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Theory and Measurement of Perceived Introvert Mistreatment

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THEORY AND MEASUREMENT OF
PERCEIVED INTROVERT MISTREATMENT

by

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A dissertation submitted in partial fulfillment of the requirements
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ABSTRACT

Perceived introvert mistreatment, or the extent to which an individual perceives he or she is treated unfairly at work because he or she is introverted, is a form of workplace mistreatment that may be associated with numerous negative outcomes for the workers it impacts. Although an understanding of perceived introvert mistreatment may augment current theoretical knowledge of workplace mistreatment, researchers have yet to consider why (or if) this mistreatment exists or the effects it may have on the individual. Thus, the purpose of this paper is twofold: first, in an attempt to explain how perceived introvert mistreatment may develop and the impact it may have on the target, I develop a dynamic process model of elements that precede, follow, and compound perceived introvert mistreatment. This model encompasses a) a serial mediation process incorporating the situation, cognitive appraisals, attitudes, behavioral responses, and target outcomes that involve perceived introvert mistreatment, b) a dynamic process in which perceived introvert mistreatment, behavioral disengagement of the target, and negative behavioral reactions from others build upon each other cyclically, and c) target-based antecedents to behavioral disengagement of the mistreatment target. Second, in order to begin testing this theoretical model, I develop and validate a measure of perceived introvert mistreatment in four phases: a) item generation and reduction, b) examination of the reliability and factor structure of the scale, c) estimation of convergent and discriminant validity, and d) analyses of criterion-related validity. The paper concludes with a discussion of directions for future research.

This dissertation is dedicated to PBM Jr.

ACKNOWLEDGMENTS

The completion of a doctoral degree is like running a marathon. You've had some good experiences with running a 5k or two and decide, I like running, why not do a marathon? So you pick your race and sign up. The first few miles feel pretty easy because, after all, you've been training hard for the past few years and the excitement of your fellow runners sets the tone for a great race. However, there are a few challenging hill segments and the sun comes out, making you hot and thirsty, and when you get to the half-marathon mark you realize that although you're halfway done, you have another half still to go. This is daunting, and you almost stop, but you think about all the hard work you've put in so far and how satisfying it will feel to cross that finish line. You dig deep and push on. The miles catch up to you though, and by mile 20 the going is tough. You have to take a few walking breaks and mentally prepare yourself for the last stretch of the race. By mile 26 you know you've got the race in the bag and it's only a couple tenths of a mile before the race is over and you can claim your medal. It's still hard, but the end is in sight. And then, you make it. The marathon is over and a sense of relief and pride washes over you as you step across the last timing block, under a huge banner that says "FINISH".

The acknowledgments of this dissertation represent mile 26: the only thing left to do is graduate! Although running/dissertating/Ph.D.-ing can be considered a solo endeavor, I couldn't have done it without the support of faculty, friends, and family. In no particular order, I want to acknowledgment and thank these people: Dr. Dana Joseph (for kicking me out of the nest at all the right times), Drs. Wei Wang, Mindy Shoss, and Shannon Taylor (for taking the time to provide valuable feedback on this project), Drs. Barbara Fritzsche, Kim Jentsch, Jeremy Beus,

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CHAPTER ONE: INTRODUCTION

Several weeks into my orientation, the assistant manager took me aside. “I think you should try to talk about yourself more. Share a bit about your life. I think people would like you more if you just weren’t so *quiet*.” Her words welled up like a giant wave and crashed into me, slamming me against the wall...I held out for two years, exhausted from night shifts and stressed by those who seemed to remain hostile toward me (Norheim, 2015).

“Why are you so quiet?” This proverbial query has struck doom in the hearts of many introverts who often feel that their reserved nature does not belong in the hustle of American life. However, a recent explosion in media exposure (e.g., Adams, 2013; Cain, 2013; Clark, 2013) has drawn attention to not only what introversion is and the valuable attributes of the trait, but also to anecdotes about the mistreatment of individuals who demonstrate introverted tendencies, particularly at work. Interest in this form of mistreatment has also spread into academia: several researchers suggest that personality discrimination, and mistreatment of introverted employees in particular, has been overlooked and needs to be addressed (Nelson & Schlesinger, 2015; Regier, 2012; Stone-Romero, 2005). However, researchers have yet to consider why (or if) this form of mistreatment exists and the effects it may have on the target. Further, we have no valid means with which to measure such mistreatment. Thus, this paper aims to a) propose a theory of perceived introvert mistreatment and b) develop and validate a scale with which to measure the construct.

Introversion Defined

Given that the Five-Factor Model (FFM) is the model of choice for personality research (Oswald & Hough, 2012) I focus on the FFM definition of an introvert as one who is *lower* in sociability, dominance, positive emotions, and excitement-seeking (Barrick, Mount, & Judge, 2002; Costa & McCrae, 1988; Eysenck & Eysenck, 1969; Goldberg, 1990) and an extravert as one who is *higher* on these characteristics *most of the time, across situations*. Although evidence indicates that there is substantial within-person variability in extraverted behaviors, an adult's average behavior across time is generally consistent (Fleeson, 2004; Roberts & DelVecchio, 2000). This indicates that although an employee may be gregarious in a committee meeting and reserved in a training session, the employee's average, trait-level extraversion across time is predictable and thus suitable as a means with which to describe differences among individuals. Indeed, research suggests that between-person differences in extraversion/introversion are related to numerous workplace outcomes (e.g., Barrick et al., 2002; Chiaburu, Oh, Berry, Li, & Gardner, 2011; Judge, Heller, & Mount, 2002; Judge & Ilies, 2002).

Perceived Introvert Mistreatment Defined

I define perceived introvert mistreatment as *the extent to which an individual perceives he or she is treated unfairly at work because he or she is introverted*. At the core of this construct are perceptions: regardless of whether or not the behavior actually happened and/or is justified, perceived introvert mistreatment occurs when the target attributes the cause of the unfair treatment to his/her introverted behaviors (i.e., the target self-identifies as behaving in an introverted manner). Perceived introvert mistreatment likely incorporates both bias against

introversion and bias for extraversion. In other words, perceived introvert mistreatment can manifest as discrimination (i.e., unfair treatment towards the minority) and favoritism (i.e., the majority helping their own group more than other groups) (DiTomaso, 2015). For example, employees might make rude comments about a quiet colleague (unfair treatment) or a reserved employee might receive fewer opportunities at work because said opportunities are distributed to more outgoing colleagues (favoritism). In addition, perceived introvert mistreatment can occur across workplace situations, including performance-related interactions (e.g., the target receives less praise compared to other employees), social interactions (e.g., the target is excluded from conversations with coworkers), and task-related interactions (e.g., the target asked for help but was denied) (Figure 1).

Some may argue that because introverted individuals tend to be lower in sociability than extraverts (Barrick et al., 2002; Costa & McCrae, 1988; Eysenck & Eysenck, 1969; Goldberg, 1990) this means that introverts always prefer solitude and therefore if he/she is not invited out for a coworker lunch, for example, this behavior would not be perceived negatively by the target. However, although introverts lean towards more low key social interactions, this does not necessarily imply that introverts prefer to be alone at all times. Social exclusion (i.e., ostracism) is a painful experience for everyone, even in very minor forms (Williams, 2007). Thus, active social exclusion is included in Figure 1 as a behavior that could be perceived as introvert mistreatment.

Impact of Perceived Introvert Mistreatment

Although some may mistakenly believe that perceived introvert mistreatment only affects a small portion of the population, let us consider the causes of perceived introvert mistreatment and the extent of its effects to elucidate the breadth with which this affects the working population. Perceived introvert mistreatment is primarily, but not exclusively, a Western concept that has its roots in what has been coined the “Western Extravert Ideal” (Cain, 2013). The Western Extravert Ideal refers to a society in which extraverted traits are deemed desirable (Cain, 2013; Dumont, 2010; Nicholson, 1998) and thus sets the stage for a society in which individuals who display extraverted characteristics are favored and those who do not are likely to become targets of discriminatory behavior. Indeed, extraversion is a highly desirable trait in American culture (Cain, 2013; Helgoe, 2010) in that even extraverted strangers are viewed as more attractive than introverts (Langlois et al., 2000; Meier, Robinson, Carter, & Hinsz, 2010). A birth cohort study also suggests that Americans may be becoming even more extraverted over time (Twenge, 2001) and as such, employees who behave in an introverted manner may become more and more likely to encounter mistreatment. Further, personality is not a protected group and therefore does not fall under the legal definition of discrimination (EEOC, 2015). Thus, perceived introvert mistreatment, a form of mistreatment that targets a specific group of people, is legal. In sum, employees who exhibit introverted behaviors may face an escalating problem in which a Western Extravert Ideal *promotes* mistreatment of those who do not fit cultural norms and have no means of recompense due to its unprotected status.

Moreover, although there are reliable between-person differences in extraversion, research suggests there is just as much, if not more variance in within-person extraversion

(Fleeson, 2001; 2004). This suggests that because people can vary extensively in the extent to which they are behaving introverted at any given time, many people may have perceived introvert mistreatment at one time or another (i.e., perceived introvert mistreatment may not be exclusive to introverts). Thus, although true introverts (i.e., individuals who generally endorse behaviors on the introverted end of the extraversion/introversion spectrum) are more *likely* to perceive introvert mistreatment, due to within-person variation in extraversion almost everyone has the potential to perceive introvert mistreatment.

This paper comprises two parts that aim to fulfill the two goals of theory and measurement development. Altogether, the first part of this paper accomplishes three important objectives. First, it defines perceived introvert mistreatment, a task that is essential for understanding and discussing a new construct. Second, it provides evidence-based reasoning in support of the layman's supposition that introverts are mistreated at work. Third, the proposed model of perceived introvert mistreatment delineates numerous testable processes that can guide future research on the topic.

In order to begin testing this theoretical model and provide academics and practitioners with a reliable measure of perceived introvert mistreatment, the second part delineates four phases in which I develop and validate a measure of perceived introvert mistreatment: a) item generation and reduction, b) examination of the reliability and factor structure of the scale, c) determination of convergent and discriminant validity, and d) analyses of criterion-related validity. This paper concludes with a discussion of future research.

CHAPTER TWO: A THEORETICAL MODEL OF PERCEIVED INTROVERT MISTREATMENT

In an effort to explain how perceived introvert mistreatment may develop and the impact it may have on the target, I develop a dynamic process model of elements that precede, follow, and compound perceived introvert mistreatment (Figure 2). Drawing on Social Dominance Theory (Pratto, Sidanius, & Levein, 2006), the tripartite view of bias (i.e., stereotypes lead to prejudice which lead to discriminatory behaviors; Cuddy, Fiske, & Glick, 2007; Fiske, 2004), and a stressor-strain framework (Barling, 1996), I first describe a serial mediation process of the situation (group-level contextual norms), cognitive appraisals (stereotypes held by the instigator), attitudes (biased attitudes held by the instigator), behavioral responses (of the instigator, as perceived by the target), and target outcomes (such as reduced job attitudes and well-being). Second, drawing on work that explains an incivility spiral (Andersson & Pearson, 1999) I propose a dynamic process in which perceived introvert mistreatment, behavioral disengagement of the target, and negative behavioral reactions to the behavioral disengagement by others can build upon each other cyclically. The third and final component discusses target-based antecedents to behavioral disengagement of the target, an aspect of the mistreatment process that is largely disregarded.

Serial Mediation

In the sections that follow, I explain a serial mediation process (Figure 2) wherein the situation (contextual norms), cognitive appraisals (stereotypes), and attitudes (biased attitudes)

are antecedents to discriminatory behaviors (perceived introvert mistreatment). Further, I discuss theory and meta-analytic evidence for the negative consequences associated with perceived mistreatment.

Context Creates Stereotypes

Stereotypes are overgeneralized beliefs shared by most individuals in regards to members of a group (Ashmore & Del Boca, 1981; Hamilton & Sherman, 1994) and are activated due to spontaneous social categorization processes (Fiske, Lin, & Neuberg, 1999; Dovidio, Gaertner, & Bachman, 2001). I propose that social dominance hierarchies (Pratto et al., 2006) are the process through which contextual norms (e.g., the Western extravert ideal) lead to stereotypes about introversion. In addition, these hierarchies are more easily formed due to the visibility of introverts as a social minority.

The Extravert Ideal

A “Western Extravert Ideal” (Cain, 2013), or a society in which extraverted traits are deemed desirable, has been noted by various scholars (Dumont, 2010; Nicholson, 1998) and may have come about for two reasons: the industrial revolution and individualism. First, starting in the late 1800s the United States experienced a shift from a culture of character to a culture of personality. In Victorian America (i.e., the 1800s), a culture of character valued internal qualities suffused in Christian ethics, such as morality, duty, and integrity (Susman, 1979). However, the late 19th to early 20th centuries brought about a cultural shift due to industrialization, urbanization, and increasing multiculturalism (Nicholson, 1998). During this time period,

increasing city populations created a sense of depersonalization in which the individual had to stand out from the faceless masses in order to succeed (Burnham, 1988; Randall, 1912). Thus, the new American-self valued uniqueness and distinctiveness (Susman, 1979). This shift from a culture of character to a culture of personality is reflected in the birth of personality psychology (Danziger, 1990; Parker, 1991), which in turn fueled a societal trend that focused on the uniqueness of the self (Burnham, 1988; Randall, 1912). In sum, changes in American society during the late 19th to early 20th centuries drove a shift towards a society which favored extraverted characteristics such as gregariousness and experience seeking. To this day, this culture of personality remains an important part of modern American culture.

Second, the United States is considered one of the most individualistic countries in the world (Triandis, 1995) and this individualism is intertwined with “being American”. Individualism-collectivism is one of four cultural value dimensions that represent the extent to which people within a country generally prefer to act as independent individuals rather than as members of a group (Hofstede, 1984; Hofstede & Hofstede, 2001; House, Hanges, Javidan, Dorfman, & Gupta, 2004). American society was founded on civic emancipation, Protestantism (Inglehart, 1997), a market economy, and the American frontier (Curry & Valois, 1991), all of which supported individual choice, freedom, and self-actualization (Oyserman, Coon, & Kemmelmeier, 2002) and valued traits such as directness, assertiveness, exhibitionism, and self-assurance (Grimm, Church, Katigbak, & Reyes, 1999). In essence, being an individual is the core of being an American and many of the key components of individualism (Grimm et al., 1999; Oyserman et al., 2002) are similar to that of extraversion (Barrick et al., 2002), such as assertiveness and dominance. Indeed, Hofstede and McCrae found a strong positive relationship

($r = .64$) between a country's average level of extraversion and level of individualism (2004).

This may be because individualistic cultures value independence and uniqueness, characteristics that are expressed through extraverted behaviors such as being loud, assertive, and dominant. In summary, a cultural norm in America which favors extraverted characteristics (i.e., the Western Cultural Ideal) may exist because of a history of urbanization and cultural individualism.

As a result of the American shift towards a culture of personality and individualism, the Western extravert ideal has evolved to represent a societal pressure for individuals to exhibit extraversion. In light of this cultural norm, I propose that social dominance hierarchies are the process through which this cultural norm leads to stereotypes about introversion (i.e., cognitive appraisals). Social Dominance Theory (SDT; Pratto et al., 2006) suggests that human society organizes itself into group-based social hierarchies where the dominant group enjoys social status and power, and the subordinate group encounters stigmatization. In an environment in which extraversion is rewarded and valued, those who are not extraverted would likely belong to the subordinate group and encounter negative stereotypes whereas extraverted individuals would be categorized into the power group with its associated status and positive attributes.

Unfortunately, these stereotypes can become a cultural artifact that perpetuates itself because the stereotypes are consensually held among the population, legitimizing subsequent bias and discriminatory behaviors (Pratto et al., 2006).

In sum, extraverted characteristics are considered the norm in American culture, creating a social hierarchy that creates and supports stereotypes about introverted individuals. Although the aforementioned theory of how cultural norms have come to support a negative stereotype of introverts is in regards to American culture, an extravert ideal could exist in other similarly

individualistic countries such as the United Kingdom or Australia (Hofstede & Hofstede, 2001).

As such, stereotypes about introversion are not exclusive to the US.

Further, although I discuss entire societies as the context for stereotypes about introversion, on a smaller scale, similar mechanisms could occur wherein particular industries or jobs that favor and reward extraversion more than other industries or jobs can create a within-job social dominance hierarchy with the aforementioned stereotypes about introversion. For example, the legal field encourages assertive, dominant, and talkative behaviors and thus within the field itself a social hierarchy likely exists in which extraverted attorneys belong to the higher power group. Further, the attraction-selection-attrition (ASA) model of employee fit suggests that organizations become more and more homogenous over time because people prefer to work with people who are similar to themselves (Schneider, 1987). As such, environments can evolve within organizations that emphasize extraversion more so than others. Thus, the extent to which someone perceives introvert mistreatment is related to whether or not they “fit” in that environment. Altogether, contextual norms that favor extraversion could exist across the globe rather than only within extraverted/individualistic countries. Therefore,

Proposition 1: Contextual norms that favor extraverted behaviors lead to stereotypes about introversion held by the instigator.

Introverts are a Social Minority

Social hierarchies are a universal occurrence across cultures in which the social majority has higher power and status, whereas the social minority faces subordination (Pratto et al., 2006). A social hierarchy is more likely to develop if the social distinction between majority and

minority groups is highly visible (Macrae & Bodenhausen, 2000). Specifically, social categorization theories suggest that people automatically engage in unconscious categorization processes in which an individual is placed into a meaningful social category based on salient information (e.g., sex, personality, race; Fiske et al., 1999; Dovidio et al., 2001) and then evaluated based on group-based impressions (Fiske et al., 1999; Hilton & von Hippel, 1996). Although personality may not be as easily identifiable as a person's skin color or gender, extraversion is one of the most easily identifiable Five Factor personality traits (Borkenau & Liebler, 1995; Funder, 1995; Funder & Sneed, 1993; Kenny, Horner, Kashy, & Chu, 1992) because of noticeable extraverted behaviors such as a loud voice and high energy levels and introverted behaviors such as a neutral expression and acting quiet and reserved (Borkenau & Liebler, 1995; Funder & Sneed, 1993). This means that individuals are able to quickly pick out behavioral cues and accurately identify a stranger as an extravert or an introvert with very little information (Leikas, Verkasalo, & Lonnqvist, 2013; Meier, Robinson, Carter, & Hinsz, 2010). Indeed, interviewers tend to make hiring decisions within the first fifteen minutes of an interview, particularly in interviews that open with rapport building (Frieder, Van Iddekinge, & Raymark, 2016), an area in which extraverts thrive (Barrick et al., 2012). Thus, extraversion is highly visible, especially in critical employment contexts, which increases the likelihood of a social hierarchy and stereotypes associated with the high (i.e., extraverted) and low power (i.e., introverted) groups.

Proposition 2: The status of introverts as an identifiable social minority leads to stereotypes about introversion held by the instigator.

Thus far I explored two situational antecedents to stereotypes about introversion: an extravert ideal and the visibility of introversion as a social minority. I next discuss how stereotypes can lead to biased attitudes about introversion (i.e., prejudice) in two ways: expectation effects and implicit theories of extraverted competence.

Stereotypes Lead to Biased Attitudes

Expectation Effects

There are distinct social stereotypes associated with extraverts and introverts (Andersen & Klatzky, 1987; Cantor & Mischel, 1979): extraverts are thought to be outgoing, self-confident, and friendly whereas introverts are seen as withdrawn, socially awkward, and insecure (Andersen & Klatzky, 1987). In contrast to this stereotype which describes introverts as social outcasts who are low in self-esteem, introverts are more accurately described as individuals who are low in spontaneity, gregariousness (McCrae & Costa, 1987), dominance, and excitement-seeking (Barrick et al., 2002). In other words, an individual can be introverted without being socially awkward and insecure, despite common stereotypes. However, biased attitudes can develop as a function of these negative introversion-based stereotypes and even more generally, people tend to dislike others who do not match the social norm (Jones et al., 1984).

The aforementioned stereotypes play a role in stereotype-consistent expectations about introverts that are the root of biased attitudes about introverts. A biased attitude is “an unfair negative attitude about a social group or a person perceived to be a member of that group” (Dovidio & Hebl, 2005, p. 13). The link between stereotypes and biased attitudes may be due to social categorization wherein an individual spontaneously sorts another person into a meaningful

group category (e.g., extraverted or introverted) and thus assumes the individual possesses prototypical characteristics of the assigned group (e.g., outgoing or socially awkward; Fiske et al., 1999; Dovidio et al., 2001) which in and of themselves invoke corresponding feelings/thoughts. Although social categorization eases cognitive demands, reliance on group-based information tends to strengthen stereotypes and biased attitudes (Dovidio & Hebl, 2005) because true differences between out-group members are minimized and similarities are exaggerated (outgroup homogeneity; Park & Rothbart, 1982; Turner, 1985). The dispositional attributions of stereotypes enable others to feel they can easily predict an introvert's behavior and therefore think about and treat the introvert in ways that align with these expectations. For example, if an introverted employee is stereotyped as socially awkward (Andersen & Klatzky, 1987), others (e.g., supervisors, colleagues) may believe the introverted employee cannot have successful interactions with clients and feel pity or even contempt. Although an introvert is less inclined to pursue social interactions than an extravert (Costa & McCrae, 1988; Eysenck & Eysenck, 1969; Goldberg, 1990), such preferences do not necessitate poor performance in social interactions required by the job.

Proposition 3: Stereotype-consistent expectations about introverts lead to biased attitudes about introversion.

Implicit Theories

Assumptions about a strong link between extraversion and workplace performance may also contribute to biased attitudes about introversion. For example, the majority of senior leaders believe introversion is a barrier to leadership and only 6% believe introverts are more effective

than extraverts at leadership (Jones, 2006). However, extensive research has shown that this assumed link between extraversion and performance is true of only *some* types of jobs. Although extraversion appears to be important for managerial jobs ($\rho = .21$; Barrick et al., 2002), training performance ($\rho = .28$, Barrick et al., 2002), and leadership effectiveness ($\rho = .24$; Judge et al., 2002), the trait displays a much weaker relationship with performance in skilled/semi-skilled jobs ($\rho = .06$; Barrick et al., 2002) and a negative relationship in professional jobs ($\rho = -.09$; Barrick et al., 2002). Thus, it is inaccurate to assume that extraverts will *always* be the best performers, when meta-analytic evidence suggests that extraversion only accounts for approximately 2% of the variance in performance across all jobs ($\rho = .15$; Barrick et al., 2002).

