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Seeking Clarity in a Linguistic Fog: Moderators of the Workplace Aggression-Strain Relationship

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This study used cross-sectional data from 579 nurses to examine main and interaction effects of workplace aggression and theoretical nuances on employee strain. Perceived intensity of aggression and intention attributions by the target, power of the perpetrator in relation to the target, and perceived visibility of aggression by the target all served to exacerbate various relationships of workplace aggression with depression, physical symptoms, job satisfaction, and accidental contagious disease exposure. Three-way interactions reveal that these moderators may have complex roles in workplace aggression–strain research. This research supports a model where workplace aggression and its distinct moderators jointly impact employee strain and provide clarity to questions left unanswered due to term fragmentation and measurement overlap that currently obscure how mechanisms underlying workplace aggression constructs impact employee strains.

Workplace aggression has been conceived as behavior that harms or threatens to harm others at work (e.g., Loeber & Hay, 1997). It is a variable of interest in a variety of fields, as it is a frequently occurring stressor (Duhart, 2001; Gerberich et al., 2004; Hahn, 2000; National Institute of Occupational Safety and Health [NIOSH], 2009; VandenBos & Bulatao, 1996) as well as a particularly detrimental stressor (Bolger, DeLongis, Kessler, & Schilling, 1989; Kandel, Davies, & Raveis, 1985; Keenan & Newton, 1985; Narayanan, Menon, & Spector, 1999a; Schwartz & Stone, 1993; Smith & Sulsky, 1995). Accordingly, research in the area of workplace aggression has increased dramatically over the past 20 years. During this time, our understanding of the nuances of workplace aggression from the target's perspective has been developed and refined. As these distinctions have been identified, new constructs have been defined. Thus, terms such as workplace aggression (e.g., Neuman & Baron, 1998), bullying (e.g., Rayner, 1997), incivility (e.g., Andersson & Pearson, 1999), interpersonal conflict (e.g., Spector & Jex, 1998), emotional abuse (e.g., Keashly, Hunter, & Harvey, 1997), social undermining (e.g., Duffy, Ganster, & Pagon, 2002), mobbing (e.g., Leymann, 1990), victimization (e.g., Aquino, Grover, Bradfield, & Allen,

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1999), petty tyranny (e.g., Ashforth, 1994), and abusive supervision (e.g., Tepper, 2000) have emerged in this rapidly evolving research field.

This growth has led to a fracturing in the research and theoretical development of the broader area of workplace aggression, entering the "semantic jungle" that has plagued research examining human aggression for decades (Bandura, 1973, p. 2). As with general human aggression, workplace researchers have called for a more unified view of workplace aggression and a more useful research model (Fox & Spector, 2005; Hershcovis, 2011; Raver, 2008; Tepper & Henle, 2011). Multiple impediments have been identified, including scales that fail to assess the unique elements of the intended construct (Spector & Fox, 2005) and substantial measurement overlap among distinct workplace aggression constructs (Hershcovis, 2011; Tepper & Henle, 2011). Hershcovis (2011) noted that one way to disentangle these hindrances within the workplace aggression field would be to examine all workplace aggression behaviors or acts separately from identified nuances of the aggression experience. Nuances, such as the *intensity* of the workplace aggression experience, the *intention attributions* made by the target of the aggressive acts, the *relationship power* differences between the perpetrator and the target of aggression, and the *perceived visibility* of the aggressive acts, were proposed as moderators of the relationship between workplace aggression experience and employee strain (Hershcovis, 2011).

In response to these calls, the aim of this study was to examine hypotheses derived from a model of workplace aggression proposed by Hershcovis (2011; see **Figure 1**). This model was proposed as one possible way to reconcile overlapping workplace aggression constructs and measurement tools, potentially providing order to an arguably fragmented field. A measure of commonly identified types of workplace aggression and the four prominent theoretical moderators, including intensity, intention attributions, relationship power, and perceived visibility, were examined in a model predicting a range of employee strain, including depression, physical symptoms, job satisfaction, and accidents/injuries.

THEORETICAL BACKGROUND

Workplace Aggression

Workplace aggression can manifest as physical aggression or nonphysical aggression directed toward employees. Physical aggression refers to physical contact, or when a spatial barrier

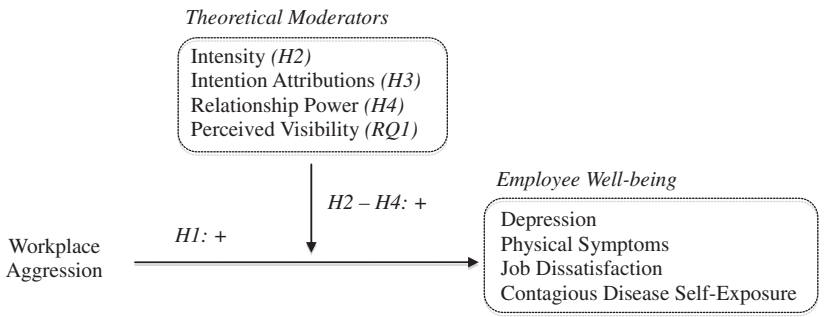

FIGURE 1 Hypothesized relationships derived from Hershcovis's (2011) framework.

between a perpetrator and target is breached, and includes violence such as being spit at or punched. Nonphysical aggression refers to acts that do not involve physical contact, such that the spatial barrier between a perpetrator and target is not breached. Nonphysical aggression can include verbal aggression, such as yelling, and psychological aggression, such as threatening gestures, postures, or looks (Schat, Frone, & Kelloway, 2006; Schat & Kelloway, 2003). Individuals are exposed to both physical and nonphysical aggression in the workplace (LeBlanc & Kelloway, 2002), although the prevalence of nonphysical aggression is significantly higher than physical aggression (Baron & Neuman, 1996; Gerberich et al., 2004; Greenberg & Barling, 1999; U.S. Postal Service Commission on a Safe and Secure Workplace, 2000). A national U.S. survey estimated that annually 6% of Americans experience physical aggression and 41% experience nonphysical aggression (Schat et al., 2006).

