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OUTCOMES OF PERCEIVED WORKPLACE DISCRIMINATION: A META-
ANALYSIS OF 35 YEARS OF RESEARCH

by

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B.S., University of Central Florida, 2012

A thesis submitted in partial fulfillment of the requirements
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Major Professor: Dana Joseph

ABSTRACT

Given the substantial monetary and nonmonetary costs that both employees and organizations can incur as a result of perceived workplace discrimination, it is important to understand the outcomes of perceived workplace discrimination as well as what moderates the discrimination-outcome relationship. While other meta-analyses of perceived discrimination have been published, the current meta-analysis expands prior meta-analytic databases by 81%, increasing the stability of the estimated effects. In addition, several prior meta-analyses have not focused exclusively on *workplace* discrimination. Consequently, the purpose of this meta-analysis is to provide a comprehensive quantitative review of perceived workplace discrimination, its consequences, and potential moderators of these relationships. Results showed that perceived workplace discrimination was related to decreased job satisfaction, reduced organizational commitment, greater withdrawal, and more perceived organizational injustice. Further, perceived workplace discrimination was associated with decreased mental health and physical health, lower ratings of life satisfaction, and increased work stress. Moderator analyses provided some evidence that perceiving the general presence of discrimination in one's organization may be more detrimental than perceiving oneself to be personally targeted by discrimination at work. Additionally, moderator analyses provided some support that interpersonal discrimination may be more detrimental than formal discrimination for some outcomes and that there may be differences in the perceived workplace discrimination-outcome relationships across different countries. The implications for workplace discrimination research and practice are discussed.

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INTRODUCTION

The last four decades have ushered in monumental social and legal changes aimed at reducing the amount of employment discrimination experienced in the United States. For example, the passing of Title VII of the Civil Rights Act prohibited employers from making employment decisions based on employees' race, skin color, sex, religious affiliation, or national origin. Additionally, President Clinton issued Executive Order 13087 in 1998, outlawing discrimination based on sexual orientation for the civilian workforce in the federal government (Law & Hrabal, 2010) and there have been a growing number of organizations that have adopted anti-discrimination policies to protect this group against unfair discrimination (Ragins & Cornwell, 2001). As a result of this legislation, evidence from the U.S. Government Accountability Office (Sherrill, 2009) shows that the wage gaps between members of historically disadvantaged groups and majority group members have decreased. For example, in 1988, women earned 28 cents less for every dollar earned by men and this gap closed to 11 cents by 2007.

Despite these legislative advances, members of social minorities still endure negative treatment in many contexts of life and the workplace is no exception. There is substantial evidence that individuals belonging to stigmatized groups endure negative treatment in the workplace as a result of their group membership (see reviews by Cleveland, Vescio, & Barnes-Farrell, 2005; Colella & Stone, 2005; Shore & Goldberg, 2005) The pervasiveness of workplace discrimination is further illustrated in the nearly 100,000 charge filings that were reported to the U.S. Equal Employment Opportunity Commission (EEOC) in 2012. Not only is discrimination a persistent problem, it is also an extremely costly one. The Coca-Cola Company agreed to a \$192

million settlement in a suit over workplace discrimination in 2000, highlighting the extreme monetary costs that can result from workplace discrimination (Winter, 2000). The most visible cost of discrimination is the cost of litigation, but costs to the organization also accrue from less visible sources, such as the costs associated with the decreased productivity and employee turnover that result from discrimination (Bradford, 2012; Dovidio et al., 2002; Fitzgerald, Drasgow, Hulin, Gelfand, & Magley, 1997). The evidence that discrimination is still a pervasive problem in workplaces today highlights the importance of understanding the relationship between workplace discrimination and job attitudes, job behaviors, and health outcomes. These outcomes were chosen because of their importance for both employee wellbeing and organizational effectiveness. This study seeks to meta-analyze the relationships between perceived workplace discrimination and job attitudes, job behaviors, and health outcomes. A meta-analysis of these relationships is critical for several reasons. First, a meta-analysis gives a more accurate picture of the effects of perceived workplace discrimination than any single study. In particular, meta-analyses can enhance our understanding of the severity of discrimination at work, which can be used for a variety of purposes including organization interventions and litigation (Willness, Steel, & Lee, 2007). More broadly, the findings of this meta-analysis also allow for an easier comparison of perceived workplace discrimination with other forms of workplace mistreatment in order to identify if these behaviors lead to common consequences.

Additionally, this study contributes to the literature by examining several moderators that may influence the relationship between workplace discrimination and negative outcomes. These moderators include: (a) the type (i.e., formal vs. interpersonal discrimination) of discrimination one experiences (i.e., personally experienced vs. observed) and (b) the measurement of discrimination (i.e., the type of response scale and the timeframe of measurement). While some

empirical work has attempted to examine differences between formal and interpersonal discrimination (Hebl, Foster, Mannix, & Dovidio, 2002; Singletary, 2009), the proposed measurement moderators have not been addressed in the extant literature. Ultimately, the current paper will shed light on whether variations in the conceptualization and measurement of perceived workplace discrimination influence the relationship between discrimination and relevant workplace outcomes.

In recent years, six meta-analyses have been conducted on discrimination and its outcomes (e.g., Bowen, Swim, & Jacobs, 2000; Davison & Burke, 2000; Jones, Peddie, Gilrane, King & Gray, 2013; Lee & Ahn, 2011; Lee & Ahn, 2012; Pascoe & Richman, 2009). However, this study offers several unique contributions beyond these existing meta-analyses. First, the current study has largely unique data, with a maximum of 19% overlap with the meta-analyses cited above (i.e., the meta-analytic database of *workplace* discrimination studies used in the current study is 81% larger than any one previous meta-analysis). Second, the previous meta-analyses have not focused on job-related outcomes. While Jones and colleagues (2013) examined job outcomes, they did not report individual effect sizes for each outcome. Instead, multiple job-related consequences were combined into a single effect size. Additionally, most of the previous studies have examined discrimination without differentiating between different types of discrimination (cf., Jones et al., 2013). While Jones and colleagues differentiated between subtle and blatant forms of discrimination, none of the aforementioned studies examined the moderators proposed by the current study. Further, the previous studies have not specifically focused on perceived workplace discrimination.

It is advantageous to have separate estimates of the relationship perceived *workplace* discrimination has with outcomes for two primary reasons: (a) having estimates of the outcomes

of workplace discrimination in particular can better inform organizations and litigators of the negative effects workplace discrimination can have and (b) there are several reasons why workplace discrimination may differ from discrimination in other contexts. First, workplace discrimination is often perpetrated by individuals who have the power to influence meaningful outcomes for the target, such as performance appraisals and promotion recommendations. Additionally, whereas victims of discrimination in non-work settings may be able to more easily avoid the perpetrator of the mistreatment when discrimination occurs (i.e., if they are discriminated against at a particular restaurant, the target can choose not to visit that restaurant), victims of discrimination at work will have much more difficulty avoiding the situation. Further, individuals spend a considerable portion of their lives at work and the amount of time spent at work exceeds the amount of time spent in almost any other context, leading mistreated employees to be at a constant risk for discrimination. The aforementioned reasons allow perceived workplace discrimination to be a particularly noxious stressor relative to discrimination elsewhere. For this reason, this study seeks to provide a quantitative review of how *workplace* discrimination specifically relates to health and extend the previous findings to include additional well-being outcomes as well as explore moderators of the discrimination-health relationship.

PERCEIVED DISCRIMINATION

Workplace discrimination can be defined as unfair or negative treatment of workers or job applicants based on group membership (Chung, 2001). This definition is used to conceptualize discrimination in the current study because it is limited to mistreatment that occurs due to an individual's stigmatized group identity as opposed to more general forms of mistreatment that may not be motivated by group categorization. The definition used here is therefore broader than the definition of legal discrimination because it is not limited to discrimination against protected classes (e.g., weight is a stigmatized identity but not a protected class; therefore, while the legal definition of discrimination excludes weight discrimination, the current conceptualization of discrimination is inclusive of weight discrimination). This definition includes both formal discrimination (i.e., discrimination that occurs in organizational decisions) and interpersonal discrimination (i.e., discrimination that occurs in informal interactions with other employees; Hebl et al., 2002). Also included in this definition is harassment based on stigmatized identities (e.g., heterosexist harassment, racial harassment), which is defined as negative group-based differential treatment that creates an unpleasant work environment (Harrick & Sullivan, 1995; Schneider, Hitlan, & Radhakrishnan, 2000). However, given that several recent quantitative reviews are available for sexual harassment and the outcomes included in this study (i.e., Cantisano, Dominguez, & Depolo, 2008; Chan, Chow, Lam, & Cheung, 2008; Willness et al, 2007), sexual harassment is excluded from this study. This definition also excludes negative behaviors such as bullying and incivility given the ambiguous motivation of these behaviors. In other words, bullying and incivility are general forms of mistreatment that may not be a result of the target's stigmatization or minority group status. A summary of these definitions is shown in Table 1.

Table 1. *Definitions of Perceived Workplace Discrimination.*

Citation	Construct	Definition
Equal Employment Opportunity Commission	Illegal Discrimination	Unlawful practices include refusing to hire or discharging an employee, or providing different compensation or conditions of employment; protected identities include race, color, religion, national origin, and sex
Ensher, Grant-Vallone, & Donaldson (2001)	Perceived Discrimination	The perception that one receives unequal treatment as a result of his/her group membership
Chung (2001)	Perceived Discrimination	Unfair, negative treatment of employees based on individual characteristics that are unrelated to job performance
Hebl, Foster, Mannix, & Dovidio (2002)	Formal Discrimination	Discrimination in organizational decisions such as hiring, promotions, resource distribution, and opportunities
Hebl, Foster, Mannix, & Dovidio (2002)	Interpersonal Discrimination	Discrimination that occurs in social interactions, including verbal and nonverbal behavior
Schneider, Hitlan, & Radhakrishnan, (2000)	Racial Harassment	Verbally threatening or exclusionary behavior that is motivated by one's race/ethnicity

Discrimination can be manifested in many ways in the workplace, including not being selected for a job, being overlooked for a promotion, receiving lower compensation than one's coworkers, and being the target of negative interpersonal behaviors. This study focuses on perceived *workplace* discrimination, or an individual's perception that they have been treated unfairly due to a particular group identity. While perceptions of discrimination may not accurately reflect actual discrimination, examining perceived discrimination is arguably more meaningful when analyzing individual outcomes. That is, discrimination only has the power to influence individual outcomes such as employee attitudes, cognitions, and behaviors when the target *perceives* the event as discriminatory (Ragins & Cornwell, 2001; Swanson & Wotike, 1997). Therefore, an employee will not experience the negative consequences of discrimination unless they appraise the treatment as negative.

DISCRIMINATION, JOB ATTITUDES, AND JOB BEHAVIORS

Attitudes, behaviors, and decisions regarding one's job are colored by the individual's experiences on the job. Given that employed adults spend approximately one-third of their waking lives at work, it is not surprising that mistreatment at work can have negative consequences for employees. The theoretical perspectives of social identity theory, equity theory, and social exchange theory can be used to explain the relationship between perceived workplace discrimination and job-related outcomes. Social identity theory poses that individuals place people into distinct social categories on the basis of shared characteristics (Tajfel & Turner, 1986). Perceived discrimination results from an individual feeling that they receive unequal treatment due to their group membership (Sanchez & Brock, 1996). Social identity theory also posits that group membership is integral to one's self-concept because individuals internalize their social memberships. Therefore, when an individual's in-group is threatened or denigrated as a result of perceived discrimination, the individual experiences threats to their self-esteem, which can result in feelings of anger, alienation, inadequacy, and personal conflict (Ensher et al., 2001; Tajfel & Turner, 1986). This increase in negative affect can in turn decrease an individual's attitudes about his/her job.

Equity theory posits that individuals desire social relationships that are balanced in that the individual perceives equilibrium between what they give to the relationship and what they receive from the relationship (Adams, 1965). Perceiving discrimination can create an imbalance in the social relationship, causing the individual to adjust their inputs (i.e., attitudes and behaviors toward the organization) to create a more equal exchange.

Further, social exchange theory (Blau, 1964; Levine & White, 1961) maintains that individuals use cost-benefit analyses and the comparison of alternatives in determining what

social exchanges to engage in. When an individual experiences discrimination at work, they may feel that the costs of continuing employment with the organization do not outweigh the benefits of staying. Additionally, they may perceive their alternatives (i.e., other organizations) as more desirable than their current organization. Taken together, this may motivate employees to psychologically withdraw from their organization or terminate their employment altogether. Applying these theories to perceived workplace discrimination allows for a theoretical understanding of the relationship between discrimination and job attitudes and behaviors. The following sections review the specific relationships between perceived workplace discrimination and job satisfaction, organizational commitment, organizational justice, withdrawal behaviors, and organizational citizenship behaviors.

Job Satisfaction

Job satisfaction refers to overall feelings derived from one's job (Spector, 1997) and can refer to an employee's overall emotional satisfaction with their job or satisfaction with specific facets of their job, such as their supervisors, coworkers, and compensation (Spector, 1997). Job satisfaction is of particular interest to organizational scholars because of its demonstrated relationship with job performance (Judge, Thoresen, & Bono, 2001), turnover intentions (Nyberg, 2010), and employee well-being (John & Saks, 2001). Perceiving discrimination at work is thought to result in negative affective reactions towards one's job, reducing job satisfaction (King, Dawson, Kravitz, & Gulick, 2012). Consistent with this rationale, previous research has found that individuals who perceive workplace discrimination tend to have decreased job satisfaction (e.g., Ensher et al., 2001; Sanchez & Brock, 1996). Sanchez and Brock (1996) found that perceived workplace discrimination explained variance in job satisfaction beyond that

accounted for by other work stressors. While the relationship between perceived workplace discrimination and job satisfaction has been tested in the extant literature, the magnitude of the relationship has widely varied across studies, ranging from $r = -.75$ to $r = -.08$ (Deitch et al., 2003; Wood, Braeken, & Niven, 2012), and the relationship has not previously been meta-analyzed. Therefore, it is still unclear how strong of an impact discrimination has on job satisfaction. This study will provide a more accurate picture of the relationship between perceived workplace discrimination and job satisfaction as well as test for moderators that may explain the discrepancies in the current literature.

Hypothesis 1: Perceived workplace discrimination is negatively related to job satisfaction.