Despite this evidence that extraversion explains only a modest amount of variance in performance, implicit theories may lead individuals to erroneously assume that extraversion is a robust predictor of performance (i.e., individuals assume all extraverts are highly competent). Implicit theories suggest that people create an ideal prototype of a category based on socialization, prior interactions, and media exposure (Foti & Lord, 1987; Lord & Alliger, 1985). In essence, an implicit theory is another heuristic that enables an individual to easily anticipate another's behaviors, skills, and abilities (just as a stereotype is also a heuristic to ease cognitive demands). An implicit theory may exist for extraversion (and thus introversion as well) due to prototypic characteristics (stereotypes) of extraversion including dominance, energy, and gregariousness (Barrick et al., 2002). These characteristics tend to be implicitly associated with competence and ability, even if in reality there are modest relationships among these constructs. For example, dominance (a facet of extraversion; Oswald & Hough, 2012) is unrelated to leadership competencies (Smith & Foti, 1998; Anderson & Kilduff, 2009); however, dominant

individuals tend to attain positions of influence within groups because they appear competent (Anderson & Kilduff, 2009). Even after controlling for actual ability, dominant group members are rated as more competent by fellow group members, outside observers, and research staff (Anderson & Kilduff, 2009). Competence is also associated with people who speak more often and more assertively (Carli, LaFleur, & Loeber, 1995; Swann & Rentfrow, 2001), use more frequent direct eye contact (Mehrabian & Williams, 1969), and have a relaxed, open posture (Imada & Hakel, 1997). Considering that extraverts tend to talk more (Kalma, Visser, & Peeters, 1993; Moskowitz, 1990), talk more quickly and more loudly (Aries, Gold, & Weigel, 1983; Buss, 1981), make more eye contact, (Snyder & Sutker, 1977) and have relaxed postures (Buss, 1981), and a clear association between nonverbal cues for competence and nonverbal cues of extraversion becomes apparent. Thus, extraverts naturally behave in a way that cues others around them to perceive the extravert as having a high level of competence (regardless of actual ability) whereas introverts do not. As a result, the expected performance of extraverts is likely overestimated and the expected performance of introverts is likely underestimated.

Consequently, I propose the following:

Proposition 4: Assumptions about the relationship between extraversion and performance lead to biased attitudes about introversion.

In this section I discussed how stereotype-based expectations and implicit theories about competence may lead to biased attitudes about introversion. In the next section, I discuss how these attitudes may lead to negative behavioral responses in the form of perceived introvert mistreatment.

Biased Attitudes Lead to Perceived Introvert Mistreatment

Biased attitudes are the proximal cause of behavior (i.e., perceived introvert mistreatment), mediating the link between stereotypes and behaviors (Cuddy et al., 2007; Talaska et al., 2008) and can manifest in negative behaviors towards introverts, such as perceived introvert mistreatment (as perceived by the target). Thus, when someone who has a biased attitude about introversion interacts with an individual that he or she has categorized as an “introvert”, he or she is likely to be guided by the specific content of introversion-based stereotypes which determine how he or she behaviorally responds to the introvert (Dovidio & Hebl, 2005). Moreover, if one perceives introverted behaviors to be controllable, pity-related attitudes are a likely response to stereotypes, leading to neglect and disrespect (Green & Sedikides, 1999; Roseman et al., 1994) whereas if introversion is appraised as uncontrollable, dislike-related attitudes are likely (Weiner, 2005) which can lead to demeaning behavior (Brewer & Alexander, 2002) and active exclusion (Roseman et al., 1994). Someone who does not possess a biased attitude about introversion may categorize an individual as “introvert” but will have no evaluative reaction related to this categorization.

Biased attitudes often lead to behaviors that reflect such attitudes (i.e., biased attitudes about introverts lead to mistreatment of introverts) particularly when the attitude is easily accessible (Glassman & Albaraccin, 2006). In other words, given an extravert ideal (Cain, 2012) and the social visibility of extraversion (Borkenau & Liebler, 1995; Funder, 1995; Funder & Sneed, 1993; Kenny et al., 1992), individuals can be easily categorized as “introvert” or “extravert”, thus quickly activating stereotypes and their associated attitudes. In addition, due to the fact that perceived introvert mistreatment is legal in that personality is not a protected

characteristic in numerous countries (e.g., Australian Human Rights Commission Act 1986; EEOC, 2015 [USA]; Equality Act 2010 [UK]) and not a part of organizational policies on harassment and discrimination, employees may feel minimal pressure to suppress behavior that reflects their biased attitudes. In other words, subjective norms that prohibit perceived introvert mistreatment do not exist (Ajzen, 1985).

In sum, biased attitudes about introversion elicit corresponding behavioral responses particularly because of strong contextual norms that favor extraversion, the easy identifiability of the trait, and minimal pressure to not mistreat a person based on their level of extraversion.

Proposition 5: Biased attitudes about introversion, as held by the instigator, lead to perceived introvert mistreatment, as perceived by the target.

Target Outcomes

Evidence supports the link between many forms of perceived workplace mistreatment (e.g., harassment, bullying, abusive supervision, harassment) and target outcomes (e.g., well-being, performance; Bowling & Beehr, 2006; Nielsen & Einarsen, 2012; Schyns & Schilling, 2013). Because perceived introvert mistreatment is defined as a form of workplace mistreatment, it is likely to affect these outcomes through the same mechanisms as other forms of perceived workplace mistreatment. Therefore, I draw on previous mistreatment literature to propose how perceived introvert mistreatment is related to target outcomes.

Numerous meta-analyses have found a significant relationship between several forms of perceived workplace mistreatment and well-being outcomes (e.g. Hershcovis & Barling, 2010; Jones et al. 2013; Willness et al., 2007). The relationship between perceived mistreatment and

well-being outcomes, such as depression, anxiety, and physical symptoms, are theorized to occur due to a stressor-stress-strain chain in which the stressor (mistreatment) leads to stress (impaired cognition and affect) as the individual attempts to make sense of and react to the mistreatment, which in turn leads to strain (anxiety, depression; Barling, 1996). Indeed, cumulative research supports the relationship between job stressors and strain (e.g., Barling et al., 2005).

In addition to well-being outcomes, several meta-analyses have established the negative relationship between perceived mistreatment and work attitudes (e.g. Hershcovis & Barling, 2010; Nielsen & Einarsen, 2012; Willness et al., 2007). More generally, job stressors negatively impact work attitudes (e.g., Aquino & Thau, 2009; Bowling & Beehr, 2006). Job satisfaction and affective commitment are two of the most widely studied job attitudes (Schleicher, Hansen, & Fox, 2012) and represent an employee's appraisal and positive emotional state in regards to his or her job (Locke, 1979) and positive identification with and attachment to their organization (Meyer & Allen, 1984), respectively. Perceived introvert mistreatment in and of itself is undesirable and counternormative and thus would negatively impact the appraisal of one's job and attachment to one's organization.

Finally, targets of perceived introvert mistreatment may choose to fully withdraw from their job after experiencing mistreatment (i.e., quitting). The goal of such behaviors is to remove the self from the negative situation and the stress/strain associated with it. Past research indicates that perceived workplace mistreatment tends to have a positive relationship with turnover intentions (e.g. Bowling & Beehr, 2006; Nielsen & Einarsen, 2012).

In summary, substantial evidence supports the negative impact of perceived workplace mistreatment on target outcomes. Thus, given that perceived introvert mistreatment is a form of

mistreatment similar to those examined in the aforementioned studies, relationships between perceived introvert mistreatment and negative target outcomes likely occur due to similar underlying mechanisms.

Proposition 6: Perceived introvert mistreatment leads to negative target outcomes (decreased job satisfaction, organizational commitment, and physical and mental health and increased intent to turnover).

Mistreatment Spiral

I extend prior definitions of behavioral *engagement* (Harrison, Newman, & Roth, 2006; Newman, Joseph, & Hulin, 2010) to define behavioral disengagement of the mistreatment target as the extent to which the individual withholds desirable inputs from or contributes undesirable inputs to his or her work role. This can manifest in the withholding of performance/citizenship behaviors, additional withdrawal behaviors (e.g., lateness, absenteeism), and retaliatory behaviors (i.e., counterproductive work behaviors). Similar to the incivility spiral proposed by Andersson and Pearson (1999) I propose a mistreatment spiral in which perceived introvert mistreatment leads to behavioral disengagement, which in turn leads to negative behavioral reactions from others, which may be perceived as further introvert mistreatment by the target, and so on (e.g., an introvert who is mistreated may withdraw from his work behaviors as a result, leading him to be perceived as even more awkward and withdrawn, creating a cycle of mistreatment that may increase in intensity over time).

Perceived introvert mistreatment is first theorized to predict behavioral disengagement of the target because of retributive justice and strain. First, the norm of reciprocity indicates that the

history of social exchanges between two parties determines the extent to which each party believes they owe the other (i.e., do unto others as others have done unto to you; Goulder, 1960). Therefore, one who perceives introvert mistreatment may disengage as part of the social exchange process. The justice literature suggests that when an employee perceives a justice violation (i.e., mistreatment) he or she may engage in retaliation against the instigator (i.e., retributive justice) because a) the negative affect that results from the mistreatment triggers a desire to reciprocate (Bies & Tripp, 1995; Skarlicki & Folger, 1997) and b) the target feels justified in engaging in retributive justice because he or she believes this behavior will restore moral order (Skarlicki, Ellard, & Kelln, 1998). Indirect forms of retributive justice tend to be more common (e.g., withholding behaviors; Donnerstein & Hatfield, 1982; Kim & Smith, 1993) than direct forms (e.g., confrontation) because less risk is involved (Skarlicki & Folger, 1997). For example, a team-member may participate in fewer supervisor-directed occupational citizenship behaviors (i.e., behavioral disengagement) after a supervisor-perpetrated justice violation (Christian et al., 2012).

The relationship between perceived introvert mistreatment and behavioral disengagement can also be explained through a stressor-strain framework. Here, perceived introvert mistreatment is a stressor that directly leads to stress (e.g. anxiety, fear) and then to long-term reactions in the form of psychological, behavioral, and physiological strain (Barling, 1996). This strain can manifest in the form of behavioral disengagement. Indeed, over a dozen meta-analyses on workplace mistreatment indicate that perceived mistreatment is associated with withdrawal and decreased task performance (e.g., Bowling & Beehr, 2006; Chan, Lam, Chow, & Cheung, 2008; Nielsen & Einarsen, 2012). Further work also suggests CWBs are a behavioral

representation of strain reactions to mistreatment (Fox, Spector, & Miles, 2001; Penney & Spector, 2005). Finally, behavioral disengagement may also act as a coping mechanism that enables avoidance of the negative situation or recovery from the cognitive drain associated with the negative interactions. In sum, retributive justice and the stressor-strain framework may be explanatory mechanisms behind the relationship between perceived introvert mistreatment and behavioral disengagement of the target.

Unfortunately, others may react negatively to behavioral disengagement of the target in the form of negative behavioral reactions. First, there are legitimate reactions to an employee who is not performing as well or does not engage in extra-role behaviors. For example, a target who has reduced task performance as a reaction to perceived introvert mistreatment will likely receive a poor performance evaluation or verbal criticism from his or her supervisor. Second, in line with norms of reciprocity (Gouldner, 1960) an employee who does not contribute according to organizational norms will not receive contributions in return. For example, if a target decreases his or her offers of help to colleagues (i.e., organizational citizenship behaviors) as a response to perceived introvert mistreatment, these colleagues will feel less obligated to help the target when he or she needs it. For the final step in this spiral, these reactions may be perceived as further introvert mistreatment.

In regards to negative behavioral reactions from others, I note that the definition of perceived introvert mistreatment proposes that the target of perceived introvert mistreatment self-identifies as behaving in an introverted way regardless of whether or not the instigator identifies the target as introverted. However, although the serial mediation process described in the previous section explains how perceived introvert mistreatment is a form of unfair treatment

that stems from introvert-focused stereotypes and prejudices held by the instigator, an individual may still perceive introvert mistreatment from a source who has not identified the target as an introvert but instead is reacting to specific behaviors without categorizing those behaviors as “introverted” (i.e., the negative behavioral reactions to disengagement can be perceived by the target as introvert mistreatment although social categorization is not involved).

Altogether, these factors can create a spiral in which these three elements act as a positive feedback loop that amplifies the negative effects of the mistreatment over time. Such a spiral of conflict is well researched in other areas of mistreatment (Baron & Neuman, 1996; Bies & Tripp, 1995), including forms of mistreatment such as incivility (Andersson & Pearson, 1999) that are similarly subtle to perceived introvert mistreatment. These negative acts may result in job loss for the target or even surpass legitimate reactions from others and become aggression or violence. Thus,

Proposition 7: Perceived introvert mistreatment can induce a mistreatment spiral in which perceived introvert mistreatment, behavioral disengagement of the target, and negative behavioral reactions from others builds upon itself in a negative way.

Characteristics of Introverts

In the following section I discuss two characteristics of introverts - over-regulation and affective forecasting errors - that are theorized to predict behavioral disengagement of the target.

Over-regulation

There are many situations that require an individual to act counterdispositionally due to the norms surrounding the situation. Situations that require outgoing interactions (e.g., a business meeting, office party, role-playing training sessions) will require participants to adhere to social norms and act outgoing. Given the extravert ideal in which extraverted characteristics are desirable and thus the norm (Cain, 2013; Dumont, 2010; Nicholson, 1998), many additional situations may compel introverts to act counterdispositionally in order to fit in. However, this repeated self-regulation can lead to exhaustion of cognitive resources because of ego-depletion and stereotype threat.

First, in certain conditions, self-control can deplete one's mental energy over time and thus have a detrimental effect on performance (i.e., ego-depletion; Muraven & Baumeister, 2000; Vohs, Baumeister, & Ciarocco, 2005). Self-control can entail a variety of behaviors, such as food choices, emotion regulation, or choosing to behave in a counterdispositional fashion, as an introvert would in an extraverted (e.g., work) setting. Work on emotional labor in particular provides evidence that introverts who use surface acting (i.e., the superficial display of normative emotions without making the effort to change actual emotions; Grandey, 2000) are more likely to have ego-depletion than extraverts (Chi, Grandey, Diamond, & Krimmel, 2011; Judge, Woolf, & Hurst, 2009) and introverts have more negative affect and emotional exhaustion when surface acting in comparison to extraverts (Judge et al., 2009). In addition, Chi et al. (2011) verified that when an individual makes a concerted effort to present him or herself in a specific way, resources are depleted, leading to performance deficits. Together, this suggests that introverts are likely to be affected by over-regulation when they must act counterdispositionally because these

self-presentation efforts (i.e., acting extraverted) draw on cognitive resources that become depleted. This ego-depletion negatively affects the introvert's performance and social encounters (i.e., behavioral disengagement).

Second, a history of encounters involving biased attitudes about introverts and introvert mistreatment likely increases the introvert's awareness of negative attitudes about introverts and may invoke stereotype threat, or "a self-confirming apprehension that one will be evaluated based on negative stereotypes" (Myers, 2013, p. 346). Consequently, for example, when the introvert is in a situation in which he or she believes others expect him or her to perform poorly (e.g., in a group meeting), the anxiety surrounding this negative stereotype may cause the introvert to confirm the negative stereotype by offering little participation. Stereotype threat has been repeatedly confirmed in relation to gender (e.g., Logel, Walton, Spencer, Iserman, Von Hippel, & Bell, 2009; Spencer, Steele, & Quinn, 1999) and race (e.g., Nadler & Clark, 2011; Steele & Aronson, 1995) and is thought to disrupt performance due to increased stress, self-monitoring, and unwanted thoughts and emotions, all of which require cognitive resources that take away from performance (Schmader, Johns, & Forbes, 2008). Therefore, the introvert's anxiety about being introverted may deplete cognitive resources, leading the introvert to behaviorally disengage. Work by Inzlicht, McKay, and Aronson has also linked ego-depletion and stereotype threat by suggesting that when a stigma is activated, people who belong to stigmatized groups (i.e., introverts) experience diminished self-control due to decreased cognitive resources (2006). Together, counterdispositional self-presentation efforts and anxiety surrounding confirmation of negative stereotypes may lead to depletion of cognitive resources in introverts, and thus to performance deficits in the form of behavioral disengagement.

Proposition 8: Over-regulation by introverts leads to behavioral disengagement of the target.

Of particular note in this discussion of self-regulation is an argument some may have against the validity of perceived introvert mistreatment: some assume that a natural response from someone who perceives he or she is not treated fairly due to behaving in an introverted manner is to behave like an extravert instead. Some research suggests short-term affective benefits to acting in a counterdispositionally extraverted way (Fleeson, Malanos, & Achille, 2002; Zelenski, Santoro, & Whelen, 2012). However, I argue that long-term, consistent counterdispositional behavior is an unrealistic expectation largely because, as explained above, self-regulation in general depletes cognitive resources which negatively impacts performance and health. Thus, although an introvert can indeed act extraverted and an extravert can act introverted when the situation requires it, over time it is more beneficial for an employee to behave in ways that align with his or her personality.

Affective Forecasting Errors

Introverts may also behaviorally disengage at work due to affective forecasting errors, or flawed predictions about the intensity and duration of future emotions (Gilbert, Pinel, Wilson, Blumberg, & Wheatly, 1998). This connection is supported by recent research (Zelenski, Whelan, Nealis, & Besner, 2013) which found that trait introverts have the tendency to predict less pleasant affect and more negative and self-conscious affect for future extraverted-type events despite a lack of differences between personality types for actual enjoyment of the event. Others find that state extraversion, or acting extraverted for a short period of time, is related to

feelings of happiness (Fleeson et al., 2002; Zelenski et al., 2012). Therefore, it appears that introverts could reap positive benefits from acting temporarily extraverted, but may choose not to do so because of affective forecasting errors. In other words, introverts are inclined to expect future interactions to be awkward and so choose to avoid them. This avoidance, or behavioral disengagement, could equate to decreased project-related communication with team members, less frequent interactions in which helping behaviors occur, or less attendance at company sponsored networking events, for example. Thus,

Proposition 9: Introverts' expectations of negative future interactions lead to behavioral disengagement of the target.

Conclusion

Although the concept of perceived introvert mistreatment has been highlighted in the popular press, I found no scientific research that directly examines why (or if) this form of mistreatment exists in the workplace or the effect it can have on employees. Thus, the first part of this paper proposed a theoretically- and empirically-driven model of perceived introvert mistreatment, a form of selective mistreatment that specifically targets employees who behave in an introverted way. The next part of this paper serves to draw on this theory by developing and validating a measure of perceived introvert mistreatment that will enable interested researchers to pursue further investigation of this yet unstudied phenomenon. This measure is also used to conduct preliminary investigations of Propositions 6 and 7.

CHAPTER THREE: SCALE DEVELOPMENT

Perceived introvert mistreatment is a novel construct in the organizational sciences, thus our empirical understanding of the construct is severely limited. Therefore, a validated measure of perceived introvert mistreatment is vital in moving forward. As such, in an effort to provide researchers with a reliable and valid measure of perceived introvert mistreatment I followed the steps outlined by Hinkin (1998). These steps involved four phases: 1) item generation and reduction, 2) examination of the reliability and factor structure of the scale, 3) analyses of convergent and discriminant validity, and 4) tests of the scale's criterion-related validity.

Item Generation and Item Reduction

Phase 1 involved generating the initial item pool for a measure of perceived introvert mistreatment. These items were then subject to three item reduction techniques: screening by subject matter experts, assessment of substantive validity, and frequency analyses.

Item Generation

The first step in item generation is to thoroughly understand the theoretical foundation of perceived introvert mistreatment and clearly define the construct, which was accomplished in the first part of this paper. Next, I employed both deductive and inductive item-generation approaches to create an initial item pool (Hinkin, 1998): the deductive approach draws on the theory and definition of perceived introvert mistreatment to create items whereas the inductive approach draws on descriptions of behaviors that may reflect perceived introvert mistreatment.

Although it is impossible to fully capture the content domain of any construct, I developed a large initial item pool in an effort to capture as many aspects of perceived introvert mistreatment as possible (Ghiselli, Campbell, & Zedeck, 1981). I used two methods: the first method of item generation involved the adaptation of items from several established scales of related constructs: Interpersonal Justice (4 items; Colquitt, 2001), Workplace Ostracism Scale (WOS. 3 items; Ferris, Brown, Berry, & Lian, 2008), Workplace Racial Bias (7 items; Hughes & Dodge, 1997), Workplace Prejudice/Discrimination Inventory (WPDI. 8 items; James, Lovato, & Cropanzano, 1993), Perceived Discrimination (9 items; Sanchez & Brock, 1996), Perceived Age Discrimination (4 items, Snape & Redman, 2003), Bullying (11 items; Fox & Stallworth, 2005), Perceptions of Fair Interpersonal Treatment Scale (3 items; Donovan, Drasgow, & Munson, 1998), and the Negative Acts Questionnaire-Revised (NAQ-R. 4 items; Einarsen, Hoel, & Notelaers, 2009). I chose to adapt items from existing scales because, although they did not specifically measure perceived introvert mistreatment, many items did address instances of unfair behaviors that could be amended to reflect unfair treatment of introverts. For example, the item “Intentionally withheld necessary information from you” (Fox & Stallworth, 2005) was amended to reflect perceived introvert mistreatment: “Necessary information has been withheld from me at work because I am introverted”. This first method of item generation resulted in a total of 53 modified items.

Second, I wrote an additional 41 items to further capture the content of the construct based on theory and drawing from online forums which discussed the experiences of introverts at work (e.g., www.guietrev.com; www.reddit.com/r/introvert). In total, I generated 94 items.