Workplace aggression is considered a major occupational hazard in fields such as nursing (Ramsay et al., 2006), where in the United States it was estimated that nurses are 16 times more likely to experience workplace aggression than any other workers (Elliott, 1997). The actual occurrence rates of workplace aggression are most likely even higher than these studies suggest, as many incidents of aggression are unreported (Ferns, 2006; Ray, 2007). Health care settings, particularly hospitals, are prone to increased acts of workplace aggression given many situational and patient factors, including working alone or in small numbers in high-crime areas, availability of drugs and money in hospitals, exposure to patients with mental instability or substance abuse issues, and agitated or distraught patients or family members (Curbow, 2002). Furthermore, the experience of workplace aggression, examined under the umbrella of the many terms mentioned previously, is among the most frequently cited and detrimentally perceived job stressors in qualitative occupational stress research (Keenan & Newton, 1985; Narayanan, Menon, & Spector, 1999b). Consequently, there are frequent calls to examine workplace aggression and its outcomes, particularly in high-risk occupations like nursing (International Labour Office, International Council of Nurses, World Health Organization, & Public Services International, 2002; Lanza, Zeiss, & Rierdan, 2006; NIOSH, 2009).

Workplace Aggression–Strain Process

Workplace aggression from the target's perspective represents a job stressor in that, when it occurs, an individual may respond with negative reactions. Most theoretical frameworks posit a stimulus-response process in which job stressors such as aggression exposure lead to employee strain (e.g., French & Raven, 1962; Frese & Zapf, 1988; Kahn & Boysiere, 1992; Spector, 1998). Job stressors are conceptualized as conditions or situations at work that require an adaptive response (Beehr & Newman, 1978) and elicit negative emotional responses, such as anger or frustration, from employees (e.g., Spector, 1998). Strain responses can be divided into three broad categories, including psychological, behavioral, and physical strains (Jex & Beehr, 1991). Psychological strains refer to emotional responses to stressors, such as anxiety or depression, as well as attitudinal responses to stress, such as job dissatisfaction. Behavioral strains are actions or instances of behavior elicited in response to a job stressor, such as an act of aggression or leaving the organization for another position elsewhere. Physical strains include a number of both short-term and long-term responses (Frese & Zapf, 1988), such as suppressed immune system

functioning (Cohen & Herbert, 1996; O'Leary, 1990) or cardiovascular disease (Landsbergis et al., 2003).

Strains associated with workplace aggression, specifically strains related to employee health and well-being, include negative emotional reactions such as depression (e.g., Bowling & Beehr, 2006; Needham, Abderhalden, Halfens, Fischer, & Dassen, 2005), attitudinal responses such as job dissatisfaction (e.g., Bowling & Beehr, 2006; Gerberich et al., 2004; LeBlanc & Kelloway, 2002), and physical strains, or psychosomatic symptoms (e.g., Bowling & Beehr, 2006; Gerberich et al., 2004; Nixon, Mazzola, Bauer, Krueger, & Spector, 2011). In addition, the likelihood of accidents and injuries may increase (e.g., Yang, 2009) due to continuous conscious processing being disrupted by the stress process (Mandler, 1979, 1984), reducing attentional resources (Mandler, 1975, 1993) decreasing memory for central tasks (Deffenbacher, 1983; Loftus & Burns, 1982), and impairing cognitive functioning (Bekker, de Jong, Zijlstra, & van Landeghem, 2000; Hamilton, 1975; Janis, 1993; van der Linden, Keijsers, Eling, & van Schaijk, 2005). The disrupted cognition that results from experiencing a stressor can cause a distraction for the individual, which leads to errors in conducting tasks, thus increasing the likelihood of an accident or injury, which might be contagious disease self-exposure such as a needlestick in healthcare workers (Wadsworth, Moss, Simpson, & Smith, 2003).

H1: Workplace aggression will be positively correlated with depression, physical symptoms, and accidental contagious disease exposure, and negatively correlated with job satisfaction.

A Field in Disarray

One major problem for the area of workplace aggression is that, although various constructs have clear differences from one another based on their definitions, the scales used to evaluate the constructs (e.g., bullying, incivility, emotional abuse, abusive supervision, etc.) in survey research have not sufficiently differentiated the nuances the constructs were intended to capture. Spector and Fox (2005), Hershcovis (2011), and Tepper and Henle (2011) pointed out that the way many of these constructs are measured fails to capture the critical elements of each construct that make it unique. For instance, incivility is defined as low-intensity deviant acts, such as rude and discourteous behaviors enacted toward another organizational member with ambiguous intent to harm (Andersson & Pearson, 1999). Yet measures of this construct do not include elements that gauge intensity or attributions made about intent (Raver & Barling, 2008), and the scales include behaviors that may or may not be seen as ambiguous in intent or of low intensity to respondents. Intensity and intention attributions are assumed, as is the notion that norms for mutual respect do not vary across organizational contexts (Tepper & Henle, 2011). This psychometric limitation plagues many workplace aggression measures, including abusive supervision, bullying, and social undermining (see Hershcovis, 2011; Tepper & Henle, 2011).