Organizational Commitment

Organizational commitment has been defined as “a volitional psychological bond reflecting dedication to and responsibility for a target” (Klein, Molloy, & Brinsfield, 2012, p. 137). Organizational commitment is a multidimensional construct with three recognized types: affective commitment, continuance commitment, and normative commitment (Meyer & Allen, 1991). Affective commitment has been conceptualized as a desire to stay with the organization as well as an employee’s identification with the organization. Continuance commitment is viewed as commitment that derives from the perceived costs of leaving the organization. Lastly, normative commitment is a result of feeling obligated to stay with the organization (Meyer & Allen, 1991).

Commitment to one’s organization is likely to be high when the values and goals of the employee match the values and goals of the organization, causing the individual to be more dedicated to their organization (Meyer & Allen, 1991). When organizations engage in

discrimination, individuals will be less likely to support their organization's values and will not want to identify themselves with their organization (McGowan, 2010). Based on this rationale, scholars have hypothesized that negative experiences at work will lead to decreases in organizational commitment (Meyer et al., 2002) and empirical evidence supports this proposition (Ensher et al., 2001; Foley, Ngo, & Loi, 2006; Parker & Kohlmeyer, 2005; Redman & Snape, 2006). However, like job satisfaction, the magnitude of this relationship has varied widely across studies, ranging from $r = -.54$ to $r = .26$ (Bradley, 2009; Peng, Ngo, Shi, & Wong, 2009) and has never been meta-analyzed. Additionally, little attention has been paid to the differences between the three types of organizational commitment.

Hypothesis 2: Perceived workplace discrimination is negatively related to organizational commitment.

Perceived Justice

Organizational justice refers to subjective, socially constructed perceptions of fairness in an organization (Colquitt, Conlon, Wesson, Porter, & Ng, 2001). This perception can concern both organizational decisions and the manner in which they are made as well as interactions with organizational decision makers (Colquitt, 2001). The concept of justice grew out of equity theory, or the idea that individuals derive their perceptions of fairness by weighing their inputs to their outcomes, as previously stated. Another crucial component of equity theory is the comparison of one's personal inputs and outcomes to those of referent others (Folger & Cropanzano, 1998). Comparisons of one's input to outcome ratio can either be equal to, higher than, or lower than the referent other's ratio, with the latter two creating perceptions of injustice (Greenberg, 1990). Employees who perceive discrimination in their workplaces will likely feel as though their ratio

of inputs to outcomes is unequal to that of their coworkers, invoking perceptions of injustice. These inequities may take the form of unequal pay, less respect in interactions with one's supervisor, or the use of job-irrelevant information (i.e., group membership) in organizational decision-making. While the relationship between organizational justice and discrimination has not been widely studied in the extant literature, some evidence does suggest that perceived discrimination has a negative relationship with perceived organizational justice (e.g., Foley, Hang-Yue, & Wong, 2005; Wood et al., 2012). However, observed correlations between discrimination and justice have been inconsistent in the literature, ranging from $r = -.59$ (Bibby, 2008) to $r = -.002$ (Peng et al., 2009), highlighting the importance of a quantitative summary and potentially suggesting moderators of this relationship.

Hypothesis 3: Perceived workplace discrimination is negatively related to organizational justice.

Withdrawal Behaviors

Organizational withdrawal is a negative psychological state that leads to behaviors characterized by a physical absence from the organization (e.g., tardiness, absence, and turnover; Hulin, 1991). Organizational withdrawal can be subdivided into work withdrawal, which includes voluntary absenteeism and tardiness, and job withdrawal, or intentions to leave the organization (Hanisch & Hulin, 1990). Organizations endure considerable costs as a result of withdrawal behaviors and the resulting decrease in productivity. Tardiness alone has been estimated to cost organizations \$3 billion annually (DeLonzor, 2005). Additionally, organizations incur costs as a result of turnover because when an employee turns over, the organization must then spend considerable time and resources locating, hiring, and re-training a

new employee to fill the open position.

Employees who perceive workplace discrimination likely have more negative attitudes toward their organization (Madera, King, Hebl, 2012) and may perceive their work environment to be hostile, leading employees to have a decreased desire to be present in their organization (Schneider et al., 2000). Employees may additionally be motivated to avoid the negative perceptions of discrimination and its associated negative feelings, resulting in the employee choosing to physically remove himself/herself from the situation when possible. This may manifest in behaviors such as being absent from or late to work. Further, social exchange theory predicts that employees may even choose to terminate their relationship with the organization altogether if the benefits of continued employment are not perceived as greater than the costs of discrimination. While no previous meta-analytic results are available, previous studies have reported relationships ranging from $r = .50$ (Dalton, Cohen, Harp & McMillan, 2013) to $r = -.02$ (Schneider et al., 2000). Taken together, the following is hypothesized:

Hypothesis 4: Perceived workplace discrimination is positively related to withdrawal behaviors.

Organizational Citizenship Behaviors

Organizational citizenship behaviors (OCB) are elective, prosocial behaviors that are aimed at helping an organization or its employees, such as helping a coworker meet a deadline (MacKenzie, Podsakoff, & Fetter, 1993). While these behaviors are not formally required, they contribute to overall organizational effectiveness. As previously mentioned, equity theory is based on social exchange theory and posits that individuals seek to maintain balance in social relationships (Adams, 1965). Perceiving workplace discrimination may result in employees

feeling as though they should decrease their extra-role contributions to their organization and/or coworkers in order to match the negative treatment they receive (Ensher et al., 2001). Social exchange theory also sheds light on the relationship between perceived workplace discrimination and organizational citizenship behavior (Levine & White, 1961). This theory posits that individuals seek relationships in which the costs do not outweigh the benefits. “Costs,” or behaviors, include things such as citizenship behaviors that require an expenditure of effort. Discrimination is likely to diminish the perceived benefits of the employee-organization relationship, causing the individual to similarly decrease the effort they invest in the relationship. Perceived workplace discrimination’s relationship with citizenship behaviors has been insufficiently explored in the extant literature with some evidence suggesting that the relationship is negative, while other evidence suggests that it is positive. However, based on the preceding theoretical rationale, I posit the following hypothesis:

Hypothesis 5: Perceived workplace discrimination is negatively related to organizational citizenship behaviors.

(It should be noted that the current meta-analysis does not include task performance.

Although task performance is arguably an outcome that is worthy of study, the lack of available primary studies has forced the exclusion of task performance as an outcome in the current paper.)

DISCRIMINATION AND HEALTH

Arguably one of the most costly consequences of perceived discrimination is the negative impact it can have on mental and physical health (Clark, Anderson, Clark, & Williams, 1999; Kessler et al., 1999; Pascoe & Richman, 2009). Ethnic and racial minorities tend to have lower levels of mental and physical health than individuals of higher status (Herek, Gillis, & Cogan, 2009; Huebner & Davis, 2007; Landry & Mercurio, 2009; Mays, Cochran, & Barnes, 2007). Although many variables contribute to this gap (e.g., minority groups tend to have less access to quality health care and are less likely to have insurance coverage, primarily due to the tendency of minorities to have lower socioeconomic status; Zuvekas & Taliaferro, 2003), perceived discrimination is an additional source of health disparities (Dipboye, Fritzsche, & Dhanani, 2013; Kessler, Mickelson, & Williams, 1999). The impact perceived discrimination can have is illustrated in the following anecdotal quote from a testimony in a discrimination lawsuit: “The whole experience has been emotionally draining... What happened sucked the life out of me and (now) I’m tired, emotional and always crying.” (Sims, 2009).

Discrimination has been conceptualized as a social stressor that elicits heightened physiological and psychological responses that negatively impact health (Clark, et al., 1999; Pascoe & Richman, 2009; Dipboye et al., 2013). The physiological responses that result from discrimination may be a product of the body trying to prepare to be physically reactive (Richman et al., 2007). Physiological responses to stressful stimuli include immune, neuroendocrine, and cardiovascular reactions (Clark, et al., 1999). Over time, the physiological and psychological reactions that stress responses provoke lead to negative physical health outcomes for individuals. Evidence has established the link between discrimination and negative physical health outcomes, including heightened blood pressure (Guyll, et al., 2001), coronary artery calcification (Lewis et

al., 2006), increased levels of C-reactive proteins (Lewis, Aiello, Leurgans, Kelly, & Barnes, 2010), diabetes, pelvic inflammatory disease, cardiovascular disease (Pascoe & Richman, 2009), and hypertension (Richman, et al., 2010).

Hypothesis 6: Perceived workplace discrimination is negatively related to physical health.

Discrimination can also impact mental health and this relationship can be explained by social identity theory. Given that individuals derive some part of their self-esteem from their group membership, mistreatment that devalues the social group an individual belongs to will by extension decrease one's self-esteem (Crocker et al., 1998; Tajfel & Turner, 1986). Evidence shows that perceived discrimination is linked to several indicators of mental health, such as depression, anxiety, psychological distress, and lower self-esteem (see Pascoe & Richman, 2009, for a review). Further, perceived workplace discrimination will also likely lead to an increase in work stress. Given that evidence has demonstrated that discrimination is a stressor, an employee who perceives discrimination in the workplace might experience increased stress and associate that stress with his/her job. In support of this notion, previous work has found a positive relationship between workplace discrimination and job stress (Buchanan & Fitzgerald, 2008; Crede, Chernyshenko, Stark, Dalal, & Bashshur, 2007).

Hypothesis 7: Perceived workplace discrimination is negatively related to psychological health.

Hypothesis 8: Perceived workplace discrimination is positively related to stress.

Well-being is comprised not only of an affective component, but also of a judgmental component. The judgmental component has been conceptualized as life satisfaction, or the individual's subjective rating of their overall quality of life (Diener, Emmons, Larsen, & Griffin, 1985). Relative deprivation theory states that viewing one's social group as having less status or

privilege than another social group leads to deleterious psychological outcomes, including decreased life satisfaction (Birt & Dion, 1987; Runciman, 1966) and past empirical research has supported this notion (e.g., Deitch, 2002).

Hypothesis 9: Perceived workplace discrimination is negatively related to life satisfaction.

To date, most of the existing research on the discrimination-health relationship has examined discrimination in non-work contexts. Two previous meta-analyses have examined the relationship between discrimination and health outcomes (Jones et al., 2013; Pascoe & Richman, 2009). Jones and colleagues (2013) found relationships of $\rho = .30$ and $\rho = .16$ between perceived discrimination and mental and physical health, respectively. Pascoe and Richman (2009) found slightly smaller relationships between discrimination and mental and physical health ($\rho = -.16, -.13$, respectively). However, these studies were limited in that (a) the context was not limited to the workplace, (b) the relationship between discrimination and life satisfaction was not explored, and (c) the proposed conceptual and measurement moderators were not tested. Additionally, while Jones and colleagues (2013) included work stress in their analyses, they did not report the relationship between perceived discrimination and stress in isolation, but instead combined work stress with other outcomes (i.e., job satisfaction, attachment).

MODERATORS

As the understanding of the types of discrimination one may experience has changed, so too have definitions and conceptualizations of discrimination. While the conceptualization of discrimination has been adapted to include newly recognized forms of discrimination, few attempts have been made to determine if these forms have differential relationships with the outcomes associated with perceived discrimination (cf. Hebl et al., 2002; Singletary, 2009). Additionally, the extant literature suffers from a lack of clarity regarding the measurement of perceived workplace discrimination and it is unclear how common methodological variations influence the relationship perceived workplace discrimination has with job attitudes, job behaviors, and health outcomes. For these reasons, the current paper proposes several moderators of the relationship between perceived discrimination and outcomes.

Conceptualization Moderators

Formal versus Interpersonal Discrimination. In organizational settings, discrimination can occur in a formal or interpersonal manner (Hebl et al., 2002). Formal discrimination is typically manifested in job-related outcomes such as hiring, promotion, or compensation decisions. Interpersonal discrimination is comprised of denigrating verbal and nonverbal behaviors. These behaviors can include acts such as avoidance, refusal to make eye contact, an unwillingness to provide assistance, and unfriendly communication (Pettigrew & Martin, 1987; Solorzano, Ceja, & Yosso, 2000). While the behaviors associated with formal discrimination were outlawed with the passage of Title VII and subsequent legal reforms, interpersonal discrimination is not specifically punishable by law. As Hebl and colleagues (2002) noted, “there

are no mandates on the number of words one must speak or the amount of smiling one must do” when interacting with members of stigmatized groups (p. 816).

The distinction between formal and interpersonal discrimination differs from the distinction between subtle and blatant discrimination. Subtle discrimination, while interpersonal in nature, represents a narrower category of behaviors (Van Laer & Janssens, 2011). Scholars have described subtle forms of discrimination as seemingly normal or acceptable and typically occurring subconsciously. This behavior may be negative but it may also be ambivalent and have ambiguous intent (Jones et al., 2013). One example of subtle discrimination is people acting as if they were better than the target individual. Blatant discrimination refers to unconcealed and intentional mistreatment based on group membership (Van Laer & Janssens, 2011). Examples include someone making a derogatory comment or a coworker withholding work-relevant information as well as more formal forms of discrimination such as not hiring an individual because of their sexual orientation.

Formal and interpersonal discrimination differ not only based on the behaviors associated with each, but also based on the individual or group that is likely to engage in these behaviors (Dovidio et al., 2002). Given that formal discrimination is comprised of discrimination related to one’s job, this type of discrimination is most often perpetrated by an employee’s organizational leaders, such as a supervisor, who symbolically represent the organization (Hebl et al., 2002). Interpersonal discrimination, however, is typically manifested in interpersonal interactions with coworkers and includes behaviors such as making inappropriate jokes or refusing to help someone. Unlike formal discrimination, interpersonal discrimination is most often enacted by a specific other rather than the organization (or one of its symbolic representations).

Scholars have posited conflicting hypotheses as to which type of discrimination is more

harmful for the victim. Interpersonal discrimination has been thought to be a particularly noxious form of discrimination by some scholars for several reasons. First, interpersonal discrimination tends to be more frequently experienced than formal discrimination (Kessler, Michelson, & Williams, 1999). Employees continually interact with their coworkers and supervisors while formal discrimination, which is comprised of discrete events or decisions, occurs much less frequently. Stressors can have severe consequences when they are experienced continuously (Richman, Pek, Pascoe, & Bauer, 2010), making the frequency of interpersonal discrimination particularly damaging to its targets. Additionally, cases of formal discrimination are more likely to be reported and the perpetrator is more likely to be held accountable for his/her actions (Guyl, Matthews, & Bromberger, 2001). As Cortina (2008) stated in regards to reporting interpersonal forms of mistreatment, "... managers might not find such 'minor,' seemingly neutral misconduct worthy of reprimand" (p. 70). However, perceiving discrimination from one's organization may be more pernicious than interpersonal discrimination due its ability to directly affect an individual's livelihood. Additionally, formal discrimination is perpetrated by individual who have more power in the organization, which may be more threatening to the target.