Item Reduction

Subject Matter Expert Screening

In an effort to have a clear, representative, not overly redundant scale of manageable size, six upper level doctoral students in I/O psychology screened the 94 items. Each student was given the definition of perceived introvert mistreatment and asked to determine if the items were: succinct, easy to read, not overly redundant, reflections of behaviors rather than affect or cognition (Harrison & McLaughlin, 1993), a good representation of the defined construct, and not reverse scored (Harrison & McLaughlin, 1991). For example, the item “At my workplace, I am not treated with dignity because I am introverted” was removed because of ambiguous wording (i.e., “not” phrases are difficult for many people to interpret) and the item “Coworkers call me ‘mellow’ like it’s a bad thing” was removed because it is very specific and does not clearly reflect the construct. This screening resulted in a set of 38 items, 17 of which were adapted from pre-existing scales.

To further ensure each item clearly represents perceived introvert mistreatment these 38 items were inspected by two experts in Industrial/Organizational Psychology and me before moving on to the next step. Several items were removed because they reflected bias rather than behavior (e.g., “At work, I have been told to act more extraverted because I am an introvert”), were viewed as being triple-barreled (e.g., “People at work have treated me as though I dislike them because I am introverted”), or too specific and thus would rarely be endorsed (e.g., “At work, I have been unfairly denied the opportunity to give a presentation because I am introverted”). This step eliminated 12 items, thus 26 items remained.

Substantive Validity

The goal of the next step of scale development is to indicate which items are conceptually inconsistent with the definition and should be deleted from the scale (Hinkin, 1998). Thus, the 26 scale items were subjected to an analysis of substantive validity. Substantive validity is a form of content validity and represents the degree to which the scale items reflect the construct of interest (Anderson & Gerbing, 1991; Holden & Jackson, 1979). In contrast to content validity, substantive validity is assessed at the item level rather than scale level; therefore, a scale that has substantive validity also has content validity. Although evidence of substantive validity does not guarantee content validity, it does indicate content adequacy (Schriesheim, Hansen, & Fox, 1993) and helps to reduce the need for future scale modification. Also, the determination of substantive validity is an important step in the scale development process because a scale without substantive validity cannot have adequate construct validity (Anderson & Gerbing, 1991; Schriesheim et al., 1993).

Participants and Procedure

Subject matter experts in I/O Psychology and Organizational Behavior were recruited by email request (four faculty members and I emailed colleagues with a request to complete a short survey). The survey included an item-sort task followed by a demographics questionnaire that assessed sex, age, race, job tenure, and job title. Twenty-nine individuals completed the survey. Four of these were removed from the sample due to incorrect responses to three quality control items (e.g., “Please select ‘bullying’ for this question”). The final 25 participants (8 men, 16

women, 1 unidentified) were on average 28.88 years old ($SD = 4.84$) with job tenure of 2.40 years ($SD = 1.81$). The sample was mostly White (80%), followed by Hispanic (8%), Black (4%), Asian/Pacific Islander (4%), and one whose race was unidentified (4%).

The substantive validity of the 26 items was assessed using an item-sort task suggested by Anderson and Gerbing (1991). This type of task is recommended as a means to further refine and reduce the scale to the most conceptually relevant items and thus better ensure a confirmatory factor analysis with good fit (Anderson & Gerbing, 1991; Hinkin, 1998). The item-sort task consisted of a list which included the definition of perceived introvert mistreatment in addition to definitions of the related constructs of bullying, ostracism, incivility, and discrimination (to ensure that each item would be properly sorted into the intended construct rather than the unintended constructs of bullying, ostracism, incivility, and discrimination). The participants were then asked to determine which definition best represented each of the 26 items. Each item could only be assigned to one definition. The following construct definitions were provided in addition to that of perceived introvert mistreatment: bullying (the extent to which an individual perceives repeated and enduring aggressive behaviors at work that are intended to be hostile; Einarsen, 1999), ostracism (“the extent to which an individual perceives that he or she is ignored or excluded by others [at work]”; Ferris, et al., 2008, p.1348), discrimination (the extent to which an individual perceives he or she is treated less favorably at work because he or she belongs to a social category; Dibpoye & Halverson, 2004), and incivility (the extent to which an individual perceives low-intensity deviant behavior at work which has an ambiguous intent to harm and is in violation of workplace norms for mutual respect; Andersson & Pearson, 1999). These constructs were chosen because many of the scale items were adapted from scales which

measure these four constructs. Therefore, the goal was to indicate that the modified items reflect the content of perceived introvert mistreatment rather than the construct from which the items were originally borrowed. Items could then be selected to best represent the definition of perceived introvert mistreatment because they exhibit higher substantive validity than items that are rated to best measure another construct definition.

Analyses

Analyses were conducted at the item level to establish how often and to what extent each item was assigned to the posited construct of perceived introvert mistreatment and to the other unintended constructs of bullying, ostracism, discrimination, and incivility. Two indices were used to determine the substantive validity of the 26 items (Anderson & Gerbing, 1991). The first was the *proportion of substantive agreement* (p_{sa}), which indicates what proportion of the participants assigned the item to the intended construct rather than to the other unintended constructs. The p_{sa} is calculated with the formula of $p_{sa} = n_c/N$ where n_c is the number of individuals who assigned the item to the intended construct and N is the total number of participants in the substantive validity sample. A p_{sa} value of 1 indicates that all participants sorted the item to the intended construct, whereas a p_{sa} value of 0 indicates that no participant sorted the item to the intended construct (Anderson & Gerbing, 1991).

The second index of substantive validity is the *coefficient of substantive validity* (c_{sv}), which indicates the degree to which the participants assign an item to the intended construct more than to the other constructs. The c_{sv} is calculated with the formula of $c_{sv} = (n_c - n_o)/N$ where n_c and N are the same as in the p_{sa} calculation, and n_o is the highest number of times the

item was sorted to an unintended construct. A c_{sv} can range from -1 to 1 where a negative c_{sv} indicates the participants sorted the item more often to an unintended construct than to the intended construct. A positive c_{sv} indicates the opposite. A c_{sv} of zero indicates that the item has been sorted to the intended and unintended constructs equally and is thus ambiguous (Anderson & Gerbing, 1991).

The c_{sv} can be tested for statistical significance where the null hypothesis is $c_{sv} = 0$. To determine c_{sv} significance at $p < .05$, the critical value is calculated at which any c_{sv} that is higher than this value suggests that the number of assignments did not occur by chance. For example, if the c_{sv} critical value is calculated to be .35 and the c_{sv} for an item is .40, this item is deemed significant in that it was assigned to the posited construct more times than can be expected by chance alone. The critical c_{sv} value is calculated using the formula $c_{sv} = (2m/N) - 1$. To calculate m , the critical number of construct assignments, a series of binomial tests is run to determine what value of m would result in a significance level of at least .05 given a probability of success of .50 and a number of trials equivalent to the sample size (Anderson & Gerbing, 1991). A probability of success of .50 is selected because given the null hypothesis of $c_{sv} = 0$ (i.e., the item was selected to measure the intended $[n_c]$ and an unintended construct $[n_o]$ an equal number of times), each item has a 50 percent chance of being sorted into either category. It is worthwhile to note that the c_{sv} only accounts for n_c and n_o values even though an item could be randomly sorted to one of five constructs within this survey.

Results

The critical c_{sv} value for this study was .32 for $p < .05$. The correlation between c_{sv} and p_{sa} was .96 which indicates that both indices provide similar information about the scale items. For these 26 scale items, p_{sa} values ranged from .76 to .96 ($M = .87$) and all items had a significant c_{sv} value ($M = .77$). A cutoff of .70 for these indices is a general rule of thumb used by several researchers (e.g., Linderbaum & Levy, 2010; Whipple, Griffis, & Daugherty, 2013). However, in order to retain items with the highest values for both indices (and thus retain items that best represent the content of the construct) and to have an economic scale length, I retained the 11 items with c_{sv} values $\geq .80$ and p_{sa} values $\geq .85$ (Table 1).

Frequency

Due to the specificity of the construct (i.e., unfair treatment of a personality type), it is possible that some of the items represent instances of perceived introvert mistreatment which would rarely or never occur in the workplace (i.e., low base-rate items). This issue would restrict the range of responses and negatively impact the scale's predictive validity (Hinkin, 1998; DeVellis, 2012). Thus, I deemed it advisable to determine the frequency with which each item tends to occur at work.

Participants and Procedure

Participants were 138 employed individuals (84 female, 54 male) recruited from Amazon.com's Mechanical Turk (MTurk) crowdsourcing site. Past findings indicate that MTurk

samples restricted to participants from English speaking countries provide measurement equivalence to student and field samples (Feitosa, Joseph, & Newman, 2015). Thus, participants were required to be 18 years of age or older, be currently employed for a minimum of 20 hours per week for at least the past 6 months within the United States, have a 95% approval rate for previous MTurk surveys (individuals who have had 95% of their previous surveys approved for payment by researchers; Barger & Sinar, 2011), and correctly answer five quality control items (e.g., “Please enter 99 in the box”). In an effort to recruit a substantial proportion of introverts (the core population of this study) I indicated in the MTurk study description that I was particularly interested in the experiences of introverted employees. The participants were asked to “Please indicate how often the following situations have occurred in your workplace over the past six months” for the 11 items. A six month time frame was chosen because this is the time period needed for newcomers to gain a realistic view of organizational context (Black & Ashford, 1995). Responses were open ended. Participants were also asked to indicate if he or she identifies as extraverted, introverted, or an ambivert (between an introvert and an extravert) and respond to a demographics survey that asked for sex, race, hours working per week, and job tenure. This survey was part of a longer, overall survey that measured other variables outside the focus of this study. Participants were paid \$0.15 each.

The participants were, on average, 37.06 years old ($SD = 11.02$), working 39.03 hours per week ($SD = 8.65$), with 6.19 years of job tenure ($SD = 6.36$). The racial breakdown of the sample was 76% White, 9% Hispanic, 7% Black, 6% Asian/Pacific Islander, 1% American Indian/Alaskan Native, and 1% Other. Fifty-eight participants self-identified as an introvert, 56 as an ambivert, and 24 as an extravert.

Analyses

Three extreme responders were removed from the sample prior to analyses. These individuals indicated they had perceived one or more items 100 or more times in the past six months. Although such a response suggests that the participant has frequent experiences with the item, such extreme responses distort calculations of variance and thus item-removal decisions.

In order to determine what proportion of the sample had perceived each item at work over the past six months, I dichotomized the responses for each item where 1 indicates the person has perceived the behavior at work at least once over the past six months and a 0 indicates the behavior has not been perceived at work over the past six months. I calculated the percentage of the sample that indicated perceiving each item at least once over the past six months at work in addition to the mean, standard deviation, and variance of the open ended responses.

Results

The responses ranged from 28% affirmative for the item “At work, I have received poor mentorship because I am introverted” to 49% affirmative for the item “In my workplace, I have received less praise compared to other employees because I am introverted” with an average of 37% of participants who responded in the affirmative to the 11 items. I completed the same analyses for subsamples of individuals who identified as an introvert, ambivert, and extravert. The results provide support for the supposition that perceived introvert mistreatment can affect all individuals to some degree, regardless of where they fall on the introvert/extravert spectrum. Introverts’ average item endorsement was 49.1% (range: 31% to 65.5%), ambiverts’ was 33.3%

(range: 23.2% to 46.4%), and extraverts' was 20.8% (range: 16.7% to 25%). Overall, no item was endorsed with exceptionally high or low frequency. However, upon further examination I concluded that because not all jobs include mentorship, the removal of the item "At work, I have received poor mentorship because I am introverted" from the scale would not significantly impact the content coverage of the scale. Thus, I retained 10 items (Table 2).

CHAPTER FOUR: FACTOR STRUCTURE AND RELIABILITY

The goal of Phase 2 was to determine the factor structure and reliability of the 10 items developed to measure perceived introvert mistreatment. The factor structure involves how many latent variables are the source of the covariation among the scale items (DeVellis, 2012). Although the scale is designed to be unidimensional with a single latent factor reflecting perceived introvert mistreatment, it is possible that the items better represent specific sub-factors or dimensions of perceived introvert mistreatment, such interpersonal interactions (e.g., exclusion) versus performance-related interactions (e.g., scrutiny of performance). Reliability represents the extent to which a measure is consistent and predictable and formally indicates how much variance is due to the underlying latent trait (DeVellis, 2012).

Method

Participants and Procedure

The 10 items were examined across three independent, employed samples: a sample of employed MTurk participants, an undergraduate student sample of employees, and an employed field sample. To account for careless responding, which may attenuate reliability and correlations and negatively impact factor analytic results (Meade & Craig, 2012), up to three quality control items (e.g., “Please select “disagree” for this item”) were included in each sample’s survey. Participants who did not correctly respond to these items were removed as inattentive responders. Exploratory factor analysis (EFA) was conducted on Sample 1, and confirmatory

factor analyses (CFA) were run on Samples 2 and 3 to cross-validate the findings from Sample 1. Reliability was examined in all three independent samples.

Sample 1

I recruited a sample of adults from MTurk who were restricted to those who were 18 years of age or older, had a 95% approval rate on previous MTurk surveys, were currently employed for a minimum of 20 hours per week for at least the past 6 months within the United States in their current job, and correctly answered three quality control items. Each participant was paid \$0.15 for his/her participation in the study. The survey administration platform indicated 495 individuals took the survey. A total of 98 surveys were not used because of the following reasons: seven were working less than 20 hours per week, 17 had been with their present job for less than six months, 54 did not correctly answer the quality control questions, 10 were duplicate responses, and 11 were not working in the United States. The final Time 1 sample of 397 participants (270 women, 127 men) were on average 36.78 years old ($SD = 11.51$) with 5.89 years of job tenure ($SD = 6.10$) working on average 38.97 hours per week ($SD = 8.15$) in a variety of occupations (e.g., hospitality, healthcare, administrative, retail, management). Most participants were White (76.6%), followed by 8.1% Black, 6.8% Hispanic, 5.8% Asian, 0.5% Native American, and 2.3% other. These participants were sent a follow-up survey three months later, of which 122 responded and met inclusion criteria. Details on the Time 2 participants can be found in the Participants and Procedure section of Chapter Six.

Sample 2

I recruited an independent sample of working adults from a variety of occupations who attended a large, Southeastern public university. These participants accessed the study through the psychology department's research participation system and earned research participation credit. The sample was restricted to those who were at least 18 years old, employed for at least the past six months for 20 hours per week in the United States, and accurately respond to three quality control items. The survey administration platform indicated 451 individuals took the survey. A total of 205 surveys were not used because of the following reasons: 54 were working less than 20 hours per week, 54 had been with their present job for less than six months, two gave no work data (i.e., inclusion criteria for hours worked per week and tenure could not be determined), 86 did not correctly answer the quality control questions, six were duplicate responses, and three did not consent to participate. The remaining 246 participants (172 women, 73 men) were on average 22.29 years old ($SD = 6.59$) with 2.12 years of job tenure ($SD = 2.43$) working 28.87 hours per week ($SD = 8.67$) in a variety of occupations (e.g., hospitality, healthcare, administrative, retail, sports, etc.). Most participants were White (58.5%), with 23.2% Hispanic, 8.1% Black, 4.9% Asian/Pacific Islander, and 5.3% other.

Sample 3

I recruited an independent sample of working adults by asking students in several communications courses at a southeastern university to recruit employees who were at least 18 years old, employed for at least the past six months for 20 hours per week in the United States in

their current job, and accurately responded to three quality control items. The survey administration platform indicated 262 employees took the survey. A total of 79 surveys were not used for the following reasons: six provided no work data (i.e., inclusion criteria for job tenure and hours worked could not be determined), seven provided no age data (i.e., inclusion criteria for age could not be determined), six worked for less than 20 hours per week in their current job, seven had worked at their current job for less than six months, three surveys were repeated participants, 11 students themselves completed the survey, another 11 students directly reported a misunderstanding of the instructions and thus erroneous survey data, and 43 participants failed the three quality control questions. Thus, the final sample was made up of 168 (109 women, 59 men) focal employees. The participants were on average 33.67 years old ($SD = 13.19$) with 5.68 years of job tenure ($SD = 6.88$) working 37.65 hours per week ($SD = 9.91$) in a variety of occupations (e.g., retail, education, clerical, hospitality, and management). Most participants were White (55.4%), with 25% Hispanic, 13.7% Black, 2.4% Asian/Pacific Islander, 2.4% other, and 1.2% American Indian/Alaskan Native.

Measures

Perceived Introvert Mistreatment

Perceived introvert mistreatment was measured with the 10 items developed in Phase 1. They were asked to “Please indicate how often the following situations have occurred in your workplace in the past six months”. The measure was rated using a 7-point scale where 1 indicates “never” and 7 indicates “daily”. A frequency response scale was chosen because it is

considered more appropriate for a behavioral checklist (Schaeffer & Presser, 2003) and have fewer issues with respondent errors and fatigue (Gehlbach & Brinkworth, 2011).

Demographics

Participants completed a questionnaire that assessed sex, age, race, job tenure, hours worked per week, and job title.

Analyses and Results

Exploratory Factor Analysis

The size of Sample 1 ($N = 397$) met the minimum recommended sample size for EFA with approximately 40 observations per variable (Comrey & Lee, 1992). The factorability of the ten items was determined by a) the Kaiser greater than 1 criterion (K1), in which factors with an eigenvalue greater than one are retained (Kaiser, 1960), b), examination of the scree plot for breaks where only factors that come before the “elbow” are retained (Cattell & Jaspers, 1967), and c), parallel analysis where the eigenvalues of the raw data are compared to expected eigenvalues and any factor with an eigenvalue value greater than that generated from the random data is retained (Hayton, Allen, & Scarpello, 2004).

First, in SPSS 24, listwise deletion, principal axis factoring, and promax rotation were used to conduct an EFA on the 10 items. The results of the EFA indicate that the correlation matrix determinant was not zero, the Kaiser-Meyer-Olkin Measure of Sampling Adequacy was above the recommended cutoff of .60 at .948, and Bartlett’s Test of Sphericity was significant,

all of which suggest the EFA results are interpretable. Initial communality loadings range from .54 to .79 which indicates all ten items should easily load onto a factor. Indeed, the initial eigenvalues suggests one factor with an eigenvalue of 7.09 that accounts for 70.87% of the variance. In addition, the scree plot suggests one factor (Figure 3).

Next, I conducted a parallel analysis following the recommendations of Hayton et al., (2004). In SPSS 24 I used principal components analysis to generate eigenvalues for 500 random data sets. The mean and 95th percentile of all eigenvalues generated from these data sets was calculated. These were compared to the eigenvalues from the real data set and indicate a one factor scale in that the actual eigenvalue is larger than the average and 95th percentile eigenvalue for only one factor (Table 3. Factor 1: raw data eigenvalue = 7.09, mean value 1.26, 95th percentile = 1.32; Factor 2: raw data eigenvalue = 0.62, mean value 1.18, 95th percentile = 1.22). In sum, all three methods of determining the number of factors to retain indicate that the 10 items form a unidimensional scale.

Confirmatory Factor Analysis

I conducted a CFA of the 10 items in Samples 2 and 3 to confirm the factor structure found during EFA. However, mistreatment scales often result in positively-skewed data (i.e., most participants report few experiences with mistreatment) which impacts decisions during CFA because it violates normal distribution assumptions. Samples 2 and 3 exhibited significant positive skew distributions in that the skewness statistic divided by its standard error was greater than 3.29 (Tabachnick & Fidell, 2007): Sample 2 (16.87), Sample 3 (18.35). Thus, the Weighted Least Squares with Mean and Variance (WLSMV) estimator was used to conduct the CFAs.

Numerous researchers suggests that multiple indices should be examined in concert to gauge model fit (Bentler 2007; Bollen and Long 1993; Tanaka 1993), thus I examined these fit indices to determine model fit: the Root Mean Square Error of Approximation (RMSEA) where above .10 is poor, .08-.06 is marginal, below .06 is good and the Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI) where below .90 is poor, .90 - .95 is marginal, above .95 is good (Hu & Bentler, 1999). Fit indices for the 10 items in Samples 2 and 3 suggest good fit for a unidimensional model (Sample 2: $\chi^2 = 84.69$, $df = 35$, RMSEA = .076, CFI = .991, TLI = .988; Sample 3: $\chi^2 = 47.95$, $df = 35$, RMSEA = .047, CFI = .997, TLI = .996). All indicator loadings were significant, in the expected direction, and substantially higher than the recommended cutoff of .40 (Hinkin, 1998; Table 4).

Reliability

I calculated the coefficient alpha reliability of the 10 items across all three samples with SPSS 24 (Sample 1: $\alpha = .95$ [Time 1 and Time 2]; Sample 2: $\alpha = .93$; Sample 3: $\alpha = .93$). The average corrected item-total correlations of the items were .81 (Sample 1) and .74 (Samples 2 and 3) and ranged from .60 to .87 (Sample 1: [.72; .87]; Sample 2: [.67; .81]; Sample 3: [.60; .84]). The inter-item correlations were all positively intercorrelated. Together, these results indicate sufficient internal reliability (Cortina, 1993; Tables 5-7). Test-retest reliability was examined in Sample 1 between the first and second administration of the 10 items three months later and indicates a satisfactory level of reliability over time ($r = .70$; Table 9).

Conclusion

The purpose of Phase 2 was to determine the factor structure and reliability of the 10 items developed to measure perceived introvert mistreatment in Phase 1. Exploratory factor analysis in Sample 1 suggested a unidimensional scale. This unidimensional model was confirmed in Samples 2 and 3. Satisfactory internal reliability of the 10 items was confirmed across three independent samples and test-retest reliability was found between the first and second administration of the items three months later. In conclusion, the 10-item Perceived Introvert Mistreatment Scale (PIMS) is a reliable unidimensional measure.

