.24 (4.25)	38.34 (5.26)	80 [a]	50.4	19.6
Buck Pursell (2018)	1001	ns	DD	HSS	F	30.69 (11.34) [d]	7.35 (5.90) [d]	34.32 (6.80) [d]	96.8 [a]	77.7 $n = 1000$	9.8
Goodfellow (2015)	140	ms	DD	HSS	F	23.41 (11.72)	4.85 (4.15)	37.20 (6.27)	87.1 [a]	-	9.3
Hann (1998)	333	ms	DD	HSS	F	23.59 (10.65)	5.27 (4.36)	37.51 (6.10)	73.2 [a]	77.4 [f]	16.4
Huberty & Huebner (1988)	234	ms	JA	ns	F & I	20.00 (9.87)	5.17 (4.13)	37.70 (6.40)	-	72.7	19.6
Huebner & Mills (1994)	90	SC	JA	ns	F	23.01 (11.06)	6.10 (4.90)	34.80 (5.42)	78.2 [c]	70	25
Huebner (1992)	139	ms	JA	ns	F	23.14 (9.54)	6.00 (4.76)	35.07 (6.23)	69 [c]	65	23
Huebner (1993)	179	ms	JA	ns	F	20.80 (10.10)	4.57 (3.83)	38.50 (5.90)	68 [c]	71 [e]	19
Huebner (1994)	114	SC	JA	ns	ns	24.95 (10.39)	6.18 (4.98)	34.61 (5.55)	80 [c]	62	18
Jacobs (1983)	276	MG	DD	ns	F & I	18.07 (8.33)	10.28 (3.78)	32.47 (5.41)	52.2 [a, d]	-	18.1
Kruger (1993)	181	MC	CP	ns	F	22.22 (10.92)	3.81 (3.99)	40.45 (5.90)	72	-	20
Kucer (2018)	75	FL	DD	ES	F	21.25 (11.26)	2.69 (3.93)	36.47 (6.89)	93.3 [h]	-	26.7
McKnight-Romney (2022a) [i]	164	ms	DD	HSS	F	24.172 (8.60)	6.718 (5.00)	40.558 (2.84) [b]	-	-	-
McKnight-Romney (2022b) [j]	42	ms	DD	HSS	F	22.476 (8.36)	8.714 (5.69)	40.429 (3.26) [b]	-	-	-
Mills & Huebner (1998)	225 [c]	NC	JA	ns	F	24.25 (9.63)	5.27 (4.28)	37.33 (6.10)	73.4 [a]	61	14
Niebrugge (1994)	117	IL	MT	ns	F	21.20 (10.23)	5.60 (4.63)	38.09 (6.24)	71 [d]	70 [f]	11
Pierson (1983)	281 [c]	CN	DD	ns	I	18.00 (10.26) [d]	4.20 (4.20) [d]	32.64 (6.64) [d]	61.8 [h]	-	-
Pike et al. (2025)	350	ns	JA	Ns	F	32.58 (10.44) [d]	-	-	98	-	13.7
Sandoval (1993)	50	CA	JA	ns	F	20.62 (8.54)	5.94 (4.44)	38.14 (5.73)	62 [c]	-	-

Study	Total *N*	State	Pub. Type	MBI Ver.	MBI Scale	EE *M* (*SD*)	DP *M* (*SD*)	PA *M* (*SD*)	Gender (% non-men)	Location (% non-rural)	Education (% doctoral)
Schilling et al. (2023)	100	ms	JA	HSS	F	25.0 (11.1)	4.8 (4.4) *n* = 97	36.4 (6.8) *n* = 95	84 [a]	74	-
Small (1988)	169	NJ	DD	ns	F	18.60 (9.42)	4.92 (4.00)	38.58 (5.79)	58 [a]	-	32.3
Smith (2016)	80	NJ	DD	ES	F	31.27 (10.73)	7.90 (3.58)	46.33 (5.40)	91 [a]	-	29
Sullivan (1991)	71	OR	DD	HSS	F	22.77 (8.14)	7.33 (4.14)	38.43 (4.81)	59.2 [a]	85.93	28.2
Vandiviere (1991)	180	VI	DD	ES	ns	20.63 (9.59)	4.68 (4.26)	38.04 (5.74)	71 [a]	-	20
Warren (1992a) [k]	19	ns	DD	ns	F	18.11 (7.45)	5.95 (3.24)	35.00 (6.35)	42.11 [a]	-	-
Warren (1992b) [l]	19	ns	DD	ns	F	20.26 (8.88)	6.84 (6.27)	36,94 (6.12)	57.89 [a]	-	-
Weaver & Allen (2017)	192	ms	JA	HSS	F	31.14 (11.34) [d] *n* = 156	10.95 (4.95) [d] *n* = 156	43.04 (7.28) [d] *n* = 156	85.7 [a] *n* = 161	63.4 *n* = 161	-
Wyglinski (2008)	149	can	DD	HSS	F	-	3.79 (3.68)	37.99 (5.91)	74.5 [a]	49 [e]	29.5 [g]
Wylie (2003)	81	AR	DD	ns	F	22.02 (10.58)	7.16 (5.38)	35.23 (8.52)	74.08 [a]	-	-
Zupkus (2024)	192	ns	DD	ES	F	29.41 (11.72) *n* = 176	5.90 (4.35) *n* = 164	34.03 (7.44) *n* = 190	90.6 [a] *n* = 191	88 *n* = 189	19.8

Note. AR = Arizona; CA = California; can = participants from Canada; CN = Connecticut; CP = conference paper; DD = doctoral dissertation; DP = depersonalization; EE = emotional exhaustion; ES = Educator Survey; F = frequency scale; FL = Florida; HSS = Human Services Survey; I = intensity scale; IL: Illinois; JA = journal Article; MBI = Maslach Burnout Inventory; MC = Massachusetts; MG = Michigan; ms = multiple states; MT = master's thesis; NC = North Carolina; NJ = New Jersey; ns = not specified; NY = New York; OH = Ohio; OR = Oregon; PA = personal accomplishment; Pub. = Publication; SC = South Carolina; VI = Virginia; Ver. = Version

[a] "Gender" options included male or female

[b] Scale scores reverse transformed to align with direction of other reports

[c] Study included participants other than school psychologists; only school psychologist subsample reported.

[d] Scale scores transformed from item-level to subscale level

[e] Does not include % working in some combination of community types (i.e., considered rural)

[f] Includes % working in another community type (i.e., considered non-rural)

[g] Includes % post-doctoral

[h] Reported participant sex used as a proxy for gender (i.e., male = men, female = women)

[i] Data reported separately for the female portion of the sample

[j] Data reported separately for the male portion of the sample

[k] Data reported separately for the control group portion of the sample

[l] Data reported separately for the experimental group portion of the sample

Mean Burnout Point-Estimates

The emotional exhaustion mean score is 23.23; 95% CI [21.54, 24.92]; $k = 32$. The Q-value is 1306.15 with 31 degrees of freedom and $p < .001$. Using a criterion alpha of .100, we can reject the null hypothesis that the true effect size is the same in all these studies. The I^2 statistic is 98%, which tells us that some 98% of the variance in observed effects reflects variance in true effects rather than sampling error. τ^2, the variance of true effect sizes, is 22.80 in raw units. τ, the standard deviation of true effect sizes, is 4.78 in raw units. If we assume that the true effects are normally distributed (in raw units), we can estimate that the prediction interval is 13.32 to 33.14. The true effect size in 95% of all comparable populations falls in this interval.

The depersonalization mean score is 5.86; 95% CI [5.19, 6.53]; $k = 32$; $Q(31) = 976.41$, $p < .001$; $I^2 = 97\%$, $\tau^2 = 3.52$, $\tau = 1.88$. Using a criterion alpha of .100, we can reject the null hypothesis that the true effect size is the same in all these studies. If we assume that the true effects are normally distributed (in raw units), we can estimate that the prediction interval is 1.97 to 9.75. The true effect size in 95% of all comparable populations falls in this interval.

The personal accomplishment mean effect size is 37.62; 95% CI [36.65, 38.60]; $k = 32$; $Q(31) = 1271.25$, $p < .001$; $I^2 = 98\%$, $\tau^2 = 7.54$, $\tau = 2.75$. Using a criterion alpha of .100, we can reject the null hypothesis that the true effect size is the same in all these studies. If we assume that the true effects are normally distributed (in raw units), we can estimate that the prediction interval is 31.92 to 43.32. The true effect size in 95% of all comparable populations falls in this interval.

Moderator Analyses

Results for the meta-regression analyses with continuous moderators conducted on mean levels of emotional exhaustion are presented in Table 2. Scatterplots for each of the meta-

regression analyses for emotional exhaustion with continuous moderators are presented in Figures 2 through 5. Among the included continuous moderators, gender (B = 0.23, SE = 0.032, 95% CI [.032, .17], p (2-sided) < .001; F = 53.94, p < .001, k = 29) and study year (B = 0.21, SE = 0.034, p (2-sided) < .001; F = 38.80, p < .001, k = 32) were found to be significant. Studies with samples consisting of greater proportions of non-men and studies published at later dates had larger emotional exhaustion mean effects. There was insufficient evidence to reject the null hypothesis that the emotional exhaustion mean effect size is the same across categorical publication status groups (Q = 1.00, p = .318; k = 32).

Table 2

Results for Emotional Exhaustion Moderator Meta-Regression Analyses

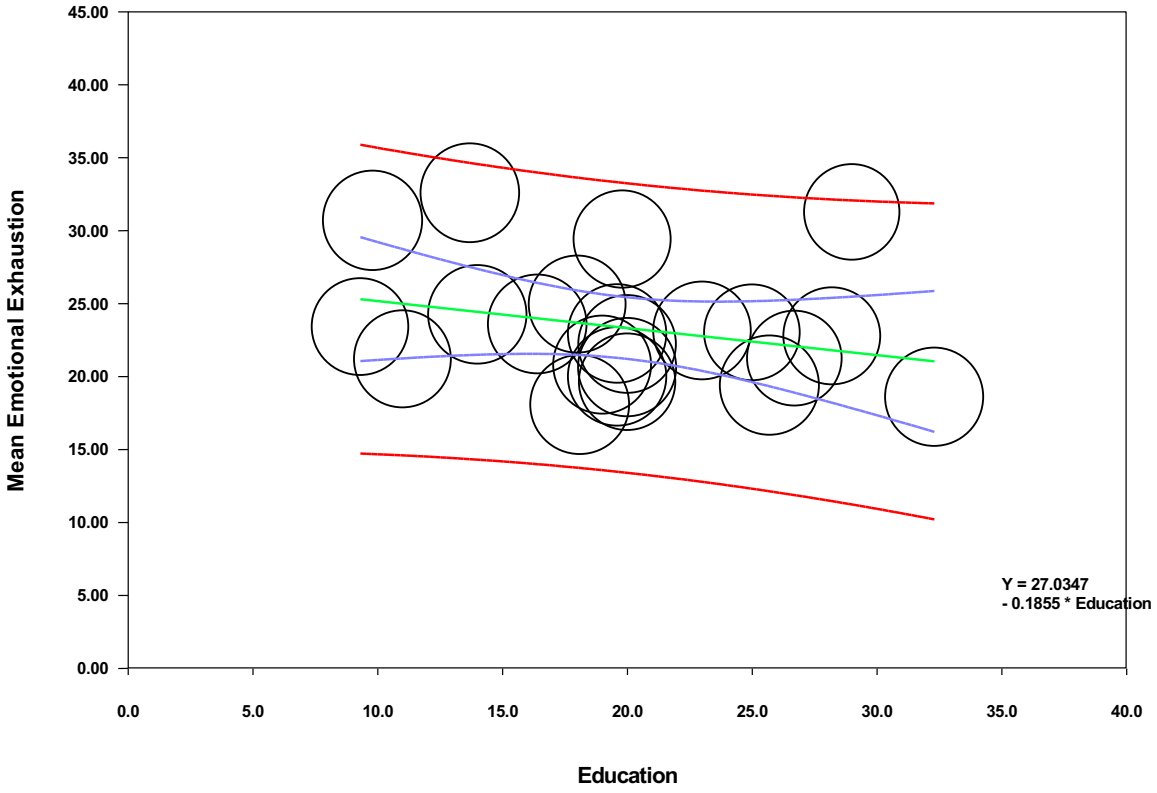
Moderator	***k***	***F***	***p***	***R²***
Education Level (% doctoral)	22	1.67	.212	.35
Gender (% non-men)	29	53.94	> .001	.78
Work Location (% non-rural)	15	0.03	.859	.00[a]
Study Year	32	38.80	> .001	.73

Note. Results were computed using the Knapp Hartung adjustment.

[a] R^2 analog. Computed R^2 value is -.10.

Figure 2

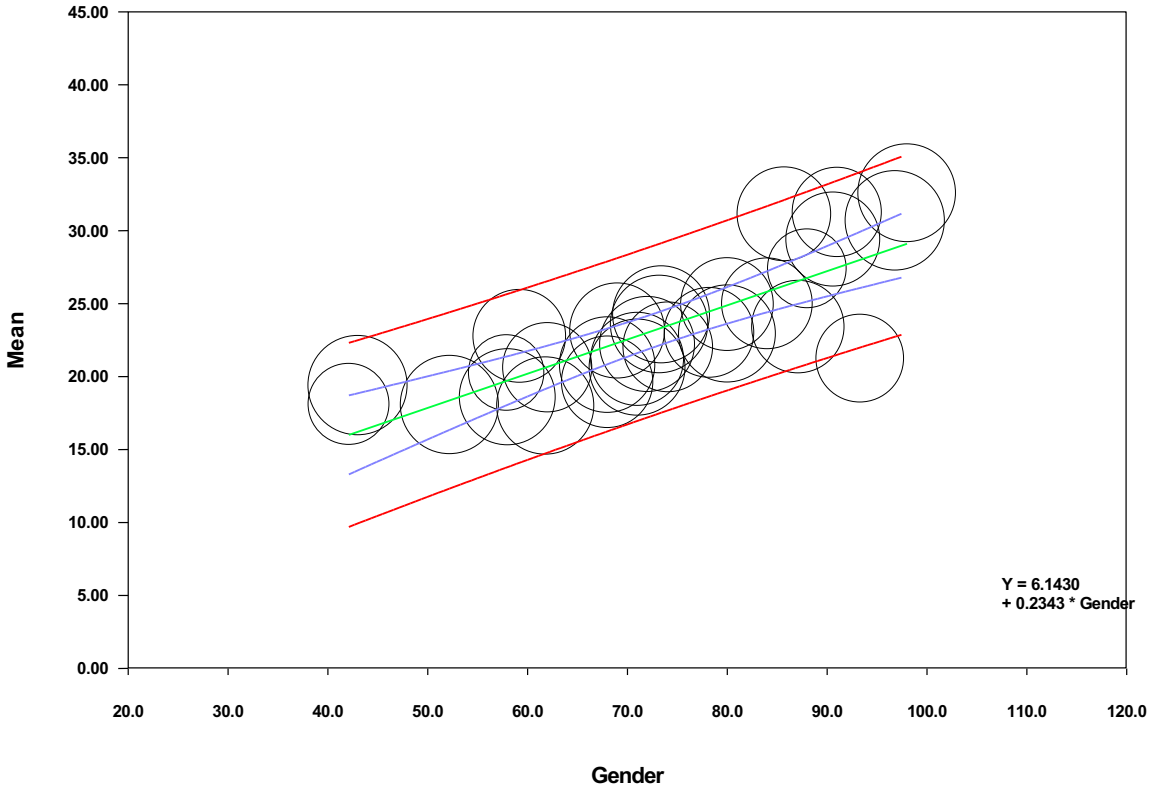
Meta-Regression of Emotional Exhaustion and Sample by Education Level



Note. EE = emotional exhaustion. The education level variable is defined as the percentage of school psychologist samples who hold doctoral degrees. The prediction interval is represented by the red lines. The confidence interval is represented by the blue lines. The regression line is represented by the green line. The effect sizes for each study are represented by the black circles.