This study examines whether the type of discrimination impacts the relationship discrimination has with job attitudes, job behaviors, and health outcomes. Given the dearth of empirical and theoretical evidence to draw on, the analyses regarding formal and interpersonal forms of discrimination as a moderator will remain exploratory. Determining whether these types of discrimination differentially impact outcomes is important in helping organizations to better target their efforts when seeking to reduce discrimination. It may additionally help bring awareness to discriminatory behaviors that are thought to be innocuous. From a research perspective, it can lead to more conceptual clarity and suggest whether or not a theoretical

distinction should be made between these types of discrimination.

Experienced versus Observed Discrimination. Another important distinction between forms of discrimination is whether the discrimination was personally experienced or if the discrimination was witnessed as it happened to another individual in the organization. The former is referred to here as experienced discrimination and the latter is referred to as observed discrimination. The distinction between these approaches has important implications for the conceptual understanding of discrimination. Recently, the literature has made a distinction between being a target and being a bystander of racial harassment, (termed ambient racial harassment; Chrobot-Mason, Ragins, & Linnehan, 2012). The relationship between ambient racial harassment and workplace outcomes has been referred to as the “second-hand smoke effect,” and describes the potential for the repercussions of workplace discrimination to extend far beyond the target of discrimination (Chrobot-Mason et al., 2012). Empirical evidence has demonstrated that witnessing negative behaviors in the workplace can be harmful for the observer and results in similar negative outcomes as directly experiencing discrimination (Chrobot-Mason et al., 2012; Glomb et al., 1997; Schneider, 1996). However, it is currently unknown if one type of discrimination is more detrimental relative to the other (i.e., observing and experiencing discrimination may both impact job attitudes and health outcomes, but it is unclear if there is a difference in the magnitude of these relationships).

In the current paper, I expect experiencing discrimination to have a stronger relationship with job attitudes, job behaviors, and health outcomes than observing discrimination. Observing discrimination may pose a threat to the part of one’s self-esteem that derives from one’s social identity, but experiencing discrimination poses a more holistic threat to one’s self-esteem. Additionally, the stress responses experienced by perceiving discrimination are likely to be

greater when an employee is personally threatened by the behavior than when they witness another employee being targeted.

Hypothesis 10: Experienced discrimination is more strongly related to outcomes than observed discrimination.

Measurement Moderators

Type of Response Scale. When assessing perceived discrimination, some measures ask respondents to report the extent to which they agree or disagree with a series of statements that describe discriminatory behaviors (e.g., Sanchez & Brock, 1996) while other measures ask respondents to report the frequency with which each behavior occurs (e.g., Schneider et al., 2000). While the lowest score on the scale indicates the same information (i.e., that a behavior did not occur), it is unclear if participants view the rest of the scale options as similar. Some may interpret strong agreement to mean that that specific behavior occurred while others may interpret strong agreement to indicate that the behavior occurs often. Frequency has been conceptualized as important in determining the magnitude of the relationship between a stressor and an outcome. For example, Brewer and colleagues (2003) found that the frequency of stressors had a stronger relationship with job satisfaction than the intensity of the stressors. Additionally, prolonged exposure to stress has also been found to have cumulative negative effects for one's health (Hughes, Kinder, & Cooper, 2012). For this reason, the following was hypothesized:

Hypothesis 11: Perceived workplace discrimination-outcome relationships are stronger when a frequency measurement scale is used than when an agreement scale is used.

Time Frame. Perceived workplace discrimination measures vary based on the time frame in which the discrimination occurred. Many measures ask respondents to indicate whether or not they have ever experienced discrimination in the workplace (e.g., Ensher et al., 2001) while others ask participants to report their experiences from the past 12 months (e.g., King et al., 2010) or 24 months (e.g., Waldo, 1999). The recency of a stressful experience is an important determinant for the negative outcomes an individual experiences (e.g., Huff, 1999) so it follows that recently experienced discrimination will have a greater impact on an employee's job attitudes and health status.

Hypothesis 12: Time moderates the relationship between perceived discrimination and work-related outcomes such that the relationship is strongest when the discrimination is reported most recently.

Exploratory Moderators

Several additional exploratory moderators will be tested. First, differences between unpublished studies and published studies will be explored to assess whether publication bias exists. Additionally, the form of discrimination (i.e., race discrimination, sex discrimination) will be tested in order to see if the experiences between groups lead to different outcomes. This will provide insight regarding whether different stigmatized groups are more or less affected by perceived workplace discrimination. Lastly, country will also be explored as a moderator of the discrimination-outcome relationships. Differences may exist in the experience or interpretation of perceived workplace discrimination across different cultures, which would be important to know for future cross-cultural research. These analyses are exploratory and no hypotheses were made as to the results.

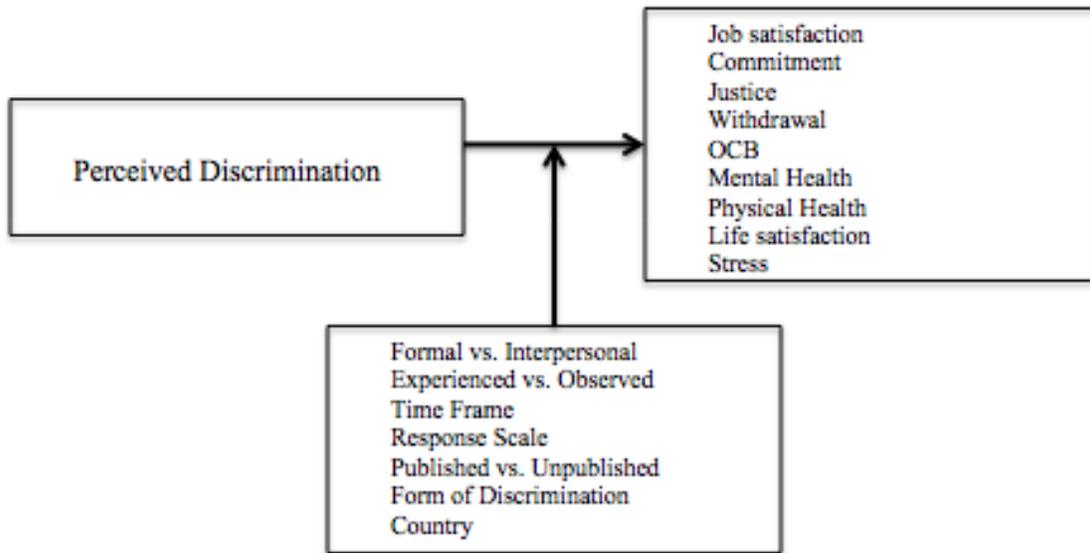


Figure 1. *Summary of Hypothesized Relationships.*

METHOD

Literature Search

To locate studies, an online literature search was conducted using PsycINFO, PubMed, ProQuest, OneSearch, and Google Scholar. The keywords used were: workplace discrimination, ageism, sexism, heterosexism, sexual orientation discrimination, weight discrimination, religious discrimination, sex discrimination, accent discrimination, and racism. Additionally, the following outcome-related keywords were used in combination with the discrimination keywords: job attitudes, job satisfaction, organizational commitment, turnover, withdrawal, organizational citizenship behaviors, involvement, justice, job performance, anxiety, life satisfaction, depression, wellbeing, distress, psychological health, physical health, self-esteem, stress, physical symptoms, and health. Unpublished studies were located by searching for dissertations and theses, contacting researchers in the field, and searching relevant conference proceedings from the Society for Industrial and Organizational Psychology and the Academy of Management. Further, reference sections of all articles were searched for additional studies. The aforementioned search yielded too few useable studies ($k = 2$) to test the relationship between perceived workplace discrimination and task performance and no studies were located that assessed informational justice and discrimination.

Inclusion Criteria

Studies were eligible for inclusion if they quantitatively measured discrimination and reported the relationship between discrimination and one of the outcome variables listed above, or if they provided sufficient information to compute an effect size. Articles without the necessary quantitative information were not automatically excluded. Authors from these studies

were sent a personal request for the needed information. Primary studies involving discrimination against any stigmatized group were included, but the discrimination must have occurred in a work context. One study was located in the literature search that examined perceived workplace discrimination in a lab context, but this study was excluded given that it did not include a true work context (Singletary, 2009). Race ($k = 40$) and sex ($k = 26$) were the most common types of discrimination included in this meta-analysis. The included studies also examined discrimination based on disability ($k = 6$), age ($k = 9$), sexual orientation ($k = 18$), religion ($k = 1$), weight ($k = 1$), and accent ($k = 1$). The remainder of the studies assessed discrimination without referencing a specific group. Both published and unpublished studies were eligible for inclusion if they included the aforementioned information. If a single sample provided multiple effect sizes for one relationship, a composite correlation was constructed (Nunnally, 1978) unless the necessary information to calculate the composite was not reported, in which case, a simple average was calculated.

The systematic searches yielded 3,152 initial hits; 96 of these studies were included, 37 did not have useable data, 12 could not be located in English, 4 were out of circulation, and the remainder were either irrelevant or repeat hits from previous searches. The additional searches previously described produced an additional 14 studies. In total, the inclusion criteria produced 96 studies with 107 independent samples and a total sample size of 233,767. Seventy-one of these studies were published and 25 were unpublished. These studies reported a total of 249 effect sizes: 71 for job/career satisfaction, 45 for withdrawal, 38 for organizational commitment, 7 for organizational citizenship behaviors, and 13 for justice. The number of studies available for testing discrimination's relationship with health outcomes are as follows: 10 for life satisfaction, 29 for mental health, 19 for physical health, and 17 for stress. The number of studies available

for all outcome variables is summarized in Table 2. Studies included in the quantitative analyses appear with an asterisk in the reference list.

Data Coding

Studies were coded for sample size, type of publication (e.g., published journal articles, dissertations), study design, information regarding the predictor and criterion measures, reliability information, and the effect size between the predictor and the criterion measures. Some effect sizes were transposed so that they reported the given relationship in the same direction. Specifically, job attitudes were coded such that a negative relationship with discrimination indicates that higher levels of perceived workplace discrimination are associated with lower (or more negative) job attitudes. Additionally, health outcomes were coded such that a negative relationship with discrimination indicates that higher levels of perceived workplace discrimination are associated with reduced (or more negative) mental and physical health outcomes. Information regarding how variables were coded for each criterion is summarized in Table 3. Job satisfaction included both global job satisfaction and facets of job satisfaction (i.e., coworker satisfaction, pay satisfaction). In cases where facets were reported, composites were computed to produce a single effect size. All three forms of organizational commitment and perceived justice were included in the current study. Further, withdrawal was comprised of work withdrawal and job withdrawal. Physical health reflects self-reported health, physical symptoms, and cardiovascular health. Mental health includes anxiety, distress, and depression while life satisfaction reflects self-reports of one's satisfaction with one's overall life. Lastly, stress refers to work stress and strain.

Table 2. *Mean Sample-Based Reliability Estimates Used for Artifact Distributions.*

Study Variables	<i>k</i>	<i>N</i>	Mean reliability estimate
Discrimination	96	222,597	.86
<i>Job Attitudes</i>			
Job satisfaction	71	204,424	.93
Organizational commitment	38	26,279	.94
Perceived justice	13	6,758	.94
Withdrawal	45	40,653	.94
Citizenship behavior	7	2,928	.94
<i>Health Outcomes</i>			
Physical health	19	38,040	.91
Mental health	29	43,037	.93
Distress	6	13,280	.92
Depression	12	13,026	.94
Anxiety	7	4,314	.94
Life satisfaction	10	5,636	.94
Stress	17	12,699	.95

Table 3. *Study Variables.*

Discrimination Outcomes	Constructs Included
<i>Job Attitudes</i>	
Job Satisfaction	Job satisfaction, coworker satisfaction, supervisor satisfaction, pay satisfaction
Organizational commitment	Affective, continuance, normative
Perceived justice	Procedural, distributive, interpersonal
OCB	OCB-O, OCB-I, helping behavior
Withdrawal	Absenteeism, turnover intentions, job withdrawal, work withdrawal
<i>Health Outcomes</i>	
Physical health	Physical symptoms, health status, cardiovascular health
Mental Health	Anxiety, psychological distress, depression
Life Satisfaction	Self-rated life satisfaction
Work stress	Work stress, work strain

Studies were additionally coded for information regarding the aforementioned moderators. If the study did not include adequate information about the moderator or if the study did not fall into a single moderator category (e.g., if a study measured both formal and interpersonal discrimination without reporting separate effect sizes) it was excluded from moderator analyses. Discrimination measures that assessed discrimination in formal decisions such as hiring, firing, or promoting were coded as formal discrimination while measures that assessed discrimination that occurs in interactions, such as being excluded by one's coworkers from informal social networks, were coded as interpersonal discrimination. Studies employing discrimination measures that specifically referred to the individual, as demonstrated in the following item, "At work, I sometimes feel that my ethnicity is a limitation" (Sanchez & Broch, 1996), were coded as experienced discrimination. Items that assessed whether discrimination occurred in the organization without specifying the respondent as the target of those actions (e.g., "During the past 24 months in your workplace, have you been in a situation where any of your supervisors or co-workers told offensive jokes about lesbians, gay men, or bisexual people?" Waldo, 1997) were coded as observed discrimination.

It is important to note that while the scales assessing observed discrimination refer to the general presence of discrimination in the workplace, it is still possible that these items may tap an individual's experience of discrimination. For example, two employees may indicate that they were in a situation where they heard a coworker tell an offensive racial joke. However, a non-minority employee responding to this item would be indicating that they were a witness to this behavior while an employee who is a racial minority might be indicating that they were directly targeted by this behavior. Despite the issue described above, this distinction may still provide insight into the phenomenon of witnessing discrimination in the workplace. Given that the

observed category may be contaminated by some inclusion of personal experience, this analysis provides a conservative estimate of the differences between these categories. One could expect that any observed difference would actually be larger if there were no overlap between these measures.

Studies were additionally coded as either having a response scale that asked participants to agree or disagree with the items or a response scale on which participants indicated the frequency with which they have experienced discrimination. Lastly, studies were coded for the time frame of measurement. Categories included no time frame (e.g., At work, I feel uncomfortable when others make jokes or negative commentaries about people of my ethnic background), in the past 24 months (e.g., During the past 24 months in your workplace, have you been in a situation where any of your supervisors or co-workers told offensive jokes about lesbians, gay men, or bisexual people?), or in the past 12 months (e.g., Do you believe that you have experienced any form of discrimination at work from source x in the past 12 months?). Given that studies that included no time frame also assess recently experienced discrimination, this also represents a conservative test of differences between these categories.