CHAPTER FIVE: SCALE VALIDATION

Convergent Validity

In an effort to establish the nomological network surrounding perceived introvert mistreatment, Phase 3 of this study examined convergent and discriminant validity. Convergent validity refers to the extent to which perceived introvert mistreatment relates to other measures of the same or similar construct (Campbell & Fiske, 1959; Hinkin, 1998). No current scale measures perceived introvert mistreatment. Thus, I determined the convergent validity of the PIMS with three similar constructs: bullying, incivility, and discrimination. A measure of bullying (Negative Acts Questionnaire-Revised [NAQ-R]; Einarsen et al., 2009) focuses on “repeated and enduring aggressive behaviors that are intended to be hostile and/or perceived as hostile by the recipient” (Einarsen, 1999, p.18). Although perceived introvert mistreatment can include instances of bullying (e.g., withholding necessary information), the construct does not solely focus on aggressive behaviors. Instead, perceived introvert mistreatment concentrates on a specific target of bullying behaviors and also incorporates less aggressive behaviors such as facing unfair scrutiny.

Workplace incivility is “low-intensity deviant behavior with ambiguous intent to harm the target, in violation of workplace norms for mutual respect” (Andersson & Pearson, 1999, p. 457). Perceived introvert mistreatment and workplace incivility are both nonphysical, deviant, typically ambiguous forms of workplace mistreatment where the target is likely to be uncertain whether or not the behaviors are intentionally hurtful. However, perceived introvert mistreatment is more than simply incivility, and also involves unfair treatment in the realm of performance

appraisal and exclusion. Thus, perceived introvert mistreatment encompasses uncivil behavior targeted at a particular group of people (introverts) in addition to other unfair behaviors.

Discrimination generally refers to the extent to which an individual perceives he or she is treated less favorably at work because he or she belongs to a social category (Dibpoye & Halverson, 2004). Perceived introvert mistreatment can be considered a legal form of discrimination because the mistreatment is due to membership in a social group (i.e., introverts). However, perceived introvert mistreatment differs from age, race, and gender discrimination because the focal target differs. Thus, perceived introvert mistreatment should relate to other forms of mistreatment but not be subsumed by them. In sum, I expect perceived introvert mistreatment to exhibit a positive relationship with bullying, incivility, and discrimination, yet not so strong a relationship to be redundant (i.e., I expect perceived introvert mistreatment to exhibit convergent validity with bullying, incivility, and discrimination).

Discriminant Validity

Discriminant validity is the extent to which a construct has a very low or zero relationship with measures meant to capture unrelated constructs (Campbell & Fiske, 1959; Hinkin, 1998). Thus, I first aimed to determine if the PIMS is unduly influenced by two common method effects: affect (positive and negative affect) and impression management. Method effects entail variables that may bias measurement of a variable because of the method itself (Williams & Anderson, 1994). First, trait positive and negative affect (PA and NA) are individual differences in the way people generally experience positive and negative emotions (Watson, Pebbenaker, & Folger, 1987). People who are high on negative affect may be more likely to

endorse the PIMS items simply because they experience chronic negative emotions such as anxiety. The opposite could be true of positive affect in which people who are high in positive affect would be less likely to endorse the PIMS items because they simply have a more positive outlook.

Second, impression management is when a person attempts to present him or herself in a way that positively matches cultural norms and standards (Ganster, Hennessey, & Luthans, 1983). People may choose to deny experiences of perceived introvert mistreatment in an effort to be consistent with a positive self-image. In other words, an individual might not report perceived introvert mistreatment if the individual does not want to appear to be a target. Therefore, impression management could suppress the relationship between perceived introvert mistreatment and theoretically relevant variables. In sum, my goal is to determine the degree to which impression management, PA, and NA exert method effects on measurement of perceived introvert mistreatment.

Next, researchers have suggested it is beneficial to establish that a mistreatment measure is not simply measuring a lack of positive interactions and relationships (Duffy, Ganstor, & Pagon, 2002; Ferris et al., 2008). In other words, perceived introvert mistreatment is not the opposite of positive exchanges, such as perceived organizational support (POS) or leader-member-exchange (LMX), but a unique construct unto itself. POS is the employee's belief that the organization will give the employee aid when he or she needs it to effectively complete his or her job and also during times of stress (Rhoades & Eisenberger, 2002). LMX is a relational theory of leadership in which leaders develop different types of exchange relationships with different followers. These relationships can range from "low LMX" in which the dyad exchanges

are simply transactional, to “high LMX” in which there is mutual support and loyalty (Graen & Scandura, 1987; Graen & Uhl-Bien, 1995). However, low POS and low LMX are not mutually exclusive from perceived introvert mistreatment: these can co-exist where one may perceive low POS and low LMX due to reasons other than perceived introvert mistreatment. In sum, I expect the PIMS to have a moderate negative relationship with POS and LMX but not so strong a relationship as to indicate the PIMS represents a lack of POS or LMX (i.e., I expect perceived introvert mistreatment to exhibit discriminant validity from POS/LMX).

Method

Participants and Procedures

Participants were the same respondents from Samples 1, 2, and 3 described in Phase 2. Table 8 delineates who took which measures.

Measures

Unless otherwise noted, each measure was rated using a 7-point scale where 1 indicates “strongly disagree” and 7 indicates “strongly agree”.

PIMS

Perceived introvert mistreatment was measured with the Perceived Introvert Mistreatment Scale developed in Phase 1. The measure was rated using a 7-point scale where 1 indicates “never” and 7 indicates “daily”.

Bullying

Bullying was measured with the 9-item Short-Negative Acts Questionnaire-Revised (SNAQ-R; Notelaers & Einarsen, 2008). Participants were asked to respond to items such as “Being ignored or excluded” at work over the past six months. The measure was rated using a 7-point scale where 1 indicates “never” and 7 indicates “daily”. In this study $\alpha = .92$ (Sample 2).

Incivility

Incivility was measured with the 7-item Workplace Incivility Scale (WIS; Cortina et al., 2001). Participants were asked to indicate the extent to which he or she had been in a situation where any of his or her superiors or coworkers, for example, “put you down or was condescending to you” over the past six months. The measure was rated using a 7-point scale where 1 indicates “never” and 7 indicates “daily”. In this study $\alpha = .91$ (Sample 2).

Discrimination

Five items were adapted from the 10-item Perceived Ethnic Discrimination scale (Sanchez & Brock, 1996) to measure ethnic, gender, and age discrimination. This scale is one of the most commonly adapted in discrimination research (e.g., age discrimination, Bibby, 2008, $\alpha = .92$; gender discrimination, Foley, Hang-Yue, & Wong, 2005, $\alpha = .87$). I excluded five items from the original scale which were deemed unsuitable for measurement of age and gender discrimination (e.g., “At work, people think I am unsociable when in fact I have trouble communicating in English”). A sample adapted item includes “At work, I feel uncomfortable

when others make jokes or negative comments about people of my [ethnicity/gender/age]”. The measure was rated using a 7-point scale where 1 indicates “never” and 7 indicates “daily”.

Internal consistency in this study was: ethnic discrimination (Sample 1: $\alpha = .95$; Sample 2: $\alpha = .89$; Sample 3: $\alpha = .89$), gender discrimination (Sample 1: $\alpha = .93$; Sample 2: $\alpha = .91$; Sample 3: $\alpha = .91$), and age discrimination (Sample 1: $\alpha = .94$; Sample 2: $\alpha = .92$; Sample 3: $\alpha = .90$).

Impression Management

Impression management was measured with a 5-item scale (Paulhus, 1994). A sample item includes “I am always courteous, even to people who are disagreeable”. Alpha was .55 in this study (Sample 1).

Affect

Positive and negative trait affect was measured using the 20-item version of Watson, Clark, and Tellegan’s (1988) Positive and Negative Affect Schedule (PANAS). Participants rated the extent to which they felt each emotion (e.g. distressed; proud) over the past six months on a 1 (very slightly) to 5 (extremely) scale. In this study the alpha for PA was .91 and .92 for NA (Sample 1).

Perceived Organizational Support

The six-item Survey of Perceived Organization Support (SPOS. Eisenberger, Armeli, Rexwinkel, Lynch, & Rhoades, 2001) was used to measure perceived organizational support. An

example item is: “My organization strongly considers my goals and values”. In this study $\alpha = .94$ (Sample 2).

Leader-Member Exchange

The 12-item Leader Member Exchange, Follower Report of Follower Provisions scale (LMX. Liden & Maslyn, 1998) was used to measure leader member exchange. Participants rated items such as “I do not mind working my hardest for my supervisor”. In this study $\alpha = .94$ (Sample 3).

Analyses

Method Effects

I used the latent variable modeling procedure outlined by Williams and Anderson (1994) to determine potential method effects. In this test, the fit of a baseline model is compared with the fit of a confounded measurement model (i.e., the method model). In the baseline model, a latent variable which theoretically would have a method effect on the measure (e.g., negative affect) is modeled to not relate to the latent variable of perceived introvert mistreatment. In the method model, the PIMS indicators load onto both latent perceived introvert mistreatment and the latent method factor. If the model fit significantly improves from the baseline to the confounded model, this indicates that there is a method effect. In this scenario, the amount of variance accounted for by the latent method variable can be estimated by squaring the factor loadings from the PIMS indicators to the method effect. If the variance accounted for is small,

the effect may be deemed negligible. If the method effect is deemed significant, the next step is to determine if the method effect biases the measurement of the PIMS. To do this I compared the method model to one (i.e., the constrained model) that is identical except that the factor loadings from the PIMS indicators to latent perceived introvert mistreatment were fixed to the values estimated in the baseline model (Richardson, Simmering, & Sturman, 2009; Williams & Anderson, 1994). If there is no significant difference between the method model and the constrained model, then even if a method effect accounts for some variance in the PIMS, this variance does not significantly bias the measurement of the PIMS.

Convergent and Discriminant Validity

Convergent and discriminant validity was examined using three methods: correlation, confirmatory factor analysis, and Fornell and Larcker's test (1981). In the scenario in which a variable was significantly related to perceived introvert mistreatment, it was subject to confirmatory factor analysis. I compared a single-factor model in which latent perceived introvert mistreatment and the other latent variable covaried at 1.0 to a two-factor model in which the two latent constructs freely covaried. A two-factor model which has significantly better fit than a one-factor model would suggest the two constructs are separate (i.e., similar yet discriminant; Anderson & Gerbing, 1988). The Fornell and Larcker test (1981) is used as a more conservative test to determine if two constructs are unique: this is confirmed if the average squared factor loading of each indicator for perceived introvert mistreatment and that of the second variable is higher than the squared correlation between the two variables.

Results

Method Effects

In Sample 1, Time 1, the PIMS had a significantly positive relative with NA ($r = .33, p < .01$), and a negative relationship with PA ($r = -.18, p < .01$) and impression management ($r = -.14, p < .05$; Table 9). Latent variable analyses (Williams & Anderson, 1994) were conducted to determine if any of these three variables imposed method effects on the PIMS. Given the significant skew of the PIMS, the WLSMV estimator was used in Mplus to conduct the analyses. When using the WLSMV estimator, normal chi-square difference tests cannot be conducted. Thus, I relied on CFI difference tests in which a difference $\geq .01$ is considered significant (Cheung & Rensvold, 2002) and a comparison of RMSEA 90% confidence intervals wherein overlapping intervals suggest no significant difference.

Analyses for NA indicate a significant change in CFI ($\Delta CFI = .028$) and the RMSEA 90% confidence intervals do not overlap. This suggests that NA has a method effect. By squaring the factor loadings from NA to the PIMS indicators, I determined that NA accounts for an average of 10% of the variance in PIMS. To determine if NA biases measurement of the PIMS, I compared the method model to the constrained model in which the PIMS indicators load freely onto NA (as in the original method model) but the PIMS indicators are fixed to the estimates determined in the baseline model. This comparison suggests no significant change in CFI ($\Delta CFI = .002$) and the RMSEA 90% confidence intervals overlapped. Thus, the method effect of NA does not bias measurement of the PIMS.

The same analyses were conducted to determine the potential method effects of PA and impression management. Analyses for PA indicate a significant change in CFI between the baseline and method models ($\Delta\text{CFI} = .01$) although the RMSEA 90% confidence intervals overlapped and PA accounts for an average of 5% of the variance in PIMS. Further, the constrained model was not significantly different from the method model: $\Delta\text{CFI} = .003$ and the RMSEA 90% confidence intervals overlapped. Thus, I concluded that the method effect of PA does not bias measurement of the PIMS.

Analyses for impression management indicate no significant change in CFI between the baseline and method models ($\Delta\text{CFI} = .002$) and the RMSEA 90% confidence intervals overlapped. Thus, there is no method effect of impression management on the PIMS.

In summary, latent variable analyses determined if NA, PA, and impression management exert method effects on the PIMS. Results indicate that although PA and NA have method effects, these method effects do not bias measurement of the PIMS. Impression management has no method effect.

Convergent and Discriminant Validity

Tables 9 through 11 present the correlations for Samples 1, 2, and 3. The PIMS had a significant relationship with age discrimination (Sample 1: $r = .45, p < .01$; Sample 2: $r = .37, p < .01$; Sample 3: $r = .33, p < .01$), gender discrimination (Sample 1: $r = .49, p < .01$; Sample 2: $r = .33, p < .01$; Sample 3: $r = .27, p < .01$), ethnic discrimination (Sample 1: $r = .56, p < .01$; Sample 2: $r = .27, p < .01$; Sample 3: $r = .34, p < .01$), bullying (Sample 2: $r = .51, p < .01$),

incivility (Sample 2: $r = .52, p < .01$), perceived organizational support (POS. Sample 2: $r = -.28, p < .01$), and leader-member exchange (LMX. Sample 3: $r = -.22, p < .01$).

CFAs were conducted using the WLSMV estimator to determine if the PIMS is separate from the aforementioned constructs. As with tests for method effects, I relied on CFI difference tests in which a difference $\geq .01$ is considered significant (Cheung & Rensvold, 2002) and a comparison of RMSEA 90% confidence intervals wherein overlapping intervals suggest no significant difference.

CFA results (Table 12) indicate that for all seven constructs, a two-factor model had significantly better fit than a model where the variance between the two latent variables was set to 1.0: age discrimination, $\Delta CFI = .054$ (Sample 1), $\Delta CFI = .106$ (Sample 2), $\Delta CFI = .093$ (Sample 3); gender discrimination, $\Delta CFI = .057$ (Sample 1), $\Delta CFI = .085$ (Sample 2), $\Delta CFI = .133$ (Sample 3); ethnic discrimination, $\Delta CFI = .036$ (Sample 1), $\Delta CFI = .083$ (Sample 2), $\Delta CFI = .079$ (Sample 3); bullying, $\Delta CFI = .079$; incivility, $\Delta CFI = .068$; POS, $\Delta CFI = .065$; and LMX, $\Delta CFI = .245$. None of the RMSEA 90% confidence intervals overlapped for any of these model comparisons.

Further, results of the Fornell and Larcker (1981) test indicate that the average squared factor loadings of the indicators onto their respective latent construct were higher than the shared variance between the latent constructs: .79 versus .30 (Sample 1), .77 versus .21 (Sample 2), .78 versus .23 (Sample 3) for the PIMS and age discrimination; .79 versus .34 (Sample 1), .78 versus .26 (Sample 2), .79 versus .12 (Sample 3) for the PIMS and gender discrimination; .80 versus .45 (Sample 1), .77 versus .18 (Sample 2), .79 versus .23 (Sample 3) for the PIMS and ethnic

discrimination; .73 versus .47 for the PIMS and incivility; .71 versus .43 for the PIMS and bullying; .77 versus .14 for the PIMS and POS; and .72 versus .09 for the PIMS and LMX.

In summary, results of CFAs and the Fornell and Larcker (1981) test indicate that the PIMS exhibits discriminant validity from age, gender, and ethnic discrimination in addition to incivility, bullying, POS, and LMX. Thus, the results support the convergent and discriminant validity of the PIMS in that the construct is highly related to, but discriminant from, the aforementioned constructs.

Conclusion

The purpose of Phase 3 was to a) determine potential method effects of PA, NA, and impression management on the PIMS, b) establish that the PIMS is similar to yet not redundant with discrimination, incivility, and bullying scales, and c) establish that the PIMS is discriminant from perceived organizational support and leader-member exchange. Results indicate that the method effects of PA and NA do not bias measurement of the PIMS and impression management has no method effect. Further, the PIMS is highly related to, but discriminant from, age discrimination, gender discrimination, ethnic discrimination, incivility, bullying, POS, and LMX.

CHAPTER SIX: CRITERION-RELATED VALIDITY

The purpose of Phase 4 was to establish the criterion-related validity of the PIMS.

Criterion-related validity represents the extent to which a latent variable relates to theoretically relevant variables and serves to determine the nomological network surrounding the construct (Campbell & Fiske, 1959; Hinkin, 1998). Therefore, I examined two factors that the theoretical model proposed to be directly linked to perceived introvert mistreatment: target outcomes and behavioral disengagement. I also determined if there are personality, sex, race, and age differences in perceived introvert mistreatment.

Target Outcomes

In the theoretical model (Figure 2, Proposition 6), I proposed that perceived introvert mistreatment leads to negative target outcomes (decreased job satisfaction, organizational commitment, and physical and mental health and increased intent to turnover). Numerous meta-analyses have found a significant relationship between perceived workplace mistreatment in several forms and well-being outcomes (e.g. Hershcovis & Barling, 2010; Jones et al. 2013; Willness et al., 2007). The relationship between perceived mistreatment and well-being outcomes, such as depression, anxiety, and physical symptoms, are theorized to occur due to a stressor-stress-strain chain in which the stressor (mistreatment) leads to stress (impaired cognition and affect) as the individual attempts to make sense of and react to the mistreatment, which in turn leads to strain (anxiety, depression; Barling, 1996). Thus, I expect perceived

introvert mistreatment to be positively related to indicators of depression, anxiety, and physical symptoms.

Hypothesis 1: Perceived introvert mistreatment has a positive relationship with depression, anxiety, and physical symptoms.

In addition to well-being outcomes, several meta-analyses have established the negative relationship between perceived mistreatment and work attitudes (e.g. Hershcovis & Barling, 2010; Nielsen & Einarsen, 2012; Willness et al., 2007). Job satisfaction and affective commitment are two of the most widely studied job attitudes (Schleicher, Hansen, & Fox, 2012) and represent an employee's appraisal and positive emotional state in regards to his or her job (Locke, 1979) and positive identification with and attachment to their organization (Meyer & Allen, 1984), respectively. Perceived introvert mistreatment in and of itself is undesirable and counternormative and thus would negatively impact the appraisal of one's job and attachment to one's organization. Therefore, I expect perceived introvert mistreatment to be negatively related to job satisfaction and affective commitment.

Hypothesis 2: Perceived introvert mistreatment has a negative relationship with job satisfaction and affective commitment.

Targets of perceived introvert mistreatment may choose to fully withdraw from their job after experiencing mistreatment (i.e., quitting). The goal of such behaviors is to remove the self from the negative situation and the stress/strain associated with it. Past research indicates that perceived workplace mistreatment tends to have a positive relationship with turnover intentions (e.g. Bowling & Beehr, 2006; Nielsen & Einarsen, 2012). Thus, I expect the following:

Hypothesis 3: Perceived introvert mistreatment has a positive relationship with turnover intentions.

Behavioral Disengagement

In the theoretical model (Figure 2) I proposed that perceived introvert mistreatment, behavioral disengagement, and negative reactions from others can spiral and build upon each other in a negative fashion (Proposition 7). I defined behavioral disengagement as the extent to which an the target withholds desirable inputs from or contributes undesirable inputs to his or her work role (Harrison et al., 2006; Newman et al., 2010) which can encompass withheld task and contextual performance in addition to behaviors which reflect deviance and withdrawal (e.g., absence, lateness). Therefore, I operationalize behavioral disengagement as encompassing three forms of performance: in-role (task performance), extra-role (organizational citizenship behaviors; OCB), and counterproductive workplace behaviors (CWB) (Rotundo & Sackett, 2002). Task performance includes the duties and responsibilities included in the job description (Rotundo & Sackett, 2002), whereas OCBs refer to voluntary performance outside of the job description that positively supports the social and psychological task environment (Organ, 1997). CWBs, on the other hand, reflect “voluntary behavior that violates significant organizational norms and...threatens the well-being of the organization or its members, or both” (Bennett & Robinson, 2000, p. 349).

Perceived introvert mistreatment may impact these three forms of performance due to retributive justice and strain. First, when an individual perceives a justice violation such as mistreatment, he or she may indirectly retaliate against the perceived instigator (i.e., retributive

justice) with a reduction in task behaviors and OCBs. The target may also retaliate in the form of CWBs, such as coming to work late without permission (Spector, Bauer, & Fox, 2010). These retaliatory behaviors stem from an attempt to balance the scales of justice (i.e., do unto others as they have done unto you; Goulder, 1960; Skarlicki et al., 1998) or simply from the negative affect associated with perceiving mistreatment which triggers a desire to reciprocate (Bies & Tripp, 1995; Skarlicki & Folger, 1997). In addition, the stressor-strain framework suggests that perceived introvert mistreatment negatively impacts the cognitive and emotional resources of the employee (Barling, 1996): after focusing resources on the negative experience little is left to put towards task work, helping others, or focusing on work. Therefore, in line with the first part of the mistreatment spiral, I expect the following:

Hypothesis 4: Perceived introvert mistreatment at Time 1 has a negative relationship with task performance and OCBs, and a positive relationship with CWBs, at Time 2.

Group Differences

In line with previous research that indicates group-targeted mistreatment results in the largest group differences in perceived workplace mistreatment (i.e., race difference in race-targeted mistreatment and sex differences in sex-targeted mistreatment; McCord, Joseph, Dhanani, 2015), it is likely that introverts are more likely to perceive workplace introversion bias in comparison to extraverts. Thus,

Hypothesis 5: Introverts perceive more introvert mistreatment than extraverts.