Hershcovis (2011) also demonstrated that there is substantial measurement overlap among workplace aggression constructs. In other words, items used in various scales that are designed to assess differences among these constructs overlap with one another. Although this overlap does not invalidate construct measures per se (e.g., Tepper & Henle, 2011), it may contribute to construct proliferation and hinder a detailed understanding of the constructs in question. For example, bullying is defined as instances where an employee is repeatedly, over time, exposed

to negative acts from coworkers, supervisors, or subordinates (Einarsen, 2000). Based on their conceptual definitions, incivility and bullying represent opposite ends of the intensity and intention attribution spectra, with incivility capturing low-intensity, ambiguous intentioned actions and bullying capturing high-intensity, intentional aggression. Yet scales that assess both include items that gauge the same behaviors, including items assessing rudeness, ignoring opinions, receiving the silent treatment, and derogatory remarks (Hershcovis, 2011). Thus, identical behaviors are being measured on bullying and incivility scales, which could inflate the empirically identified interrelationships beyond the degree of actual overlap in the theoretical constructs. In this manner, our understanding of how these constructs interrelate with each other, as well as important distinctions in antecedents and consequences, may be impeded.

Furthermore, Hershcovis (2011) examined the empirical relationships between workplace aggression variables and strains. Given the conceptual definitions of incivility and bullying, bullying would theoretically be expected to be more strongly related to employee strain than incivility. In her meta-analysis, Hershcovis found that, rather than a theoretically expected pattern of relationships, the relationships between incivility and bullying with strain were almost indistinguishable. That is, confidence intervals for incivility and bullying overlapped when examining job satisfaction, turnover intent, and psychological well-being, although physical well-being was more strongly related to bulling than incivility. Due to limitations in measurement of these variables, conclusions cannot be made with regard to whether incivility is just as detrimental as bullying, whether the incivility behaviors measured are perceived as low intensity and of ambiguous intent while bullying is perceived as intense and intentional, or whether the pattern of results were driven by other moderators.

To disentangle and advance the field of workplace aggression, Hershcovis (2011) suggested that the common theoretically identified nuances of these workplace aggression constructs should be assessed as distinct from the acts of aggression themselves and treated as moderators of the workplace aggression–strain relationship. Specifically, the nuances relating to the intensity, attributions about intentions, and perceived visibility of the aggressive behaviors, as well as power differences between perpetrator and victim, should be examined.

Intensity. Intensity refers to the level of severity the target of an aggressive behavior perceives (e.g., Barling, 1996). It has been assumed that the intensity of the aggressive behaviors will affect the impact of those behaviors on outcomes such that higher intensity will lead to more negative outcomes. Intensity is an implied aspect of many workplace aggression concepts, such as emotional abuse (Keashly et al., 1997) and mobbing (Leymann, 1990). This assumption is explicit in research examining incivility, which is defined as low intensity aggressive acts (Andersson & Pearson, 1999). Researchers examining incivility maintain that, despite the low intensity of the aggressive behaviors, these behaviors can have a detrimental effect on the targets. Measuring intensity will allow researchers to assess the actual, versus assumed, impact of perceived severity of aggressive behavior, there by addressing a prominent question posed by Hershcovis (2011). Based on the research in this area and theoretical assumptions, the following hypothesis is proposed:

H2: The relationships between workplace aggression and strains will be moderated by the perceived intensity of the aggressive behavior. Specifically, the positive relationships between workplace aggression and employee strain will be weaker for employees

who report low-intensity aggression than their counterparts who report high-intensity aggression.

Intention attributions. Intention attribution refers to whether the target of workplace aggression believes that the perpetrator intended to cause harm with their behavior. Intention is specifically assumed by several workplace aggression constructs, including bullying (Einarsen, 2000), victimization (Aquino et al., 1999), and social undermining (Duffy et al., 2002). It is also assumed that if a target perceives a behavior as intending to be harmful, they will have a more negative reaction to the behavior. Some support for this contention is provided by research examining blame attributions and revenge behaviors. Blame attributions, which are associated with perceived intent, for a perceived transgression are associated with higher levels of revenge behaviors (Aquino, Tripp, & Bies, 2001), which may suggest that perceived intent could exacerbate the positive relationship between workplace aggression and employee strain. Based on this tangential evidence, the following hypothesis is proposed:

H3: The relationships between workplace aggression and strains will be moderated by intention attributions made about the behaviors. Specifically, the positive relationships between workplace aggression and employee strain will be weaker for employees who perceive aggression as being unintentional than for their counterparts who perceive aggression as being intentional.

Relationship power. Relationship power refers to the perception by the target that the perpetrator of an aggressive act has power over the target. Theoretical and empirical evidence support the expectation that relationship power will moderate the relationship between workplace aggression and its outcomes. Based on social exchange, particularly reciprocity and power and influence theories (Emerson, 1962; French & Raven, 1959; Molm, 1988), we would expect aggression originating from an individual with more power than the target to lead to worse outcomes for the target, as indicated by stronger effect sizes. Supervisors commonly have multiple forms of influence over their subordinates (French & Raven, 1959); supervisors generally influence their subordinates through feedback and review, advancement decisions, compensation, and treatment by colleagues. As posited by power-dependence theory (Emerson, 1962), when a person's dependence is inversely related to their power, the individual with greater dependence/less power is constrained in their recourse options (Molm, 1988). Thus, when a supervisor's behavior toward a subordinate is aggressive, the subordinate may feel that he or she has less recourse to address the situation than when workplace aggression occurs between two individuals of equal status in the organization.