Meta-analytic Procedures

Using Hunter and Schmidt's (2004) meta-analytic approach, correlations were meta-analyzed between the predictor and criterion variables. Corrections were made for sampling error and unreliability in both the predictor and criterion measures using artifact distributions; only internal consistency estimates were used in creating the artifact distributions. Separate distributions were conducted for each meta-analysis. Credibility intervals were calculated to determine if moderators were likely present for each relationship (Hunter & Schmidt, 2004).

Moderation is suggested when the credibility interval includes zero or when the standard deviation of the effect size is large (Hunter & Schmidt, 2004). Moderators were tested using Hunter and Schmidt's (2004) procedures for subgroup meta-analyses, which involved conducting a separate meta-analysis for each moderator condition to allow for comparisons across conditions. Significant differences are determined by comparing confidence intervals; if the confidence intervals for moderator conditions overlap then no significant differences are present.

RESULTS

Discrimination and Job Attitudes, Job Behaviors, and Health Outcomes

Meta-analytic relationships between perceived workplace discrimination, job attitudes, job behaviors, and health outcomes are displayed in Table 4. As predicted in Hypothesis 1, discrimination was negatively related to job satisfaction ($\rho = -.26$, $k = 71$, 95% CI [-.30,-.22]), indicating that perceiving discrimination in one's workplace is associated with lower job satisfaction. However, it is noted that this estimate includes one unusually large sample ($N = 134,591$; King et al., 2012). With this study excluded, the discrimination-job satisfaction relationship was $\rho = -.47$ ($k = 70$, 95% CI [-.52, -.43]). Both estimates suggest that perceived workplace discrimination has a negative relationship with job satisfaction, which is consistent with Hypothesis 1. Supplemental analyses were run to examine whether there were differences between global measures of job satisfaction (i.e., measures that assessed satisfaction with one's job in general) and facet-level measures of job satisfaction that were aggregated to form a global measure of satisfaction (e.g., coworker satisfaction and supervisor satisfaction combined into a single effect size). Perceived workplace discrimination had a stronger relationship with global job satisfaction ($\rho = -.38$, $k = 48$, 95% CI [-.40, -.36]) than facet job satisfaction ($\rho = -.17$, $k = 14$, 95% CI [-.21, -.13]), as evidenced by non-overlapping confidence intervals. However, when the large sample (King et al., 2012) was removed from the facet moderator condition, the difference was no longer significant ($\rho = -.39$, $k = 13$, 95% CI [-.45, -.32]).

Results showed that both organizational commitment ($\rho = -.37$, $k = 38$, 95% CI [-.41,-.34]) and perceived justice ($\rho = -.28$, $k = 13$, 95% CI [-.41,-.16]) were negatively related to perceived workplace discrimination, supporting Hypotheses 2 and 3. Analyses were also

conducted to determine if the types of organizational commitment displayed differential relationships with perceived workplace discrimination. Results showed that affective commitment had a significantly stronger relationship with perceived workplace discrimination ($\rho = -.40$, $k = 29$, 95% CI [-.43, -.36]) than normative commitment ($\rho = -.11$, $k = 3$, 95% CI [-.23, .02]) or continuance commitment ($\rho = .14$, $k = 4$, 95% CI [.09, .19]). Further, continuance commitment, unlike the other two forms of commitment, had a *positive* relationship with perceived workplace discrimination. Only affective commitment was used in subsequent moderator analyses.

Further, the meta-analytic relationship between perceived discrimination and withdrawal was $\rho = .26$ ($k = 44$, 95% CI [.22, .29]), suggesting that perceived discrimination leads to increased withdrawal behaviors. Contrary to expectations, organizational citizenship behaviors were not meaningfully related to perceived discrimination ($\rho = -.04$, $k = 7$, 95% CI [-.13, .04]). Lastly, mental health ($\rho = -.30$, $k = 29$, 95% CI [-.34, -.26]), physical health ($\rho = -.20$, $k = 19$, 95% CI [-.24, -.16]), life satisfaction ($\rho = -.22$, $k = 10$, 95% CI [-.28, -.16]), and stress ($\rho = .38$, $k = 17$, 95% CI [.31, .48]) all demonstrated moderate relationships with perceived discrimination, suggesting that perceived discrimination is associated with negative health outcomes. These findings support Hypotheses 6, 7, 8, and 9. Similar to the analyses conducted for organizational commitment, analyses were also conducted in order to determine if there were differences among the indicators of mental health (i.e., distress, depression, and anxiety). Results revealed that distress ($\rho = -.31$, $k = 6$, 95% CI [-.42, -.20]) was more strongly related to discrimination than either depression ($\rho = -.10$, $k = 12$, 95% CI [-.13, -.06]) or anxiety ($\rho = -.15$, $k = 7$, 95% CI [-.20, -.11]), but depression and anxiety did not significantly differ from one another. Taken together, these supplemental analyses reveal that differentiating between different types/indicators of the

Table 4. *Meta-analytic Results for the Consequences of Discrimination.*

Variable	<i>k</i>	<i>N</i>	<i>r</i>	% var accounted for	95% CI LL	95% CI UL	ρ	SD $_{\rho}$	% var accounted for	95% CV LL	95% CV UL
Job Satisfaction	71	204,424	-.23	1.02	-.30	-.22	-.26	.20	1.72	-.52	-.00
Outlier Removed	70	69,833	-.41	1.79	-.52	-.43	-.47	.22	3.63	-.76	-.19
Global	48	48,684	-.34	11.37	-.40	-.36	-.38	.09	14.37	-.49	-.27
Facet	14	148,917	-.15	1.61	-.21	-.13	-.17	.08	2.15	-.27	-.06
Outlier Removed	13	14,326	-.35	5.55	-.45	-.32	-.39	.12	6.94	-.54	-.24
Organizational Commitment	38	26,279	-.33	8.21	-.41	-.34	-.37	.13	9.88	-.54	-.21
Affective	29	24,044	-.35	8.88	-.43	-.36	-.40	.11	11.73	-.54	-.26
Normative	3	1,131	-.09	20.69	-.23	.02	-.11	.12	20.82	-.26	.05
Continuance	4	1,268	.11	100.00	.09	.19	.14	0	100.00	.14	.14
Justice	13	6,758	-.26	3.04	-.41	-.16	-.28	.26	3.12	-.61	-.04
Withdrawal	44	37,919	.23	7.38	.22	.29	.26	.13	7.96	.09	.42
OCB	7	2,928	-.04	17.27	-.13	.04	-.04	.12	17.32	-.20	.12
Mental Health	29	43,037	-.26	4.18	-.34	-.26	-.30	.13	6.92	-.47	-.13
Distress	6	13,280	-.27	2.12	-.42	-.20	-.31	.16	3.44	-.51	-.11
Depression	12	13,026	-.08	22.99	-.13	-.06	-.10	.06	23.44	-.18	-.02
Anxiety	7	4,314	-.13	42.09	-.20	-.11	-.15	.05	43.16	-.22	-.08
Physical Health	19	38,040	-.16	6.03	-.24	-.16	-.20	.10	8.74	-.33	-.07
Life Satisfaction	10	5,636	-.19	17.78	-.28	-.16	-.22	.10	19.18	-.35	-.08
Stress	17	12,699	.34	3.32	.31	.48	.39	.20	3.79	.14	.65

Note: *k* = the number of independent effect sizes included in each analysis; *N* = sample size; *r* = mean uncorrected correlation; % var sampling error = percent of variance accounted for by sampling error; 95% CI LL = lower level 95% confidence interval value; 95% CI UL = upper level 95% confidence interval value; ρ = mean corrected correlated (corrected for unreliability in the predictor and the criterion); SD $_{\rho}$ = standard deviation of the mean corrected correlation; % var accounted for = percent of variance accounted for by sampling error and corrected artifacts; 95% CV LL = lower level 95% credibility interval value; 95% CV UL = upper level 95% credibility interval value.

aforementioned constructs may provide a deeper understanding of the impact of perceived workplace discrimination.

Moderation Results

Moderator analyses were conducted to determine if perceived workplace discrimination displayed a different relationship with formal and interpersonal discrimination. The results are displayed in Table 5. Interpersonal discrimination ($\rho = -.64$, $k = 27$, 95% CI [-.72, -.57]) had a significantly stronger relationship with job satisfaction than formal discrimination ($\rho = -.35$, $k = 10$, 95% CI [-.43, -.28]). The same pattern was found for justice, with interpersonal discrimination ($\rho = -.60$, $k = 3$, 95% CI [-.69, -.51]) having a stronger correlation than formal discrimination ($\rho = -.18$, $k = 3$, 95% CI [-.33, -.03]). However, no significant differences between formal and interpersonal discrimination were found for affective commitment, withdrawal, mental health, or physical health.

Hypothesis 10 predicted that experienced discrimination would have a stronger relationship with the job and health outcomes than observed discrimination. The results, as displayed in Table 6, were contrary to this hypothesis. Observed discrimination ($\rho = -.36$, $k = 10$, 95% CI [-.41, -.31]) had a stronger relationship with job satisfaction than experienced discrimination ($\rho = -.24$, $k = 47$, 95% CI [-.29, -.19]). Additionally, affective commitment was more strongly related to observed discrimination ($\rho = -.44$, $k = 5$, 95% CI [-.49, -.39]) than experienced discrimination ($\rho = -.32$, $k = 15$, 95% CI [-.39, -.26]). Withdrawal demonstrated the same pattern of relationships, with the correlation between observed discrimination and withdrawal ($\rho = .36$, $k = 6$, 95% CI [.29, .42]) surpassing the correlation for experienced discrimination and withdrawal ($\rho = .23$, $k = 32$, 95% CI [.19, .27]). While the confidence

intervals overlapped between the two forms for mental health, the observed difference in population estimates was consistent with the other tests of this moderator (observed: $\rho = -.49$, $k = 3$, 95% CI [-.67, -.30]; experienced: $\rho = -.27$, $k = 28$, 95% CI [-.32, -.23]). Hypothesis 10 was not supported.

Hypothesis 11 posited that the discrimination-outcome relationships would be stronger when the discrimination measure used a frequency response scale than when the measure used an agreement response scale. Results showed, as displayed in Table 7, that perceived discrimination had a stronger relationship with job satisfaction when an agreement response scale ($\rho = -.51$, $k = 23$, 95% CI [-.51, -.51]) was used in comparison to a frequency response scale ($\rho = -.31$, $k = 21$, 95% CI [-.34, -.27]). Withdrawal also had a stronger relationship with discrimination when response scales assessed agreement ($\rho = .33$, $k = 21$, 95% CI [.30, .37]) than when the scale assessed frequency ($\rho = .22$, $k = 9$, 95% CI [.20, .25]). Conversely, perceived discrimination had a stronger relationship with mental health when a frequency scale ($\rho = -.33$, $k = 15$, 95% CI [-.39, -.26]) was used than when an agreement scale was used ($\rho = -.22$, $k = 6$, 95% CI [-.26, -.17]). The rating scale did not significantly moderate the relationship between perceived discrimination and stress.

Hypothesis 12 predicted that the time frame of measurement would moderate the relationship between discrimination and job and health outcomes, with more recently experienced discrimination demonstrating stronger relationships. Studies were categorized into three moderator conditions: studies that had no limit on the time frame in which discrimination occurred, studies that limited responses to discrimination that occurred in the past 24 months, and studies that limited responses to discrimination that occurred in the past 12 months. There was a significant difference between the no specified time frame condition ($\rho = -.27$, $k = 10$, 95%

Table 5. Moderator Analysis: Formal versus Interpersonal Discrimination.

Variable	<i>k</i>	<i>N</i>	<i>r</i>	% var accounted for	95% CI LL	95% CI UL	ρ	SD $_{\rho}$	% var accounted for	95% CV LL	95% CV UL
Job Satisfaction											
Formal	10	14,647	-.32	4.15	-.43	-.28	-.35	.13	6.08	-.52	-.19
Interpersonal	27	25,245	-.58	1.14	-.72	-.57	-.64	.22	2.08	-.93	-.36
Affective Commitment											
Formal	3	2,104	-.34	15.43	-.47	-.28	-.38	.09	15.43	-.49	-.26
Interpersonal	4	1,043	-.33	43.27	-.45	-.29	-.37	.07	44.86	-.46	-.28
Justice											
Formal	3	833	-.17	18.78	-.33	-.03	-.18	.13	18.82	-.34	-.02
Interpersonal	3	1,245	-.56	18.11	-.69	-.51	-.60	.08	18.79	-.70	-.50
Withdrawal											
Formal	8	10,730	.25	14.54	.23	.33	.28	.07	15.85	.19	.37
Interpersonal	10	3,299	.19	66.61	.18	.26	.22	.04	68.95	.17	.27
Mental Health											
Formal	4	11,485	-.23	2.53	-.37	-.15	-.26	.13	2.57	-.42	-.10
Interpersonal	13	21,178	-.32	3.42	-.42	-.29	-.36	.12	5.80	-.53	-.19
Physical Health											
Formal	5	10,753	-.14	45.43	-.21	-.16	-.18	.03	52.73	-.22	-.15
Interpersonal	8	19,033	-.20	4.05	-.31	-.18	-.24	.11	7.20	-.39	-.10

Note: *k* = the number of independent effect sizes included in each analysis; *N* = sample size; *r* = mean uncorrected correlation; % var sampling error = percent of variance accounted for by sampling error; 95% CI LL = lower level 95% confidence interval value; 95% CI UL = upper level 95% confidence interval value; ρ = mean corrected correlated (corrected for unreliability in the predictor and the criterion); SD $_{\rho}$ = standard deviation of the mean corrected correlation; % var accounted for = percent of variance accounted for by sampling error and corrected artifacts; 95% CV LL = lower level 95% credibility interval value; 95% CV UL = upper level 95% credibility interval value.

Table 6. Moderator Analysis: Experienced versus Observed Discrimination.