Reports of gender differences in self-reported extraversion are very small (Feingold, 1994; Vianello, Schnabel, Sriram, & Nosek, 2013). However, these gender differences do tend to

favor women in that women are generally slightly more extraverted than men. Thus, men may perceive more introvert mistreatment simply because they are more likely to be introverted than women. Men may also perceive more introvert mistreatment because of gender stereotypes that are closely aligned with extraverted characteristics: women and men are often assumed to differ on agentic (i.e., achievement-oriented) and communal (i.e., service-oriented; Bakan, 1966) traits wherein men are aggressive, decisive, and forceful and women are helpful, sympathetic, and kind. Thus, men are stereotyped such that they are expected to be higher in extraversion than women, whereas women are expected to be more agreeable than men (despite the fact that men and women differ only minimally in extraversion). In light of a cultural norm that favors extraversion (Dumont, 2010; Nicholson, 1998), perceived introvert mistreatment may be more severe for men because of these expectations. In other words, a man who breaks the agentic norm (i.e., is introverted) is more likely to be mistreated than a woman who is introverted because she is not associated with extraverted/agentic norms.

Hypothesis 6: Men perceive more introvert mistreatment than women.

Reports of race differences in self-reported extraversion indicate Native Americans, Asian-Americans, and Black-Americans are generally more introverted than White-Americans, particularly Native Americans (Foldes, Duehr, & Ones, 2008). However, Asian-Americans are stereotyped as shy, quiet, and unsociable (Jackson et al., 1996; Leslie, Constantine, & Fiske, 2001; Lin, Kwan, Cheung, & Fiske, 2005), characteristics stereotypically associated with introversion (Barrick et al., 2002; Eysenck & Eysenck, 1969; Goldberg, 1990). Thus, Asian-Americans may be more likely than other races to perceive introvert mistreatment.

Hypothesis 7: Asian-Americans perceive more workplace introversion bias than other races.

Finally, work by Twenge (2001) suggests that Americans are becoming more extraverted over time. That is, younger generations tend to have more extraverted characteristics than older generations. If this is indeed the case, I expect a positive relationship between perceived introvert mistreatment and age in which older workers tend to perceive more introvert mistreatment than their younger counterparts.

Hypothesis 8: Older workers perceive more introvert mistreatment than younger workers.

Method

Participants and Procedure

Given that Sample 1 (Time 1), Sample 2, and Sample 3 resulted in data collected from a single source, at one time point, common method bias may be a concern. In an effort to alleviate this concern, this study incorporates longitudinal data (Sample 1, two time points three months apart) and other-report data (significant others for Sample 2 and work peers for Sample 3). Analyses on criterion-related validity were conducted on Sample 1 at both time points, and both self- and other-reports from Samples 2 and 3.

Sample 1, Time 2

The 397 participants from Sample 1 were contacted three months after they completed the first survey with an invitation to complete a second online survey. Participants were contacted using the ContactWorker function in the MTurkR package (Leeper, 2016; R Version 3.1.0, 2014) which sends an email to a specified list of MTurk WorkerIDs. Non-responders received a reminder message at one and then two weeks following the first message (three messages in total). Those who chose to participate in the Time 2 survey were paid \$0.25. The response rate was 33.5% (133 respondents): two participants gave no data, two did not correctly answer the two quality control questions, five were not employed at the same job as the first survey three months prior, and two did not match with a Time 1 participant. Thus the final matched sample for Time 2 was 122 employees.

Sample 2, Significant Others

Participants from Sample 2 were asked to provide a primary email for three significant others who were at least 18 and the participant had known for at least three months (i.e., a close friend or family member). One hundred ninety-four participants provided at least one email address for a total of 405 email addresses. Using the Qualtrics Contact List and email distribution features, a short message was emailed to these addresses, including an explanation for the email and the link to the survey. A reminder email was sent one week and two weeks after the initial message. To match the Sample 2 participants with their significant other, the Contact List feature embeds both participant and significant other information in the data file, which enables

participant-significant other matching. To be included in the dyad, the significant other had to accurately respond to two quality control items. Participants were not financially compensated but received detailed feedback on their survey responses at the end of the survey. The survey administration platform indicated 158 individuals began the survey. Individuals were removed for the following reasons: one was under 18 years old, 24 did not correctly answer the two quality control questions, and one did not consent to participate. The remaining 132 significant others (43 men, 86 women, 3 unknown) were matched with 87 participants (i.e., 87 matched pairs). For those participants that were matched with more than once significant other, the average of the significant others' responses were calculated for use in statistical analyses. The 132 significant others were on average 35.06 years old ($SD = 14.77$), 109 were employed with 6.64 years of job tenure ($SD = 8.23$) working 34.87 hours per week ($SD = 14.20$) in a variety of occupations (healthcare, education, childcare, hospitality, etc.) and the racial distribution was 65.2% White, 17.4% Hispanic, 8.3% Asian/Pacific Islander, 4.5% Black, and 3% other.

Sample 3, Work Peers

Work peers of the focal employees from Sample 3 were recruited by asking the communications students to either a) provide the focal employee with the link to the work peer survey which s/he gave to their work peer or b) provide the survey link to the work peer directly. The work peer had to be at least 18 and work for a minimum of 20 hours per week for at least the past three months in the same organization as the focal employee. To be included in the dyad, the work colleague had to accurately respond to two quality control items. Participants were not financially compensated but received detailed feedback on their survey responses at the end of

the survey. I was able to match 83 focal employees with a work peer (54 women, 29 men). The 83 work peers were on average 34.18 years old ($SD = 13.26$) with 7.05 years of job tenure ($SD = 8.30$) working 36.96 hours per week ($SD = 11.05$) in a variety of occupations (healthcare, education, childcare, hospitality, etc.). The racial distribution was 26.8% White, 13.1% Hispanic, 5.4% Black, 2.4% Asian/Pacific Islander, and 1.8% other.

Measures

Unless otherwise noted, each measure was rated using a 7-point scale where 1 indicates “strongly disagree” and 7 indicates “strongly agree”. Other-report scales modified the referent of the items from first person to he/she. For Sample 1, Time 2, the time frame of survey instructions was shifted to three months recall due to the second survey being administered three months after the first (Table 8 delineates which scales are other-report/taken at Time 2).

Demographics

Significant others and work peers completed a demographics questionnaire that asked participants to provide their age, race, sex, employment status, and, if applicable, hours worked per week, job title, and job tenure.

PIMS

Perceived introvert mistreatment was measured with the Perceived Introvert Mistreatment Scale developed in Phase 1. The measure was rated using a 7-point scale where 1 indicates “never” and 7 indicates “daily”.

Personality

The five factors of openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism were measured with the Mini-International Personality Item Pool (Mini-IPIP; Donnellan et al., 2006) which is a shortened version of the 50-item IPIP (Goldberg, 1999). Each factor is measured with four items and participants are asked to indicate the extent to which each item describes him or herself in general. A sample item includes “sympathize with others’ feelings”. In this study, reliability was as follows: Extraversion (Sample 1: $\alpha = .57$; Sample 2: $\alpha = .83$; Sample 3: $\alpha = .80$), Agreeableness (Sample 1: $\alpha = .73$; Sample 2: $\alpha = .75$; Sample 3: $\alpha = .68$), Conscientiousness (Sample 1: $\alpha = .55$; Sample 2: $\alpha = .65$; Sample 3: $\alpha = .68$), Neuroticism (Sample 1: $\alpha = .64$; Sample 2: $\alpha = .64$; Sample 3: $\alpha = .61$), and Openness to Experience (Sample 1: $\alpha = .67$; Sample 2: $\alpha = .70$; Sample 3: $\alpha = .66$).

Mental Health

The mental health of the participants was measured with the 14-item Mental Health Index (MHI; Veit & Ware, 1983). Participants were asked to indicate how frequently he or she had experienced certain feelings (e.g., “Very nervous” from the 9-item Anxiety subscale; “Low or very low spirits” from the 5-item Depression subscale) on a scale of 1 (Never) to 7 (Daily). Items were modified to reflect consistent verb tense. Items were reverse scored to reflect better mental health. In this study, reliability for anxiety was satisfactory (Sample 1, Time 2: $\alpha = .95$; Sample 2, Self-report: $\alpha = .94$; Sample 2, Other-report: $\alpha = .91$). Depression had similar levels of

reliability (Sample 1, Time 2: $\alpha = .93$; Sample 2, Self-report: $\alpha = .91$; Sample 2, Other-report: $\alpha = .93$).

Physical Symptoms

The physical health of the respondents was measured with the 13-item Physical Symptoms Inventory (PSI. Spector & Jex, 1998). The respondents indicated how often he or she had experienced each symptom, such as “trouble sleeping”, on a 1(Never) to 7 (Daily) scale. Items were reverse scored to reflect better physical health. In this study $\alpha = .89$ (Sample 1, Time 2), $\alpha = .90$ (Sample 2, Self-report), and $\alpha = .87$ (Sample 2, Other-report).

Job satisfaction

Job satisfaction was measured with the Judge, Scott, and Ilies (2006) 5-item version of the Brayfield and Rothe (1951) Job Satisfaction scale. A sample item is “Most days I am enthusiastic about my work”. In this study, alpha for job satisfaction was .91 (Sample 1, Time 2), .91 (Sample 2, Self-report), and .94 (Sample 2, Other-report).

Affective Commitment

The affective commitment of the participants was measured with 5-items from the Affective Commitment Scale (ACS. Allen & Meyer, 1990). Respondents rated items such as “I would be happy to spend the rest of my career with this organization”. Reliability in this study was satisfactory: .92 (Sample 1, Time 2), .90 (Sample 2, Self-report), and .90 (Sample 2, Other-Report).

Task Performance

Task performance was measured with the four-item In-Role Performance scale (Williams & Anderson, 1991). Participants rated items such as “Met the formal requirements of the job” on a 1(Never) to 7 (Daily) scale. In this study $\alpha = .94$ (Sample 1, Time 1), $.93$ (Sample 1, Time 2), $.97$ (Sample 3, Self-report), $.93$ (Sample 3, Other-report).

Organizational Citizenship Behaviors

OCBs were measured with the 10-item Organizational Citizenship Behavior Checklist (OCBC. Spector et al., 2010). A sample item is “took time to advise, coach, or mentor a coworker” which participants responded to on a 1(Never) to 7 (Daily) scale. In this study $\alpha = .89$ (Sample 1, Time 1), $\alpha = .88$ (Sample 1, Time 2), $.89$ (Sample 3, Self-report), and $.92$ (Sample 3, Other-report).

Counterproductive Work Behaviors

CWBs were measured with the 5-item Counterproductive Work Behaviors Checklist - Organization (CWBC. Spector et al., 2010). Participants rated items such as “Came to work late without permission” on a 1(Never) to 7 (Daily) scale. Alpha was $.78$ (Sample 1, Time 1), $.66$ (Sample 1, Time 2), $.66$ (Sample 3, Self-report), and $.71$ (Sample 3, Other-report).

Turnover Intentions.

Turnover intentions were measured with four items (Kelloway, Gottlieb, & Barham, 1999). Participants rated items such as “I am planning to look for a new job”. The alpha for turnover intentions in this study was .95 (Sample 1, Time 2).

Analyses and Results

Hypothesis 1 stated that perceived introvert mistreatment is related to increased anxiety, depression, and poor physical health. This hypothesis was supported. Employees who perceived more introvert mistreatment also reported significantly more symptoms of anxiety (Sample 1, Time 2: $r = -.28, p < .01$; Sample 2, Self-report: $r = -.30, p < .01$; Sample 2, Other-report: $r = -.30, p < .01$), depression (Sample 1, Time 2: $r = -.29, p < .01$; Sample 2, Self-report: $r = -.38, p < .01$; Sample 2, Other-report: $r = -.38, p < .01$), and poor physical health (Sample 1, Time 2: $r = -.35, p < .01$; Sample 2, Self-report: $r = -.29, p < .01$; Sample 2, Other-report: $r = -.37, p < .01$). In further support of Hypothesis 1, results of incremental validity analyses indicate that the PIMS predicts physical health ($\Delta R^2 = .06$) above and beyond positive affect, negative affect, and impression management (Sample 1).

Hypothesis 2 posited that perceived introvert mistreatment will be negatively related to job satisfaction and organizational commitment. This hypothesis was supported. Those who perceived more introvert mistreatment were more likely to have decreased job satisfaction (Sample 1, Time 2: $r = -.43, p < .01$; Sample 2, Self-report: $r = -.27, p < .01$; Sample 2, Other-report: $r = -.24, p < .05$) and commitment (Sample 1, Time 2: $r = -.27, p < .01$; Sample 2, Self-

report: $r = -.22, p < .01$; Sample 2, Other-report: $r = -.24, p < .05$). Results of incremental provide further support for Hypothesis 2 in that the PIMS predicts job satisfaction ($\Delta R^2 = .13$) and commitment ($\Delta R^2 = .04$) above and beyond positive affect, negative affect, and impression management.

Hypothesis 3 suggested that employees who report more introvert mistreatment will have increased turnover intentions. This hypothesis was supported (Sample 1, Time 2: $r = .28, p < .01$). Further support for this hypothesis indicates that the PIMS predicts turnover intentions ($\Delta R^2 = .06$) above and beyond positive affect, negative affect, and impression management. Please note that for Hypotheses 1, 2, and 3 the outcome variables for Sample 1 were only collected at Time 2.

Hypothesis 4 suggested that employees who perceive more introvert mistreatment at Time 1 will have decreased task performance and OCB and increased CWB at Time 2. This specific hypothesis was examined in Sample 1, which measured these variables at two time points three months apart. Hypothesis 4 was partially supported. Perceived introvert mistreatment at Time 1 was significantly related to CWBs at Time 2 ($r = .31, p < .01$). Although perceived introvert mistreatment at Time 1 was related to decreased task performance at Time 2 ($r = -.11$), this was not significant. There was no relationship between perceived introvert mistreatment at Time 1 and OCBs at Time 2 ($r = -.02$). Further support for the relationship between the PIMS and CWB indicates that the PIMS predicts Time 2 CWB ($\Delta R^2 = .07$) above and beyond positive affect, negative affect, and impression management.

Although drawn from cross-sectional data, other results provide further support for the negative relationship between perceived introvert mistreatment and task performance (Sample 1,

within Time 1: $r = -.38, p < .01$; Sample 1, within Time 2: $r = -.33, p < .01$; Sample 3, Self-report: $r = -.17, p < .05$; Sample 3, Other-report: $r = -.49, p < .01$). Further, employees who perceived more introvert mistreatment also engaged in significantly more CWB (Sample 1, within Time 1: $r = .51, p < .01$; Sample 1, within Time 2: $r = .58, p < .01$; Sample 3, Self-report: $r = .34, p < .01$; Sample 3, Other-report: $r = .36, p < .01$). However, there was not a significant relationship between PIMS and OCB (Sample 1, within Time 1, $r = .05$; Sample 1, within Time 2: $r = .08$; Sample 3, Self-report: $r = -.01$; Sample 3, Other-report: $r = .00$).

Hypothesis 5 stated that introverts perceive more introvert mistreatment than extraverts. This hypothesis was supported. The correlation between Extraversion (coded so that higher scores indicate falling higher on the extraversion continuum) and PIMS suggests that people who fall on the introverted end of the continuum are more likely to perceive introvert mistreatment (Sample 1: $r = -.24, p < .01$; Sample 2: $r = -.37, p < .01$; Sample 3: $r = -.25, p < .01$). LSD post hoc tests from one-way ANOVA analyses (Sample 1: $F(2,394) = 22.92, p < .01$; Sample 2: $F(2,243) = 9.54, p < .01$; Sample 3: $F(2,165) = 7.21, p < .01$) provide further support for this group difference: self-identified introverts perceived significantly more introvert mistreatment than self-identified ambiverts (Sample 1: $p < .01$; Sample 2: $p < .05$, Sample 3: $p < .05$) and self-identified extraverts ($p < .01$). Ambiverts did not perceive more introvert mistreatment than extraverts in Samples 1 and 3, but did in Sample 2 ($p < .01$). See Table 13.

Hypothesis 6 posited that men will perceive more introvert mistreatment in comparison to women. This hypothesis was not supported. Women perceive more introvert mistreatment than men in two samples (Samples 1 and 2), although these differences were not significant (Table 14). Hypothesis 6 stated that Asian-American will perceive more introvert mistreatment than

other races. However, there were no significant differences between any racial groups (Sample 1: $F(5, 391) = .46$; Sample 2: $F(4, 241) = 2.00$; Sample 3: $F(5, 162) = .50$; Table 15).

Hypothesis 7 suggested that older employees perceive more introvert mistreatment than younger employees. Mixed results were found for Hypothesis 8: the correlation between age and the PIMS in Sample 1 suggests that *younger* employees are more likely to perceive introvert mistreatment than older employees ($r = -.19, p < .01$), Sample 2 suggests the relationship is in the predicted direction ($r = .19, p < .01$), and the relationship in Sample 3 was not significant ($r = -.11$)

Given that perceived introvert mistreatment is a form of selective mistreatment that has similarities to other forms of mistreatment, additional analyses were conducted to determine if the PIMS has incremental validity above and beyond discrimination (i.e., ethnic, gender, and age discrimination), incivility, and bullying when predicting the aforementioned criteria. Hierarchical regression analyses were conducted with ethnic, gender, and age discrimination entered in Step 1 and the PIMS entered in Step 2 for Samples 1 and 3. For Sample 2, ethnic, gender, and age discrimination and incivility and bullying were entered in Step 1 and the PIMS entered in Step 2. A separate regression analysis was performed for each of the criteria (Tables 16-18). For sample 1, it was deemed most appropriate to predict Time 2 criteria from the PIMS collected at Time 1. Results of these analyses indicate that perceived introvert mistreatment provides a significant increase in explained variance above and beyond discrimination for CWB (Sample 1, Time 2: $\Delta R^2 = .06$; Sample 3, Self-report: $\Delta R^2 = .07$; Sample 3, Other-report: $\Delta R^2 = .05$), physical health (Sample 1, Time 2: $\Delta R^2 = .05$), job satisfaction (Sample 1, Time 2: $\Delta R^2 = .12$), and organizational commitment (Sample 1, Time 2: $\Delta R^2 = .05$). Further, the PIMS provides a significant increase in

explained variance above and beyond the three types of discrimination, incivility, and bullying for anxiety (Sample 2, Self-report: $\Delta R^2 = .01$), depression (Sample 2, Self-report: $\Delta R^2 = .04$; Sample 2, Other-report: $\Delta R^2 = .09$), and physical health (Sample 2, Other-report: $\Delta R^2 = .06$). Overall, these results support the use of the PIMS in organizational research in addition to many other measures of mistreatment.

Conclusion

In summary, employees who perceive more introvert mistreatment are more likely to report decreased task performance, job satisfaction, organizational commitment and increased counterproductive behaviors, anxiety, depression, symptoms of poor physical health, and turnover intentions. Introverts, and sometimes ambiverts, are more likely to perceive introvert mistreatment than extraverts, there are no significant differences among sexes or among races in the perception of introvert mistreatment, and age is not a consistent factor in predicting perceptions of introvert mistreatment. Finally, perceived introvert mistreatment predicts CWB, symptoms of poor physical health, anxiety, depression, job satisfaction, and commitment above and beyond several mistreatment measures. Altogether, these results indicate that the PIMS has strong criterion-related validity and offers insight into mistreatment beyond other commonly studied forms of mistreatment.

CHAPTER SEVEN: DISCUSSION

Perceived introvert mistreatment, or the extent to which an individual perceives he or she is treated unfairly at work because he or she is introverted, is a form of workplace mistreatment that has gathered increasing attention in the past several years. However, this is the first paper to empirically examine the idea by accomplishing two main goals: first, I developed an evidence-based theory that explained why perceived introvert mistreatment occurs and second, I provided initial evidence for a reliable and valid means with which to measure this construct.

First, in an attempt to explain how perceived introvert mistreatment may develop and the impact it may have on the target, I discussed a dynamic process model of elements that precede, follow, and compound perceived introvert mistreatment. This model first explained a serial mediation process incorporating the situation, cognitive appraisals, attitudes, behavioral responses, and target outcomes. In this mediation process, I proposed that social dominance hierarchies (Pratto et al., 2006) are the process through which contextual norms (e.g., the Western extravert ideal and individualism) lead to stereotypes about introversion. These stereotypes, which underlie expectation effects and implicit theories, drive biased attitudes about introversion which in turn can manifest in negative behaviors directed towards introverted employees. Further, there are no subjective norms, organizational policies, nor laws that prohibit mistreatment of introverted employees, enabling the behaviors to occur with little to no consequence. Finally, an individual's perception of unfair treatment due to his or her introversion is likely to negatively impact outcomes such as job satisfaction, commitment, and health due to a stressor-strain relationship.

The aforementioned stressor-strain relationship in addition to retributive justice may drive a positive feedback loop in which perceived introvert mistreatment, behavioral disengagement of the target, and negative reactions from others can spiral in a more and more negative fashion. Finally, I explained two ways in which characteristics of introverts themselves can play a role in perceived introvert mistreatment by exacerbating behavioral disengagement: the depletion of cognitive resources stemming from counterdispositional self-presentation efforts and stereotype threat in addition to negative affective forecasting errors.

Second, in order to begin testing this theoretical model and assist fellow researchers who may be interested in conducting research on this new topic, I developed and provided initial validation evidence for the 10-item Perceived Introvert Mistreatment Scale (the PIMS). This study incorporated five independent samples, 974 participants, and multiwave (three months between administrations) and multisource data (132 significant others and 83 work peers). Validation analyses indicate that the PIMS is a reliable unidimensional measure of perceived introvert mistreatment whose measurement is minimally impacted by method effects. The PIMS is significantly related to, but discriminant from, age discrimination, gender discrimination, ethnic discrimination, incivility, bullying, POS, and LMX, as confirmed through use of CFA and a test of construct distinctiveness (Fornell & Larker, 1981).