Figure 3

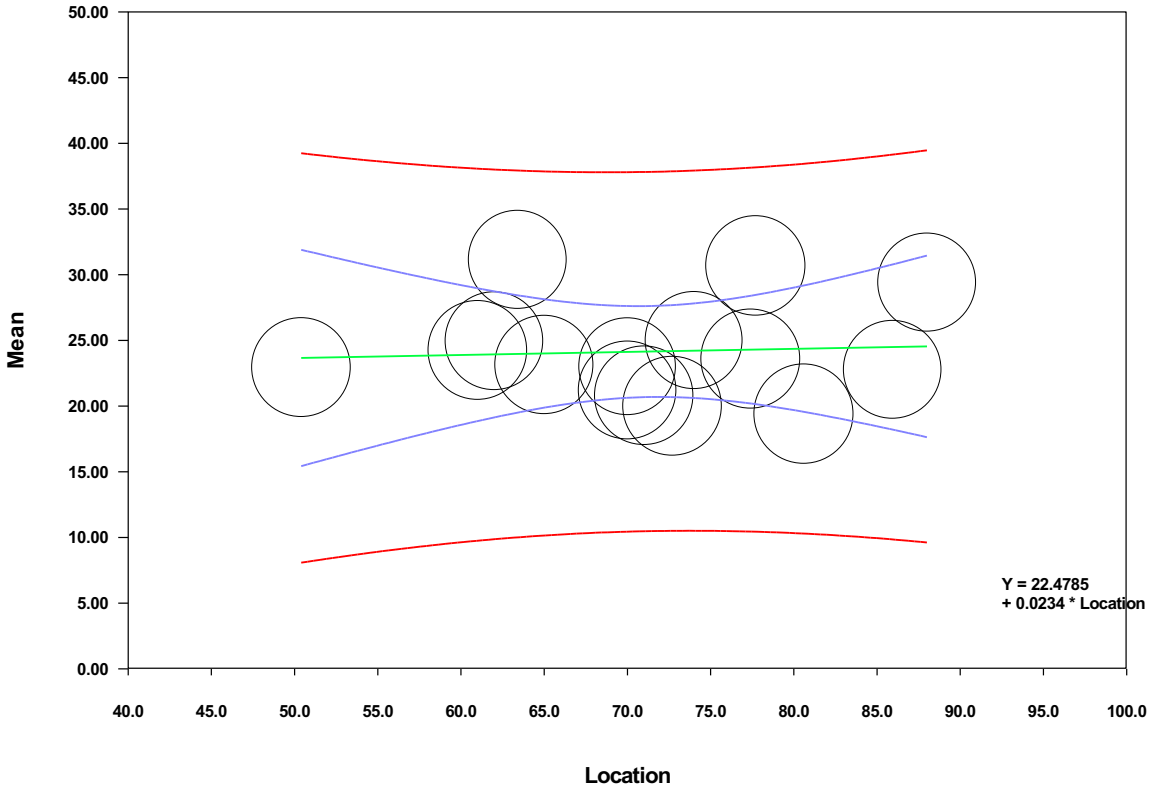
Meta-Regression of Emotional Exhaustion and Sample by Gender



Note. EE = emotional exhaustion. The gender variable is defined as the percentage of school psychologist samples who are non-men. The prediction interval is represented by the red lines. The confidence interval is represented by the blue lines. The regression line is represented by the green line. The effect sizes for each study are represented by the black circles.

Figure 4

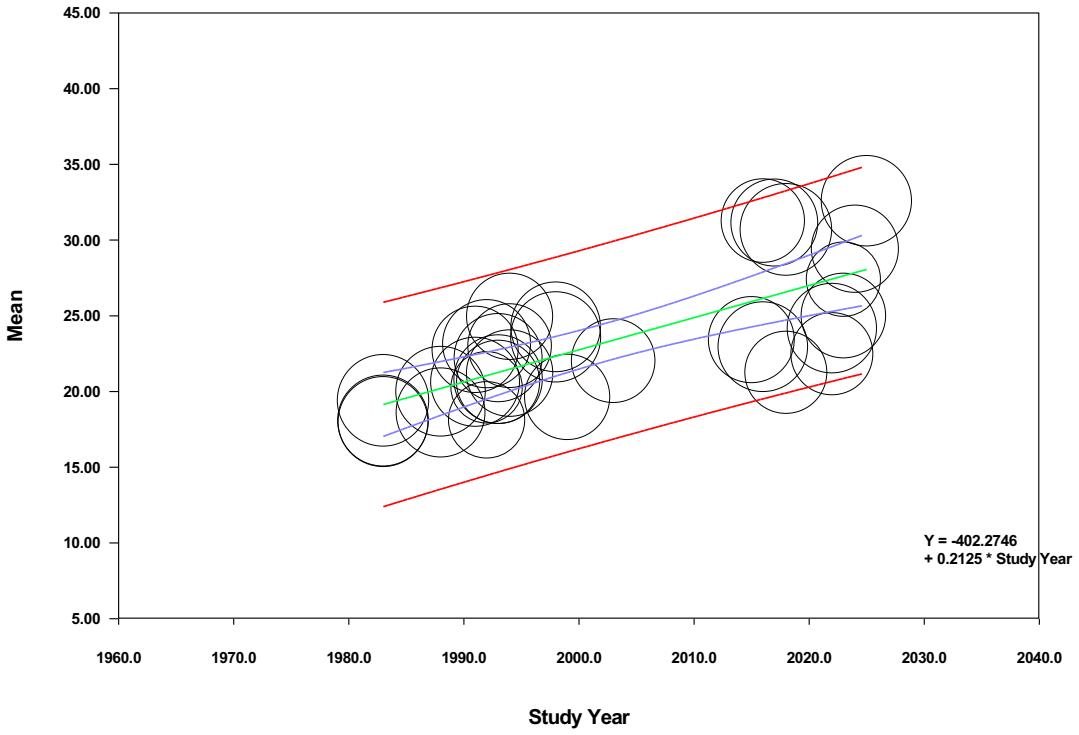
Meta-Regression of Emotional Exhaustion and Sample by Work Location



Note. EE = emotional exhaustion. The work location variable is defined as the percentage of school psychologist samples who work in non-rural locations. The prediction interval is represented by the red lines. The confidence interval is represented by the blue lines. The regression line is represented by the green line. The effect sizes for each study are represented by the black circles.

Figure 5

Meta-Regression of Emotional Exhaustion and Study Year



Note. The prediction interval is represented by the red lines. The confidence interval is represented by the blue lines. The regression line is represented by the green line. The effect sizes for each study are represented by the black circles.

Results for the meta-regression analyses with continuous moderators conducted on mean levels of depersonalization are presented in Table 3. Scatterplots for these meta-regressions are presented in Figures 6 through 9. None of the included continuous moderators were significant. There was insufficient evidence to reject the null hypothesis that the depersonalization mean effect size is the same across publication status groups ($Q = 0.01$, $p = .921$, $k = 32$).

Table 3

Results for Depersonalization Moderator Meta-Regression Analyses

Moderator	***k***	***F***	***p***	***R²***
Education Level (% doctoral)	22	0.15	.704	.00
Gender (% non-men)	29	0.14	.714	.00 [a]
Work Location (% non-rural)	16	0.93	.351	.08
Study Year	32	0.10	.760	.00 [b]

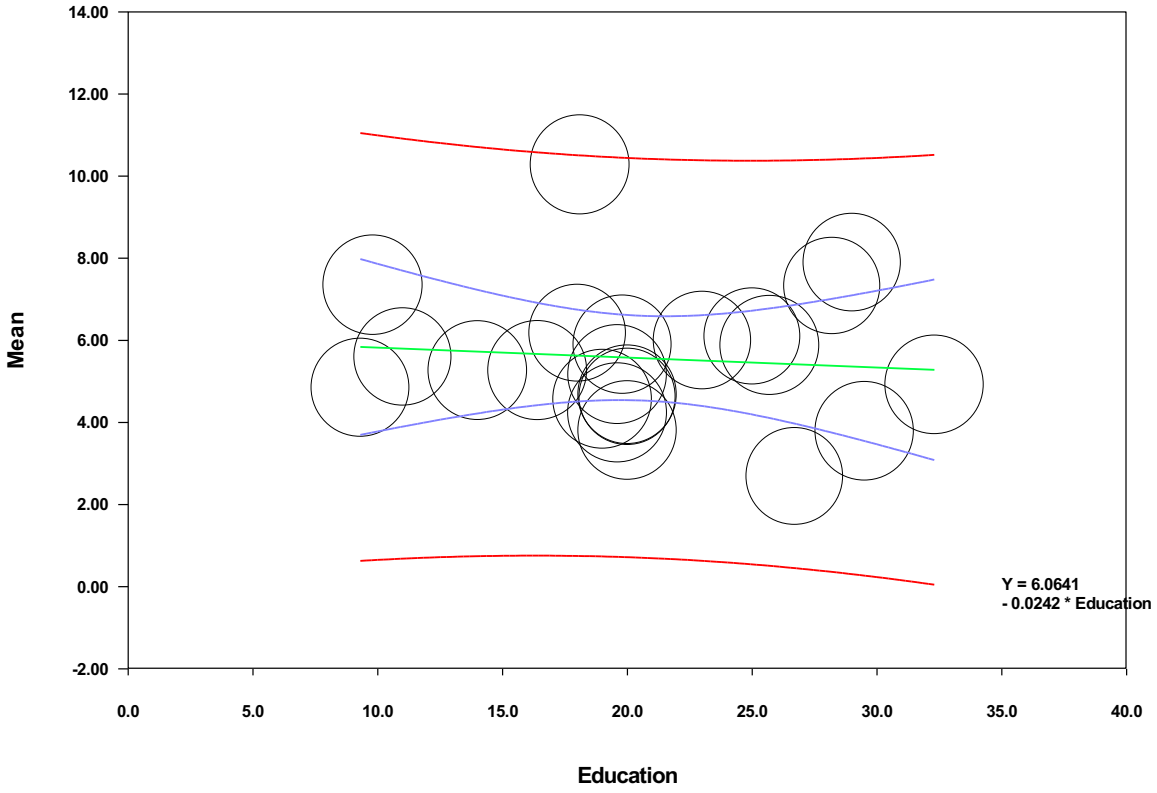
Note. Results were computed using the Knapp Hartung adjustment.

[a] R^2 analog. Computed R^2 value is -.80

[b] R^2 analog. Computed R^2 value is -.06

Figure 6

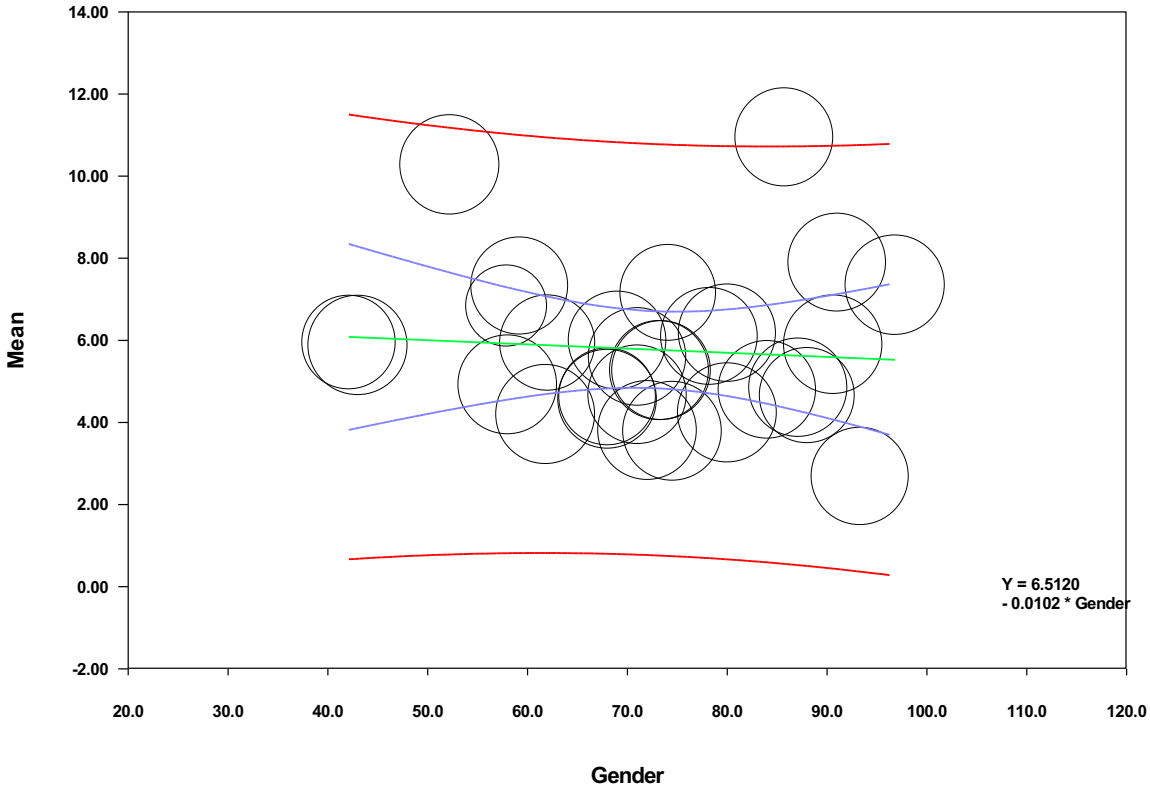
Meta-Regression of Depersonalization and Sample by Education Level



Note. The education level variable is defined as the percentage of school psychologist samples who hold doctoral degrees. The prediction interval is represented by the red lines. The confidence interval is represented by the blue lines. The regression line is represented by the green line. The effect sizes for each study are represented by the black circles.

Figure 7

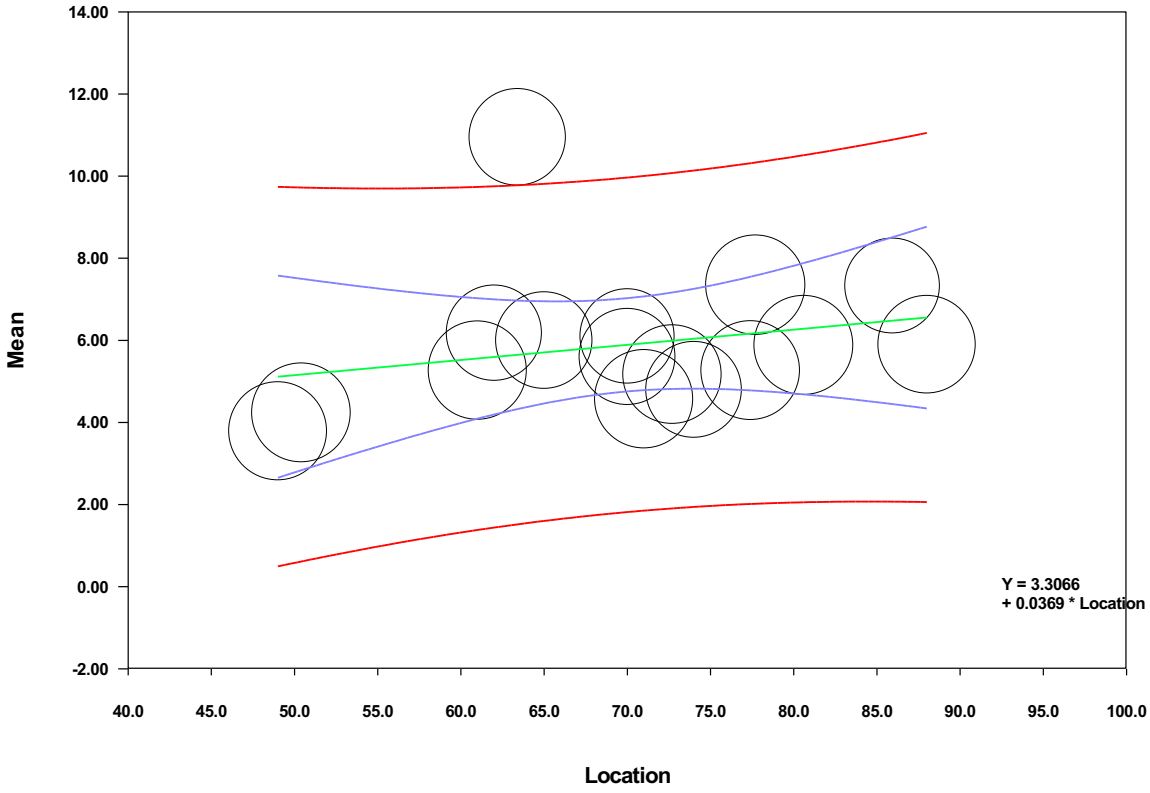
Meta-Regression of Depersonalization and Sample by Gender



Note. The gender variable is defined as the percentage of school psychologist samples who are non-men. The prediction interval is represented by the red lines. The confidence interval is represented by the blue lines. The regression line is represented by the green line. The effect sizes for each study are represented by the black circles.