Because the target may be restricted in his or her ability to address the aggression from a supervisor, personal and organizational outcomes may become exacerbated. This phenomenon is easily explained through the coping literature. Coping is generally thought to be either emotion focused or problem focused in nature. Problem-focused coping, in which an individual may try to address and fix the problem, has been found to be more effective than emotion-focused coping, in which an individual may try to reduce the impact of the stressor through activities such as talking about the incident, drinking alcohol, or exercising (Lazarus, 1991; O'Leary, 1990). Because the target of supervisor-initiated aggression also experiences limited problem-focused coping options, they are likely to only have an emotion-focused alternative and will experience more negative outcomes associated with the aggression. Stronger relationships between workplace aggression and its outcomes have been identified when the aggression originates from a supervisor than from

coworkers or members of the public (Hershcovis & Barling, 2010). Therefore, the Relationship Power Moderator subscale will assess structural power differences between perpetrators and targets in incidences of aggression. This definition aligns with constructs such as abusive supervision (Tepper, 2000) and petty tyranny (Ashforth, 1994), which are workplace aggression constructs that account for supervisor–subordinate power differentials. Likewise, research on social undermining (Duffy et al., 2002) distinguishes between similar acts perpetrated by coworkers and supervisors. Thus, the theoretical expectation still holds that power will moderate the relationships between workplace aggression and employee strain. Accordingly, the following hypothesis is proposed:

H4: The relationships between workplace aggression and strains will be moderated by perpetrator power. Specifically, the positive relationships between workplace aggression and employee strain will be weaker for employees who report low power relationships with their perpetrator (i.e., coworker, patient, or family member) than their counterparts who report high power relationships with their perpetrator (i.e., supervisor).

Perceived visibility. Perceived visibility refers to whether the target of aggression believes that others are aware of the aggressive behavior. This construct is highly related to the distinction between overt and covert aggression (Baron & Neuman, 1998). Overt aggression includes behaviors that can be easily identified as aggressive in nature, such as throwing objects, name calling, or abusive verbal exchanges. Alternatively, covert behaviors are more ambiguous and less visible, such as withholding information, failing to reply to correspondence, or sabotage. The distinction between overt and covert aggression has been suggested to be closely associated with perceptions of intent, in that overt behaviors are more readily identified as intentional aggression (Neuman & Baron, 2005). Perceived visibility has not been explicitly addressed through the workplace aggression literature, although covert and overt acts are included on most workplace aggression measures. Thus, it is implicit in many constructs, including workplace aggression (Neuman & Baron, 1998), emotional abuse (Keashly et al., 1997), social undermining (Duffy et al., 2002), victimization (Aquino et al., 1999), petty tyranny (Ashforth, 1994), and abusive supervision (Tepper, 2000).

Despite the association between overt and covert aggression with intention attribution, it is unclear as to how perceived visibility will affect the relationship between workplace aggression and its outcomes. If perceived visibility is associated with intention attributions, then overt aggression, or aggression that is perceived as visible to others, may have more negative outcomes than covert aggression. This relationship could be explained through the same mechanisms as intention attribution, or through research on justice and groups, which has shown that mistreatment by one group member is a cue for the value or worth of that person to the group (Lind & Tyler, 1988). If this is the case, targets may suffer from the initial act of aggression, as well as humiliation in knowing that other group member are aware of that aggression. Alternatively, less visible or covert aggression may be associated with more negative outcomes, as a target may feel that there is no organization framework through which to address such subtle forms of aggression, thus the aggression continues unabated. Because perceived visibility has not been explicitly examined in the past, the following exploratory research question is proposed:

RQ1: Does the target's perception of visibility moderate the relationships between workplace aggression and strains?

METHOD

Participants and Procedure

Participants were 579 nurses employed at a large private, not-for-profit hospital in Florida. The participants were disproportionately female (90%). Participants were 40 years old on average; they ranged from 19 to 69 years old. In addition, the participants worked an average of 38 hr per week and reported working with their organizations for 6 years 7 months on average. Nine hundred potential participants were recruited through their organizational e-mail, for a response rate of 64%. Participants completed the questionnaire posted on a web-based service and were offered incentives to participate in the form of $8.00 Starbucks gift certificates. These were the only benefits for individuals participating in this study.

Measures

Demographic information regarding the participants' age, gender, job tenure, and number of weekly work hours were collected through self-report at the beginning of the survey. Coefficient alphas are reported for all reflexive scales; however, coefficient alphas are not reported for formative scales. Formative scales combine multiple experiences that do not necessarily relate to one another, and thus high internal consistency would not be expected or be interpretable (e.g., Diamantopoulos & Winklhofer, 2001). Formative scales were employed given the nature of causal priority between the indicators and latent variables; experience of workplace aggression was conceived as the combination of experienced behaviors, rather than an underlying construct that gives rise to observable and measurable indicators (e.g., Bollen, 1989; Fornell & Bookstein, 1982).

To assess the construct validity for the Workplace Aggression and Moderator scales, all study items were evaluated simultaneously in a confirmatory factor analysis (CFA), which demonstrated reasonably adequate fit based on commonly accepted criteria (see Hu & Bentler, 1999; Kline, 2005), $\chi^2(579) = 2498.22$, $p = .01$; comparative fit index (CFI) = .89, root mean square error of approximation (RMSEA) = .05, standardized root mean square residual (SRMR) = .05. Although the chi-square score was significant, this may be driven by the sample size, as chi-square is affected by large sample sizes (Tabachnick & Fidell, 2007). Likewise, the CFI was at the lower end of the acceptable range, but this measure of fit is driven by correlations in the data, which is not necessarily expected when assessing multiple formative scales that should demonstrate discriminate validity. Furthermore, all factor loadings were statistically significant for their respective construct at $p < .05$, and all items generated satisfactory standardized average variance extracted estimates for their respective construct, ranging from .56 to .75 (Fornell & Larcker, 1981). Finally, latent correlations among different constructs were examined and suggested there was an adequate degree of discriminant validity, with correlations ranging from −.14 to .64. Individual scale formative measurement models were identified through structural relations with two reflective constructs, which were allowed to correlate (Jarvis, MacKenzie, & Podsakoff, 2003). We report results of CFAs for each of the aggression scales next. Analyses were conducted with Mplus version 7.1 software. Additional details of reliability and evidence for construct validity from prior studies can be found elsewhere (e.g., Nixon, 2012; Nixon & Spector, 2012).