Further, criterion-related validity of the scale was established in that employees who perceive more introvert mistreatment may perceive a justice violation and later retaliate by increasing counterproductive behaviors. Further, those who perceive more introvert mistreatment are also more likely to report decreased job satisfaction and organizational commitment and increased anxiety, depression, symptoms of poor physical health, and turnover intentions. These

relationships support the idea that mistreatment is related to numerous negative outcomes, perhaps due to a stressor-stress-strain chain, negative appraisals of the job, and/or withdrawal. Importantly, the PIMS predicts numerous outcome criteria above and beyond age discrimination, gender discrimination, ethnic discrimination, incivility, and bullying. Finally, results provide support for Proposition 6 (i.e., perceived introvert mistreatment leads to negative target outcomes) and partial support for the first step of Proposition 7 (i.e., perceived introvert mistreatment is related to disengagement in the form of CWB three months later) as proposed in the Theoretical Model of Perceived Introvert Mistreatment (Figure 2). In sum, the PIMS has satisfactory psychometric properties and can offer valuable insight into workplace mistreatment beyond the topics currently studied in the mistreatment literature.

I first note and discuss several interesting findings, both hypothesized and not hypothesized in Chapter Six. I hypothesized personality, sex, race, and age differences in perceived introvert mistreatment. Results indicate that introverts are more likely to report perceived introvert mistreatment than extraverts. However, there were no significant sex, race, or age differences. This may be because sex and race differences in extraversion are so small as to have no differential impact on perceptions of introvert mistreatment. Indeed, sex and race differences in extraversion were not significant (Sex: Sample 1, $t(395) = .43$; Sample 2; $t(243) = -.26$; Sample 3; $t(166) = -1.36$; Race: Sample 1, $F(5, 391) = .95$; Sample 2, $F(4, 241) = .40$; Sample 3, $F(5, 162) = 1.02$). Further, despite stereotypes wherein men are expected to be higher in extraversion due to agentic characteristics (Bakan, 1966) and Asian-Americans are stereotyped as quiet and unsociable (Jackson et al., 1996; Leslie et al., 2001; Lin et al., 2005), such stereotypes appear to not impact perceived introvert mistreatment. Given Propositions 3, 4,

and 5 that describe how stereotypes lead to biased attitudes and then perceived introvert mistreatment, these aforementioned stereotypes may not be strong enough to influence attitudes to the extent that they manifest in differential mistreatment of men and Asian-Americans. Thus, it would be interesting to study a tipping point at which stereotypes are strong enough to impact future behaviors.

Results also suggest that age does not consistently impact perceptions of introvert mistreatment. Indeed, age tended to be unrelated to extraversion itself in two samples (Sample 1: $r = -.02$, Sample 3: $r = -.08$) but younger individuals were more extraverted in Sample 2 ($r = -.13$, $p < .05$), perhaps because this sample (employed university students) was a younger sample overall. Thus, it may be that the much younger generation (the 18 and 19 year olds compared to the late 20-somethings) is indeed more extraverted as suggested by Twenge's (2001) birth cohort study, but a difference in extraversion is not strong enough in the older generations to impact the perception of introvert mistreatment.

Given that the PIMS measures a form of mistreatment that is based on a person's personality (i.e., extraversion/introversion) it is interesting to note the relationship between the PIMS and other Big Five personality traits. The PIMS was significantly related to agreeableness (Sample 1: $r = -.19$, $p < .01$; Sample 3: $r = -.26$, $p < .01$), conscientiousness (Sample 1: $r = -.23$, $p < .05$; Sample 2: $r = -.14$, $p < .05$), neuroticism (Sample 1: $r = .28$, $p < .05$; Sample 2: $r = .33$, $p < .01$), and openness to experience (Sample 1: $r = -.21$, $p < .01$; Sample 2: $r = -.15$, $p < .05$). Similar results were found for the other forms of mistreatment measured in this study, particularly for conscientiousness and neuroticism (See Tables 9-11). Studies on the relationship between personality and mistreatment tend to find that disagreeable and neurotic employees

perceive more incivility (e.g., Milam, Spitzmueller, & Penney, 2009; Sliter, Withrow, & Jex, 2014) and employees low in conscientiousness and agreeableness tend to perceive more abusive supervision (Mackey, Frieder, Brees, & Martinko, 2016). Thus, it would be interesting for future research to further elucidate the role that personality plays in the perceptions of workplace mistreatment, including a comprehensive meta-analysis of personality and mistreatment in addition to the examination of personality profiles using primary data (e.g., is a person who is very introverted but also very conscientious less likely to perceive introvert mistreatment) in an effort to deepen our understanding of the antecedents to workplace mistreatment.

A noteworthy result is the non-relationship between perceived introvert mistreatment and OCB across all samples. A meta-analysis by Bowling and Beehr (2006) indicates a similar finding in that workplace harassment has the strongest significant relationship with CWB ($\rho = .37$) followed by job performance ($\rho = -.08$) but OCB ($\rho = -.03$) is not significantly related. However, a recent meta-analysis on abusive supervision (Mackey et al., 2016) indicates source of the mistreatment may be a moderator: abusive supervision was significantly related to job performance ($\rho = -.19$), CWB ($\rho = .41$), and OCB ($\rho = -.24$). Indeed, further meta-analytic work by Hershcovis and Barling (2010) suggest that mistreatment by a supervisor has a significantly stronger impact on behavioral disengagement in comparison to mistreatment by a coworker (i.e., organizational deviance and performance, OCB was not analyzed). Unfortunately, the source of perceived introvert mistreatment was not measured in this study and could not be analyzed as a potential moderator. Thus, it would be beneficial to examine the source of perceived introvert mistreatment as a moderator of behavioral disengagement in future work, particularly for OCB, a

type of discretionary workplace behavior that requires inputting effort rather simply avoiding effort (e.g., lateness).

Expanding on the idea of avoid versus approach behaviors, it may be more likely that behavioral disengagement of the target (who is more likely to be an introvert) manifests as avoidance behaviors (i.e., absence, lateness, leaving work early) rather than approach behaviors (i.e., engaging in OCBs). This is supported by the consistent significant relationship in this study between the PIMS and CWB in which CWB is represented with items such as “Came to work late without permission” and “Stayed home from work and said you were sick when you weren’t” (Spector et al., 2010). However, other forms of avoidance-related withdrawal behaviors were not measured in this study and thus provide a fruitful avenue for future research in this area.

Implications and Limitations

Perceived introvert mistreatment is a novel, understudied topic in the organizational sciences. The first part of this paper offers a strong contribution to the mistreatment literature by drawing on substantiated theories and evidence to explain the layman’s supposition that introverts are mistreated at work. The proposed model of perceived introvert mistreatment delineates numerous testable processes that explain *why* perceived introvert mistreatment occurs in addition to consequences of this mistreatment. Further, this paper discusses the role that characteristics of the mistreatment target can play in the mistreatment process. Although some may call this victim blaming, in the case of extraversion/introversion there are behavioral tendencies related to this personality trait that can not only be misinterpreted by others (e.g., a preference for working in solitude may be perceived as a dislike of socialization) but can

inadvertently impact the behavior of introverts, which in and of themselves can be negatively interpreted by others (e.g., the cognitive drain imposed by stereotype threat is difficult to avoid but can be detrimental to performance, and thus the reduced performance be misinterpreted by others as a lack of effort or interest). Given this insight, there may be a benefit to a form of diversity training that encourages and values both introverted and extraverted methods at work, which would hopefully reduce the misinterpretation of some introverted behaviors and thus reduce perceptions of introvert mistreatment and the negative outcomes of such mistreatment.

Research on perceived introvert mistreatment extends the concept of selective incivility (Cortina, Kabat-Farr, Leskinen, Huerta, & Magley, 2013; Cortina, 2008) and selective bullying (Salin & Hoel, 2013), both of which are considered forms of modern discrimination. This research indicates that discrimination is no longer blatant but are subtle counternormative behaviors directed at a person of particular group membership. Whereas traditional selective incivility and bullying research focuses on gendered or racial mistreatment as a subtle form of discrimination, selective mistreatment also applies to perceived introvert mistreatment because the behaviors are directed at a specific group (i.e., introverts). Thus, this paper stands to offer further support for the concept of selective mistreatment by extending the theory of a specific form of selective mistreatment.

Selective mistreatment directed towards introverts in the workplace also suggests the talents of a specific population may be overlooked or lost. First, organizations frequently consider personality during human resource processes (Ones, Dilchert, Viswesvaran, & Judge, 2007; Rothstein & Goffin, 2006) which may be detrimental to introverts in that they are hired and promoted less frequently than extraverts. In consequence, many organizations may be losing

a competitive edge by not taking advantage of these individuals' unique talents. For example, introverts are less likely than extraverts to elicit negative emotions in other people, such as anger or stress (Eisenkraft & Elfenbein, 2010) which would be beneficial to interpersonal relationships and team-based tasks. Second, given that a selected subgroup of individuals is the target of mistreatment (i.e., introverts) and thus likely experience more strain outcomes in comparison to extraverts, an organization may also lose introverted talents due to disengagement of introverts (i.e., introverts may put forth less effort or eventually quit). In sum, not only might workplace bias that favors extraverts lead to feelings of mistreatment and strain in introverts, it might also result in a competitive disadvantage in organizations.

Although this study provided some support for Propositions 6 and 7 of the theoretical model, much remains open for investigation. Analyses of the first step of Proposition 7 (Hypotheses 4) offer only a hint at the full spiral. In addition, the theoretical model proposes a serial mediation process that is typically theorized but rarely tested in full. Finally, much of the results relied on cross-sectional data which does not allow for reliable causal inferences to be drawn. Thus, a valuable contribution to the mistreatment literature would be longitudinal studies of the mistreatment process over time. An experimental setting would also provide clearer insight into a mistreatment spiral because introvert mistreatment could be distinctly controlled compared to correlational analyses that rely on individual perceptions of introvert mistreatment. Further, experiments on this topic could, for example, examine if a job applicant's extraversion/introversion significantly impacts a manager's perceptions of hireability. In other words, research could determine if a person's introversion impacts objective forms of workplace mistreatment. Altogether, longitudinal and experimental studies would help to clarify the

mechanisms involved in the processes proposed in the theoretical model which in turn would be beneficial in the identification of opportunities for interventions in or prevention of perceived introvert mistreatment.

I note that the proposed theoretical model is a starting point aimed to aid in our understanding of a new construct. Drawing on this model, our understanding of perceived introvert mistreatment would be aided by, for example, examination of introvert/extravert stereotypes through the lens of the Stereotype Content Model (Cuddy et al., 2007) which suggests two universal dimensions of stereotypes (i.e., warmth and competence), clarification of biased attitudes about introversion (i.e., the exact content of these attitudes), or tests on the effect of stereotype threat on introverts' performance. Further, there are no doubt additional processes and factors to consider, such as organizational context (e.g., climate against mistreatment, leadership), job type, or characteristics of the instigator. Thus, I encourage fellow researchers to build upon this proposed model and develop an even more comprehensive understanding of this phenomenon.

One particular limitation in developing this scale is the necessary use of double-barreled items. This is not ideal psychometrically but there is no clearer way to capture unfair treatment of self-identified introverts without including that wording that asks one to indicate unfair treatment and self-identification of introversion in the item (i.e., the items could have been written as "I experienced X because I behaved as an introvert" but this is difficult for the respondent to interpret). However, this type of double-barreled item structure is not unique in the mistreatment literature as evidenced by its frequent use in other scales such as ethnic discrimination ("Someone at work excludes you from social interactions during or after work

because of your ethnicity”; Schneider, Hitlan, & Radhakrishnan, 2000), age discrimination (“The people I work with treat me less favorably because of my age”; Snape & Redman, 2003), or sexual orientation discrimination (“Ignored you in the office or in a meeting because of your sexual orientation”; Waldo, 1999). Further, given that the PIMS items are written as “because I am introverted” the items might not capture the experiences of extraverts even when they perceive introvert mistreatment due to some situations in which they behaved in an introverted way. However, I remind the reader of the frequency analysis findings which indicated that some extraverts and ambiverts still endorse these items despite the “because I am introverted” stem (i.e., the stem did not appear to preclude extraverts from endorsing the items).

Validation of a scale is never complete. Consequently, I suggest that future research continues the validation process of the PIMS. For instance, the outcome variables tested in this study represent only a small sampling of important outcomes that are likely related to perceived introvert mistreatment. However, given that this is an initial validation study, the chosen criteria reflect some of the most commonly studied consequences of workplace mistreatment and provide a foundation on which to build future research in this area. Notably, the target of perceived introvert mistreatment would likely experience these negative outcomes more frequently or intensely compared to those who are not targets. Thus, future research should not only investigate a more comprehensive level of outcomes but also investigate the differential impact of perceived introvert mistreatment between targets and non-targets. Cross-cultural research would also be an intriguing avenue as a means with which to determine if perceived introvert mistreatment is an American phenomenon, or one that translates to other extraverted countries as well.

Conclusion

This paper is the first to empirically examine perceived introvert mistreatment, a form of workplace mistreatment that has gathered increasing attention in the past several years. I developed an evidence-based theory that explained why perceived introvert mistreatment occurs and provided initial evidence for a reliable and valid means with which to measure this construct. I encourage other researchers to continue investigating this topic both theoretically and empirically using the theoretical model proposed and the PIMS as a foundation. There is much more to learn about this novel topic and an understanding of perceived introvert mistreatment can provide unique insight into workplace mistreatment and the impact it can have on employees and organizations.

APPENDIX A: FIGURES

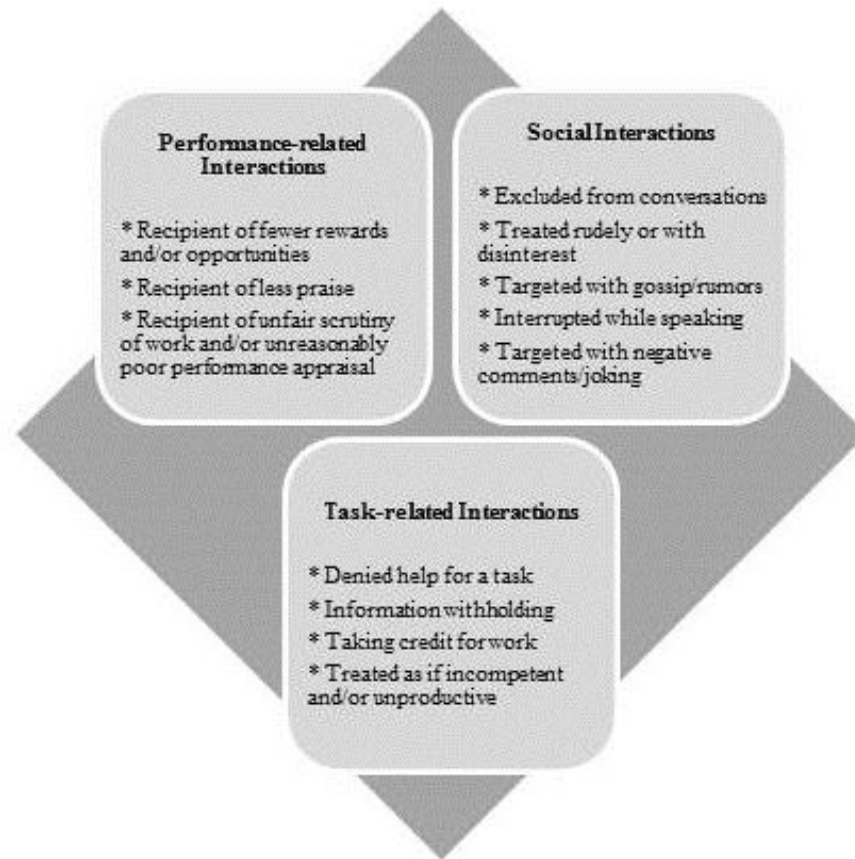


Figure 1. *Behavioral Indicators of Perceived Introvert Mistreatment*

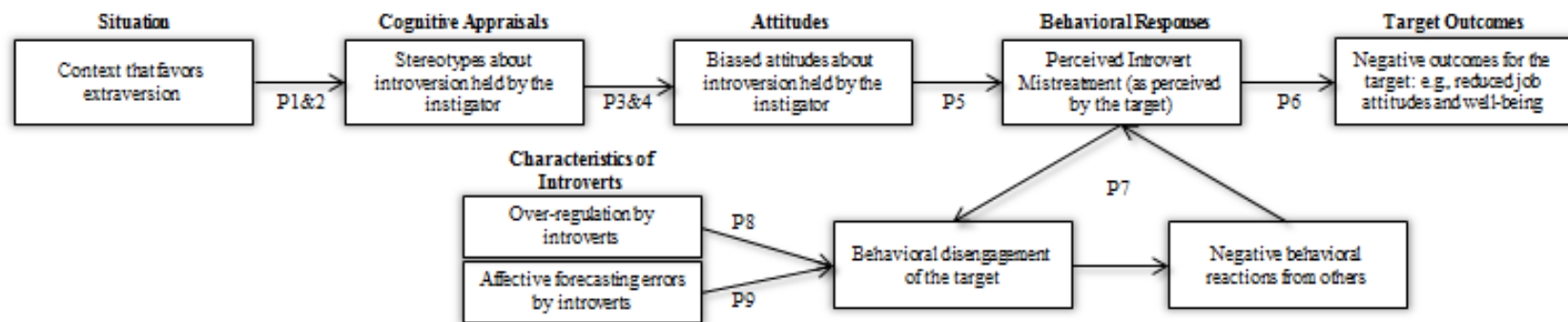


Figure 2. *A Model of Perceived Introvert Mistreatment*

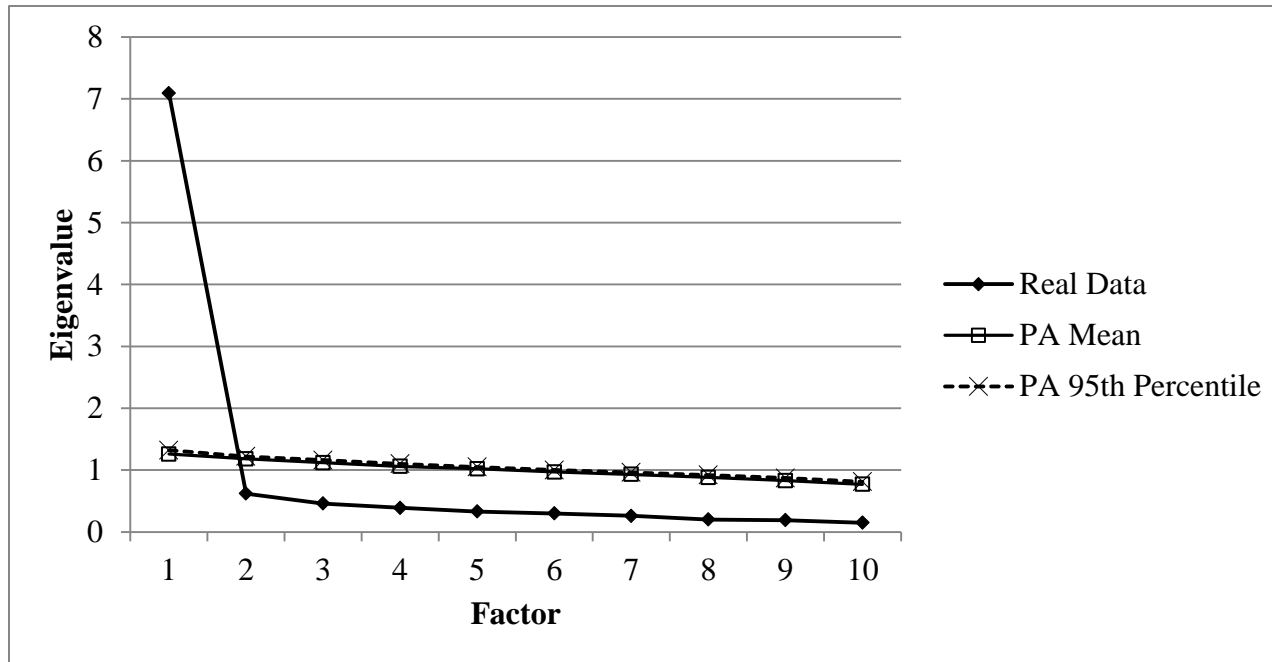


Figure 3. *Plot of Actual Versus the Mean and 95th Percentile of Randomly Generated Eigenvalues*

APPENDIX B: TABLES

Table 1. *Item Pool Subjected to Substantive Validity Analysis*

<i>Item</i>	<i>Source</i>	<i>p_{sa}</i>	<i>c_{sv}</i>
1. At work, I have been treated rudely because I am introverted.	Colquitt, 2011	0.80	0.64
2. At work, workers have not assisted me when I asked for help because I am introverted.	Donovan et al., 1998	0.84	0.76
3. In my workplace, I have been unfairly excluded from conversations because I am introverted.	Ferris et al., 2008	0.84	0.68
4. At work, I have been ignored more often than other employees because I am introverted.	Ferris et al., 2008	0.92	0.84
5. Necessary information has been withheld from me at work because I am introverted.	Fox & Stallworth, 2005	0.88	0.84
6. At work, others have taken credit for my work because I am introverted.	Fox & Stallworth, 2005	0.92	0.88
7. People at work have spread false rumors about me because I am introverted.	Fox & Stallworth, 2005	0.76	0.56
8. At work, coworkers have interrupted me while I was speaking because I am introverted.	Fox & Stallworth, 2005	0.88	0.76
9. People at work have treated me as though I am less competent than other people because I am introverted.	Hughes & Dodge, 1997	0.84	0.76
10. Where I work, my rewards have been negatively influenced by my level of introversion.	James et al., 1993	0.88	0.76
11. At work, my work has been unfairly scrutinized because I am introverted.	James et al., 1993	0.96	0.92
12. At work, others have made jokes or negative comments about me because I am introverted.	Sanchez & Brock, 1996	0.80	0.68
13. In my workplace, others have unfairly excluded me from social activities because I am introverted.	Sanchez & Brock, 1996	0.80	0.60
14. At work, people have treated me as though I am unsociable because I am introverted.	Sanchez & Brock, 1996	0.92	0.88
15. The people I work with have treated me unfavorably because I am introverted.	Snape & Redman, 2003	0.92	0.84
16. I have been offered fewer opportunities at work because I am introverted.	Snape & Redman, 2003	0.88	0.76
17. At work, I have received an unreasonably poor performance appraisal because I am introverted.	Snape & Redman, 2003	0.88	0.76
18. I have received unfair treatment where I work because I am introverted.	Author created	0.96	0.92
19. Colleagues at work have expressed dislike toward me because I am introverted.	Author created	0.88	0.84
20. Colleagues have been condescending to me at work because I am introverted.	Author created	0.76	0.52
21. Colleagues have treated me with disinterest because I am introverted.	Author created	0.84	0.76
22. In my workplace, I have received less praise compared to other employees because I am introverted.	Author created	0.88	0.80
23. At work, my professional judgments have been questioned because I am introverted.	Author created	0.96	0.92
24. At work, I have been told I am unproductive because I am introverted.	Author created	0.84	0.72
25. At work, I have received poor mentorship because I am introverted.	Author created	0.92	0.84

<i>Item</i>	<i>Source</i>	<i>p_{sa}</i>	<i>c_{sv}</i>
26. People at work have treated me as if I am an outsider because I am introverted.	Author created	0.80	0.60

Note. p_{sa} refers to the proportion of the participants who assigned the item to the intended construct. c_{sv} refers to the degree to which the participants assign an item to the intended construct more than to the other constructs. All items have a significant c_{sv} value. Items in bold have a $p_{sa} \geq .85$ and a $c_{sv} \geq .80$ and were retained for frequency analysis.