Figure 8

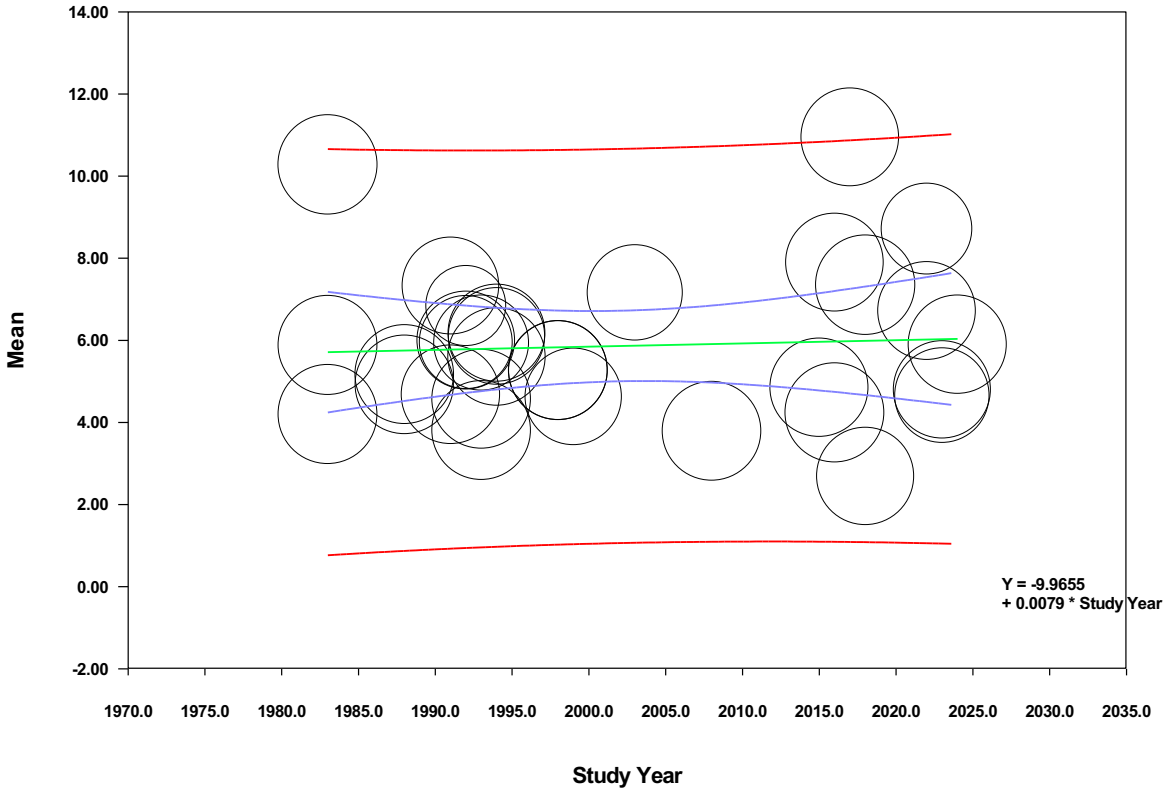
Meta-Regression of Depersonalization and Sample by Work Location



Note. The work location variable is defined as the percentage of school psychologist samples who work in non-rural locations. The prediction interval is represented by the red lines. The confidence interval is represented by the blue lines. The regression line is represented by the green line. The effect sizes for each study are represented by the black circles.

Figure 9

Meta-Regression of Depersonalization and Study Year



Note. The prediction interval is represented by the red lines. The confidence interval is represented by the blue lines. The regression line is represented by the green line. The effect sizes for each study are represented by the black circles.

Results for the meta-regression analyses with continuous moderators conducted on mean levels of personal accomplishment are presented in Table 4. The corresponding scatterplots can be found in Figures 10 though 13. None of the included continuous moderators were significant. There was insufficient evidence to reject the null hypothesis that the personal accomplishment mean effect size is the same across publication status groups ($Q = 0.00$, $p = .971$).

Table 4

Results for Personal Accomplishment Moderator Meta-Regression Analyses

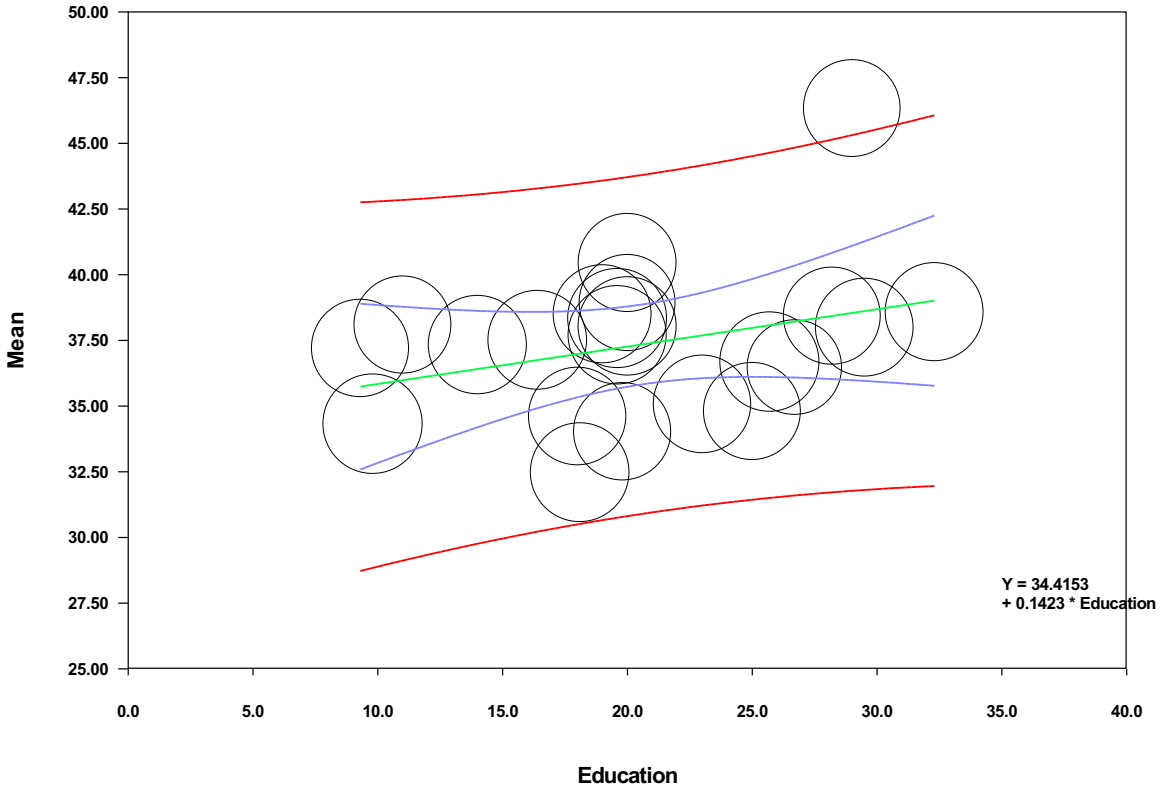
Moderator	***k***	***F***	***p***	***R²***
Education Level (% doctoral)	22	2.36	.140	.10
Gender (% non-men)	29	0.82	.372	.00 [a]
Work Location (% non-rural)	17	1.38	.258	.09
Study Year	32	2.35	.136	.03

Note. Results were computed using the Knapp Hartung adjustment.

[a] R^2 analog. Computed R^2 value is -.13

Figure 10

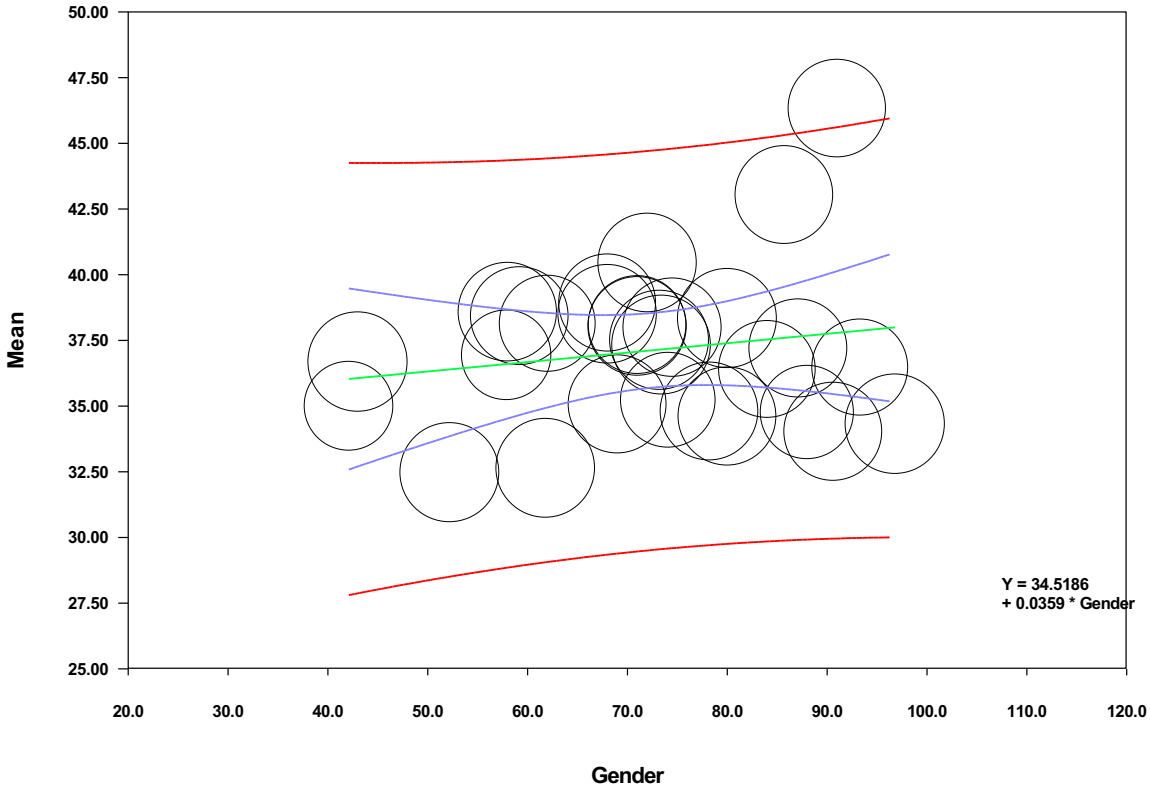
Meta-Regression of Personal Accomplishment and Sample by Education Level



Note. The education level variable is defined as the percentage of school psychologist samples who hold doctoral degrees. The prediction interval is represented by the red lines. The confidence interval is represented by the blue lines. The regression line is represented by the green line. The effect sizes for each study are represented by the black circles.

Figure 11

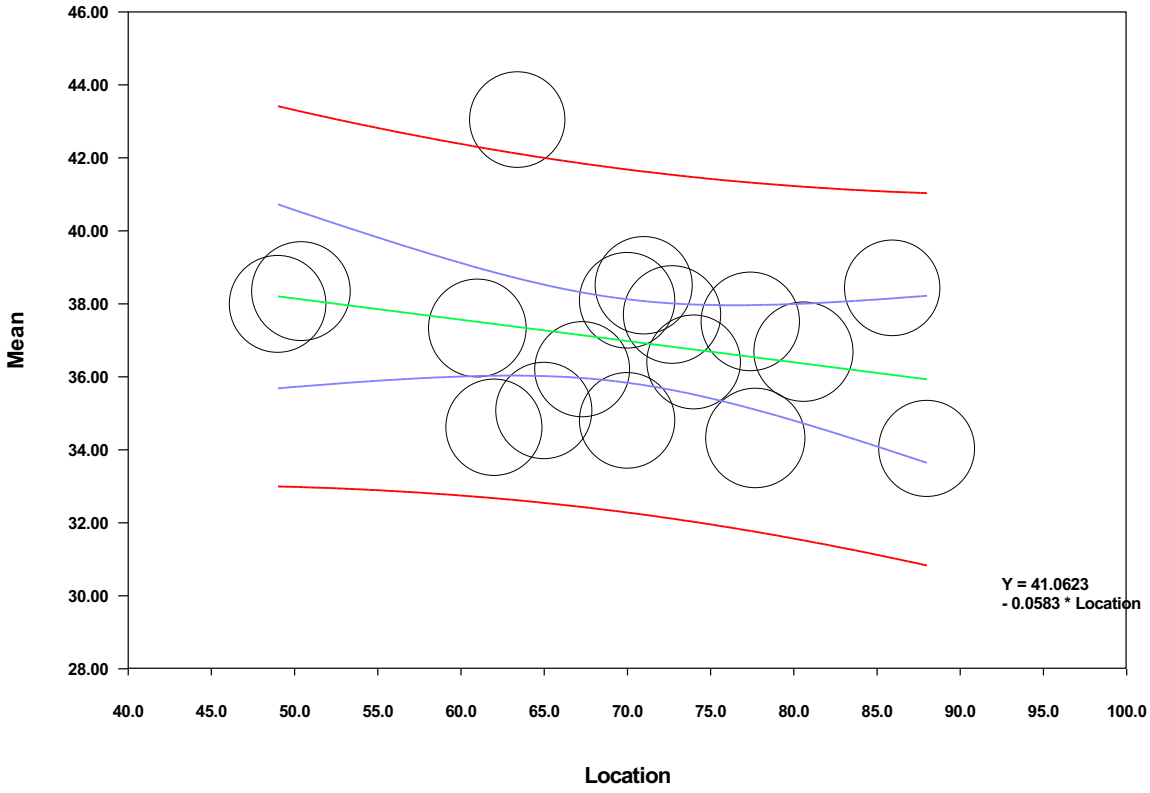
Meta-Regression of Personal Accomplishment and Sample by Gender



Note. The gender variable is defined as the percentage of school psychologist samples who are non-men. The prediction interval is represented by the red lines. The confidence interval is represented by the blue lines. The regression line is represented by the green line. The effect sizes for each study are represented by the black circles.

Figure 12

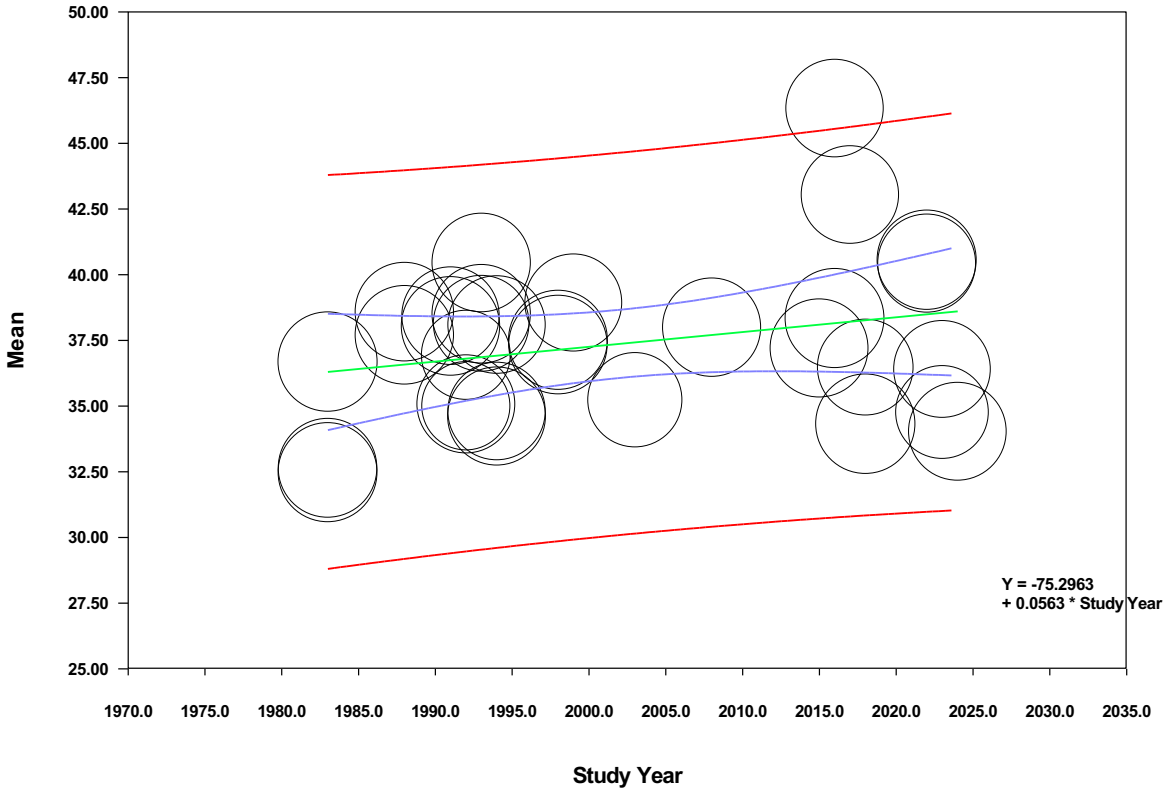
Meta-Regression of Personal Accomplishment and Sample by Work Location



Note. The work location variable is defined as the percentage of school psychologist samples who work in non-rural locations. The prediction interval is represented by the red lines. The confidence interval is represented by the blue lines. The regression line is represented by the green line. The effect sizes for each study are represented by the black circles.