Variable	<i>k</i>	<i>N</i>	<i>r</i>	% var accounted for	95% CI LL	95% CI UL	ρ	SD $_{\rho}$	% var accounted for	95% CV LL	95% CV UL
Job Satisfaction											
Experienced	47	182,663	-.22	.72	-.29	-.19	-.24	.20	.98	-.50	.02
Outlier Removed	46	48,072	-.45	1.30	-.57	-.44	-.50	.24	2.13	-.81	-.20
Observed	10	15,715	-.32	8.92	-.41	-.31	-.36	.08	9.06	-.47	-.26
Affective Commitment											
Experienced	15	6,111	-.29	14.65	-.39	-.27	-.33	.12	14.99	-.48	-.17
Observed	5	14,555	-.39	7.88	-.49	-.39	-.44	.06	8.44	-.52	-.36
Withdrawal											
Experienced	32	28,018	.20	7.66	.19	.27	.23	.13	8.23	.06	.39
Observed	6	7,123	.33	10.35	.29	.42	.36	.08	10.97	.25	.46
Mental Health											
Experienced	28	455,09	-.25	3.36	-.32	-.23	-.27	.14	4.14	-.45	-.10
Observed	3	868	-.46	8.24	-.67	-.30	-.49	.17	8.24	-.70	-.28

Note: *k* = the number of independent effect sizes included in each analysis; *N* = sample size; *r* = mean uncorrected correlation; % var sampling error = percent of variance accounted for by sampling error; 95% CI LL = lower level 95% confidence interval value; 95% CI UL = upper level 95% confidence interval value; ρ = mean corrected correlated (corrected for unreliability in the predictor and the criterion); SD $_{\rho}$ = standard deviation of the mean corrected correlation; % var accounted for = percent of variance accounted for by sampling error and corrected artifacts; 95% CV LL = lower level 95% credibility interval value; 95% CV UL = upper level 95% credibility interval value.

Table 7. Moderator Analysis: Response Scale.

Variable	<i>k</i>	<i>N</i>	<i>r</i>	% var accounted for	95% CI LL	95% CI UL	ρ	SD $_{\rho}$	% var accounted for	95% CV LL	95% CV UL
Job Satisfaction											
Agree	23	12,804	-.45	100.00	-.51	-.51	-.51	0	100.00	-.51	-.51
Frequency	21	12,611	-.27	17.69	-.34	-.27	-.31	.09	18.26	-.42	-.19
Withdrawal											
Agree	21	12,499	.30	17.53	.30	.37	.33	.09	18.05	.22	.45
Frequency	9	6,063	.19	88.84	.20	.25	.22	.01	97.51	.21	.23
Mental Health											
Agree	6	1,241	-.20	100.00	-.26	-.17	-.22	0	100.00	-.22	-.22
Frequency	15	23,699	-.30	3.15	-.39	-.26	-.33	.14	3.71	-.51	-.15
Stress											
Agree	5	3,113	.30	7.12	.22	.46	.34	.15	7.24	.15	.53
Frequency	6	5,176	.42	1.62	.30	.65	.47	.25	2.00	.16	.79

Note: *k* = the number of independent effect sizes included in each analysis; *N* = sample size; *r* = mean uncorrected correlation; % var sampling error = percent of variance accounted for by sampling error; 95% CI LL = lower level 95% confidence interval value; 95% CI UL = upper level 95% confidence interval value; ρ = mean corrected correlated (corrected for unreliability in the predictor and the criterion); SD $_{\rho}$ = standard deviation of the mean corrected correlation; % var accounted for = percent of variance accounted for by sampling error and corrected artifacts; 95% CV LL = lower level 95% credibility interval value; 95% CV UL = upper level 95% credibility interval value.

Table 8. Moderator Analysis: Time Frame

Variable	<i>k</i>	<i>N</i>	<i>r</i>	% var accounted for	95% CI LL	95% CI UL	ρ	SD $_{\rho}$	% var accounted for	95% CV LL	95% CV UL
Job Satisfaction											
None	45	38,510	-.47	1.41	-.60	-.47	-.53	.25	2.18	-.85	-.22
12 months	9	158,788	-.16	.68	-.24	-.12	-.18	.10	1.19	-.31	-.06
Outlier Removed	8	24,197	-.35	2.08	-.46	-.31	-.38	.12	3.73	-.54	-.23
24 months	9	2909	-.30	23.93	-.39	-.25	-.32	.10	24.00	-.44	-.19
Withdrawal											
None	28	14,439	.20	7.70	.17	.28	.22	.16	7.90	.01	.43
12 months	5	18,917	.26	6.47	.25	.35	.30	.07	6.47	.21	.28
24 months	7	2,126	.19	100.00	.18	.26	.22	0	100.00	.22	.22
Mental Health											
None	20	26,771	-.29	4.61	-.38	-.27	-.33	.13	6.12	-.49	-.16
12 months	6	13,131	-.27	4.76	-.37	-.22	-.29	.10	6.16	-.42	-.17
24 months	3	1,113	-.17	8.71	-.38	.01	-.19	.18	8.71	-.42	.04
Physical Health											
None	10	19,299	-.22	13.58	-.31	-.23	-.27	.06	22.13	-.35	-.19
12 months	3	11,992	-.11	6.33	-.19	-.05	-.12	.07	7.15	-.21	-.04
24 months	2	1,022	-.21	39.35	-.33	-.15	-.24	.06	39.35	-.32	-.17

Note: *k* = the number of independent effect sizes included in each analysis; *N* = sample size; *r* = mean uncorrected correlation; % var sampling error = percent of variance accounted for by sampling error; 95% CI LL = lower level 95% confidence interval value; 95% CI UL = upper level 95% confidence interval value; ρ = mean corrected correlated (corrected for unreliability in the predictor and the criterion); SD $_{\rho}$ = standard deviation of the mean corrected correlation; % var accounted for = percent of variance accounted for by sampling error and corrected artifacts; 95% CV LL = lower level 95% credibility interval value; 95% CV UL = upper level 95% credibility interval value.

CI [-.31, -.23]) and the discrimination experienced in the last 12 months condition ($\rho = -.12$, $k = 3$, 95% CI [-.19, -.05]) for physical health, with the no specified time frame condition showing a stronger relationship with discrimination. For job satisfaction, the 12-month condition had a significantly weaker relationship with discrimination ($\rho = -.18$, $k = 9$, 95% CI [-.24, -.12]) than either the no time frame condition ($\rho = -.63$, $k = 45$, 95% CI [-.60, -.47]) or the 24-month condition ($\rho = -.32$, $k = 9$, 95% CI [-.39, -.25]). However, when the large sample study (King et al., 2012) was removed from the 12-month condition, this condition was no longer significantly different from the 24-month condition. Further, the 24-month condition had a significantly weaker relationship with discrimination than the no time frame condition. There were no significant differences between conditions for withdrawal or mental health. Taken together, these results show some evidence that the no time frame condition led to stronger discrimination-outcome relationships, possibly suggesting that discrimination leads to long-lasting impacts on job-related and health-related outcomes.

Exploratory Moderator Analyses

Exploratory moderator analyses (shown in Tables 9-11) were conducted to determine if the discrimination-outcome relationships differed based on (a) the population targeted by discrimination (e.g., race, sex, age), (b) the country in which the study took place, and (c) if the study was published or unpublished. With regard to the population targeted by discrimination, only two significant differences were observed. Race discrimination ($\rho = -.22$, $k = 23$, 95% CI [-.29, -.15]) displayed a weaker relationship with job satisfaction than sex discrimination ($\rho = -.39$, $k = 9$, 95% CI [-.45, -.32]) and age discrimination ($\rho = -.35$, $k = 8$, 95% CI [-.38, -.32]). Additionally, sex discrimination ($\rho = -.23$, $k = 4$, 95% CI [-.31, -.14]) exhibited a weaker

relationship with affective commitment than race discrimination ($\rho = -.42, k = 7, 95\% \text{ CI } [-.46, -.38]$) and heterosexist discrimination ($\rho = -.45, k = 2, 95\% \text{ CI } [-.57, -.32]$). No significant differences were found between conditions for withdrawal, mental health, or physical health. In sum, no clear pattern emerged for the population targeted by discrimination.

Country was also examined as a potential moderator of discrimination-outcome relationships. Due to the limited number of studies that were conducted outside of the United States, studies were categorized as either being conducted in the United States or outside of the United States. Job satisfaction showed a stronger relationship with perceived discrimination when the study took place in the United States ($\rho = -.48, k = 57, 95\% \text{ CI } [-.53, -.43]$) than when the study was conducted outside of the United States ($\rho = -.30, k = 12, 95\% \text{ CI } [-.38, -.22]$). Affective commitment was also more strongly related to perceived discrimination in the U.S. studies ($\rho = -.42; k = 21, 95\% \text{ CI } [-.45, -.38]$) than the non-U.S. studies ($\rho = -.25, k = 7, 95\% \text{ CI } [-.32, -.19]$). Further, justice showed a similar pattern of results, displaying a stronger correlation for studies conducted in the United States ($\rho = -.45, k = 8, 95\% \text{ CI } [-.63, -.27]$) than studies conducted outside of the United States ($\rho = -.15, k = 4, 95\% \text{ CI } [-.26, -.05]$). Life satisfaction showed the reverse relationship, with a stronger correlation with perceived workplace discrimination in studies conducted outside of the U.S. ($\rho = -.37, k = 3, 95\% \text{ CI } [-.38, -.36]$) as compared to those conducted in the U.S. ($\rho = -.20, k = 7, 95\% \text{ CI } [-.26, -.13]$). Lastly, there were no differences between the moderator categories for mental health or withdrawal. Taken together, these results provide some evidence that differences in the impact of perceived workplace discrimination may exist across countries.

One important distinction that is made between countries is whether they tend to be individualistic or collectivistic (Hofstede, 1984). Individuals belonging to individualistic

countries, such as the United States and Western Europe, tend to focus on their personal interests and those of their immediate family while individuals from collectivist cultures, such as China and Japan, show attachment to their entire in-group, which extends beyond their immediate family (Hofstede, 1984). For this reason, supplementary analyses were conducted to determine if perceived workplace discrimination had a differential relationships with the proposed outcomes in collectivist cultures as compared to individualistic cultures. Results showed that job satisfaction was more strongly related to perceived discrimination in collectivistic cultures ($\rho = -.43, k = 5, 95\% \text{ CI } [-.54, -.31]$) in comparison to individualistic cultures ($\rho = -.25, k = 64, 95\% \text{ CI } [-.29, -.21]$). However, when the large sample study (King et al., 2012) was removed, this difference was no longer significant. Additionally, withdrawal was also more strongly related to perceived discrimination in collectivistic cultures ($\rho = .37, k = 4, 95\% \text{ CI } [.32, .41]$) than individualistic cultures ($\rho = .26, k = 38, 95\% \text{ CI } [.22, .30]$). Conversely, affective commitment had a stronger relationship with perceived discrimination for individualistic cultures ($\rho = -.41, k = 24, 95\% \text{ CI } [-.45, -.38]$) as compared to collectivistic cultures ($\rho = -.23, k = 4, 95\% \text{ CI } [-.32, -.14]$). There was no significant difference between conditions for organizational justice. In sum, there was no clear pattern of results that emerged between individualistic and collectivistic cultures.

Moderator results suggested some evidence of publication bias, with discrimination displaying a stronger relationship with job satisfaction (when the large sample study was removed), mental health, and physical health in published studies ($\rho = -.48, k = 48, 95\% \text{ CI } [-.54, -.42]$; $\rho = -.33, k = 18, 95\% \text{ CI } [-.37, -.30]$; $\rho = -.21, k = 15, 95\% \text{ CI } [-.25, -.17]$; respectively) in comparison to unpublished studies ($\rho = -.36, k = 22, 95\% \text{ CI } [-.40, -.32]$; $\rho = -.15, k = 11, 95\% \text{ CI } [-.24, -.07]$; $\rho = -.09, k = 4, 95\% \text{ CI } [-.16, -.02]$; respectively). However, affective commitment

Table 9. *Exploratory Moderator Analysis: Published versus Unpublished.*

Variable	<i>k</i>	<i>N</i>	<i>r</i>	% var accounted for	95% CI LL	95% CI UL	ρ	SD ρ	% var accounted for	95% CV LL	95% CV UL
Job Satisfaction											
Published	49	188,274	-.22	.75	-.29	-.19	-.24	.20	1.08	-.50	.01
Without Outlier	48	53,683	-.43	1.32	-.54	-.42	-.48	.23	2.29	-.78	-.19
Unpublished	22	16,150	-.32	10.70	-.40	-.32	-.36	.11	11.34	-.49	-.22
Affective Commitment											
Published	17	11,965	-.30	14.71	-.38	-.29	-.34	.09	15.39	-.46	-.22
Unpublished	12	12,079	-.33	8.28	-.49	-.39	-.44	.10	9.72	-.56	-.31
Withdrawal											
Published	35	34,313	.23	7.66	.22	.29	.26	.12	8.39	.11	.41
Unpublished	9	3,606	.23	6.43	.14	.38	.26	.20	6.47	.00	.51
Mental Health											
Published	18	32,857	-.30	7.12	-.37	-.30	-.33	.08	10.84	-.44	-.23
Unpublished	11	10,180	-.14	5.10	-.24	-.07	-.15	.15	5.14	-.35	.04
Physical Health											
Published	15	32,048	-.18	6.40	-.25	-.17	-.21	.09	8.15	-.33	-.09
Unpublished	4	5,992	-.08	14.04	-.16	-.02	-.09	.07	14.04	-.18	.00
Life Satisfaction											
Published	7	4,964	-.19	13.92	-.28	-.13	-.20	.10	14.54	-.33	-.08
Unpublished	3	672	-.24	72.23	-.35	-.18	-.27	.04	72.73	-.32	-.21

Note: *k* = the number of independent effect sizes included in each analysis; *N* = sample size; *r* = mean uncorrected correlation; % var sampling error = percent of variance accounted for by sampling error; 95% CI LL = lower level 95% confidence interval value; 95% CI UL = upper level 95% confidence interval value; ρ = mean corrected correlated (corrected for unreliability in the predictor and the criterion); SD ρ = standard deviation of the mean corrected correlation; % var accounted for = percent of variance accounted for by sampling error and corrected artifacts; 95% CV LL = lower level 95% credibility interval value; 95% CV UL = upper level 95% credibility interval value.