Table 2. *Frequency Analysis Results*

	% Endorsed	Variance
1. At work, I have been ignored more often than other employees because I am introverted.	45	29.72
2. Necessary information has been withheld from me at work because I am introverted.	31	8.85
3. At work, others have taken credit for my work because I am introverted.	41	10.50
4. At work, my work has been unfairly scrutinized because I am introverted.	32	6.16
5. At work, people have treated me as though I am unsociable because I am introverted.	47	9.08
6. The people I work with have treated me unfavorably because I am introverted.	41	14.48
7. I have received unfair treatment where I work because I am introverted.	35	7.20
8. Colleagues at work have expressed dislike toward me because I am introverted.	30	2.30
9. In my workplace, I have received less praise compared to other employees because I am introverted.	49	16.93
10. At work, my professional judgments have been questioned because I am introverted.	30	17.27
11. At work, I have received poor mentorship because I am introverted.	28	3.42

Note. The item in bold was removed.

Table 3. *Actual and Random Eigenvalues for the 10 items – Sample 1, Time 1*

<i>Actual Eigenvalue</i>	<i>Average Eigenvalue</i>	<i>95th Percentile Eigenvalue</i>
7.09	1.26	1.32
.62	1.18	1.22
.46	1.12	1.16
.39	1.06	1.10
.33	1.02	1.05
.30	.97	1.00
.27	.93	.96
.21	.88	.92
.19	.83	.87
.15	.77	.81

Table 4. *Indicator Loadings of the 10 Items*

	Sample 2	Sample 3
	PIMS	PIMS
Indicator Loadings		
PIMS 1	.89**	.91**
PIMS 2	.84**	.87**
PIMS 3	.79**	.79**
PIMS 4	.85**	.85**
PIMS 5	.91**	.84**
PIMS 6	.89**	.96**
PIMS 7	.93**	.85**
PIMS 8	.91**	.91**
PIMS 9	.86**	.90**
PIMS 10	.82**	.80**

** $p < .01$

Table 5. *Inter-item Correlations of the 10 Items, Sample 1, Time 1*

	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10
Item 1	.79									
Item 2	.62	.80								
Item 3	.53	.64	.72							
Item 4	.62	.72	.61	.79						
Item 5	.72	.65	.56	.54	.76					
Item 6	.74	.69	.65	.67	.73	.86				
Item 7	.76	.72	.63	.73	.70	.84	.87			
Item 8	.63	.65	.64	.69	.68	.79	.74	.82		
Item 9	.70	.71	.65	.68	.67	.72	.73	.69	.83	
Item 10	.63	.66	.62	.76	.55	.67	.68	.69	.70	.78

Note. Corrected item-total correlations on the diagonal.

Table 6. *Inter-item Correlations of the 10 Items, Sample 2*

	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10
Item 1	.76									
Item 2	.58	.70								
Item 3	.52	.44	.67							
Item 4	.55	.44	.53	.68						
Item 5	.78	.58	.54	.59	.80					
Item 6	.63	.55	.62	.55	.68	.78				
Item 7	.60	.60	.63	.63	.60	.73	.81			
Item 8	.57	.53	.66	.68	.71	.75	.76	.80		
Item 9	.67	.72	.44	.44	.67	.57	.61	.50	.72	
Item 10	.49	.63	.51	.57	.50	.54	.67	.59	.53	.69

Note. Corrected item-total correlations are on the diagonal.

Table 7. *Inter-item Correlations of the 10 Items, Sample 3*

	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10
Item 1	.81									
Item 2	.65	.65								
Item 3	.54	.46	.60							
Item 4	.56	.52	.48	.70						
Item 5	.64	.50	.46	.47	.72					
Item 6	.71	.45	.48	.65	.67	.84				
Item 7	.70	.43	.43	.67	.60	.88	.80			
Item 8	.69	.59	.45	.46	.65	.68	.56	.73		
Item 9	.73	.53	.55	.69	.66	.76	.78	.61	.84	
Item 10	.50	.51	.49	.56	.49	.58	.59	.50	.58	.66

Note. Corrected item-total correlations on the diagonal.

Table 8. *Measures Used in Validation Samples*

Measure (Source)	Purpose	Sample 1 (T1)	Sample 1 (T2)	Sample 2	Sample 2a (SO)	Sample 3	Sample 3a (Peer)
PIMS		X	X	X		X	
Demographics		X		X	X	X	X
Self-Identification		X		X		X	
Mini-IPIP (Donnellan et al., 2006)		X		X		X	
SNAQ-R (Notelaers & Einarsen, 2008)	Convergent			X			
WIS (Cortina et al., 2001)	Convergent			X			
Discrimination (Sanchez & Brock, 1996)	Convergent	X		X		X	
SPOS (Eisenberger et al., 1990)	Discriminant			X			
LMX (Liden & Maslyn, 1998)	Discriminant					X	
PANAS (Watson et al., 1988)	Discriminant	X					
IMS (Paulhus, 1984)	Discriminant	X					
Performance (Williams & Anderson, 1991)	Criterion	X	X			X	X ^a
OCB-C (Spector, Bauer, & Fox, 2010)	Criterion	X	X			X	X ^a
CWB-C (Spector et al., 2010)	Criterion	X	X			X	X ^a
MHI (Veit & Ware, 1983)	Criterion		X	X	X ^a		
PSI (Spector & Jex, 1998)	Criterion		X	X	X ^a		
Job Satisfaction (Judge et al., 2006)	Criterion		X	X	X ^a		
ACS (Allen & Meyer, 1990)	Criterion		X	X	X ^a		
TI (Kelloway et al., 1999)	Criterion		X				

Note. PIMS = Perceived Introvert Mistreatment Scale; Mini-IPIP = Mini International Personality Item Pool; SNAQ-R = Short Negative Acts Questionnaire-Revised; WIS = Workplace Incivility Scale; SPOS = Survey of Perceived Organizational Support; LMX = Leader Member Exchange; PANAS = Positive and Negative Affect Schedule; IMS = Impression Management Scale; OCB-C = Organizational Citizenship Behavior Checklist; CWB-C = Counterproductive Work Behaviors Checklist; MHI = Mental Health Index; PSI = Physical Symptoms Inventory; ACS = Affective Commitment Scale; TI = Turnover Intentions. SO = Significant other; Peer = Work peer. T1 = Time 1; T2 = Time 2 five months later. X^a = other report in which the referent was changed to he/she.

Table 9. *Sample 1 Descriptives and Correlations*

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Sex	1.68	0.47	-														
2. Race	2.95	0.78	-.01	-													
3. Age	36.78	11.51	.10	.04	-												
4. Tenure	5.89	6.10	.01	.06	.51**	-											
5. Hours	38.94	8.15	-.08	.00	.12*	.12*	-										
6. PIMS T1	1.90	1.23	-.03	.02	-.19**	-.11*	-.01	.95									
7. Ethnic Disc.	1.49	1.05	-.05	-.04	-.18**	-.15**	.02	.56**	.95								
8. Gen. Disc.	1.80	1.24	.10*	.03	-.15**	-.07	.08	.49**	.56**	.93							
9. Age Disc	1.84	1.29	-.11*	.09	-.07	-.02	.04	.45**	.48**	.49**	.94						
10. Self-ID	1.69	0.68	.10	.09	.07	-.01	-.04	-.31**	-.05	-.10	-.01	-					
11. Extra.	3.59	1.56	-.02	.05	-.02	-.06	.03	-.24**	.03	.03	.06	.60**	.57				
12. Agree.	5.49	1.05	.23**	-.03	.13**	.07	.01	-.19**	-.14**	-.05	-.11*	.18**	.20**	.73			
13. Consc.	5.36	1.08	.03	-.06	.18**	.07	-.07	-.23**	-.14**	-.15**	-.19**	.07	.07	.12*	.55		
14. Neur.	3.60	1.49	.05	.02	-.13**	-.04	.05	.28**	.13*	.14**	.16**	-.16**	-.20**	-.07	-.39**	.64	
15. Openness	5.61	1.08	.04	-.04	.00	-.07	.04	-.21**	-.14**	.00	-.14**	.13**	.15**	.32**	.15**	-.21**	.67
16. PA	3.40	0.83	.08	-.02	.06	.03	.03	-.18**	.04	-.03	-.01	.30**	.29**	.28**	.28**	-.37**	.26**
17. NA	2.04	0.84	.04	.03	-.18**	-.14**	.01	.33**	.23**	.27**	.28**	-.12*	-.10	-.05	-.33**	.60**	-.14**
18. Imp. Mgmt.	5.42	0.93	.09	.01	.04	-.01	-.01	-.10*	-.11*	-.04	-.03	.11*	.14**	.34**	.27**	-.35**	.21**
19. Task T1	6.54	0.97	.20**	.08	.20**	.14**	.06	-.38**	-.47**	-.30**	-.32**	.19**	-.05	.29**	.27**	-.12*	.22**
20. OCB T1	4.10	1.30	.05	-.05	-.11*	.06	.12*	.05	.05	.11*	.13**	.20**	.24**	.18**	.04	-.07	.14**
21. CWB T1	1.95	1.02	-.09	.02	-.18**	-.09	.02	.51**	.49**	.41**	.48**	-.13*	-.04	-.21**	-.32**	.26**	-.24**
22. PIMS T2	1.67	1.03	.06	.17	-.10	.00	-.02	.70**	.52**	.32**	.31**	-.21*	-.32**	-.17	-.34**	.32**	-.10
23. Task T2	6.89	0.44	.22*	.17	.16	.10	-.02	-.11	-.30**	-.07	-.21*	.11	.08	.22*	.15	-.04	.08
24. OCB T2	3.75	1.28	.03	-.09	-.03	.02	.02	-.02	.06	.00	.19*	.26**	.27**	.11	.07	.12	.11
25. CWB T2	1.64	0.75	.07	.05	-.05	.02	-.04	.31**	.13	.29**	.23*	.03	-.24**	-.21*	-.16	.16	-.15
26. Anx. T2	5.54	1.46	-.14	-.12	.10	.06	.11	-.28**	-.32**	-.33**	-.22*	.03	.12	-.02	.15	-.54**	-.05
27. Depr. T2	5.16	1.66	-.22*	-.16	-.04	.01	.06	-.29**	-.24**	-.36**	-.19*	.02	.09	-.05	.16	-.45**	-.06
28. Phys. T2	5.47	1.16	-.23**	-.07	-.03	-.13	.07	-.35**	-.28**	-.26**	-.23*	.05	.16	-.17	.15	-.46**	.03
29. Sat. T2	4.68	1.47	-.12	.04	-.02	-.16	.01	-.43**	-.24**	-.21*	-.16	.13	.21*	.25**	.18*	-.23*	.29**
30. Com. T2	4.24	1.60	-.17	-.05	.02	-.05	.07	-.27**	-.11	-.19*	-.16	.02	.13	.26**	.10	-.18	.15
31. Turn. T2	3.48	1.79	.23*	-.01	-.13	-.11	-.17	.28**	.22*	.33**	.21*	.06	.00	-.17	-.05	.09	-.06

	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
16. PA	.91															
17. NA	-.20**	.92														
18. Imp. Mgmt.	.26**	-.07	.55													
19. Task	.19**	-.07	.20**	.94												
20. OCB	.32**	-.01	.19**	.14**	.89											
21. CWB	-.13**	.38**	-.19**	-.42**	.07	.78										
22. PIMS T2	-.14	.29**	-.19*	-.17	.01	.41**	.95									
23. Task T2	-.02	-.11	.04	.49**	.03	-.21*	-.33**	.93								
24. OCB T2	.19*	.07	.11	-.02	.69**	.02	.08	-.06	.88							
25. CWB T2	.00	.24**	-.32**	-.05	.01	.58**	.58**	-.31**	.06	.66						
26. Anx. T2	.13	-.52**	.19*	.10	-.05	-.33**	-.48**	.20*	-.21*	-.41**	.95					
27. Dep. T2	.22*	-.44**	.19*	-.02	.00	-.26**	-.44**	.00	-.20*	-.36**	.86**	.93				
28. Phys. T2	.13	-.38**	.07	.04	-.15	-.21*	-.43**	.07	-.27**	-.28**	.63**	.71**	.89			
29. Sat. T2	.20*	-.20*	.25**	.20*	.31**	-.28**	-.41**	.14	.21*	-.45**	.28**	.29**	.22*	.91		
30. Com. T2	.18	-.23*	.29**	.06	.38**	-.33**	-.26**	-.05	.30**	-.35**	.08	.17	.08	.72**	.92	
31. Turn. T2	.01	.21*	-.15	-.10	-.06	.26**	.31**	-.07	-.05	.43**	-.24**	-.27**	-.18*	-.63**	-.65**	.95

Note. N = 122 to 367. Cronbach's alpha in on the diagonal. Sex: 1 = Male, 2 = Female; Race: 1 = Asian/Pacific Islander, 2 = Black Non-Hispanic, 3 = White Non-Hispanic, 4 = Hispanic, 5 = American Indian/Alaskan Native, 6 = Other; T1 = Time 1, T2 = Time 2; PIMS = Perceived Introvert Mistreatment Scale; Ethnic Disc. = Ethnic Discrimination; Gen. Disc. = Gender Discrimination; Age Disc. = Age Discrimination; Self-ID = Self-identification as 1 = Introvert, 2 = Ambivert, 3 = Extravert; Extra. = Extraversion; Agree. = Agreeableness; Consc. = Conscientiousness; Neur. = Neuroticism; PA = Positive Affect; NA = Negative Affect; Imp. Mgmt. = Impression Management; Task = Task Performance; OCB = Organizational Citizenship Behavior; CWB = Counterproductive Work Behavior; Anx. = Anxiety; Dep. = Depression; Phys. = Physical Health; Sat. = Job Satisfaction; Com. = Organizational Commitment. Turn. = Turnover Intentions. * $p < .05$, ** $p < .01$

Table 10. *Sample 2 Descriptives and Correlations*

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Sex	1.70	0.46	-														
2. Race	3.21	0.97	.09	-													
3. Age	22.29	6.59	.10	-.08	-												
4. Tenure	2.12	2.43	-.03	-.04	.34**	-											
5. Hours	28.87	8.67	.05	-.01	.41**	.35**	-										
6. PIMS	1.49	0.90	.09	.08	.19**	-.02	.05	.93									
7. Ethnic Disc.	1.43	0.89	-.01	-.01	-.02	.00	.09	.27**	.89								
8. Gen. Disc.	1.61	1.07	.27**	.06	.09	.01	.08	.33**	.43**	.91							
9. Age Disc	1.82	1.24	.11	.06	-.08	-.07	.09	.37**	.43**	.52**	.92						
10. Incivility	1.79	1.05	.06	.11	.17**	.01	.18**	.52**	.39**	.50**	.57**	.91					
11. Bullying	1.76	1.02	.04	.08	.13*	.02	.16*	.51**	.44**	.50**	.53**	.81**	.92				
12. Self-ID	2.06	0.69	.05	.12	-.16*	-.07	-.12	-.27**	.08	.04	.12	.02	.00	-			
13. Extra.	4.47	1.39	.02	.07	-.13*	-.12	-.08	-.37**	.02	-.02	.10	.00	-.04	.62**	.83		
14. Agree.	5.47	1.05	.19**	.01	.10	-.04	.03	-.06	-.09	.02	-.02	.02	-.03	.11	.23**	.75	
15. Consc.	4.98	1.11	.03	.03	.01	.03	.08	-.14*	-.32**	-.30**	-.16*	-.20**	-.22**	-.05	.02	.15*	.65
16. Neur.	3.51	1.20	.24**	.08	.05	.02	-.01	.33**	.11	.30**	.26**	.27**	.22**	-.12	-.21**	-.14*	-.25**
17. Openness	5.53	0.98	.00	.07	.04	-.01	-.01	-.15*	-.03	.00	.10	-.03	-.06	.18**	.27**	.28**	.08
18. POS	4.58	1.51	-.01	-.04	-.11	.01	-.06	-.28**	-.25**	-.34**	-.23**	-.43**	-.45**	.10	.17**	.16*	.28**
19. Anx.	4.90	1.52	-.22**	-.07	.03	.05	.01	-.30**	-.16*	-.33**	-.31**	-.33**	-.32**	.14*	.16*	-.02	.24**
20. Dep.	4.80	1.52	-.19**	-.05	.03	.07	.00	-.38**	-.17**	-.34**	-.36**	-.37**	-.35**	.15*	.19**	.02	.27**
21. Phys.	5.12	1.14	-.24**	-.09	-.05	.00	-.13*	-.29**	-.14*	-.23**	-.31**	-.34**	-.31**	.11	.15*	.05	.25**
22. Sat.	4.54	1.55	.02	-.11	-.07	.02	.02	-.27**	-.19**	-.29**	-.23**	-.36**	-.32**	.11	.16*	.24**	.33**
23. Com.	3.80	1.64	.02	-.13*	-.09	.12	.09	-.22**	-.14*	-.18**	-.10	-.25**	-.22**	.16*	.17**	.20**	.18**
24. Anx. - SO	5.66	1.07	-.03	-.04	-.15	.13	.05	-.30**	.01	-.08	-.09	-.21	-.17	.02	.26*	.03	-.14
25. Dep. - SO	5.37	1.32	-.15	.03	-.17	.13	-.01	-.38**	.00	-.19	-.14	-.24*	-.25*	.09	.24*	.05	-.01
26. Phys. - SO	6.01	0.77	-.11	.08	-.17	.10	-.19	-.37**	-.26*	-.20	-.24*	-.31**	-.31**	.07	.13	.17	.03
27. Sat. - SO	4.78	1.41	-.19	.06	-.06	.01	.00	-.24*	.05	-.03	-.16	-.15	-.11	.22*	.24*	.04	.02
28. Com. - SO	4.18	1.36	.06	-.07	.04	.16	.06	-.24*	.03	.00	-.12	-.14	-.02	.26*	.30**	.20	.05

	16	17	18	19	20	21	22	23	24	25	26	27	28
16. Neur.	.64												
17. Openness	-.22**	.70											
18. POS	-.20**	.07	.94										
19. Anx.	-.57**	.06	.19**	.94									
20. Dep.	-.62**	.07	.23**	.87**	.91								
21. Phys.	-.40**	.02	.22**	.65**	.63**	.90							
22. Sat.	-.23**	.10	.65**	.18**	.23**	.22**	.91						
23. Com.	-.12	.04	.64**	.05	.11	.11	.73**	.90					
24. Anx. - SO	-.22*	.13	.21	.12	.21*	.11	.19	.15	.91				
25. Dep. - SO	-.25*	.07	.18	.19	.34**	.19	.14	.13	.84**	.93			
26. Phys. - SO	-.16	.10	.29**	.11	.18	.23*	.23*	.22*	.62**	.70**	.87		
27. Sat. - SO	-.21	-.02	.29**	.06	.13	.15	.41**	.38**	.40**	.32**	.33**	.94	
28. Com. - SO	-.13	.01	.27*	-.09	.02	.10	.31**	.43**	.40**	.41**	.39**	.68**	.90

Note. N = 86 to 268. Cronbach's alpha in on the diagonal. Sex: 1 = Male, 2 = Female; Race: 1 = Asian/Pacific Islander, 2 = Black Non-Hispanic, 3 = White Non-Hispanic, 4 = Hispanic, 5 = American Indian/Alaskan Native, 6 = Other; SO = Significant other report; PIMS = Perceived Introvert Mistreatment Scale; Ethnic Disc. = Ethnic Discrimination; Gen. Disc. = Gender Discrimination; Age Disc. = Age Discrimination; Self-ID = Self-identification as 1 = Introvert, 2 = Ambivert, 3 = Extravert; Extra. = Extraversion; Agree. = Agreeableness; Consc. = Conscientiousness; Neur. = Neuroticism; POS = Perceived Organizational Support; Anx. – Anxiety; Dep. = Depression; Phys. = Physical Health; Sat. = Job Satisfaction; Com. = Organizational Commitment. * $p < .05$, ** $p < .01$