Workplace aggression frequency. The frequency of seven types of aggressive behavior—verbal aggression, intimidation, social exclusion, undermining, rude behavior, interpersonal conflict, and physical aggression—was assessed (see the appendix for items). Workplace aggression was measured using a 6-point Frequency Response scale, ranging from *not at all* to *5 or more times*. Scores were averaged across all items, and a higher number indicates the experience of more frequent exposure to workplace aggression. CFA results indicated acceptable fit, $\chi^2(42) = 42.79$, $p = .44$, *ns*; CFI = .99, RMSEA = .01, SRMR = .02. No modification indices met the minimum criteria.

Intensity. Perceived intensity was assessed in response to experienced aggression for each of the seven forms of workplace aggression measured. For example, participants were asked, "In general, how much do these acts of verbal aggression upset you?" Responses were measured with a 6-point response scale ranging from *not at all* to *greatly*. Scores were averaged across all items rated, with higher scores indicating higher perceived intensity. CFA results indicated acceptable fit based on common criteria: $\chi^2(42) = 60.19$, $p = .05$, *ns*; CFI = .98, RMSEA = .03, SRMR = .02. No modification indices met the minimum criteria.

Intention attributions. As with intensity, intention attributions were assessed in response to experienced aggression for each of the seven forms of workplace aggression measured. An sample item was, "In general, you feel these acts of exclusion were intended to harm you." Responses were measured with a 6-point response scale ranging from *strongly disagree* to *strongly agree*. Scores were averaged across all items, with higher scores indicating higher attributions of intention. CFA results indicated acceptable fit based on common criteria, $\chi^2(42) = 40.55$, $p = .53$, *ns*; CFI = .99, RMSEA = .01, SRMR = .02. No modification indices met the minimum criteria.

Relationship power. Relationship power was assessed in response to experienced aggression for each of the seven forms of workplace aggression measured. For example, participants were asked, "How many acts of undermining were enacted by individuals in the following positions?" Respondents noted the number of acts perpetrated by supervisors, such that higher scores indicate more aggression from supervisors. CFA results indicated reasonably acceptable fit based on common criteria, $\chi^2(42) = 84.22$, $p = .01$; CFI = .98, RMSEA = .04, SRMR = .03. No modification indices met the minimum criteria.

Perceived visibility. Perceived visibility was assessed in response to experienced aggression for each of the seven forms of workplace aggression measured. A sample item was, "In general, you feel that when these acts of interpersonal conflict occurred, other people in your organization were aware of it." Responses were measured with a 6-point response scale ranging from *strongly disagree* to *strongly agree*. Scores were averaged across all items, with higher scores indicating higher perceived visibility. CFA results indicated acceptable fit based on common criteria: $\chi^2(42) = 46.87$, $p = .28$, *ns*; CFI = .99, RMSEA = .02, SRMR = .02. No modification indices met the minimum criteria.

Depression. The six-item subscale from the Brief Symptom Inventory 18 (Derogates, 2003) was used to measure depression. A sample item was, "I feel unhappy." Five response choices ranged from *never or a little at a time* to *most of the time*. Responses were averaged across items, and higher scores indicate higher depression. The coefficient alpha for this scale was .88.

Physical symptoms. The shortened 12-item Physical Symptom Inventory (Spector & Jex, 1998) asked participants to indicate how often they experienced physical strains. Sample items include symptoms such as headaches and difficulties sleeping. Five response choices ranged from *never or a little at a time* to *most of the time*. Responses were averaged across items, and higher score indicate more physical symptoms.

Job satisfaction. Job satisfaction was assessed using the Job Satisfaction scale from the Michigan Organizational Assessment Questionnaire (Cammann, Fichman, Jenkins, & Klesh, 1979). The three-item scale contains two positively worded and one negatively worded reverse-scaled item. The six response choices ranged from *strongly disagree* to *strongly agree*. Responses were averaged across items, with high scores indicating high satisfaction. A sample item was "In general, I like working here." The coefficient alpha for this scale was .90.

Contagious disease self-exposure. Exposure to contagious diseases (e.g., needlestick or sharps injury) was assessed with five items originally developed by Yang (2009). Participants were instructed to reply about the frequency of experiencing exposures during the prior 12 months, from 1 (*never*) to 5 (*four or more times*). A sample item is "I had a bloodborne pathogenic exposure." Responses were averaged across items, and higher scores indicate more frequent exposure to contagious disease.

RESULTS

The means, standard deviations, and Pearson correlations between all study variables are presented in **Table 1**. The majority of participants reported experiencing multiple types of workplace aggression in the prior month; 46 participants (8% of the sample) reported that they had not experienced any workplace aggression during that period. These data were included in the correlational analyses but were excluded from the moderation analyses, as information about the moderators was not collected if aggression had not been experienced. The total sample size for the moderator analysis, including coefficient alphas, ranged from 498 to 529. Correlational analyses ($n = 579$) were computed to test Hypothesis 1. Hypothesis 1 was supported in that workplace aggression frequency was positively related to depression, physical symptoms, and contagious disease self-exposure and negatively related to job satisfaction.

With regard to the moderator subscales, Intention Attributions and Relationship Power were each positively related to depression, physical symptoms, and contagious disease self-exposure, as well as negatively related to job satisfaction. The Intensity and Perceived Visibility subscales were positively related to depression and physical symptoms. Moreover, intensity was negatively related to job satisfaction, although perceived visibility was not. Neither intensity nor perceived visibility was significantly related to contagious disease self-exposure.