Table 10. *Exploratory Moderator Analysis: Target Population.*

Variable	<i>k</i>	<i>N</i>	<i>r</i>	% var accounted for	95% CI LL	95% CI UL	ρ	SD $_{\rho}$	% var accounted for	95% CV LL	95% CV UL
Job Satisfaction											
Race	23	166,807	-.20	.42	-.29	-.15	-.22	.20	.62	-.37	.03
Sex	9	11,516	-.35	5.72	-.45	-.32	-.39	.11	7.26	-.53	-.24
Age	8	9,859	-.31	32.90	-.38	-.32	-.35	.04	36.90	-.40	-.30
LGBT	16	4,142	-.29	36.08	-.37	-.28	-.32	.08	37.94	-.43	-.22
Affective Commitment											
Race	7	2,741	-.37	66.14	-.46	-.38	-.42	.03	68.84	-.46	-.38
Sex	4	2,487	-.20	19.35	-.31	-.13	-.23	.09	19.39	-.34	-.11
Age	2	590	-.26	7.48	-.55	.00	-.27	.20	7.49	-.53	-.01
LGBT	2	771	-.41	23.34	-.57	-.32	-.45	.08	23.36	-.55	-.34
Withdrawal											
Race	11	6,196	.21	20.87	.19	.29	.24	.09	22.72	.13	.36
Sex	13	13,558	.25	16.02	.24	.32	.28	.07	17.41	.18	.37
Age	6	4,659	.12	6.43	.02	.25	.14	.15	6.60	-.06	.33
LGBT	6	1,723	.24	57.38	.20	.32	.26	.05	59.18	.20	.33
Mental Health											
Race	12	1,871	-.27	2.52	-.38	-.22	-.30	.15	2.83	-.49	-.11
Sex	7	12,638	-.22	3.55	-.34	-.16	-.25	.13	3.89	-.42	-.08
Age	4	2,386	-.20	85.35	-.27	-.19	-.23	.02	86.04	-.26	-.21
LGBT	7	1,959	-.35	10.96	-.49	-.26	-.37	.16	11.01	-.58	-.17
Physical Health											
Race	7	18,560	-.23	9.93	-.30	-.21	-.26	.06	11.57	-.34	-.18
Sex	3	8,571	-.16	14.97	-.24	-.13	-.18	.05	15.95	-.25	-.12
LGBT	5	1080	-.20	24.36	-.36	-.13	-.25	.14	26.57	-.42	-.07

Note: *k* = the number of independent effect sizes included in each analysis; *N* = sample size; *r* = mean uncorrected correlation; % var sampling error = percent of variance accounted for by sampling error; 95% CI LL = lower level 95% confidence interval value; 95% CI UL = upper level 95% confidence interval value; ρ = mean corrected correlated (corrected for unreliability in the predictor and the criterion); SD $_{\rho}$ = standard deviation of the mean corrected correlation; % var accounted for = percent of variance

accounted for by sampling error and corrected artifacts; 95% CV LL = lower level 95% credibility interval value; 95% CV UL = upper level 95% credibility interval value.

Table 11. *Exploratory Moderator Analysis: Country.*

Variable	<i>k</i>	<i>N</i>	<i>r</i>	% var accounted for	95% CI LL	95% CI UL	ρ	SD_{ρ}	% var accounted for	95% CV LL	95% CV UL
Job Satisfaction											
US	57	62,004	-.43	1.61	-.53	-.43	-.48	.21	2.48	-.75	-.20
Non US	12	7,246	-.26	7.24	-.38	-.22	-.30	.15	7.54	-.49	-.10
Affective Commitment											
US	21	19,813	-.37	11.28	-.45	-.38	-.42	.09	12.78	-.53	-.30
Non US	7	3,648	-.23	23.75	-.32	-.19	-.25	.08	24.08	-.36	-.15
Justice											
US	8	2,482	-.41	3.23	-.63	-.27	-.45	.29	3.40	-.82	-.09
Non US	4	4,072	-.14	8.60	-.26	-.05	-.15	.11	8.72	-.29	-.01
Withdrawal											
US	34	32,965	.22	6.49	.22	.30	.26	.13	7.79	.09	.43
Non US	8	4,167	.27	22.66	.26	.38	.32	.09	28.42	.21	.43
Mental Health											
US	23	37,140	-.27	3.56	-.35	-.25	-.30	.13	5.04	-.47	-.13
Non US	5	5,747	-.22	15.75	-.34	-.21	-.28	.07	27.75	-.37	-.18
Life Satisfaction											
US	7	4,933	-.18	17.34	-.26	-.13	-.20	.09	18.72	-.31	-.08
Non US	3	703	-.32	100.00	-.38	-.36	-.37	0	100.00	-.37	-.37

Note: *k* = the number of independent effect sizes included in each analysis; *N* = sample size; *r* = mean uncorrected correlation; % var sampling error = percent of variance accounted for by sampling error; 95% CI LL = lower level 95% confidence interval value; 95% CI UL = upper level 95% confidence interval value; ρ = mean corrected correlated (corrected for unreliability in the predictor and the criterion); SD_{ρ} = standard deviation of the mean corrected correlation; % var accounted for = percent of variance accounted for by sampling error and corrected artifacts; 95% CV LL = lower level 95% credibility interval value; 95% CV UL = upper level 95% credibility interval value.

Table 12. *Exploratory Moderators: Individualist Countries versus Collectivist Countries.*

Variable	<i>k</i>	<i>N</i>	<i>r</i>	% var accounted for	95% CI LL	95% CI UL	ρ	SD $_{\rho}$	% var accounted for	95% CV LL	95% CV UL
Job Satisfaction											
Individualist	65	201,524	-.22	.95	-.29	-.21	-.25	.19	1.23	-.50	-.00
Without Outlier	64	66,933	-.41	1.67	-.51	-.41	-.46	.22	2.43	-.74	-.18
Collectivist	5	2,317	-.37	9.37	-.54	-.31	-.43	.15	9.99	-.61	-.24
Affective Commitment											
Individualist	24	20,974	-.37	11.78	-.45	-.38	-.41	.09	13.29	-.52	-.30
Collectivist	4	2,487	-.20	19.35	-.32	-.14	-.23	.09	19.64	-.34	-.12
Justice											
Individualist	9	4,581	-.28	2.88	-.46	-.15	-.31	.26	2.97	-.64	.03
Collectivist	3	1,973	-.16	6.67	-.35	-.01	-.18	.15	6.73	-.38	.02
Withdrawal											
Individualist	38	34,987	.22	7.06	.22	.30	.26	.13	8.12	.09	.43
Collectivist	4	2,145	.32	77.36	.32	.41	.37	.02	80.18	.34	.39

Note: *k* = the number of independent effect sizes included in each analysis; *N* = sample size; *r* = mean uncorrected correlation; % var sampling error = percent of variance accounted for by sampling error; 95% CI LL = lower level 95% confidence interval value; 95% CI UL = upper level 95% confidence interval value; ρ = mean corrected correlated (corrected for unreliability in the predictor and the criterion); SD $_{\rho}$ = standard deviation of the mean corrected correlation; % var accounted for = percent of variance accounted for by sampling error and corrected artifacts; 95% CV LL = lower level 95% credibility interval value; 95% CV UL = upper level 95% credibility interval value.

showed the reverse pattern, demonstrating a stronger relationship with unpublished studies ($\rho = -.44, k = 12, 95\% \text{ CI}[-.49, -.39]$) than published studies ($\rho = -.34, k = 17, 95\% \text{ CI} [-.38, -.29]$). No differences were found between published and unpublished studies for withdrawal or life satisfaction.

Publication Bias

One concern when conducting meta-analyses is the influence that publication bias has on the results. In order to further test for publication bias, Duval and Tweedie's (2000) trim and fill analyses were conducted using Comprehensive Meta-Analysis 2.0 (Borenstein, Hedges, Higgins, & Rothstein, 2005). This analysis plots the effect sizes of all published studies on the X-axis and the precision (1/standard error) on the y-axis (O'Boyle, Humphrey, Pollack, Hawver, & Story, 2010). It is assumed in these analyses that results suggesting null relationships would be under-published. To the extent that this is true, the observed relationships presented in the current study would be overestimated. The results of the publication bias analyses are shown in Figures 2-7. The white circles represent the observed studies for each variable and the black circles represent the studies that were imputed based on Duval and Tweedie's (2000) method. The results indicate no publication bias for job satisfaction, mental health, physical health, or life satisfaction. However, the results do suggest minimal evidence of publication bias for both affective commitment, which had two imputed studies, and withdrawal, which had four imputed studies. In both of these cases, the correlation was decreased by less than .03 after being corrected for publication bias. Taken together, these analyses indicate no evidence, or limited evidence, of publication bias.