Figure 13

Meta-Regression of Personal Accomplishment and Study Year



Note. The prediction interval is represented by the red lines. The confidence interval is represented by the blue lines. The regression line is represented by the green line. The effect sizes for each study are represented by the black circles.

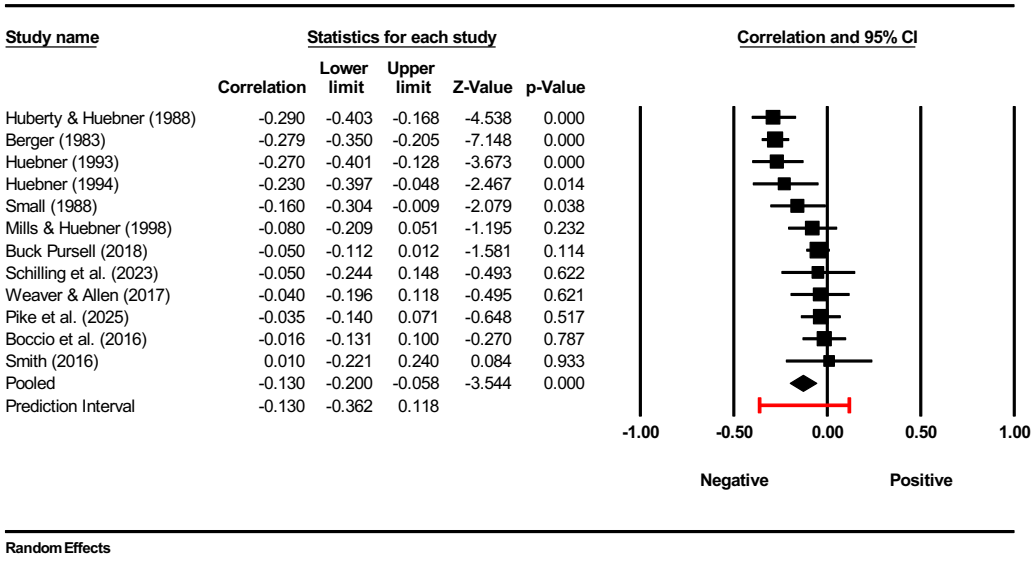
Correlation Analyses [1]

The relationship between mean levels of emotional exhaustion and participant age was significant (r = -.13, 95% CI [-.20 , -.06], $p < .001$, k = 12, I^2 = 75%, τ^2 = 0.01, τ = 0.11, Fail-Safe N = 145; see Figure 14), such that higher age was associated with lower emotional exhaustion. Participant years of experience was significantly associated with emotional exhaustion as well (r = -.09, 95% CI [-.14 , -.03], p = .002, k = 11, I^2 = 48%, τ^2 = 0.00, τ = 0.06, Fail-Safe N = 42; see Figure 15), with higher years of experience being associated with lower emotional exhaustion. The association between caseload and emotional exhaustion was found to be significant in the positive direction (r = .07, 95% CI [.00 , .14], p = .039, k = 4, I^2 = 0%, τ^2 = 0.00, τ = 0.00, Fail-Safe N = 1; see Figure 16).

[1] τ and τ^2 are reported in Fisher's Z units

Figure 14

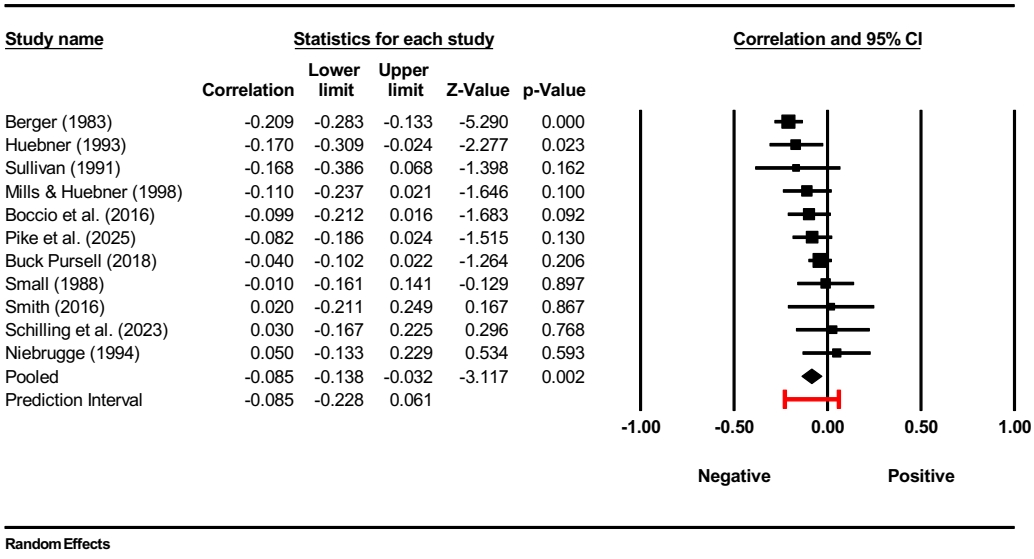
Association Between Emotional Exhaustion and Age



Note. The average effect size (correlation) is represented by a diamond. Individual study effect sizes (correlations) are represented by squares. Confidence intervals are displayed as horizontal lines. Prediction interval is shown in red.

Figure 15

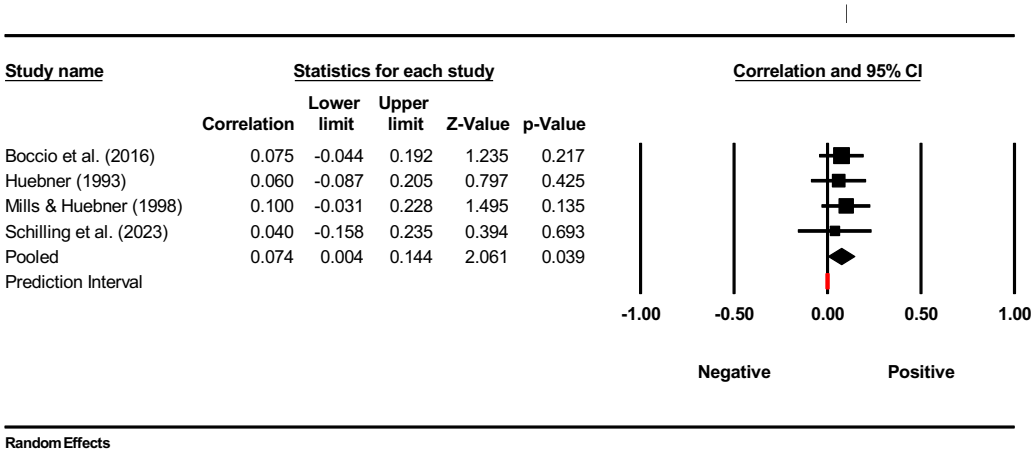
Association Between Emotional Exhaustion and Years of Experience



Note. The average effect size (correlation) is represented by a diamond. Individual study effect sizes (correlations) are represented by squares. Confidence intervals are displayed as horizontal lines. Prediction interval is shown in red.

Figure 16

Association Between Emotional Exhaustion and Caseload

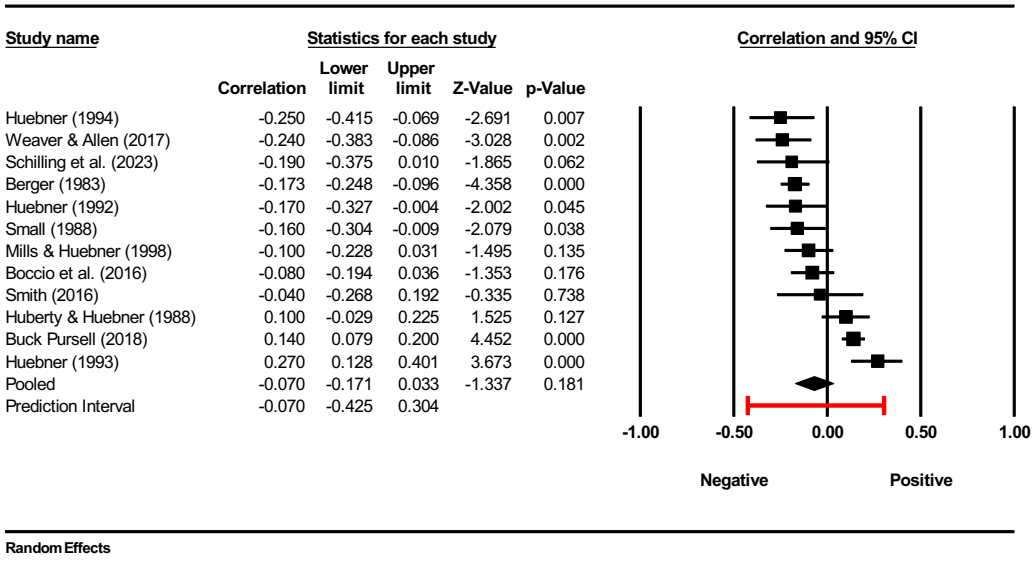


Note. The average effect size (correlation) is represented by a diamond. Individual study effect sizes (correlations) are represented by squares. Confidence intervals are displayed as horizontal lines. Prediction interval is shown in red. Since tau-squared is estimated as zero, we assume that all studies share a common effect size, and there is no dispersion of true effects (i.e., no reported prediction interval).

The relationship between mean levels of depersonalization and participant age was not significant (r = -.07, 95% CI [-.17 , .03], p = .181, k = 12, I^2 = 87%, τ^2 = 0.03, τ = 0.16, Fail-Safe N = 12; See Figure 17). Years of experience was significantly associated with depersonalization (r = -.07, 95% CI [-.11 , -.04], p < .001, k = 11, I^2 = 0%, τ^2 = 0.00, τ = 0.00, Fail-Safe N = 12; See Figure 18), with higher years of experience being associated with lower depersonalization. The association between caseload and depersonalization was found to be significant in the positive direction (r = .08, 95% CI [.01 , .14], p =.025, k = 5, I^2 = 0%, τ^2 = 0.00, τ = 0.00, Fail-Safe N = 3; See Figure 19).

Figure 17

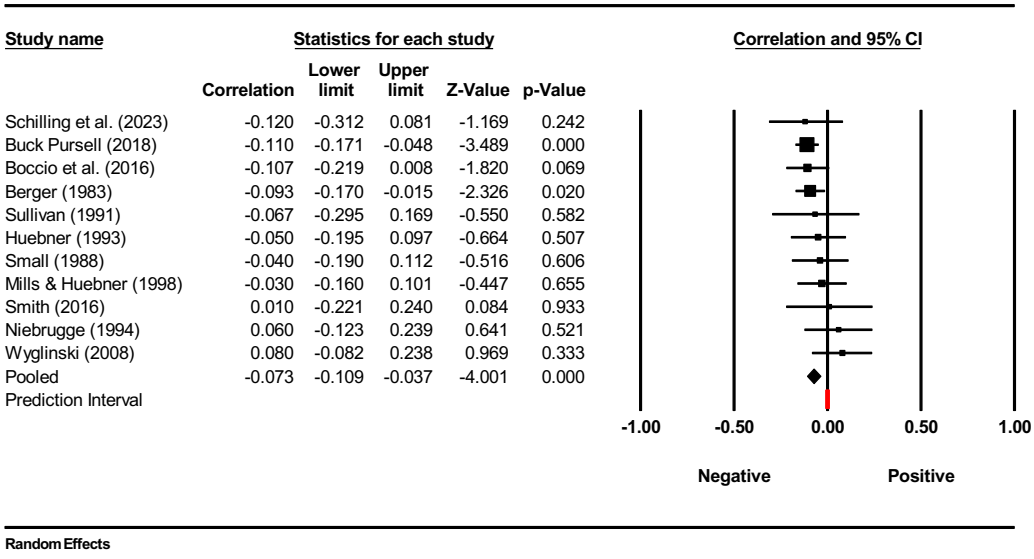
Association Between Depersonalization and Age



Note. The average effect size (correlation) is represented by a diamond. Individual study effect sizes (correlations) are represented by squares. Confidence intervals are displayed as horizontal lines. Prediction interval is shown in red.

Figure 18

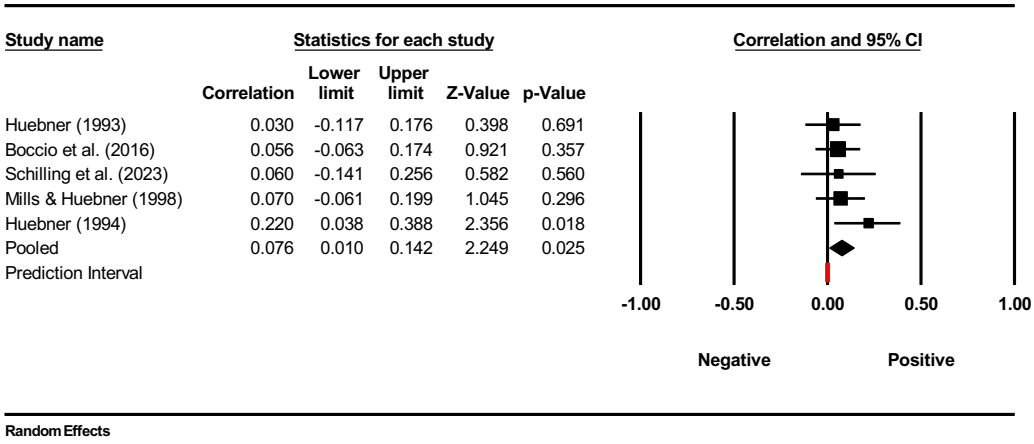
Association Between Depersonalization and Years of Experience



Note. The average effect size (correlation) is represented by a diamond. Individual study effect sizes (correlations) are represented by squares. Confidence intervals are displayed as horizontal lines. Prediction interval is shown in red. Since tau-squared is estimated as zero, we assume that all studies share a common effect size, and there is no dispersion of true effects (i.e., no reported prediction interval).