To examine H2, H3, H4, and RQ1, moderated multiple regression was used (Aiken & West, 1991). The results of these analyses can be seen in **Table 2**. Main effect terms and two-way interaction terms were entered in one step. All main effect variables were centered prior to calculating the interaction terms. Significant moderation effects were identified when the corresponding interaction term had a significant β coefficient. If significant, interactions were graphed using the unstandardized beta weights to illustrate the moderating effects (Dawson, 2014). Controlling for

TABLE 1
Means, Standard Deviations, and Pearson Correlations Between Study Variables

	M	*SD*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*
1. Workplace aggression	2.20	1.02								
2. Intensity	3.28	1.29	.32*							
3. Intention attribution	3.03	1.18	.49*	.43*						
4. Relationship power	1.28	0.88	.46*	.21*	.24*					
5. Perceived visibility	3.68	1.20	.33*	.30*	.48*	.11*				
6. Depression	1.93	0.82	.40*	.31*	.32*	.25*	.20*			
7. Physical symptoms	1.87	0.62	.41*	.35*	.32*	.26*	.24*	.52*		
8. Job satisfaction	4.72	1.14	−.39*	−.24*	−.29*	−.29*	−.03	−.48*	−.33*	
9. Contagious disease self-exposure	1.09	0.27	.21*	.06	.14*	.10*	.03	.16*	.14*	−.15*

*$p < .05$.

TABLE 2
Moderated Regression Analyses

Predictors	*Depression*	*Physical Symptoms*	*Job Satisfaction*	*Contagious Disease Self-Exposure*
Workplace aggression	.28*	.30*	−.28*	.16*
Intensity	.22*	.25*	−.15*	.01
Aggression × Intensity	.16*	.07†	−.10*	.09*
Model R^2	.22*	.22*	.16*	.05*
Workplace aggression	.27*	.28*	−.25*	.12*
Intention attributions	.17*	.17*	−.15*	.07
Aggression × Attributions	.12*	.20*	−.10*	.12*
Model R^2	.19*	.19*	.16*	.06*
Workplace aggression	.32*	.33*	−.31*	.19*
Relationship power	.38*	.39*	−.28*	.05
Aggression × Power	−.30*	−.30*	.13	−.04
Model R^2	.18*	.19*	.17*	.04*
Workplace aggression	.32*	.33*	−.37*	.24*
Perceived visibility	.11*	.14*	.09*	−.06
Aggression × Visibility	.13*	.06	−.07†	−.07
Model R^2	.18*	.18*	.15*	.05*

Note. Aggression = workplace aggression; Intention = intention attributions; Power = Relationship power; Visibility = perceived visibility.

The coefficients are the standardized beta weights, *$p < .05$. †$p < .10$.

demographic variables of age, employee tenure, and work hours by adding them to the regression analyses did not alter the pattern of focal coefficients. Therefore, the coefficients presented in **Table 2** do not include control variables. All results are significant at $p < .05$ unless otherwise noted. We report significance up to $p < .10$, as suggested by Bing, LeBreton, Davison, Migetz, and James (2007) to balance the Type 1 versus Type 2 error rates for moderator tests.

H2 posited that intensity would moderate the relationships between workplace aggression and employee strain. This hypothesis was supported as the relationships between workplace aggression with depression, physical symptoms ($p = .07$), job satisfaction, and contagious disease self-exposure were moderated by intensity. As hypothesized, the positive relationships of workplace aggression with depression and contagious disease self-exposure were weaker for employees who reported lower intensity than for employees who reported higher intensity when workplace aggression was frequent (see **Figure 2**). Likewise, the negative relationship between workplace aggression and job satisfaction was stronger for employees who reported high intensity, rather than low intensity (see **Figure 3**). When workplace aggression was infrequent, the levels of strain did not differ based on reported intensity. H2 was supported by these data.

H3 posited that intention attributions would moderate the relationships between workplace aggression and employee strain. This hypothesis was supported for the relationships of workplace aggression with depression, physical symptoms, job satisfaction, and contagious disease self-exposure. As hypothesized, the positive relationships of workplace aggression with depression, physical symptoms, and contagious disease self-exposure are weaker for employees who reported lower intention attributions than for employees who reported higher intention attributions (see **Figure 4**). Similarly to intensity, the negative relationship between workplace aggression with job

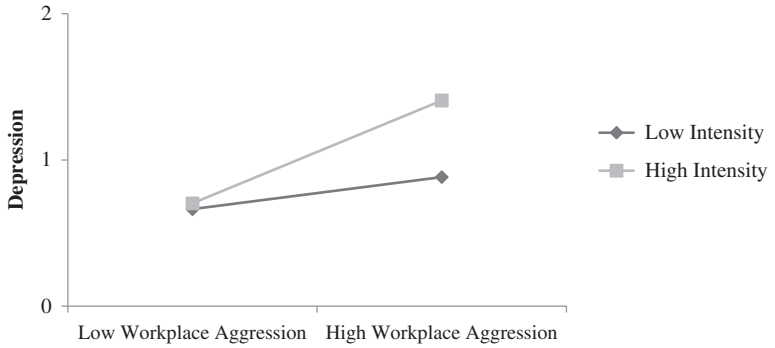

FIGURE 2 Intensity moderates the relationship between workplace aggression and depression.