Funnel Plot of Precision by Fisher's Z

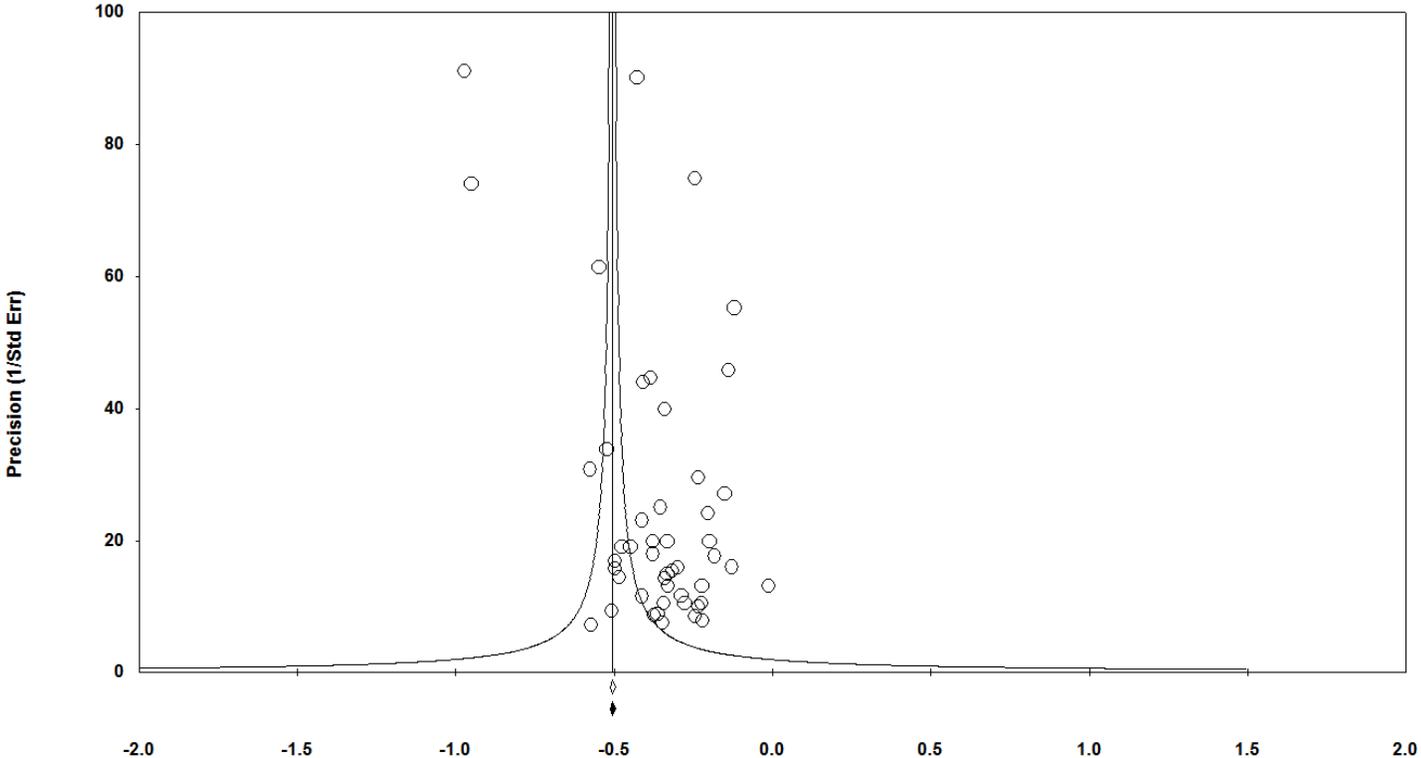


Figure 2. *Publication Bias Results for Job Satisfaction.*

Funnel Plot of Precision by Fisher's Z

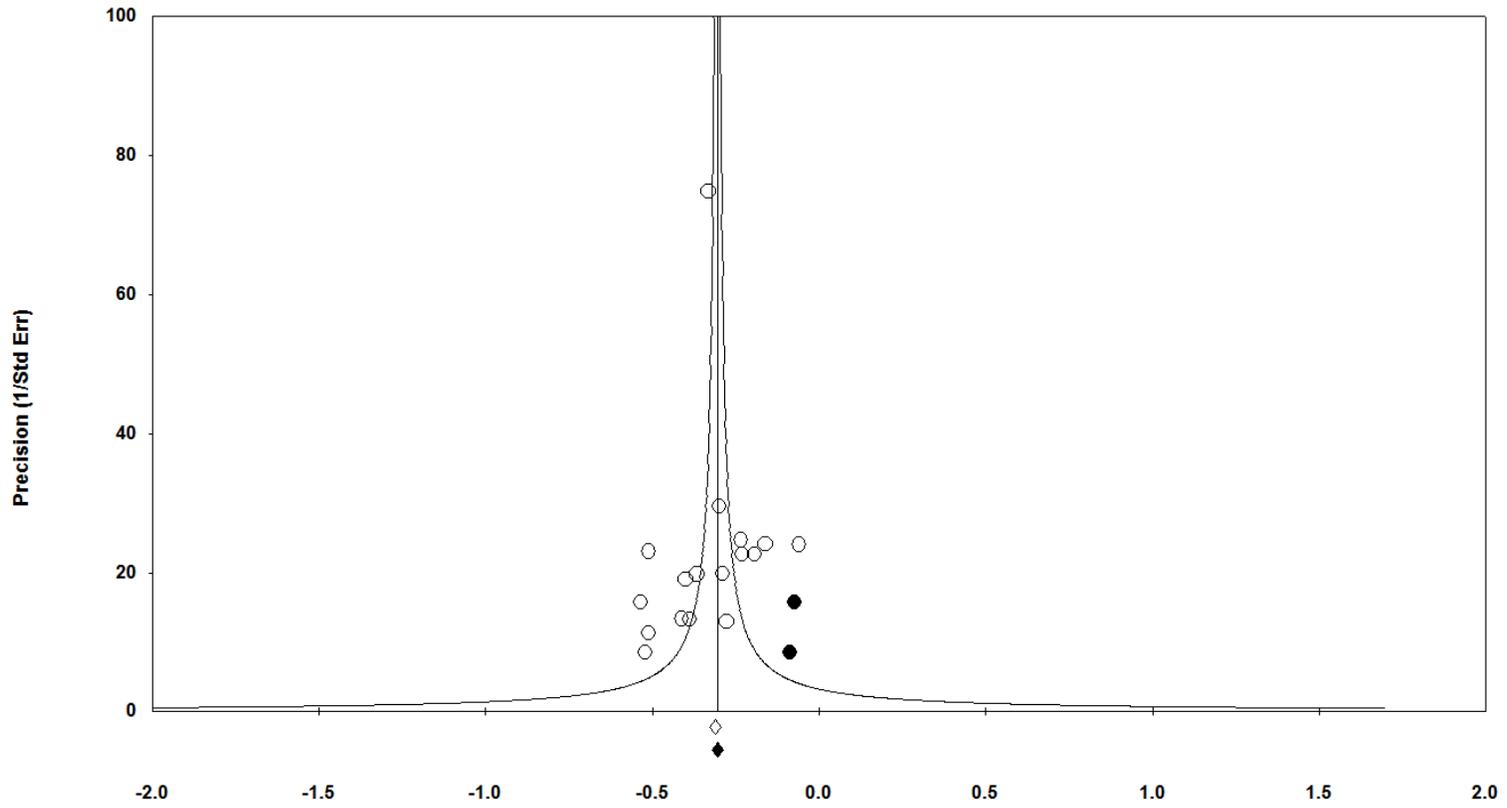


Figure 3. *Publication Bias Results for Affective Commitment.*

Funnel Plot of Precision by Fisher's Z

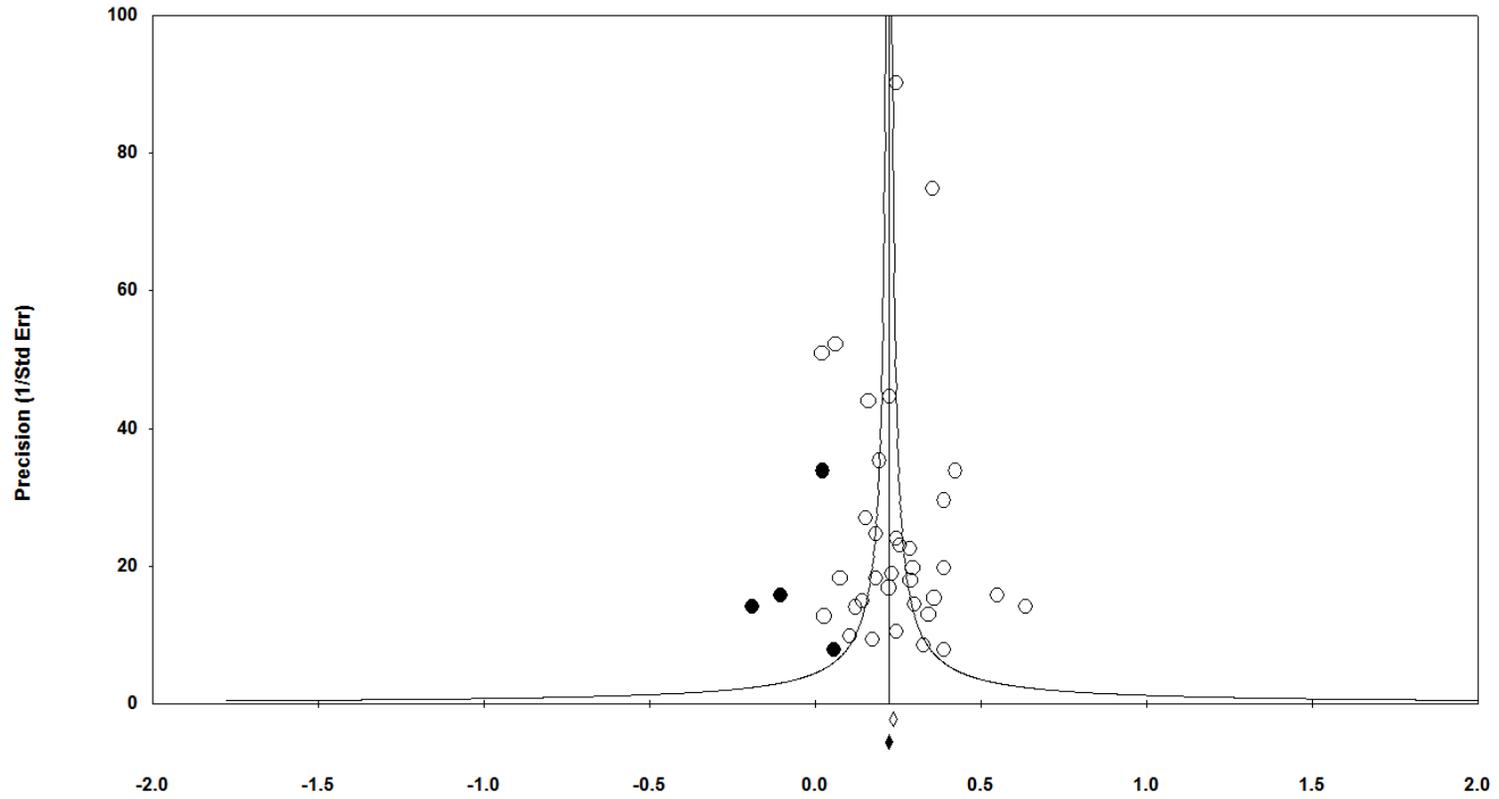


Figure 4. *Publication Bias Results for Withdrawal.*

Funnel Plot of Precision by Fisher's Z

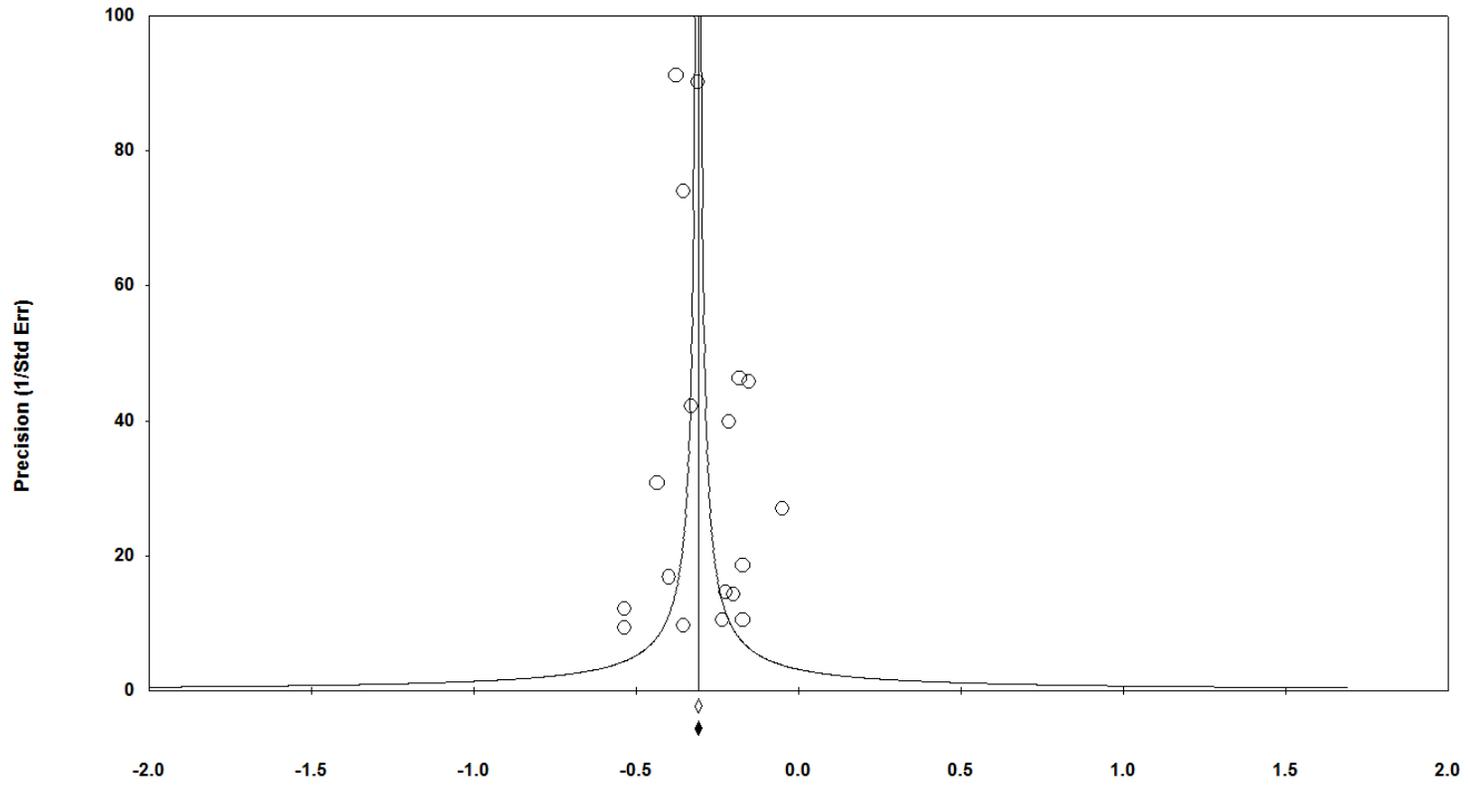


Figure 5. *Publication Bias Results for Mental Health.*

Funnel Plot of Precision by Fisher's Z

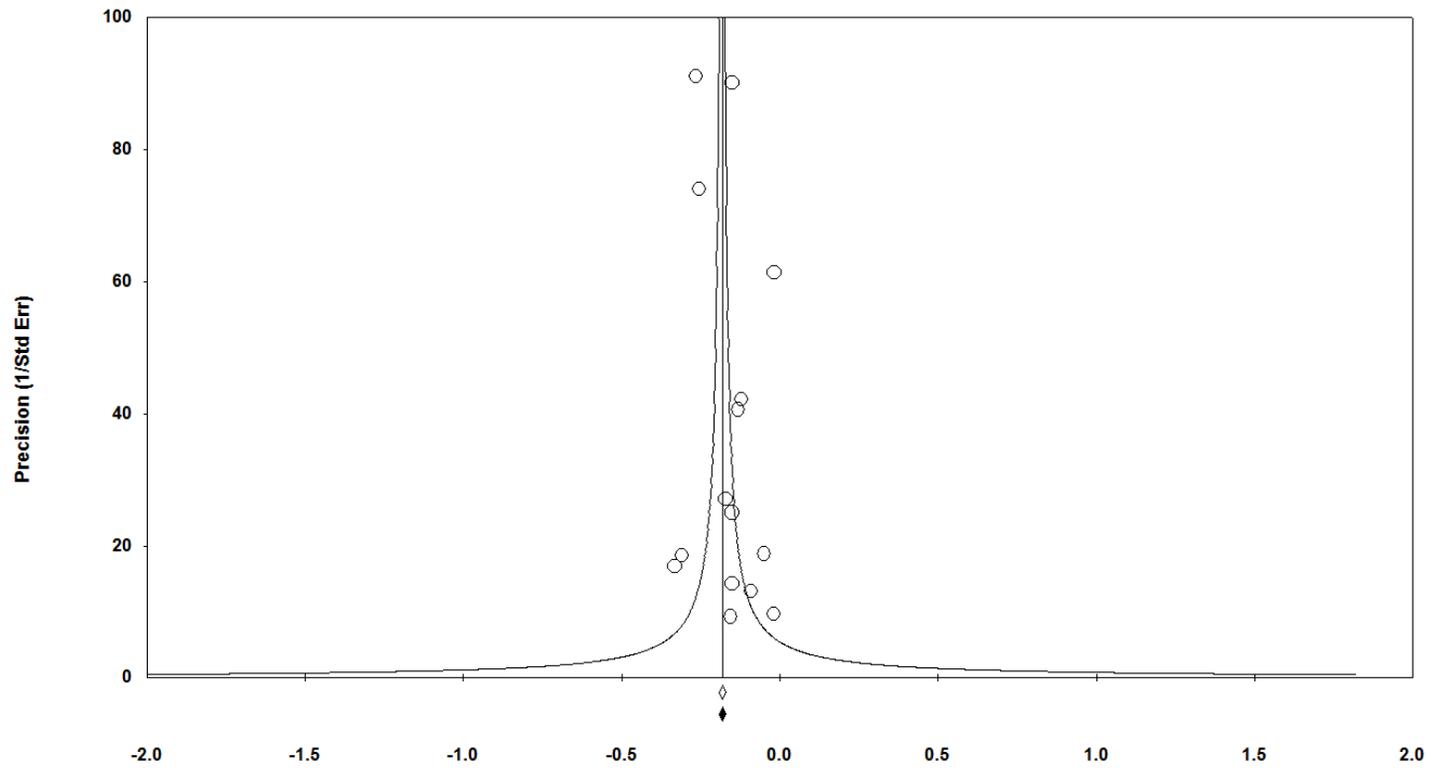


Figure 6. *Publication Bias Results for Physical Health.*

Funnel Plot of Precision by Fisher's Z

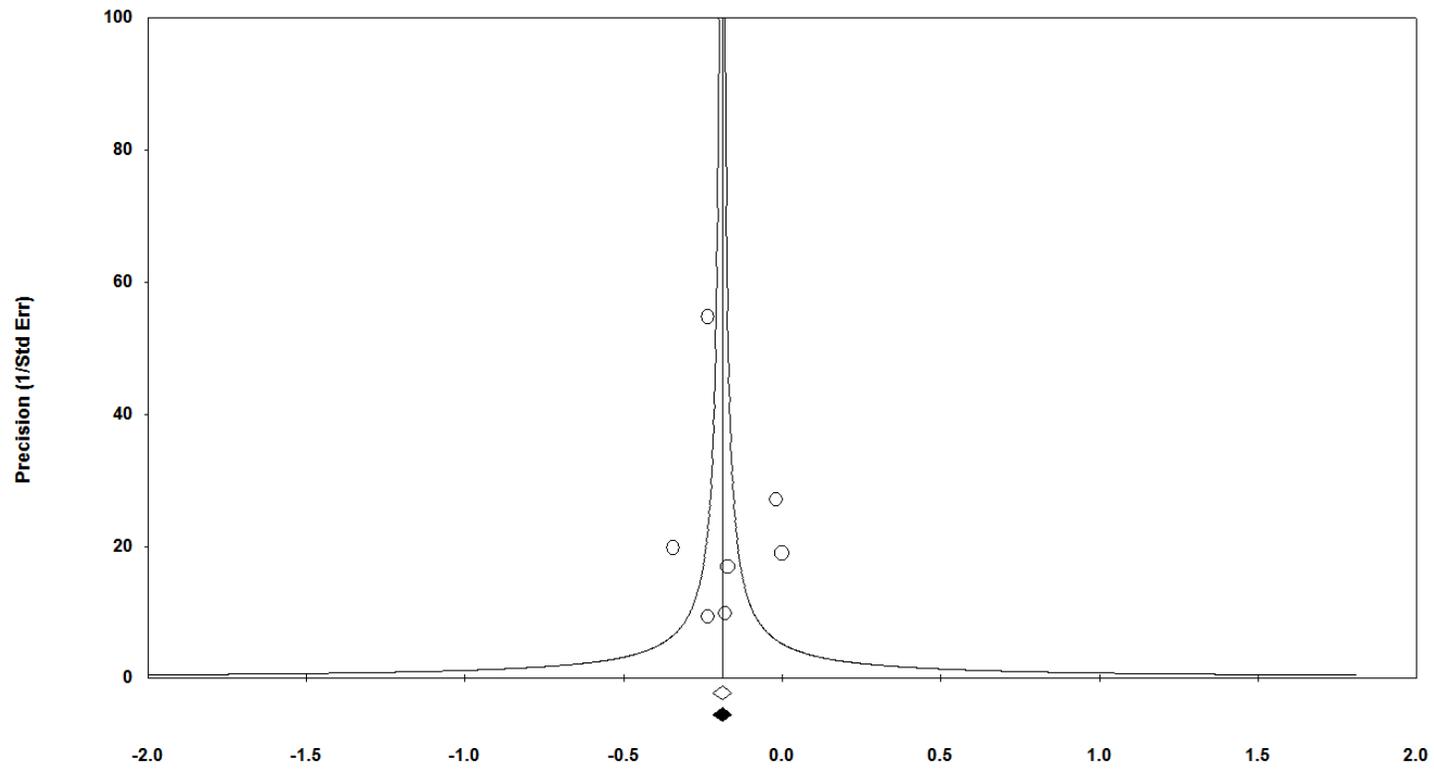


Figure 7. *Publication Bias Results for Life Satisfaction.*

DISCUSSION

This study sought to provide a meta-analytic summary of the relationships between perceived workplace discrimination, job attitudes, job behaviors, and health outcomes. This makes an important contribution to the literature by providing a comprehensive quantitative analysis of previous findings regarding the impact of perceived workplace discrimination and exploring theoretically important moderators of these relationships. This study extended previous meta-analytic findings to include job-related outcomes in addition to health outcomes and represents the first meta-analysis to focus solely on perceived *workplace* discrimination. As previously mentioned, this study offered a large portion of unique data not represented in previous meta-analyses. Results of the current study revealed that perceived workplace discrimination is associated with decreased job satisfaction, lower organizational commitment, more negative views of organizational justice, and increased withdrawal behaviors. Further, perceived workplace discrimination was also associated with negative health outcomes, such as decreased mental and physical health, decreased life satisfaction, and increased stress.

Contrary to what was hypothesized, organizational citizenship behavior was not significantly related to perceived workplace discrimination. This may be a result of some mistreated employees perceiving organizational citizenship pressure, or the perceived requirement to engage in citizenship behaviors (Bolino, Turnley, Gilstrap, & Suazo, 2010). Despite wanting to decrease their citizenship behaviors, devalued employees may feel that they must perform citizenship behaviors to maintain a level of citizenship behavior that is consistent with their coworkers. Previous research has found evidence suggesting that stigmatized employees do feel more organizational citizenship pressure (Randle, Mathis, & Cates, 2012).

Further, mistreated employees may choose to engage in citizenship behaviors, but selectively exclude the perpetrators of their mistreatment. This would allow the employee to advance their own performance while still maintaining a balance in the social exchange relationship with the specific individuals that perpetrated the discrimination.

Supplemental analyses revealed that the three dimensions of organizational commitment (affective, normative, and continuance) were differentially related to perceived workplace discrimination. Affective commitment (which is conceptually closest to a job attitude [Harrison, Newman, & Roth, 2006] and therefore is likely to be most influenced by social exchange processes tied to perceived discrimination) demonstrated a strong positive relationship with perceived discrimination while normative commitment was not meaningfully related to discrimination and continuance commitment had a positive, although weak, relationship with discrimination. Normative commitment derives from an obligation to stay with the organization (Meyer & Allen, 1991), which may largely reflect individual differences that are not influenced by discrimination. Continuance commitment, which reflects the perceived costs associated with leaving one's organization (Meyer & Allen, 1991), may be positively related to perceptions of discrimination because mistreated employees may have a decreased perception of their employability elsewhere (Redman & Snape, 2006; Snape & Redman, 2003). For example, employees may receive negative feedback as a result of discrimination that may lead them to feel less confident in their abilities. Additionally, they may fear that their organization will provide them with a negative reference if they were to seek other employment. It is important to note there were few studies that specifically examined normative ($k = 3$) and continuance commitment ($k = 4$) and future research is needed to better understand these relationships.

Moderator analyses demonstrated some evidence that interpersonal forms of

discrimination may lead to more detrimental outcomes for targets than formal discrimination. Both job satisfaction and justice had significantly stronger relationships with interpersonal discrimination than formal discrimination. This may be due to the frequency with which employees interact with other organizational insiders, leading to an increased exposure to interpersonal discrimination. It may also be a result of the social rejection that is experienced by individuals who are discriminated against in social interactions. Although the differences were not significant, it is interesting to note that more organization-focused outcomes (i.e., organizational commitment and withdrawal) had stronger correlations with formal discrimination than interpersonal discrimination while individual-focused outcomes (i.e., mental health, physical health) had stronger relationships with interpersonal discrimination. This may be a result of formal discrimination being more associated with organizational decisions, leading employees to retaliate against their organization with more negative attitudes and behaviors. Conversely, interpersonal discrimination may be more strongly associated with individual-level outcomes again because of the social exclusion and rejection individuals feel as a result of being discriminated against in interactions with fellow employees.

Moderator analyses also revealed evidence suggesting that measures assessing observed discrimination may result in larger discrimination-outcome relationships. This lends support to the idea that witnessing discrimination can cause a “second-hand smoke effect” where the negative effects of discrimination are experienced by all employees who are aware of the discrimination (Chrobot-Mason et al., 2012). It may be that witnessing more widespread discrimination represents a stronger indictment on the organization, thus leading to more negative outcomes. It could also be the case that assessing the general presence of discrimination in one’s organization captures both experiences with and observations of discrimination. When

discrimination is both experienced and observed, it may have an additive effect on one's job attitudes, job behaviors, and health outcomes. Another explanation for the pattern of results is that individuals may be more likely to report discrimination when they do not have to implicate themselves as a personal target of discrimination (Nielsen, Matthiesen, & Einarsen, 2010). Implicating oneself as the target of racial jokes or social exclusion may activate a defense mechanism in which individuals do not want to be seen as victims. Therefore, framing the items as the general presence of discrimination may eliminate this defense mechanism and elicit more accurate responses. Finally, the results may be explained by the restriction of range in the experienced discrimination estimates due to the low base rate of experienced discrimination.

Results of the response scale and time frame moderators suggest that perceived workplace discrimination may have negative consequences even when it is experienced infrequently and that the consequences may be long-lasting. Exploratory analyses demonstrated no clear differences between the groups targeted by discrimination (e.g., sex discrimination, race discrimination), indicating that discrimination seems to have a similar impact across stigmatized groups. Lastly, there was some evidence of publication bias and some evidence to suggest that the impact of discrimination differs across countries, with studies conducted in the United States often demonstrating larger discrimination-outcome relationships than studies conducted outside of the United States. While these differences may reflect a difference in the experience or severity of discrimination across countries, it may also suggest that different definitions of discrimination exist across countries. It is important for future research to establish measurement equivalence across cultures in order to determine if conceptual differences in interpreting the items of discrimination measures are driving the observed differences across countries.

Comparison to Past Studies