Figure 19

Association Between Depersonalization and Caseload

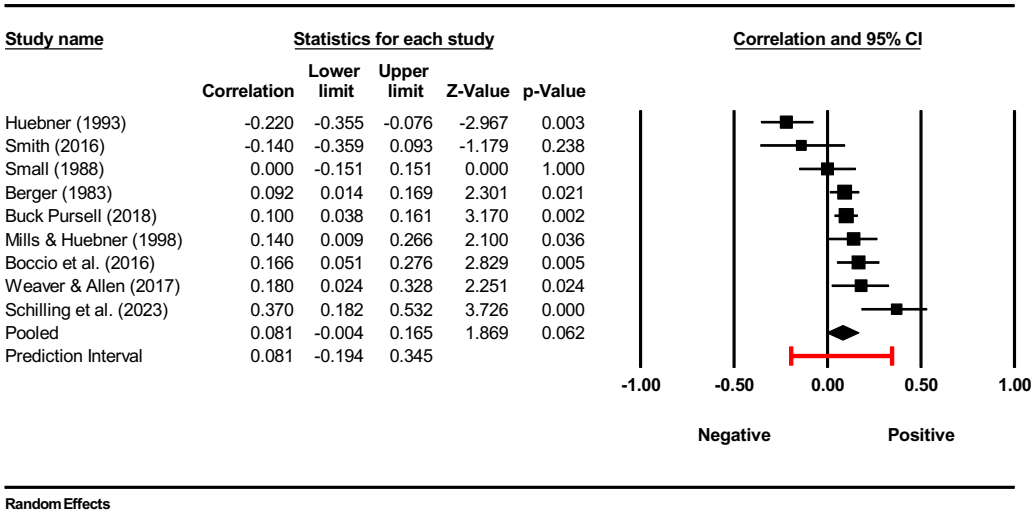


Note. The average effect size (correlation) is represented by a diamond. Individual study effect sizes (correlations) are represented by squares. Confidence intervals are displayed as horizontal lines. Prediction interval is shown in red. Since tau-squared is estimated as zero, we assume that all studies share a common effect size, and there is no dispersion of true effects (i.e., no reported prediction interval)

The relationship between mean levels of personal accomplishment and participant age was not significant (r = .08, 95% CI [-.00 , .17], p = .062, k = 9, I^2 = 77%, τ^2 = 0.01, τ = 0.11, Fail-Safe N = 30; See Figure 20). Years of experience was significantly associated with personal accomplishment (r = .07, 95% CI [.03 , .11], p = .002, k = 11, I^2 = 21%, τ^2 = 0.00, τ = 0.03, Fail-Safe N = 19; See Figure 21), with higher years of experience being associated with higher personal accomplishment. Caseload was not significantly associated with personal accomplishment (r = .00, 95% CI [-.09 , .09], p = .992, k = 4, I^2 = 87%, τ^2 = 0.0, τ = 0.05, Fail-Safe N = 0; See Figure 22).

Figure 20

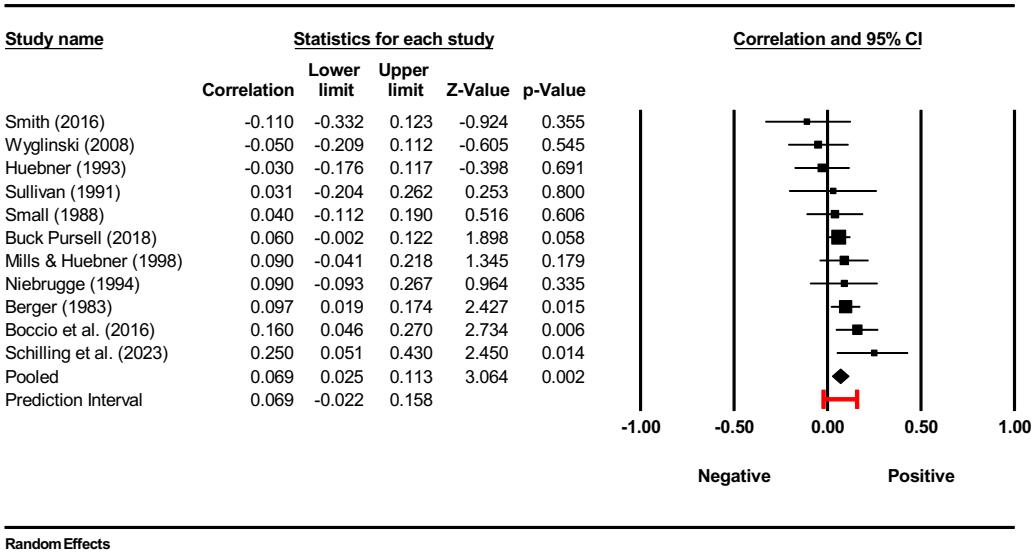
Association Between Personal Accomplishment and Age



Note. The average effect size (correlation) is represented by a diamond. Individual study effect sizes (correlations) are represented by squares. Confidence intervals are displayed as horizontal lines. Prediction interval is shown in red.

Figure 21

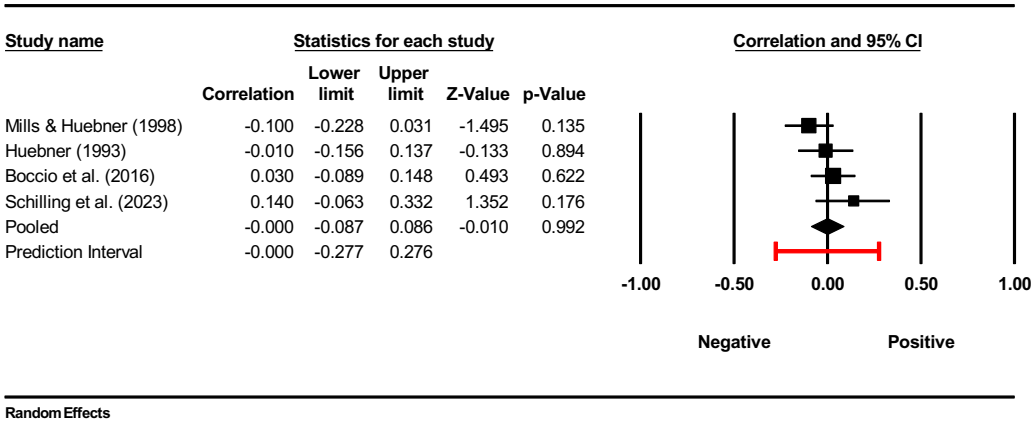
Association Between Personal Accomplishment and Years of Experience



Note. The average effect size (correlation) is represented by a diamond. Individual study effect sizes (correlations) are represented by squares. Confidence intervals are displayed as horizontal lines. Prediction interval is shown in red.

Figure 22

Association Between Personal Accomplishment and Caseload



Note. The average effect size (correlation) is represented by a diamond. Individual study effect sizes (correlations) are represented by squares. Confidence intervals are displayed as horizontal lines. Prediction interval is shown in red.

Post-Hoc Analyses

Given that most studies included in this meta-analysis were from the United States, post-hoc analyses were conducted to determine whether mean burnout levels varied as a function of the average income in states where participants were employed. Data on this variable were retrieved from each eligible study by a single coder. Rankings according to per capita personal income based on data from the U.S. Bureau of Economic Analysis (StatsAmerica, n.d.) were assigned to studies according to the state in which recruited participants were employed. Studies that included participants from multiple states or that did not specify the state(s) in which the participants were employed were excluded from these analyses.

Results for the meta-regression analyses with the state income ranked moderator variable on mean levels of emotional exhaustion, depersonalization, and personal accomplishment are presented in Table 5. Corresponding scatterplots are presented in Figures 23 through 25. State income significantly moderated mean levels of personal accomplishment (B = -0.11, SE = 0.048, 95% CI [-.21, .17], p (2-sided) = .0391; F = 5.11, p = .0391, k = 17) but not emotional exhaustion or depersonalization. Studies conducted in states with higher per capita personal incomes (i.e., lower in the ranking list) had higher personal accomplishment mean effects.

Table 5

Results for Post-Hoc Moderator Meta-Regression Analyses of State Income

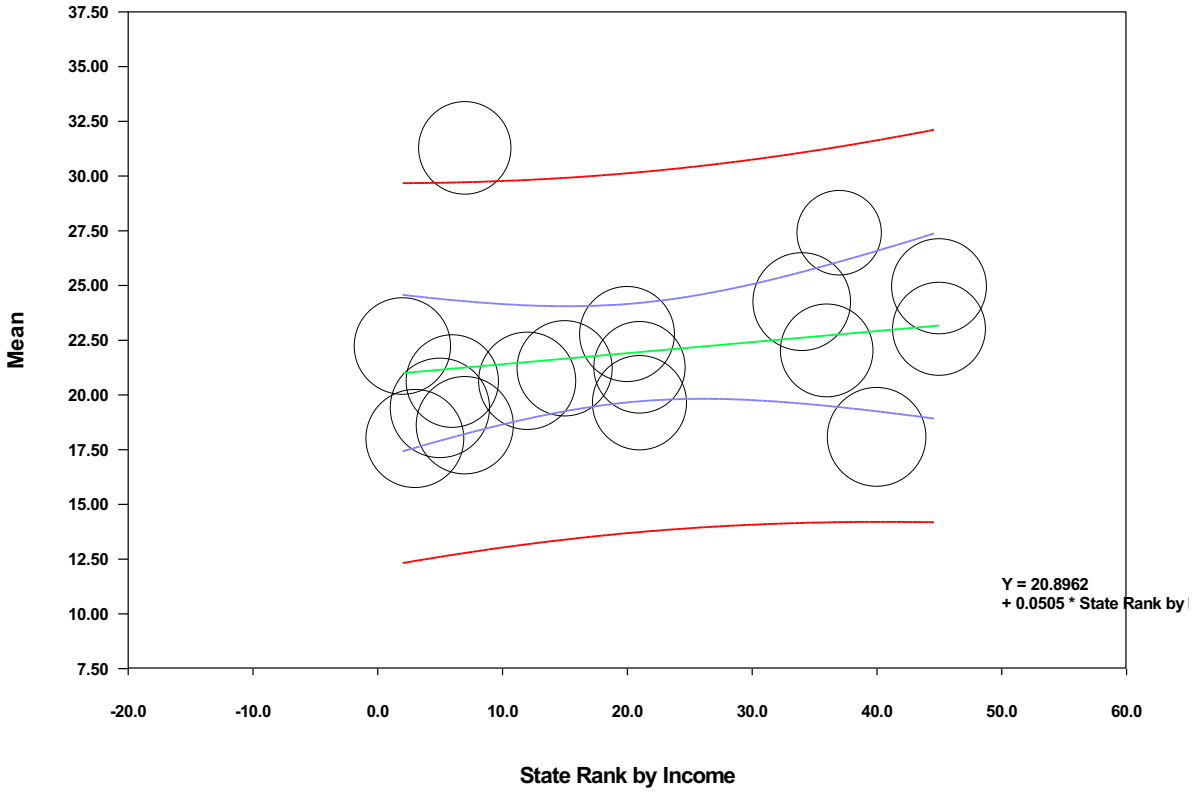
Burnout Domain	***k***	***F***	***p***	***R²***
Emotional Exhaustion	17	0.84	.373	.00[a]
Depersonalization	17	1.87	.192	.28
Personal Accomplishment	17	5.11	.0391	.11

Note. Results were computed using the Knapp Hartung adjustment. The moderator variable (state income) was defined as the ranking of U.S. States based on 2024 per capita personal income (StatsAmerica, n.d.).

[a] R^2 analog. Computed R^2 value is -.08.

Figure 23

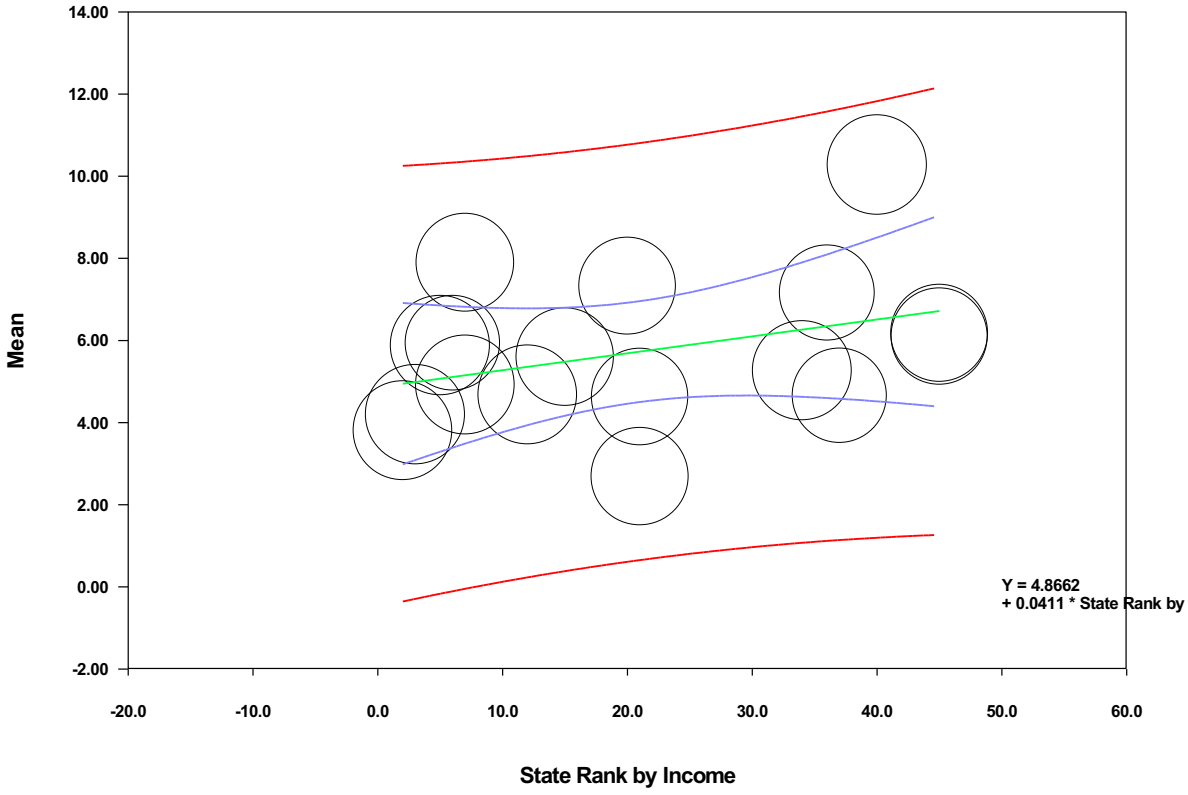
Meta-Regression of Emotional Exhaustion and State Income



Note. State income was defined as the ranking of U.S. States based on 2024 per capita personal income (StatsAmerica, n.d.). The prediction interval is represented by the red lines. The confidence interval is represented by the blue lines. The regression line is represented by the green line. The effect sizes for each study are represented by the black circles.

Figure 24

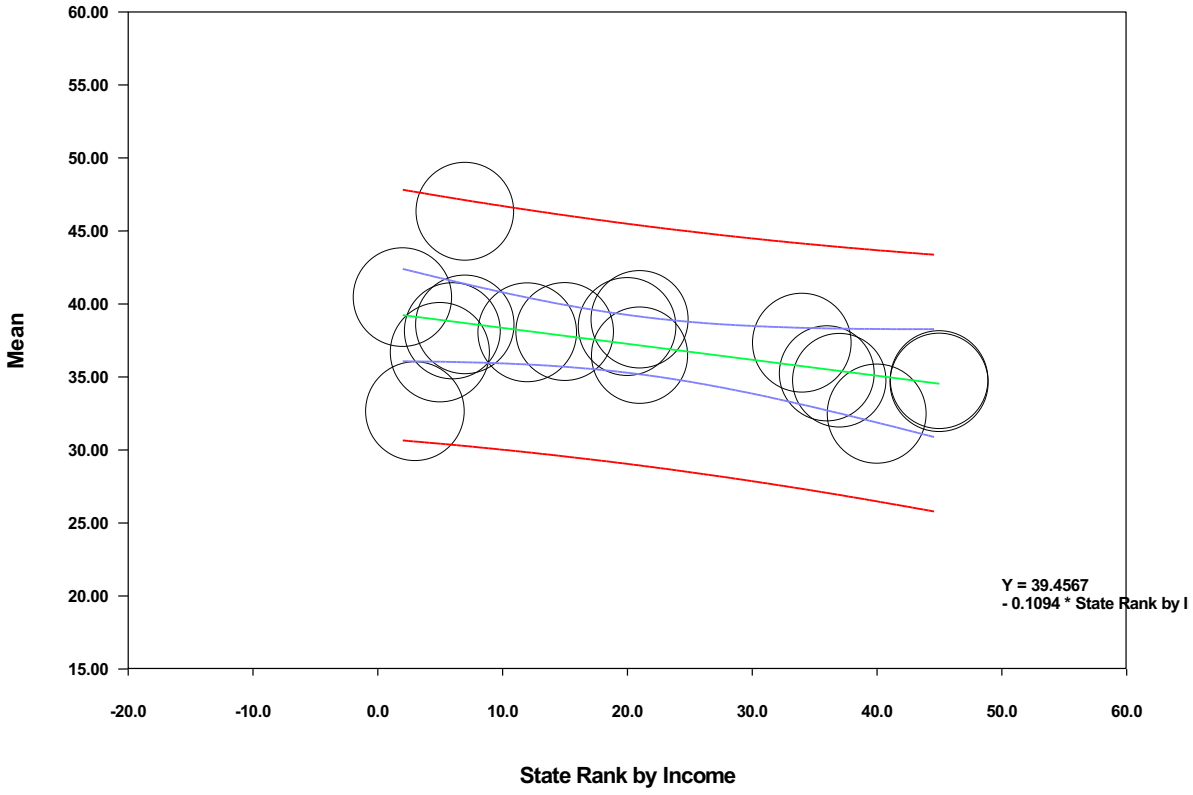
Meta-Regression of Depersonalization and State Income



Note. State income was defined as the ranking of U.S. States based on 2024 per capita personal income (StatsAmerica, n.d.). The prediction interval is represented by the red lines. The confidence interval is represented by the blue lines. The regression line is represented by the green line. The effect sizes for each study are represented by the black circles.