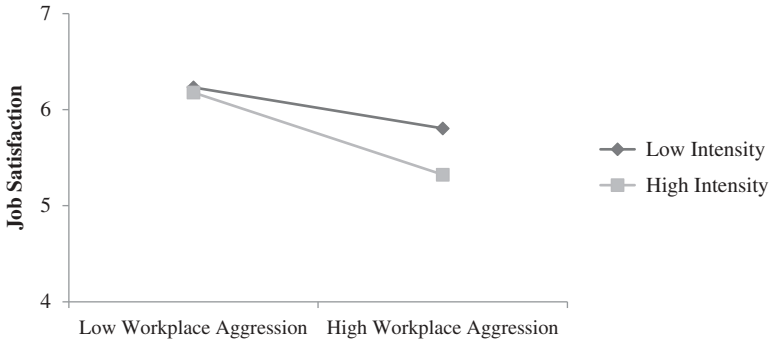

FIGURE 3 Intensity moderates the relationship between workplace aggression and job satisfaction.

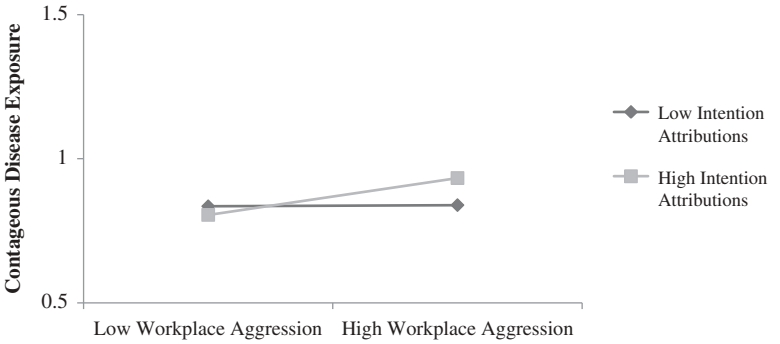

FIGURE 4 Intention attributions moderate the relationship between workplace aggression and contagious disease self-exposure.

satisfaction was stronger when employees reported high, rather than low, intention attributions. When workplace aggression was infrequent, employee strain did not differ based on reported intention attributions. H3 was supported by these data.

H4 posited that relationship power would moderate the relationships between workplace aggression and employee strain. Relationship power failed to moderate the relationships between workplace aggression with job satisfaction and contagious disease self-exposure. The interactions between workplace aggression with depression and physical symptoms were significant, although the interaction effect was not as hypothesized. The positive relationships of workplace aggression with depression and physical symptoms are stronger for employees who reported low, rather than high, relationship power, even though the employees who reported low, rather than high, relationship power reported lower depression and physical symptoms overall (see **Figure 5**). Therefore, H4 was not supported by these data.

RQ1 asked whether perceived visibility of workplace aggression would moderate the relationships between the frequency of workplace aggression and employee strain. Perceived visibility moderated the relationships of workplace aggression with depression and job satisfaction

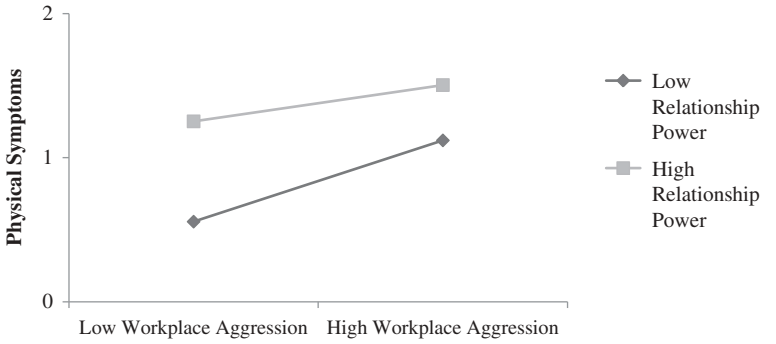

FIGURE 5 Relationship power moderates the relationship between workplace aggression and physical symptoms.

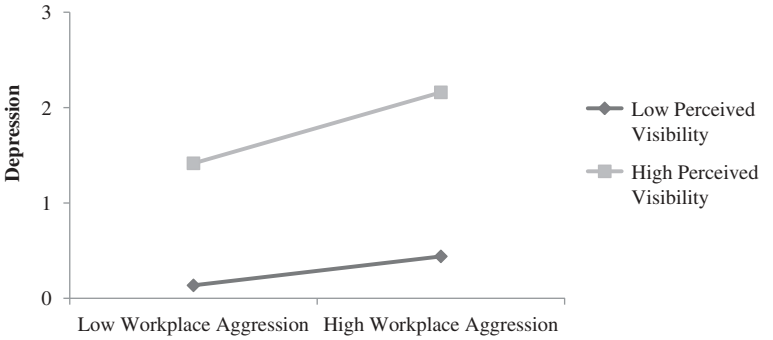

FIGURE 6 Perceived visibility moderates the relationship between workplace aggression and depression.

($p = .10$), such that employees perceiving aggression as high visibility also reported more depression and less job satisfaction than employees who perceived aggression as low visibility (see **Figure 6**). Perceived visibility failed to moderate the relationship between workplace aggression and physical symptoms and contagious disease self-exposure. Thus, limited evidence was found for the moderating role of perceived visibility on workplace aggression–strain relationships.

Moderated multiple regression was also used to probe three-way interaction effects (see **Table 3**; Aiken & West, 1991), following the same procedure as just described. Several three-way interactions were significant and probed with simple slopes analysis. Depression was significantly predicted by interactions between workplace aggression and relationship power with intensity as well as perceived visibility. For employees who reported both high (vs. low) relationship power and low (vs. high) perceived visibility, the relationship between workplace aggression and depression was negative (vs. positive; see **Figure 7**). The slope for this group, Group 2, differed significantly from Group 3 ($t = 4.09$) but not from Group 1 ($t = 1.77$) or Group 4 ($t = 1.76$). The relationship between workplace aggression and depression was positive and demonstrated nonsignificantly different slopes across Groups 1, 3, and 4, with t values ranging from .07 to 1.77. These findings were similar for the three-way interaction effects of exposure to workplace aggression, relationship power, and intensity on depression.