Table 11. *Sample 3 Descriptives and Correlations*

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Sex	1.65	0.48	-														
2. Race	3.16	0.85	-.07	-													
3. Age	33.67	13.19	.19*	.04	-												
4. Tenure	5.68	6.88	.16*	-.11	.65**	-											
5. Hours	37.65	9.91	-.02	.07	.53**	.43**	-										
6. PIMS	1.28	0.60	-.03	.01	-.11	-.11	-.07	.93									
7. Ethnic Disc.	1.36	0.81	-.07	.11	.01	-.04	.05	.34**	.89								
8. Gen. Disc.	1.38	0.82	.15	-.04	-.06	-.08	.04	.27**	.46**	.91							
9. Age Disc	1.40	0.74	-.03	.10	-.01	-.05	.11	.33**	.52**	.49**	.90						
10. Self-ID	2.19	0.72	-.05	.01	-.09	.06	-.02	-.28**	.08	.11	.10	-					
11. Extra.	4.52	1.39	.11	-.03	-.08	.08	.01	-.25**	.06	.10	.04	.68**	.80				
12. Agree.	5.63	0.89	.11	-.04	.12	.10	.09	-.26**	-.16*	-.07	-.06	.03	.23**	.68			
13. Consc.	5.18	1.17	.07	-.01	.06	-.07	.15	-.02	-.04	-.02	.10	-.12	-.05	.09	.68		
14. Neur.	3.26	1.16	.24**	.18*	.10	.00	.02	.10	.00	.00	.06	-.13	-.12	-.08	-.12	.61	
15. Openness	5.35	1.02	-.19*	-.04	-.11	-.14	-.01	-.14	-.11	-.08	-.07	.03	.15*	.33**	.11	-.31**	.66
16. Task	6.84	0.64	.08	.01	.04	-.10	.01	-.17*	-.11	-.13	-.10	.00	.07	.31**	.05	.00	.12
17. OCB	4.37	1.33	.01	.14	-.11	-.05	.15	-.01	.06	.10	.07	.05	.22**	.10	.24**	.01	.11
18. CWB	1.60	0.72	-.03	.06	-.17*	-.01	-.07	.34**	.18*	.14	.23**	-.08	-.14	-.18*	-.25**	.17*	-.24**
19. LMX	5.34	1.24	.06	-.13	-.02	-.10	-.04	-.22**	-.08	-.05	-.13	.05	.01	.24**	-.02	.00	.24**
20. Task – WP	6.87	0.42	-.16	-.04	.15	.02	.04	-.49**	-.35**	-.69**	-.48**	.07	.09	.25*	.10	-.12	.18
21. OCB – WP	4.81	1.45	.12	-.02	.07	.08	.14	.00	.06	.10	.13	-.05	.18	.17	.02	.02	.08
22. CWB – WP	1.51	0.75	.11	.05	-.03	.06	-.07	.36**	.17	.33**	.26*	-.06	-.03	-.28*	-.35**	.39**	-.21

	16	17	18	19	20	21	22
16. Task	.97						
17. OCB	.10	.89					
18. CWB	-.10	-.06	.66				
19. LMX	.29**	.06	-.21**	.94			
20. Task – WP	.40**	.07	-.42**	.16	.93		
21. OCB – WP	.05	.54**	-.01	.05	.09	.92	
22. CWB - WP	-.15	-.19	.53**	-.16	-.48**	-.08	.71

Note. N = 83 to 168. Cronbach's alpha in on the diagonal. Sex: 1 = Male, 2 = Female; Race: 1 = Asian/Pacific Islander, 2 = Black Non-Hispanic, 3 = White Non-Hispanic, 4 = Hispanic, 5 = American Indian/Alaskan Native, 6 = Other; WP – Work peer report; PIMS = Perceived Introvert Mistreatment Scale; Ethnic Disc. = Ethnic Discrimination; Gen. Disc. = Gender Discrimination; Age Disc. = Age Discrimination; Self-ID = Self-identification as 1 = Introvert, 2 = Ambivert, 3 = Extravert; Extra. = Extraversion; Agree. = Agreeableness; Consc. = Conscientiousness; Neur. = Neuroticism; Task = Task performance; OCB = Organizational Citizenship Behavior; CWB = Counterproductive Work Behavior; LMX = Leader-Member Exchange.

* $p < .05$, ** $p < .01$

Table 12. Convergent and Discriminant Validity CFA Results

	χ^2	df	CFI	RMSEA	RMSEA 90% CI
Convergent					
<i>Age Discrimination</i>					
<i>Sample 1</i>					
Single Factor Model	1152.07**	90	.931	.172	.164; .181
Two Factor Model	312.92**	89	.985	.080	.070; .089
<i>Sample 2</i>					
Single Factor Model	811.74**	90	.886	.181	.169; .192
Two Factor Model	137.16**	89	.992	.047	.031; .062
<i>Sample 3</i>					
Single Factor Model	588.79**	90	.906	.182	.168; .196
Two Factor Model	95.64**	89	.999	.021	.000; .048
<i>Gender Discrimination</i>					
<i>Sample 1</i>					
Single Factor Model	1229.02**	90	.929	.179	.170; .187
Two Factor Model	321.51**	89	.986	.081	.072; .091
<i>Sample 2</i>					
Single Factor Model	704.87**	90	.908	.167	.155; .178
Two Factor Model	135.64**	89	.993	.046	.030; .061
<i>Sample 3</i>					
Single Factor Model	792.87**	90	.863	.216	.202; .230
Two Factor Model	108.41**	89	.996	.036	.000; .058
<i>Ethnic Discrimination</i>					
<i>Sample 1</i>					
Single Factor Model	925.74**	90	.955	.153	.144; .162
Two Factor Model	258.64**	89	.991	.069	.060; .079
<i>Sample 2</i>					
Single Factor Model	668.69**	90	.908	.162	.150; .173
Two Factor Model	148.11**	89	.991	.052	.037; .066

	χ^2	<i>df</i>	<i>CFI</i>	<i>RMSEA</i>	<i>RMSEA 90% CI</i>
<i>Sample 3</i>					
Single Factor Model	523.20**	90	.916	.169	.155; .183
Two Factor Model	116.65**	89	.995	.043	.016; .063
<i>Bullying</i>					
<i>Sample 2</i>					
Single Factor Model	957.86**	152	.892	.147	.138; .156
Two Factor Model	366.52**	151	.971	.076	.066; .086
<i>Incivility</i>					
<i>Sample 2</i>					
Single Factor Model	724.36**	119	.912	.144	.134; .154
Two Factor Model	254.81**	118	.980	.069	.057; .080
<i>Discriminant</i>					
<i>POS</i>					
<i>Sample 2</i>					
Single Factor Model	1081.03**	104	.932	.195	.185; .206
Two Factor Model	146.99**	103	.997	.042	.025; .056
<i>LMX</i>					
<i>Sample 2</i>					
Single Factor Model	2748.00**	209	.736	.269	.260; .278
Two Factor Model	394.14**	208	.981	.073	.062; .084

Note. Sample 1, N = 347; Sample 2, N = 246; Sample 3, N = 168. CFI = comparative fit index. RMSEA = root mean square of approximation. CI = confidence interval. POS = perceived organizational support. LMX = leader-member exchange. ** $p < .01$

Table 13. *Extraversion Differences in the PIMS*

	Sample 1			Sample 2			Sample 3		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
Introvert	170	2.36	1.40	52	1.85	1.03	31	1.59	.84
Ambivert	179	1.60	.95	128	1.52	.95	75	1.29	.63
Extravert	48	1.42	.97	66	1.15	.51	62	1.11	.29

Table 14. *Sex Differences in the PIMS*

	Women			<i>N</i>	Men		<i>t</i> -test
	<i>n</i>	<i>M</i>	<i>SD</i>		<i>M</i>	<i>SD</i>	
Sample 1	270	1.96	1.20	127	1.87	1.25	.70
Sample 2	172	1.54	.98	73	1.37	.68	1.35
Sample 3	109	1.27	.63	59	1.30	.56	.37

Table 15. *Race Differences in the PIMS*

	Sample 1			Sample 2			Sample 3		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
Asian	23	1.77	1.17	12	1.26	.29	4	1.00	.00
Black	32	2.09	1.42	20	1.72	1.02	23	1.23	.73
White	304	1.88	1.17	144	1.46	.86	93	1.32	.65
Hispanic	27	1.94	1.46	57	1.40	.80	42	1.24	.43
Native	2	1.20	0.14	-	-	-	2	1.60	.85

Table 16. *Summary of Hierarchical Regression Analyses, Sample 1*

Variable	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
<i>Predicting Task Performance, Time 2</i>						
Ethnic Discrimination	-.22	.09	-.35**	-.25	.08	-.40**
Gender Discrimination	.07	.07	.16	.06	.04	.15
Age Discrimination	-.04	.04	-.10	-.04	.04	-.11
PIMS				.04	.04	.10
R^2		.11			.12	
ΔR^2		.11			.01	
<i>F</i> for change in R^2		5.04**			.91	
<i>Predicting OCB, Time 2</i>						
Ethnic Discrimination	-.03	.22	-.01	.07	.25	.04
Gender Discrimination	-.09	.14	-.08	-.09	.14	-.07
Age Discrimination	.25	.12	.23*	.27	.12	.24*
PIMS				-.12	.13	-.10
R^2		.04			.05	
ΔR^2		.04			.01	
<i>F</i> for change in R^2		1.74			.83	
<i>Predicting CWB, Time 2</i>						
Ethnic Discrimination	-.15	.13	-.13	-.32	.13	-.29*
Gender Discrimination	.21	.08	.30**	.20	.07	.28**
Age Discrimination	.12	.07	.19	.10	.07	.15
PIMS				.21	.07	.31**
R^2		.11			.17	
ΔR^2		.11			.06	
<i>F</i> for change in R^2		4.89**			8.86**	

Variable	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
<i>Predicting Anxiety, Time 2</i>						
Ethnic Discrimination	-.42	.24	-.20	-.30	.27	-.14
Gender Discrimination	-.28	.15	-.20	-.27	.15	-.19
Age Discrimination	-.06	.13	-.04	-.04	.13	-.03
PIMS				-.15	.14	-.11
R^2		.14			.15	
ΔR^2		.14			.01	
<i>F</i> for change in R^2		6.36**			1.13	
<i>Predicting Depression, Time 2</i>						
Ethnic Discrimination	-.04	.27	-.02	.20	.30	.08
Gender Discrimination	-.52	.16	-.33**	-.51	.17	-.32**
Age Discrimination	-.09	.15	-.06	-.06	.14	-.04
PIMS				-.30	.16	-.20
R^2		.14			.16	
ΔR^2		.14			.02	
<i>F</i> for change in R^2		6.15**			3.50	
<i>Predicting Phys. Health, Time 2</i>						
Ethnic Discrimination	-.25	.20	-.15	-.02	.21	-.01
Gender Discrimination	-.16	.12	-.15	-.14	.12	-.13
Age Discrimination	-.10	.10	-.10	-.07	.10	-.07
PIMS				-.28	.11	-.27*
R^2		.10			.15	
ΔR^2		.10			.05	
<i>F</i> for change in R^2		4.38**			6.47*	

Variable	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
<i>Predicting Satisfaction, Time 2</i>						
Ethnic Discrimination	-.36	.25	-.17	.11	.26	.05
Gender Discrimination	-.15	.15	-.11	-.12	.14	-.08
Age Discrimination	-.04	.13	-.03	.02	.13	.01
PIMS				-.59	.14	-.44**
R^2		.07			.19	
ΔR^2		.07			.12	
<i>F</i> for change in R^2		2.83*			18.01**	
<i>Predicting Commitment, Time 2</i>						
Ethnic Discrimination	.11	.28	.05	.45	.30	.19
Gender Discrimination	-.26	.17	-.17	-.24	.17	-.16
Age Discrimination	-.16	.15	-.12	-.12	.15	-.08
PIMS				-.43	.16	-.29**
R^2		.05			.10	
ΔR^2		.05			.05	
<i>F</i> for change in R^2		1.87			7.25**	

Note. OCB = Organizational Citizenship Behaviors; CWB = Counterproductive Work Behaviors. Phys. Health = Physical Health.

* $p < .05$. ** $p < .01$.

Table 17. *Summary of Hierarchical Regression Analyses, Sample 2*

Variable	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
<i>Predicting Anxiety, Self-report</i>						
Ethnic Discrimination	.11	.12	.07	.12	.12	.07
Gender Discrimination	-.28	.11	-.19*	-.27	.10	-.19*
Age Discrimination	-.15	.10	-.12	-.14	.10	-.12
Incivility	-.15	.16	-.11	-.09	.16	-.06
Bullying	-.15	.16	-.10	-.10	.16	-.07
PIMS				-.24	.12	-.14*
R^2		.16			.17	
ΔR^2		.16			.01	
<i>F</i> for change in R^2		9.08**			4.21*	
<i>Predicting Anxiety, Other-report</i>						
Ethnic Discrimination	.12	.15	.10	.10	.15	.09
Gender Discrimination	.03	.15	.03	-.02	.15	-.02
Age Discrimination	.03	.14	.03	.06	.14	.07
Incivility	-.21	.18	-.20	-.13	.18	-.12
Bullying	-.12	.20	-.11	-.03	.20	-.03
PIMS				-.30	.14	-.27*
R^2		.06			.11	
ΔR^2		.06			.05	
<i>F</i> for change in R^2		.94			4.58*	

Variable	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
<i>Predicting Depression, Self-report</i>						
Ethnic Discrimination	.12	.12	.07	.12	.12	.07
Gender Discrimination	-.23	.10	-.17*	-.23	.10	-.17*
Age Discrimination	-.22	.09	-.18*	-.22	.09	-.18*
Incivility	-.20	.15	-.14	-.20	.15	-.14
Bullying	-.13	.15	-.09	-.13	.15	-.09
PIMS				.12	.12	.07**
R^2		.19			.23	
ΔR^2		.19			.04	
<i>F</i> for change in R^2		11.45**			10.70**	
<i>Predicting Depression, Other-report</i>						
Ethnic Discrimination	.21	.19	.15	.18	.18	.13
Gender Discrimination	-.12	.18	-.10	-.19	.18	-.16
Age Discrimination	.08	.17	.08	.13	.17	.14
Incivility	-.13	.22	-.10	.00	.21	.00
Bullying	-.33	.24	-.25	-.17	.24	-.13
PIMS				-.49	.17	-.36**
R^2		.09			.18	
ΔR^2		.09			.09	
<i>F</i> for change in R^2		1.65			8.45**	

Variable	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
<i>Predicting Phys. Health, Self-report</i>						
Ethnic Discrimination	.07	.09	.05	.07	.09	.06
Gender Discrimination	-.04	.08	-.03	-.03	.08	-.03
Age Discrimination	-.16	.07	-.17*	-.15	.07	-.16*
Incivility	-.22	.12	-.20	-.18	.12	-.16
Bullying	-.07	.12	-.06	-.04	.12	-.03
PIMS				-.17	.09	-.13
R^2		.14			.15	
ΔR^2		.14			.01	
<i>F</i> for change in R^2		7.79**			3.43	
<i>Predicting Phys. Health, Other-report</i>						
Ethnic Discrimination	-.13	.11	-.16	-.15	.10	-.17
Gender Discrimination	-.02	.10	-.03	-.06	.10	-.08
Age Discrimination	.03	.10	.05	.05	.10	.09
Incivility	-.16	.12	-.20	-.09	.12	-.12
Bullying	-.07	.14	-.10	.00	.14	.00
PIMS				-.23	.10	-.29*
R^2		.13			.19	
ΔR^2		.13			.06	
<i>F</i> for change in R^2		2.40*			5.57*	

Variable	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
<i>Predicting Satisfaction, Self-report</i>						
Ethnic Discrimination	-.04	.12	-.02	-.03	.12	-.02
Gender Discrimination	-.22	.11	-.15	-.21	.11	-.15
Age Discrimination	.04	.10	.03	.05	.10	.04
Incivility	-.39	.16	-.26*	-.34	.16	-.23*
Bullying	-.06	.16	-.04	-.03	.16	-.02
PIMS				-.17	.12	-.10
R^2		.15			.16	
ΔR^2		.15			.01	
<i>F</i> for change in R^2		8.35**			2.07	
<i>Predicting Satisfaction, Other-report</i>						
Ethnic Discrimination	.31	.20	.20	.29	.20	.19
Gender Discrimination	.27	.20	.21	.22	.20	.17
Age Discrimination	-.34	.19	-.32	-.30	.19	-.29
Incivility	-.14	.24	-.10	-.06	.24	-.04
Bullying	-.06	.26	-.04	.03	.26	.02
PIMS				-.30	.19	-.21
R^2		.08			.10	
ΔR^2		.08			.02	
<i>F</i> for change in R^2		1.31			2.57	

Variable	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
<i>Predicting Commitment, Self-report</i>						
Ethnic Discrimination	-.09	.13	-.05	-.09	.13	-.05
Gender Discrimination	-.14	.12	-.09	-.13	.12	-.09
Age Discrimination	.16	.11	.12	.17	.11	.13
Incivility	-.36	.18	-.23*	-.30	.18	-.19
Bullying	-.05	.18	-.03	-.01	.18	.00
PIMS				-.23	.13	-.13
R^2		.08			.09	
ΔR^2		.08			.01	
<i>F</i> for change in R^2		3.99**			2.93	
<i>Predicting Commitment, Other-report</i>						
Ethnic Discrimination	.14	.19	.09	.12	.19	.08
Gender Discrimination	.20	.19	.17	.15	.19	.12
Age Discrimination	-.28	.18	-.28	-.24	.18	-.24
Incivility	-.32	.23	-.23	-.22	.23	-.16
Bullying	.27	.25	.20	.38	.25	.28
PIMS				-.35	.18	-.25
R^2		.06			.11	
ΔR^2		.06			.05	
<i>F</i> for change in R^2		1.08			3.77	

Note. Phys. Health = Physical Health. * $p < .05$. ** $p < .01$.

Table 18. *Summary of Hierarchical Regression Analyses, Sample 3*

Variable	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
<i>Predicting Task Performance, Self-report</i>						
Ethnic Discrimination	-.04	.08	-.05	-.02	.08	-.02
Gender Discrimination	-.07	.07	-.09	-.06	.07	-.08
Age Discrimination	-.03	.08	-.03	-.01	.08	-.01
PIMS				-.14	.09	-.13
R^2		.02			.04	
ΔR^2		.02			.02	
<i>F</i> for change in R^2		1.13			2.54	
<i>Predicting Task Performance, Other-report</i>						
Ethnic Discrimination	.03	.04	.07	.03	.04	.07
Gender Discrimination	-.37	.06	-.62**	-.34	.06	-.58**
Age Discrimination	-.13	.06	-.21*	-.08	.07	-.13
PIMS				-.12	.07	-.18
R^2		.50			.52	
ΔR^2		.50			.02	
<i>F</i> for change in R^2		26.55**			3.15	
<i>Predicting OCB, Self-report</i>						
Ethnic Discrimination	.02	.16	.01	.04	.16	.02
Gender Discrimination	.13	.15	.08	.14	.15	.09
Age Discrimination	.04	.17	.02	.06	.18	.03
PIMS				-.12	.19	-.06
R^2		.01			.01	
ΔR^2		.01			.00	
<i>F</i> for change in R^2		.54			.43	

Variable	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
<i>Predicting OCB, Other-report</i>						
Ethnic Discrimination	-.06	.21	-.04	-.06	.21	-.04
Gender Discrimination	.12	.27	.06	.18	.28	.09
Age Discrimination	.28	.31	.13	.41	.34	.19
PIMS				-.32	.33	-.13
R^2		.02			.03	
ΔR^2		.02			.01	
<i>F</i> for change in R^2		.55			.90	
<i>Predicting CWB, Self-report</i>						
Ethnic Discrimination	.07	.08	.07	.01	.08	.01
Gender Discrimination	.02	.08	.02	-.01	.08	-.01
Age Discrimination	.18	.09	.18	.13	.09	.13
PIMS				.35	.10	.29**
R^2		.06			.13	
ΔR^2		.06			.07	
<i>F</i> for change in R^2		3.33*			13.11**	
<i>Predicting CWB, Other-report</i>						
Ethnic Discrimination	-.04	.10	-.05	-.03	.10	-.04
Gender Discrimination	.30	.13	.28*	.24	.13	.22
Age Discrimination	.16	.15	.14	.02	.16	.02
PIMS				.32	.16	.26*
R^2		.12			.17	
ΔR^2		.12			.05	
<i>F</i> for change in R^2		3.65*			4.01*	

Note. OCB = Organizational Citizenship Behaviors; CWB = Counterproductive Work Behaviors. * $p < .05$. ** $p < .01$.

APPENDIX C: IRB APPROVAL



University of Central Florida Institutional Review Board
Office of Research & Commercialization
12201 Research Parkway, Suite 501
Orlando, Florida 32826-3246
Telephone: 407-823-2901 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

Approval of Exempt Human Research

From: **UCF Institutional Review Board #1
FWA00000351, IRB00001138**

To: **Mallory McCord and Co-PI: Dana Joseph**

Date: **May 17, 2016**

Dear Researcher:

On 05/17/2016, the IRB approved the following minor modifications to human participant research that is exempt from regulation:

Type of Review:	Exempt Determination
Modification Type:	An additional 150 participants from MTurk are being added and the inclusion criteria have been changed slightly. A revised protocol has been uploaded and a revised consent document has been approved for use.
Project Title:	Frequency of Mistreatment
Investigator:	Mallory McCord
IRB Number:	SBE-15-11901
Funding Agency:	
Grant Title:	
Research ID:	N/A

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the [Investigator Manual](#).

On behalf of Sophia Dziegielewski, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:

Signature applied by Joanne Muratori on 05/17/2016 08:05:07 AM EDT

IRB Manager



University of Central Florida Institutional Review Board
Office of Research & Commercialization
12201 Research Parkway, Suite 501
Orlando, Florida 32826-3246
Telephone: 407-823-2901 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

Approval of Exempt Human Research

From: **UCF Institutional Review Board #1
FWA00000351, IRB00001138**

To: **Mallory McCord and Co-PI: Dana Joseph**

Date: **September 30, 2016**

Dear Researcher:

On 09/30/2016, the IRB approved the following activity as human participant research that is exempt from regulation:

Type of Review:	Exempt Determination
Project Title:	Measuring Mistreatment at Work
Investigator:	Mallory McCord
IRB Number:	SBE-16-12558
Funding Agency:	
Grant Title:	
Research ID:	N/A

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the [Investigator Manual](#).

On behalf of Sophia Dziegielewski, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:

A handwritten signature in black ink, appearing to read "Patria Davis", written over a horizontal line.

Signature applied by Patria Davis on 09/30/2016 09:09:15 AM EDT

IRB Coordinator

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