Figure 25

Meta-Regression of Personal Accomplishment and State Income



Note. State income was defined as the ranking of U.S. States based on 2024 per capita personal income (StatsAmerica, n.d.). The prediction interval is represented by the red lines. The confidence interval is represented by the blue lines. The regression line is represented by the green line. The effect sizes for each study are represented by the black circles.

Discussion

Point Estimates

Results from the meta-analysis based on 32 effect sizes indicates that the mean level of emotional exhaustion among school psychologists was 23.23 ($\tau = 4.78$); 95% CI [21.54, 24.92] out of a possible 54. This means that overall, school psychologists typically experience moderate levels of emotional exhaustion and this estimate is fairly precise, as indicated by the relatively narrow confidence interval. The mean level found in the present study is higher than mean levels of emotional exhaustion found in O'Connor and colleagues' (2018) meta-analysis on burnout among various mental health professionals (21.25; 95% CI [19.92, 22.58]), suggesting that on average, school psychologists tend to report greater levels of emotional exhaustion than their counterparts in related fields. Indeed, the mean level reported by O'Connor and colleagues (2018) falls outside of the confidence interval of emotional exhaustion levels in the present study, meaning school psychologists report significantly higher emotional exhaustion than other mental health professionals, as observed by O'Connor et al. (2018). Results from the present study are similar to what Rotstein et al. (2019) found in a meta-analysis of burnout in psychiatrists (22.03; 95% CI [19.71, 24.34]), suggesting that school psychologists and psychiatrists report similar levels of burnout in this domain.

The current meta-analysis found the mean level of depersonalization to be 5.86 ($\tau = 1.88$); 95% CI [5.19, 6.53] out of a possible 30, based on 32 effect sizes. This suggests that school psychologists generally report experiencing relatively low levels of depersonalization. Levels of depersonalization found in the current study are lower than have been found in other mental health professionals (6.82; 95% CI [6.13, 7.48]; O'Connor et al., 2018), meaning school psychologists tend to report lower levels of depersonalization than those in other occupations

under the umbrella of mental health professionals. The present results are also lower than mean levels of depersonalization reported by Rotstein et al. (2019) in their meta-analysis on psychiatrists (7.41; 95% CI [5.91, 8.90]). With the mean levels reported by O'Connor et al. (2018) and Rotstein et al. (2019) being outside of the confidence interval for depersonalization in the present study, it can be inferred that school psychologists report significantly lower depersonalization than these allied professions.

The level of personal accomplishment based on a meta-analysis of 32 studies was 37.62 ($\tau = 2.75$); 95% CI [36.65, 38.60] out of a possible 48. Thus, on average school psychologists tend to report fairly high levels of personal accomplishment (i.e., low levels of burnout in this domain). This level of personal accomplishment is high in comparison to the mean levels among other mental health professionals (34.61; 95% CI [32.97, 42.24]; O'Connor et al., 2018) and psychiatrists (30.00; 95% CI [24.75, 35.27]; Rotstein et al., 2019), suggesting that school psychologists tend to report lower burnout in the domain of personal accomplishment than their counterparts in related mental health practitioner fields. The means reported by O'Connor and et al. (2018) and Rotstein et al. (2019) fall below the confidence interval for personal accomplishment in the present study, suggesting that school psychologists report significantly higher personal accomplishment than their counterparts in these other occupations.

Taken together, results from the current study indicate that school psychologists generally report experiencing relatively elevated levels of burnout in the domain of emotional exhaustion, and lower levels of burnout in the other two domains (i.e., low depersonalization and high personal accomplishment). This synthesis of data brings clarity to the highly variable reported levels of burnout among existing primary studies with school psychologists. Although previous meta-analyses have reported mean levels across a diverse group of mental health professionals

(e.g., O'Connor et al., 2018) and in allied professions such as psychiatry (e.g., Rotstein et al., 2019), the current study is the first meta-analysis, to my knowledge, that provides quantitative estimates of mean levels of burnout specifically among school psychologists, who represent a unique subset of practitioners in the mental health-related workforce.

Moderators

Research question 2 asked whether the mean levels of burnout in the three domains differed based on participant demographic characteristics (marital status, parental status, education level, gender), work characteristics (work location, grade level assignment, role responsibility, salary, number of schools served), or study variables (study year, publication status, country of study). Due to insufficient data in the form of primary research studies, only the following variables were able to be included as moderators in the current meta-analyses: participant education level, gender, work location, study year, and publication status.

The first moderator variable investigated in the present study was participant education level. Based on COR theory, which positions increased education as a factor which may facilitate resource gain, it was hypothesized that samples with greater proportions of participants with doctoral degrees would show lower levels of burnout. The current results do not support this proposition, as no significant relationships were found between education level and emotional exhaustion, depersonalization, or personal accomplishment among studies with samples of school psychologists. These results also do not align with previous research on burnout among various mental health professionals (i.e., Lim et al., 2010) which has found education level to be significantly positively related (through weighted mean correlations) to both emotional exhaustion and personal accomplishment, such that greater education levels were associated with higher burnout in the domain of emotional exhaustion and lower burnout in the domain of

personal accomplishment. The present results do somewhat align with those found by Park and Shin (2020), where non-significant relationships were found in correlations with emotional exhaustion and personal accomplishment; though, the study of special education teachers did find higher education to be associated with lower depersonalization (Park & Shin, 2020). The present results, along with findings from Park and Shin (2020), may speak to the consistency in job tasks within the school system regardless of one's education level. That is, the role of a school psychologist remains largely the same for those who do and do not hold additional doctoral-level training (Reschly, 2000), and the same is likely true for special education teachers. Hence, it appears that education level does not serve as a prominent resource in the work of these school staff members as it relates to burnout.

Results from a moderator analysis found a significant positive relationship between emotional exhaustion and gender, suggesting that non-men report significantly greater mean levels of emotional exhaustion than do men. Specifically, as the composition of samples who are non-men increases by 1%, mean emotional exhaustion levels increase by 0.23 ($B = 0.23$) with all other variables being held constant. This finding is generally consistent with meta-analyses of burnout in other fields, which have found women to report higher levels of burnout in the domain of emotional exhaustion compared to their counterparts who are men (Purvanova & Muros, 2010); though two previous meta-analyses of burnout among mental health professionals (i.e., Lim et al., 2010; O'Connor et al. 2018) and a meta-analysis on special education teachers (i.e., Park & Shin, 2020) found no significant relationship between these variables.

Depersonalization was not found to be significantly moderated by participant gender in the present study. This finding is consistent with null results found in O'Connor and colleagues' (2018) meta-regression of mental health professionals and Park and Shin's (2020) correlation

meta-analysis of special education teachers but does not align with previous research which found that men report higher levels of depersonalization compared to women both in meta-analyses of various other occupations (Purvanova & Muros, 2010), and specifically among mental health professionals (Lim et al., 2010). This mismatch suggests that the link between gender and depersonalization is not as readily apparent in the field of school psychology. Perhaps this is the result of feminization in certain fields of work (e.g., school psychology, special education, some mental health professionals). That is, men in positions that are typically occupied by women (i.e., feminized occupations) may have different experiences at work compared to their counterparts in less- or non-feminized work (e.g., Purvanova & Muros, 2010).

The non-significant relationship between personal accomplishment and gender found in the current meta-analysis aligns with null results from the two previous meta-analyses of burnout among broader groups of mental health professionals (i.e., Lim et al., 2010; O'Connor et al. 2018) as well as special education teachers (i.e., Park & Shin, 2020). Altogether, results from the current study suggest that gender is an influential factor in school psychologists' experiences of emotional exhaustion, but not in the domains of depersonalization or personal accomplishment.

Interpreted within the context of COR theory, it can be inferred that non-men in the field of school psychology may face higher demands that deplete available resources leading to higher emotional exhaustion. On the other hand, it may also be the case that men have greater access to resources to offset the demands of their work, mitigating burnout in the domain of emotional exhaustion. However, the former rationale is stronger given its alignment with the differential associations proposed by COR theory (i.e., resource loss factors should be most closely related to emotional exhaustion and resource gain factors should be most closely associated with depersonalization and personal accomplishment).

Geographic work location (i.e., the percentage of samples working in non-rural locations) did not significantly moderate mean burnout levels in any of the three domains. Although previous meta-analyses have examined similarly labeled variables, none of the comparator studies defined work location in a way that would be comparable to the present study. That is, O'Connor et al. (2018) examined geographical region which included larger scale regions of the world (e.g., North America) and Lim et al. (2010) examined a work setting variable that was defined according to different settings that a mental health professional might work in (e.g., for an agency or private practice). Given this lack of context, it is unclear whether the null results found in the present study suggest that geographical work location may not be a relevant resource-related factor in the burnout process for school psychologists specifically or more generally across similar professions.

The present study found study year to be a significant moderator of emotional exhaustion, with higher emotional exhaustion levels being reported in studies that were published at later dates compared to earlier studies. This means school psychologists' burnout levels seem to have increased over time. More specifically, the meta regression coefficient ($B = 0.21$, $SE = 0.034$, p *(2-sided)* $< .001$) indicates that as the study year increased by one unit, mean emotional exhaustion scores increase by 0.21, with all other variables being held constant. Although study year is not a commonly examined variable in relation to burnout levels among existing studies, this finding makes sense given reports of increased case severity from practicing psychologists over time (Benton et al., 2003), as well as observed trends of increased numbers of referrals and needs for mental health services since the beginning of the COVID-19 pandemic (APA, 2021, 2022). Interestingly, study year did not significantly moderate levels of depersonalization or personal accomplishment. Thus, through the frame of COR theory, it seems that increased job

demands in recent years function to deplete school psychologists' resources resulting in greater levels of burnout specifically in the domain of emotional exhaustion but not depersonalization or personal accomplishment.

The last proposed variable that was examined as a moderator of burnout levels in the present study was the publication status of identified records. Findings suggest that there were no significant differences in reported mean levels of emotional exhaustion, depersonalization, or personal accomplishment across published records (i.e., journal articles) in comparison to unpublished records (i.e., theses and conference papers). These results can be interpreted as evidence against the presence of publication bias whereby studies that are successful in being published represent disproportionate rates of "positive" (or desirable) results. This means levels of burnout do not differ in a meaningful way between the identified published studies on burnout among school psychologists and unpublished works, some of which may not have been identified for potential inclusion in the present study.

State income was examined as a moderator through post-hoc analyses. Findings indicate that school psychologists working in states with higher per capita income levels tend to report higher personal accomplishment (i.e., lower burnout in this domain). Specifically, with every one-unit decrease in state income ranking, mean personal accomplishment levels increased by 0.11 (B = -0.11, SE = 0.048, p (2-sided) = .039) holding all other variables constant. Based on COR theory, it may be inferred that school psychologists working in states with higher per capita income have greater access to resources (e.g., higher salary, school funding) compared to those working in lower-income states. Indeed, school psychologist salary (Goforth et al., 2021) and public education spending (Hanson, 2025) vary considerably across U.S. regions and states.

Greater access to such resources may, thus, mitigate burnout in the domain of personal accomplishment.

Resource Gain Correlates

Research question 3 asked about the strength of associations between the three burnout dimensions and the following identified resource gain factors: participant age, years of work experience, and number of school psychologists on staff. Due to an insufficient number of studies reporting on associations with the number of school psychologists on staff, this variable could not be included in analyses.

Results from a meta-analysis of correlations indicated that participant age was significantly associated with emotional exhaustion levels, with higher age being associated with lower emotional exhaustion. The significant association between age and emotional exhaustion is consistent with the Lim and colleagues' (2010) meta-analysis on burnout among mental health professionals which found a significant association in the same direction. However, Park and Shin's (2020) meta-analysis on special education teachers found no significant association between these variables.

The present study did not find significant associations between participant age and levels of depersonalization or personal accomplishment, which aligns with null results found in Park and Shin's (2020) meta-analysis of special education teachers. Though, Lim et al. (2010) found increased age to be associated with lower depersonalization and higher personal accomplishment among mental health professionals. Similarly, another meta-analysis of mental health professionals (O'Connor et al., 2018) also found greater participant age to be associated with higher personal accomplishment. While it is possible that these differences in findings are a function of the relatively low mean levels of burnout in the domains of depersonalization and

personal accomplishment observed in the present study, it may also be the case that age is simply not as meaningful of a predictor of burnout in these domains among school psychologists compared to their counterparts in related fields. These differences in findings may speak to distinctions in the training, certification, expertise, and responsibilities of school psychologists compared to similar occupations that are not based within the school system (Grapin & Kranzler, 2023). That is, perhaps increased age is more closely linked to resource gain (and thus lower burnout in the domains of depersonalization and personal accomplishment) in the work of other mental health professions (e.g., Lim et al., 2010; O'Connor et al., 2018) compared to that of a school psychologist or special education teacher (e.g., Park & Shin, 2020).

In summary, results from the present study suggest that increased age is associated with lower emotional exhaustion but not depersonalization or personal accomplishment among school psychologists. These results are partially consistent with previous research among other mental health professionals (e.g., Lim et al., 2010; O'Connor et al., 2018) and they generally align with the proposition that younger professionals tend to face higher demands yet possess fewer resources in comparison to their older counterparts (Reichel et al., 2014). Through the lens of COR theory, it can be inferred that as school psychologists get older, they gain access to more resources to offset the demands of their work, thus reducing burnout specifically in the domain of emotional exhaustion.

The present study found that participant years of experience was significantly associated with all three burnout dimensions in the expected directions. Beginning with emotional exhaustion, it was found that greater years of experience was related to lower burnout in this domain. In contrast to the present correlation result, the meta-analysis of mental health professionals conducted by Lim and colleague (2010) found the weighted mean correlation

between emotional exhaustion and years of experience to be nonsignificant. Similarly, Park and Shin (2020) found no significant association between these variables in a correlation analysis of burnout in special education teachers.

Increased years of experience was also associated with lower burnout in the domain of depersonalization among school psychologists in the present study. This correlation result differs from the null result of a weighted mean correlation of these variables in Lim and colleagues' (2010) meta-analysis on burnout among various mental health professions. A non-significant association was also found by Park and Shin (2020), which is in contrast to the present results.

Finally, the present study found that increased years of experience was associated with higher personal accomplishment (i.e., lower burnout in this domain) among school psychologists. This result is similar to that found by Lim et al. (2010). Park and Shin (2020) also found a significant relationship between years of experience and personal accomplishment, with special education teachers who have worked for longer showing lower burnout in this domain.

In sum, results from the present study suggest that school psychologists with greater years of work experience report lower levels of burnout in all three domains. Discrepancies between these findings and previous research (e.g., Lim et al., 2010; O'Connor et al., 2018; Park & Shin, 2020) may represent subtle differences in the way burnout is experienced by different subpopulations of mental health professionals and school staff. Specifically, it seems that greater work experience serves as an important resource mitigating the effects of emotional exhaustion and depersonalization among school psychologists, but it is less impactful in the work of other mental health professionals (e.g., Lim et al., 2010; O'Connor et al., 2018) and of special education teachers (e.g., Park & Shin, 2020). Interpreted in the context of COR theory, results from the present study suggest that as school psychologists gain more experience on the job, they

gain additional resources to mitigate the effects of their demanding work and ultimately experience less burnout in all three domains.