As previously mentioned, this study is the first meta-analysis to specifically focus on perceived workplace discrimination. There were notable differences observed between the discrimination-health relationships reported in previous meta-analyses (Pascoe & Richman, 2009) and those reported in the current study. The meta-analytic relationships between discrimination and mental health ($\rho = -.16$, $k = 105$, 95% CI [-.20, -.12]) and between discrimination and physical health ($\rho = -.13$, $k = 36$, 95% CI [-.16, -.10]) reported by Pascoe and Richman (2009) were smaller in magnitude than those found in the current study ($\rho = -.30$, $k = 29$, 95% CI [-.34, -.26]; $\rho = -.20$, $k = 19$, 95% CI [-.24, -.16]), possibly suggesting that workplace discrimination may have a more negative consequence than discrimination experienced in other contexts. Results from the current study are consistent with Jones and colleagues (2013) estimated relationships for both mental ($\rho = .30$, $k = 32$, 95% CI [.17, .33]) and physical health ($\rho = .16$, $k = 11$, 95% CI [.08, .19]). However, estimated relationships between perceived workplace discrimination and job outcomes cannot be compared to those reported by Jones and colleagues (2013) given that the latter paper does not report estimates for each job outcome in isolation.

Theoretical and Practical Implications

Results from the current study have several theoretical and practical implications. First, perceived workplace discrimination's deleterious effects for both its targets and observers highlight the importance of creating positive workplace diversity climates. Positive diversity climates have been shown to influence organizational outcomes for minorities, such as reducing voluntary turnover and reducing performance gaps between minority and majority employees (McKay et al., 2007; McKay, Avery, & Morris, 2008). Given how costly the outcomes of

perceived workplace discrimination are for both employees and organizations, organizations should take action to foster positive diversity climates. Further, future research should strive to establish specific organizational practices that contribute to perceptions of positive diversity climates.

The results also yielded some unexpected results that may help guide future theorizing regarding perceived workplace discrimination. First, perceived workplace discrimination was not significantly related to organizational citizenship behavior. While this may be due to the small number of effect sizes included in the estimate, it may also be a result of minority employees feeling increased organizational citizenship pressure (Randle et al., 2012). This may cause employees to continue to engage in a similar level of citizenship behaviors as their coworkers, despite their desire to reduce their contributions to the organization. More empirical work is needed to explore the pressures that mistreated employees may feel and the additional impact those pressures may have on employees. For example, if minority employees feel more pressure to engage in citizenship behaviors and perform extra duties despite their desire not to, this may result in the employee engaging in increased surface acting. Given that surface acting is related to negative outcomes such as increased emotional exhaustion (Grandey, 2003), this may further impact mistreated employees. Second, perceived workplace discrimination was positively related to continuance commitment. Given that this finding is contradictory to previous hypotheses that discrimination is negatively related to all three reasons for organizational commitment, more theoretical attention is needed to explain the underlying relationship between perceived workplace discrimination and continuance commitment.

Lastly, the finding that observed discrimination may lead to more negative consequences than experienced discrimination suggests that workplace discrimination is a more widespread

problem than previously thought. Organizations may conceptualize discrimination as an issue affecting a relatively small proportion of their employees; however, the evidence presented here suggests that all employees are at risk to be negatively impacted by the existence of workplace discrimination. It also illuminates the importance of considering more widespread organizational interventions in organizations. Interventions may benefit by helping individuals cope with and appropriately respond to witnessing discrimination. For example, organizations may reduce the negative impact of witnessing discrimination by establishing clear ways of reporting observations of discrimination.

Limitations and Future Directions

The findings presented here should be interpreted with the study's limitations in mind. One limitation is the small number of studies that were available for testing some of the moderator analyses. For example, there were a limited amount of studies that contributed to the formal discrimination moderator conditions, with k 's ranging from 3-10 studies. However, while the number of studies included in each moderator condition was limited in some cases, the average sample size for the moderator analyses was substantial ($M_N = 13,369$, $SD_N = 11,811$). Further, the limited availability of data did not allow for a test of the relationship between perceived workplace discrimination and job performance or more fine-grained tests between perceived workplace discrimination and specific facets of job satisfaction. Future research should focus on these under-researched relationships in order to further contribute to our understanding of the consequences of workplace discrimination.

Another limitation of this study is the correlational nature of the data. Given that the majority of the data are cross-sectional, causal inferences cannot be made regarding the

relationships presented in this study (Shadish, Cook, & Campbell, 2002). The proposed direction of these relationships (perceived workplace discrimination influencing job attitudes, job behaviors, and health outcomes) is more consistent with past theory than the reverse direction (job attitudes, job behaviors, and health outcomes influencing perceptions of workplace discrimination). However, it is conceivable that some of the relationships could be in the opposite direction as what was proposed. For example, perceived injustice is characterized by unfair treatment and it could be possible that an employee who perceives a lack of justice then attributes that unfair treatment to discrimination. If this were the case, the relationship may more accurately be represented by perceptions of justice leading to perceptions of discrimination. However, longitudinal evidence does suggest that perceived discrimination predicts perceptions of injustice, job satisfaction, and organizational commitment (Blau, Tatum, Ward-Cook, Dobria, & McCoy, 2005; Murrell, Olson, & Frieze, 1995). More longitudinal analyses of the discrimination-outcome relationships are needed.

Several avenues for future research are recommended based on the findings of this study. First, the results of the current study suggest that observed discrimination may lead to more detrimental outcomes than experienced discrimination. However, there is a dearth of research examining the co-occurrence of both experienced and observed discrimination and the relative magnitude of their respective consequences. Future research should seek to analyze both forms simultaneously to provide a better understanding of the differential outcomes of observed and experienced discrimination as well as to understand the impact of both experiencing and observing discrimination in one's workplace. It could be the case that experiencing and observing discrimination has an additive impact, leading to more negative consequences than either experiencing discrimination or observing discrimination in isolation.

Second, given the evidence that observing discrimination can lead to negative outcomes for the witness, research is needed to determine the impact of organizational responses to discrimination. Organizational reactions to discrimination may serve to either mitigate or exacerbate the negative effects of witnessing discrimination, but research is needed to identify what actions organizations can take to reduce the negative influence of observed discrimination.

CONCLUSION

In conclusion, this study represents a comprehensive meta-analysis of the deleterious consequences of perceived workplace discrimination, suggesting that perceived workplace discrimination is detrimental for job attitudes, job behaviors, and health outcomes. The results also illuminate the impact that perceived workplace discrimination can have not only for those who are targeted but also for those who are bystanders to the discrimination. These findings underscore the importance of interventions aimed at reducing the occurrence of discrimination in the workplace given that the impact of discrimination may be more widespread than previously thought. Additionally, this study offers several contributions beyond those offered by previous meta-analyses, including expanding the database of studies examining the outcomes of perceived workplace discrimination, quantitatively summarizing outcomes that have been under-represented, and exploring several moderators of the discrimination-outcome relationships.

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