Altogether, both participant age and years of work experience seem to function as facilitators of resource gain, buffering the demands that may otherwise lead to increased burnout in the field of school psychology. It is important to note that age and years of experience are likely highly linked, as workers inherently get older as they gain years of experience on the job. Therefore, these findings are perhaps best interpreted together with increased experience, both in life as one ages and on the job, bringing valuable resources that serve to reduce burnout among school psychologists. It may also be the case that school psychologists who have children experience a reduction in home-based childcare demands as their children get older making additional resources available to offset stress that would lead to burnout. Interestingly, reported levels of depersonalization and personal accomplishment were only found to be significantly associated with years of experience and not age. This may be a result of the considerable differences in heterogeneity (represented by the prediction interval) and precision (represented by the 95% CI) of reported effect sizes for the age and years of experience variables, as seen in corresponding Forrest plots (Figures 17, 18, 20, 21). Alternatively, it is possible that subtle differences exist in the mechanism through which age and years of experience impact burnout among school psychologists.

Resource Loss Correlates

The present meta-analysis found that caseload was significantly positively associated with emotional exhaustion. Importantly, these results are based on only four effect sizes ($k = 4$), and the heterogeneity around this effect should thus be interpreted with some caution. Specifically, when there are a small number of studies in a meta-analysis, the prediction interval

is best interpreted as a reflection of uncertainty as opposed to actual heterogeneity of effects (Borenstein, 2023). Increased caseload was also associated with higher depersonalization. Here the effect was based on five effect sizes ($k = 5$). Caseload was not found to be significantly associated with personal accomplishment levels in the present study.

Altogether, it seems that school psychologists with greater caseloads report higher burnout in the domains of emotional exhaustion and depersonalization, but not personal accomplishment. Viewed in the context of COR theory, it can be inferred that higher caseloads serve to reduce the available resources of school psychologists and are thus linked to higher burnout in the domains of emotional exhaustion and depersonalization. Though none of the comparator meta-analyses (i.e., Lim et al., 2010, Lee et al., 2011, O'Connor et al., 2018) reported on caseload, the present findings have practical significance, as they provide indicators of the impact of overly large caseloads that school psychologists typically have. To this point, previous research suggests that the average number of students assigned to one school psychologist is approximately three times greater (i.e., 1500; Boccio et al., 2016) than the maximum ratio (i.e., no more than 500) recommended by NASP (2020). Not only do these inflated caseloads impact the work-related wellbeing of school psychologists, they may also jeopardize service provision quality and ultimately the lives of those receiving school psychology services including students, families, and school communities. Thus, there is a clear need for efforts to reduce school psychologists' caseloads.

Relation to Theory and Practice

COR theory predicts that factors which facilitate resource gain, such as age and years of experience, will be associated with lower burnout levels (Hobfoll et al., 2018; Hobfoll & Freedy, 1993). More specifically, one interpretation of the theory posits that resource gain should be

more closely related to depersonalization and personal accomplishment, in comparison to the emotional exhaustion dimension (Hobfoll & Freedy, 1993; Lee & Ashforth, 1990, 1996; Leiter & Maslach, 1988). Results from the present analyses support the general idea of COR theory (i.e., the proposed resource gain factors were associated with lower burnout levels), though it did not find the expected differential associations with each of the three burnout dimensions, as theorized. Namely, the resource gain correlate of age was only found to be significantly associated with emotional exhaustion levels and the years of experience correlate was significantly associated with all three burnout dimensions at similar magnitudes. Similarly, it was hypothesized that greater knowledge and training received through higher education would serve as a resource to school psychologists and would thus be linked to lower burnout. Yet, results from the present study found that education level did not significantly moderate levels of burnout in any of the three domains. Assuming that school psychologists working in states with higher per capita personal income have greater access to resources (e.g., salary, school funding) post-hoc results provide partial support for the COR theory proposition (i.e., resource gain is associated with higher personal accomplishment); however, state income rankings did not significantly moderate burnout in the two other domains. These mismatches between theory and results may be due to the unique experiences of school psychologists as previously outlined. It could also be the result of a lack of statistical power to detect effects or a restricted range among the investigated variables in the present study.

COR theory proposes that factors which deplete one's available resources (i.e., resource loss factors such as caseload) will be associated with higher burnout levels (Hobfoll et al., 2018; Hobfoll & Freedy, 1993). In greater detail, it was expected that these such factors would be more strongly related to emotional exhaustion than depersonalization and personal accomplishment.

The finding that non-men tend to report significantly higher emotional exhaustion (but not depersonalization or personal accomplishment) compared to their counterparts who are men supports this proposition. Specifically, it seems that non-men in the field face higher demands that deplete their resources leading to increased emotional exhaustion. The present study also found that emotional exhaustion differed as a function of study year with later studies showing significantly higher levels of burnout in this domain that earlier ones. Assuming that trends such as increased case severity (Benton et al., 2003) and numbers of referrals (APA, 2021, 2022) reported by psychologists in recent years serve to deplete one's available resources, this finding can be viewed as support for COR theory as well. Results from correlation analyses in the present study align with the general basis of COR theory as well (i.e., increased caseload is associated with increased burnout). However, these findings do not support the hypothesized differential strengths of associations with each of the three burnout domains, with the associations for emotional exhaustion and depersonalization being of similar magnitudes. The lack of differentiation in associations between caseload and emotional exhaustion and with depersonalization could be a result of the small number of effect sizes that were found for this particular variable, as the reliability and power to detect effects decreases with fewer studies. That is, perhaps findings surrounding the expected differential associations between caseload and the burnout dimensions may be more apparent if there was more data available to include in the meta-analysis. Again, it is possible that real differences in the experiences of burnout among school psychologists could be the reason for this misalignment.

It is worth revisiting the fact that the work of a school psychologist is rather unique in comparison the other related occupations discussed throughout this study. For instance, school psychologists, being clinicians within the school system, are often placed on iterant schedules

(i.e., they are assigned multiple schools and are expected to coordinate their time travelling between these schools to provide needed services). Another unique feature of the work of school psychologists is their expertise in psycho-educational assessment; a service that is only carried out by professionals with specialized training in this area. While the work of a school psychologist typically involves a fair bit of this assessment work, the breadth of their potential role responsibilities and functions remains wide, with opportunities to engage in school-wide initiatives, interventions, consultation with school staff and families, and research activities. These unique aspects of this work are likely linked to school psychologists' experiences and perceptions of their work and thus burnout. Findings from the present study support this proposition. For one, school psychologists generally report low levels of burnout in the domains of depersonalization and personal accomplishment compared to their counterparts in related fields which suggests that some aspect(s) of the work of a school psychologist may serve as valued resources mitigating burnout in these two domains. On the other hand, the relatively high levels of emotional exhaustion found in the present study could be an indicator that school psychologists find some specific aspect(s) of their work to be particularly taxing, depleting resources and leading to heightened burnout in this domain. All together, these findings shed light on the unique work experiences of school psychologists which can be useful for addressing current issues in the field including staff shortages (Castillo et al., 2014) and overly large caseloads (Boccio et al., 2016; NASP, 2020).

Publication Bias

Rosenthal's Fail-Safe N was reported for all significant meta-analytic correlations. For the association between emotional exhaustion and age, the Fail-Safe *N* of 145 indicates that there would need to be 145 additional undetected studies with null effects to nullify the results,

suggesting that publication bias is not of concern for this effect size. For the associations between the three burnout dimensions and years of experience, computed Fail-Safe *N* values of 42 (emotional exhaustion), 12 (depersonalization), and 19 (personal accomplishment), suggest that publication bias is likely not of concern for the emotional exhaustion effect size, though the lower Fail-Safe *N* values for depersonalization and personal accomplishment indicate less certainty around the potential effect of publication bias for these statistics. Notwithstanding, in the context of the relatively small number of effect sizes included in these analyses ($k = 11$), the number of undetected studies with null results would need to be more than double how many were included in this meta-analysis to nullify the results, suggesting that publication bias is likely not a concern for these statistics either. Fail-Safe *N* values were smaller for associations with caseload (Fail-Safe $N = 1$ and 3 for emotional exhaustion and depersonalization, respectively), meaning that only one additional unfound nil study would be needed to nullify the significant association between caseload and emotional exhaustion and only three additional studies would be needed to nullify the significant association between caseload and depersonalization.

Of note, Rosenthal's Fail-Safe *N* statistic tells us only how many additional studies would be needed to render the observed result no longer statistically significant. Given that the goal of the present meta-analysis was to estimate the magnitude of effect sizes, funnel plots were also generated and inspected following the procedure laid out by Borenstein and colleagues (2021) to assess publication bias for each correlation analysis; no evidence of publication bias was found through this. Additionally, as the present study included both published and unpublished works, it was expected that publication bias would not be of concern. Indeed, publication status (i.e., published vs. unpublished) was investigated as a potential moderator of burnout in the current

meta-analysis and no significant differences across groupings were found suggesting a lack of publication bias as well.

Strengths

Some strengths of the present study are embedded within the general advantages of meta-analysis. For one, meta-analysis provides a quantitative synthesis of existing research, increasing reliability of findings through the amalgamation of multiple sources of data and bringing clarity to discrepancies in the primary literature. Meta-analysis is also useful for examining broader (e.g., study-level) variables that typically cannot be investigated in primary research. Particularly, this study investigated the effects of study publication status and year of publication on reported levels of burnout in the population of interest.

A second set of strengths in the current study lies in the measurement selection and reporting. This study included only studies which reported burnout as measured by the well-established, reliable, and validated MBI scale. This selectivity leads to increased homogeneity of effects as well as a greater level of confidence and precision in results. Moreover, a conscious effort was exerted to follow best practices (as indicated in the MBI manual; Maslach et al. 2018) for the scoring and reporting of burnout scores, including the reporting of MBI subscales separately (as opposed to combined as a composite for "total burnout") and reporting estimates of mean levels of burnout (as opposed to the percentage of samples that fall into the arbitrary categories of high, moderate, and low that is often seen in the literature). The present study also excluded studies that reported inconsistent data (e.g., when different statistics were reported for the same variable in text and in a table) as an effort to ensure study quality.

Whereas previous meta-analyses have investigated burnout among a diverse range of mental health professionals (e.g., Lee et al., 2011; Lim et al., 2011; O'Connor et al., 2018) and in

specific allied professions such as psychiatrists (Rotstein et al., 2019) and special education teachers (Park & Shin, 2020), the present study captures the unique experiences of burnout among school psychologists, which is important considering their distinct role within the broader field. Moreover, the current study included research within the last nine years, providing an update to existing findings. It also included both published and unpublished works, serving to reduce potential publication bias and expand the database from with conclusions may be drawn. Notably, inspections of funnel plots and the absence of differences in reported levels of burnout were observed across subgroups of studies that were published versus unpublished, suggests that publication bias was not of concern among studies included in the present meta-analyses. Though it may be argued that the inclusion of unpublished works that have not undergone peer review could result in a reduction of quality of included studies, this was of little concern in the present study, as the majority of variables investigated were descriptive in nature (e.g., composition of samples by education level, gender, work location and study-level variables of study year, and publication status), and are thus not subjected to typical scrutiny of the peer review process.

Lastly, the present study had strengths in its search strategy and the location of eligible studies. Namely, the search included relevant keywords in both English and French and studies in either of these two languages were eligible for inclusion, expanding the pool of potentially relevant reports; though, no French studies were ultimately identified. Additionally, the small number of additional studies that were identified through backward and forward search (i.e., k = 2; with one of these studies having been published after the initial search date) supports search thoroughness. Finally, and perhaps most notably, reports for every single study that was to undergo full-text review were located and reviewed by both coders.

Limitations and Future Directions

As with any study, the present meta-analysis also has some limitations. One that stands out is the limited number of available studies reporting on variables of interest. Due to this, six of the proposed moderators (i.e., marital status, parental status, grade level assignment, role responsibility, salary, number of school psychologists on staff) and one proposed correlate (number of school psychologists on staff) could not be investigated. Thus, there is a need for a greater number of primary studies on the proposed variables that were not investigated.

Moreover, future research should build on findings from Brown and Sobel's (2021) systematic review of factors related to school psychologist's job attitudes (e.g., excessive demands, breadth of duties, role ambiguity), with more primary studies quantitatively examining these factors in relation to burnout to be later meta-analyzed. The identification and examination of additional factors that may play a role in reported burnout levels among school psychologists is also recommended. For example, the discrepancy between actual and ideal caseloads appears to be a potentially influential factor according to Huebner et al. (1992) making this an interesting area for further investigation.

Unfortunately, due to the way the construct of gender was defined (i.e., often only reporting percentages of samples that were either men or women) among eligible studies, the current study was unable to conduct a meaningful analysis of how burnout might be experienced by people of different gender identities. Given that transgender and gender diverse people often face various additional stressors at work related to their minority identities (Cancela et al., 2025), it is important that future research begins to look at the unique experiences of these subgroups of school psychologists.

As noted previously, almost all of the studies included in this meta-analysis were conducted in the United States, posing limitations to the generalizability of results. It is very possible that burnout-related experiences of school psychologists in the United States differ from those working in other countries and societies. Indeed, research has found that mental health professionals from North America report significantly greater personal accomplishment levels, compared to their counterparts in other geographic regions (O'Connor et al., 2018). For this reason, the present study sought to examine study country as a moderator in reported burnout levels, however, this was not possible due to a lack of variability across studies. Thus, findings from the present study may not be generalizable to other places and should thus likely be interpreted only within the United States context. Examining burnout in other countries is an important avenue for future research. Additionally, conducting more research on the efficacy of burnout prevention and reduction initiatives (see Bell et al., 2024 for a review) may offer practical utility in addressing work-related stress and staffing issues in the field.

Another limitation of the present study is the fact that variables of interest were examined cross-sectionally and in isolation, which fails to capture nuance in the way that various factors may work together to affect burnout levels. Given the complexities in theories around the relation of burnout levels in the three domains, investigating multiple factors together in one model would be an important avenue for future research. Longitudinal investigations of burnout within the field would also be useful in delineating the sequential processes of resource loss and gain that lead to or mitigate burnout. Moreover, while the present study provides indirect information about how the three burnout domains are inter-related (through differential associations with resource gain and loss factors), future research may benefit from a more direct examination of how the three domains of burnout are related within the school psychologist

population to determine whether results from previous meta-analyses examining these relations (e.g., Lee & Ashforth, 1990, 1993a) generalize to this field.

As noted earlier, the present study used a number of informal (but not formal) strategies to ensure study quality. Various methods of assessing study quality have been developed (see Moher et al. 1996 for a review); though, there is a lack of consensus about the utility of these methods. Not having such a measure of study quality may thus be viewed as a limitation of the present study. Nonetheless, the potential problem of low study quality is less of a concern when the variables of interest are descriptive rather than inferential. For example, the mean level of burnout in a particular domain or the proportion of a study's sample who share a particular characteristic are largely unrelated to what would be measured in a formal assessment of study quality. That is, these reported descriptive statistics do not determine whether a study is of higher or lower quality. Thus, while some may advocate for a study quality assessment as best practice in meta-analyses, it is unlikely that this sort of analysis would be meaningful in the case of the present study.

Implications

Given that school psychologists often report experiencing heightened levels of burnout (Boccio et al., 2016; Huebner, 1992, 1993; Schilling et al., 2018), along with the fact that they are ethically obliged to mitigate harms related to the potential impairment of this syndrome (APA, 2017; CPA, 2017; Smith & Moss, 2009), clarifying research on this topic is imperative. Findings from the proposed study synthesize existing research on levels of emotional exhaustion, depersonalization, and personal accomplishment reported by school psychologists and how these levels differ as a function of various relevant variables. Thus, this study contributes to the literature by providing quantitative estimates of burnout levels specifically among a population

of school psychologists, clarifying discrepancies in the relation of various associated factors observed across primary studies, and advancing our understanding of COR theory in relation to burnout, particularly in relation to the work of school psychologists.

The present study holds practical significance as well. For instance, mean levels of burnout being highest in emotional exhaustion highlight this domain as a primary point of intervention in the field of school psychology. Additionally, the examination of moderators and correlates provide insight into factors that may place school psychologists at a heightened risk of elevated levels of burnout in the three domains. Specifically, this study found that non-men report greater emotional exhaustion than do men, underscoring the importance of ensuring non-men in the field receive appropriate support in their work. Also, significantly higher emotional exhaustion was observed in more recent studies, compared to older ones, quantifying the effects of increased workload and demands placed on school psychologists over time underscoring the urgency of addressing issues of burnout and staff shortages in the field. This finding also points to the need for a systemic evaluation of factors that may be limiting resources in the workplace and policy development or reform to address this worsening issue. Additionally, post-hoc analyses shed light on potential differences in the availability of resources across U.S. states, which can be useful in guiding national priorities for addressing school psychologist burnout. Results from correlation meta-analyses tell us that that burnout tends to decrease as school psychologists get older and gain more work experience, suggesting that additional resources should be directed toward younger and less experienced school psychologists. Finally, as burnout tends to increase with larger caseloads, measures to reduce the caseloads of school psychologists, perhaps through greater recruitment and retention efforts, can be an effective avenue for mitigating burnout in the field. Similarly, it may be useful to introduce policies around the

maximum number of students that any one school psychologist may be assigned to mitigate heightened burnout levels. Given that younger and less experienced school psychologists report the highest levels of burnout, it is particularly important to reduce the caseloads of these workers. Altogether, results from this study can be used to inform evidence-based strategies for addressing the issue of burnout in the field of school psychology.

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Appendix A

Eligibility Checklist

☐ The study is reported in English or French

☐ The study reports a measure of emotional exhaustion, depersonalization, and/or reduced personal accomplishment using the Maslach Burnout Inventory – Educators Survey (MBI-ES) or Human Services Survey (MBI-HSS)

☐ Participants include school psychologists

☐ The study is a primary research study

Appendix B

Coding Manual

Coding Manual for Meta-Analysis on Burnout Among School Psychologists

General Coding Notes: For every item starting at #5, indicate page number where information found. Ranges are acceptable when needed.

I. Study Level Descriptors

1. Bibliographic reference: _____
_____
_____

Write out the study reference in APA format. If two or more written reports were prepared on the same data, use the most comprehensive one.

2. Study ID: _____

The Study ID includes the name of the author(s) and year of publication. It should be formatted as an intext citation would be (e.g., Smith et al. 2000)

3. Type of publication:

a. Journal article

b. Book chapter

c. Conference paper

d. Thesis or doctoral dissertation

e. Unpublished data

f. Other

Please bold option corresponding to the type of publication of the study.

4a. Publication year: _____

4b. Indicate if only published online to date: Yes/No

5. Place study conducted in: (pg. _____)

a. US

b. Canada

c. Britain

d. Europe

e. Australia

g. Other: _____

Please indicate the country where the study was conducted.

6. Participants included (select all that apply) (pg. _____)

a. School psychologists

b. Educational psychologists

c. Other: ___

7. a) MBI scale version (pg. _____)

a. Human Services Survey (MBI-HSS)

b. Educators Survey (MBI-ES)

d. Other: __

7. b) MBI scale type (pg. _____)

a. Frequency

b. Intensity

c. Not specified

Note. The original MBI manual included both frequency and intensity subscales. These subscales are largely redundant. Thus, the most recent edition of the MBI manual only includes the Frequency scale.

7. c) Likert scale points (pg. _____)

a. 7-point (response options from 0 to 6)

(0 = never, 1 = a few times a year or less, 2 = once a month or less, 3 = a few times a month or less, 4 = once a week, 5 = a few times a week, 6 = every day)

b. Other: ___

7. d) MBI subscale scores reported (select all that apply) (pg. _____)

a. Emotional exhaustion

b. Depersonalization

c. Personal accomplishment

7. e) Reported statistics for subscales

a. Emotional exhaustion (pg. _____)

i. Mean (yes/no)

ii. SD (yes/no)

b. Depersonalization (pg. _____)

i. Mean (yes/no)

ii. SD (yes/no)

c. Personal accomplishment (pg. _____)

i. Mean (yes/no)

ii. SD (yes/no)

II. Descriptive statistics for study variables

1. Participant gender (pg. ___)

	n men	n women	n other	% non-men
Total sample				
School psychologists				
Educational psychologists				
Other: ___				

Indicate the number (n) of participants who are men, women, or other within the sample and subsamples, as appropriate. Also record the percentage of the sample that is not men (i.e., women or other). Please note if the study reports participant sex (e.g., male, female) instead of gender (e.g., men, women, non-binary).

2. Participant marital status (pg. ___)

	n married	n single	n other	% married
Total sample				
School psychologists				
Educational psychologists				
Other: ___				

Indicate the number (n) of participants who are married, single, or other within the sample and subsamples, as appropriate. Also record the percentage of the sample that is married.

3. Participant parental status (pg. ___)

	n with children	n with no children	% with children
Total sample			
School psychologists			
Educational psychologists			
Other: ___			

Indicate the number (n) of participants with children (i.e., at least one child) or with no children within the sample and subsamples, as appropriate. Also record the percentage of the sample with children.

4. Participant work location (pg. ___)

	n urban	n suburban	n rural	% non-rural
Total sample				
School psychologists				
Educational psychologists				
Other: ___				

Indicate the number (n) of participants who work in urban, suburban, or rural locations within the sample and subsamples, as appropriate. Also record the percentage of the sample who work in a non-rural (i.e., urban or suburban) setting.

5. Participant grade-level assignment (pg. ___)

	n elementary school	n middle school	n high school	% non-elementary school
Total sample				
School psychologists				
Educational psychologists				
Other: ___				

Indicate the number (n) of participants who work in elementary, middle, or high school grade levels within the sample and subsamples, as appropriate. Please include specific grade level ranges when possible. Also record the percentage of the sample who work in a non-elementary school (i.e., middle or high school) setting.

6. Participant proportion of time spent on role activities (pg. ___)

	% of time spent on psycho-educational assessment	% of time spent on consultation	% of time spent on other activities
Total sample			
School psychologists			
Educational psychologists			
Other: ___			

Indicate the percentage of time participants report spending on psycho-educational assessment (may also be referred to as simply "assessment"), consultation, and other activities, within the sample and subsamples, as appropriate.

7. Salary (pg. ___)

	Mean	SD	Range	n
Total sample				
School psychologists				
Educational psychologists				
Other: ___				

Indicate the mean number of schools assigned for the sample and subsamples when appropriate. Also indicate the standard deviation (SD), range, and sample size (n) where this information is available.

8. Number of schools served (pg. ___)

	Mean	SD	Range	n
Total sample				
School psychologists				
Educational psychologists				
Other: ___				

Indicate the mean number of schools assigned for the sample and subsamples when appropriate. Also indicate the standard deviation (SD), range, and sample size (n) where this information is available.

9. Participant age (pg. ___)

	Mean	SD	Range	n
Total sample				
School psychologists				
Educational psychologists				
Other: ___				

Indicate the mean age (in years) of the sample and subsamples when appropriate. Also indicate the standard deviation (SD), range, and sample size (n) where this information is available.

10. Participant education level (pg. ___)

	n Master's level	n Specialist level	n Doctorate level	% Doctorate level
Total sample				
School psychologists				
Educational psychologists				
Other: ___				

Indicate the number (n) of participants with Master's, Specialist, and Doctorate-level education within the sample and subsamples, as appropriate. Also record the percentage of the sample with Master's level education.

11. Participant years of work experience (pg. ___)

	Mean	SD	Range	n
Total sample				
School psychologists				
Educational psychologists				
Other: ___				

Indicate the mean years of work experience of the sample and subsamples when appropriate. Also indicate the standard deviation (SD), range, and sample size (n) where this information is available.

12. Number of school psychologists on staff (pg. ___)

	Mean	SD	Range	n
Total sample				
School psychologists				
Educational psychologists				
Other: ___				

Indicate the mean number of school psychologists on staff for the sample and subsamples when appropriate. Also indicate the standard deviation (SD), range, and sample size (n) where this information is available.

13. Caseload (pg. ___)

	Mean	SD	Range	n
Total sample				
School psychologists				
Educational psychologists				
Other: ___				

Indicate the mean caseload (or school psychologist-to-student ratio) of the sample and subsamples when appropriate. Also indicate the standard deviation (SD), range, and sample size (n) where this information is available.

12. Emotional exhaustion (pg. ___)

	Mean	SD	Range	n
Total sample				

School psychologists				
Educational psychologists				
Other: ___				

Indicate the mean score on the emotional exhaustion subscale of the MBI for the sample and subsamples when appropriate. Also indicate the standard deviation (SD), range, and sample size (n) where this information is available.

13. Depersonalization (pg. ___)

	Mean	SD	Range	n
Total sample				
School psychologists				
Educational psychologists				
Other: ___				

Indicate the mean score on the depersonalization subscale of the MBI for the sample and subsamples when appropriate. Also indicate the standard deviation (SD), range, and sample size (n) where this information is available.

13. Personal accomplishment (pg. ___)

	Mean	SD	Range	n
Total sample				
School psychologists				
Educational psychologists				
Other: ___				

Indicate the mean score on the personal accomplishment subscale of the MBI for the sample and subsamples when appropriate. Also indicate the standard deviation (SD), range, and sample size (n) where this information is available.

Lower scores on the personal accomplishment subscale are indicative of higher burnout in this domain. Some authors may choose to reverse score this scale, such that higher scores represent more "reduced personal accomplishment." Please check here ___ and highlight if this subscale has been reverse scored, to avoid confusion.

IV. Correlations

1. Participant age (pg. ___)

	r	p-value	n
Emotional exhaustion			
Depersonalization			
Personal accomplishment			

Indicate the reported correlation coefficients and associated p-values between participant age (in years) and scores of emotional exhaustion, depersonalization, and personal accomplishment.

Please check here __ and highlight if scores on the personal accomplishment subscale are reverse-scored to ensure the effect is recorded in the proper direction.

2. Education level (pg. ___)

	r	p-value	n
Emotional exhaustion			
Depersonalization			
Personal accomplishment			

Indicate the reported correlation coefficients and associated p-values between years of work experience and scores of emotional exhaustion, depersonalization, and personal accomplishment.

Please check here __ and highlight if scores on the personal accomplishment subscale are reverse-scored to ensure the effect is recorded in the proper direction.

3. Years of work experience (pg. ___)

	r	p-value	n
Emotional exhaustion			
Depersonalization			
Personal accomplishment			

Indicate the reported correlation coefficients and associated p-values between years of work experience and scores of emotional exhaustion, depersonalization, and personal accomplishment.

Please check here __ and highlight if scores on the personal accomplishment subscale are reverse-scored to ensure the effect is recorded in the proper direction.

4. Number of school psychologists on staff (pg. ___)

	r	p-value	n
Emotional exhaustion			
Depersonalization			
Personal accomplishment			

Indicate the reported correlation coefficients and associated p-values between the number of school psychologists on staff and scores of emotional exhaustion, depersonalization, and personal accomplishment.

Please check here __ and highlight if scores on the personal accomplishment subscale are reverse-scored to ensure the effect is recorded in the proper direction.

5. Caseload (pg. ___)

	r	p-value	n
Emotional exhaustion			

Depersonalization			
Personal accomplishment			

Indicate the reported correlation coefficients and associated p-values between caseload and scores of emotional exhaustion, depersonalization, and personal accomplishment.

Please check here __ and highlight if scores on the personal accomplishment subscale are reverse-scored to ensure the effect is recorded in the proper direction.

Appendix C

Coding Form

Coding Form for Meta-Analysis on Burnout Among School Psychologists

I. Study Level Descriptors

1. Bibliographic reference: _____
_____
_____

2. Study ID: _____

3. Type of publication:
   a. Journal article
   b. Book chapter
   c. Conference paper
   d. Thesis or doctoral dissertation
   e. Unpublished data
   f. Other

4a. Publication year: _____

4b. Indicate if only published online to date: Yes/No

5. Place study conducted in: (pg. _____)
   a. US
   b. Canada
   c. Britain
   d. Europe: _____
   e. Australia
   g. Other: _____

6. Participants included (select all that apply) (pg. _____)
   a. School psychologists
   b. Educational psychologists
   c. Other: ___

7. a) MBI scale version (pg. _____)
   a. Human Services Survey (MBI-HSS)
   b. Educators Survey (MBI-ES)
   c. General Survey (MBI-GS)
   d. Other: __

7. b) MBI scale type (pg. _____)
   a. Frequency
   b. Intensity
   c. Not specified

7. c) Likert scale points (pg. _____)
   a. 7-point (response options from 0 to 6)

(0 = never, 1 = a few times a year or less, 2 = once a month or less, 3 = a few times a month or less, 4 = once a week, 5 = a few times a week, 6 = every day)

b. Other: ___

7. e) MBI subscale scores reported (select all that apply) (pg. _____)
   a. Emotional exhaustion
   b. Depersonalization
   c. Personal accomplishment
7. f) Reported statistics for subscales
   a. Emotional exhaustion (pg. _____)
      i. Mean (yes/no)
      ii. SD (yes/no)
   b. Depersonalization (pg. _____)
      i. Mean (yes/no)
      ii. SD (yes/no)
   c. Personal accomplishment (pg. _____)
      i. Mean (yes/no)
      ii. SD (yes/no)

II. Descriptive statistics for study variables

1. Participant gender (pg. ___)

	n men	n women	n other	% non-men
Total sample				
School psychologists				
Educational psychologists				
Other: ___				

Please note if the study reports participant sex (e.g., male, female) instead of gender (e.g., men, women, non-binary).

2. Participant marital status (pg. ___)

	n married	n single	n other	% married
Total sample				
School psychologists				
Educational psychologists				
Other: ___				

3. Participant parental status (pg. ___)

	n with children	n with no children	% with children
Total sample			

School psychologists			
Educational psychologists			
Other: ___			

4. Participant work location (pg. ___)

	n urban	n suburban	n rural	% non-rural
Total sample				
School psychologists				
Educational psychologists				
Other: ___				

5. Participant grade-level assignment (pg. ___)

	n elementary school	n middle school	n high school	% non-elementary school
Total sample				
School psychologists				
Educational psychologists				
Other: ___				

Please include specific grade level ranges when possible.

6. Participant proportion of time spent on role activities (pg. ___)

	% of time spent on psycho-educational assessment	% of time spent on consultation	% of time spent on other activities
Total sample			
School psychologists			
Educational psychologists			
Other: ___			

7. Salary (pg. ___)

	Mean	SD	Range	n
Total sample				
School psychologists				

Educational psychologists				
Other: ___				

8. Number of schools served (pg. ___)

	Mean	SD	Range	n
Total sample				
School psychologists				
Educational psychologists				
Other: ___				

9. Participant age (in years) (pg. ___)

	Mean	SD	Range	n
Total sample				
School psychologists				
Educational psychologists				
Other: ___				

10. Participant education level (pg. ___)

	n Master's level	n Doctorate level	% Master's level
Total sample			
School psychologists			
Educational psychologists			
Other: ___			

11. Participant years of work experience (pg. ___)

	Mean	SD	Range	n
Total sample				
School psychologists				
Educational psychologists				
Other: ___				

12. Number of school psychologists on staff (pg. ___)

	Mean	SD	Range	n
Total sample				

School psychologists				
Educational psychologists				
Other: ___				

13. Caseload (or school psychologist-to-student ratio) (pg. ___)

	Mean	SD	Range	n
Total sample				
School psychologists				
Educational psychologists				
Other: ___				

12. Emotional exhaustion (pg. ___)

	Mean	SD	Range	n
Total sample				
School psychologists				
Educational psychologists				
Other: ___				

13. Depersonalization (pg. ___)

	Mean	SD	Range	n
Total sample				
School psychologists				
Educational psychologists				
Other: ___				

13. Personal accomplishment (pg. ___)

	Mean	SD	Range	n
Total sample				
School psychologists				
Educational psychologists				
Other: ___				

***Please check here ___ and highlight if this subscale has been reverse scored.*

IV. Correlations

1. Participant age (in years) (pg. ___)

	r	p-value	n
Emotional exhaustion			
Depersonalization			
Personal accomplishment			

***Please check here ___ and highlight if this subscale has been reverse scored.*

2. Education level (pg. ___)

	r	p-value	n
Emotional exhaustion			
Depersonalization			
Personal accomplishment			

***Please check here ___ and highlight if this subscale has been reverse scored.*

3. Years of work experience (pg. ___)

	r	p-value	n
Emotional exhaustion			
Depersonalization			
Personal accomplishment			

***Please check here ___ and highlight if this subscale has been reverse scored.*

4. Number of school psychologists on staff (pg. ___)

	r	p-value	n
Emotional exhaustion			
Depersonalization			
Personal accomplishment			

***Please check here ___ and highlight if this subscale has been reverse scored.*

5. Caseload (or school psychologist-to-student ratio) (pg. ___)

	r	p-value	n
Emotional exhaustion			
Depersonalization			
Personal accomplishment			

***Please check here ___ and highlight if this subscale has been reverse scored.*