Job satisfaction was significantly predicted by an interaction between workplace aggression, intensity, and relationship power ($p = .09$). The negative relationship between workplace aggression and job satisfaction was similar across employees who reported high intensity, as well as low intensity and low relationship power (see **Figure 8**). T values for the slope differences indicate that Groups 1, 2, and 4 do not differ from one another, with t values ranging from .24 to 1.41. However, employees in Group 3 who reported low intensity and high relationship power exhibited a positive (vs. negative) relationship between workplace aggression and job satisfaction. T values for the slope differences indicate that the slope for Group 3 differed significantly from Group 1 ($t = 1.96$) and Group 2 ($t = 3.08$) but did not differ significantly from Group 4 ($t = 1.41$).

Finally, contagious disease self-exposure was significantly predicted by interactions between workplace aggression with intention attributions and intensity, intention attributions and perceived visibility, and intensity and perceived visibility. As depicted in **Figure 9**, employees in

TABLE 3
Three-Way Interaction Analyses

Predictors	*Depression*	*Physical Symptoms*	*Job Satisfaction*	*Contagious Disease Self-Exposure*
Workplace aggression	.24*	.26*	−.24*	.09
Intensity	.18*	.24*	−.11*	−.08
Intention attributions	.10*	.09*	−.10*	.04
Aggression × Intensity	.15*	.03	−.07	.02
Aggression × Intention	.02	.08	−.04	.03
Intensity × Intention	−.01	.01	−.03	.06
Aggression × Intensity × Intention	.01	−.06	−.01	.21*
Model R^2	.23*	.23*	.17*	.08*
Workplace aggression	.19*	.24*	−.15*	.17*
Intensity	.14*	.23*	−.09*	−.02
Relationship power	.57*	.35*	−.53*	.08
Aggression × Intensity	.20*	.09*	−.17*	.08
Aggression × Power	−.65*	−.26*	.29	−.22
Intensity × Power	−.27*	−.06	.39	.01
Aggression × Intensity × Power	.40*	.03	−.25†	.16
Model R^2	.25*	.23*	.19*	.06*
Workplace aggression	.25*	.28*	−.31*	.23*
Intensity	.19*	.25*	−.17*	.08
Perceived visibility	.04	.09*	−.14*	−.05
Aggression × Intensity	.11*	.04	−.09*	.22*
Aggression × Visibility	.04	.01	−.01	−.08
Intensity × Visibility	.03	.08*	−.01	−.11*
Aggression × Intensity × Visibility	.07	−.03	−.04	−.17*
Model R^2	.22*	.23*	.17*	.08*
Workplace aggression	.21*	.22*	−.17*	.15*
Intention attributions	.14*	.12*	−.14*	.04
Relationship power	.39*	.38*	−.34*	−.09
Aggression × Intention	.13*	.11*	−.10*	.10*
Aggression × Power	−.40*	−.41*	.25	−.21
Intention × Power	−.12	−.16	.10	.05
Aggression × Intention × Power	.18	.25	.28	.26
Model R^2	.21*	.21*	.18*	.07*
Workplace aggression	.22*	.26*	−.26*	.18*
Intention attributions	.16*	.14*	−.20*	.16*
Perceived visibility	.02	.10*	.18*	−.05
Aggression × Intention	.06	.10*	−.05	.28*
Aggression × Visibility	.11*	.03	−.01	−.08
Intention × Visibility	−.04	−.03	−.03	−.11*
Aggression × Intention × Visibility	.07	−.03	−.07	−.24*
Model R^2	.20*	.19*	.18*	.10*
Workplace aggression	.23*	.25*	−.29*	.21*
Relationship power	.45*	.40*	−.25*	.13
Perceived visibility	.06	.11*	.10*	−.07
Aggression × Power	−.33*	−.29*	.10	−.13
Aggression × Visibility	.14*	.06	−.03	−.01
Power × Visibility	−.14	−.06	−.05	−.18
Aggression × Power × Visibility	.20*	.11	−.06	.07
Model R^2	.21*	.20*	.18*	.05*

Note. Aggression = workplace aggression; Intention = intention attributions; Power = relationship power; Visibility = perceived visibility.

The coefficients are the standardized beta weights, $^*p < .05$. $^\dagger p < .10$.

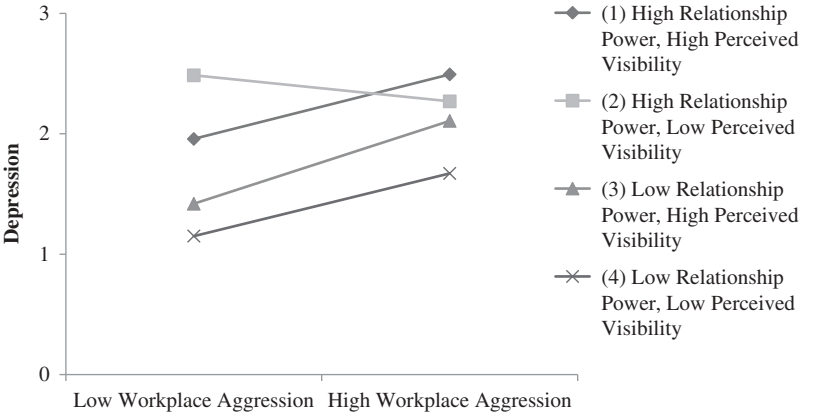

FIGURE 7 Three-way interaction of workplace aggression, intensity, and perceived visibility on depression.

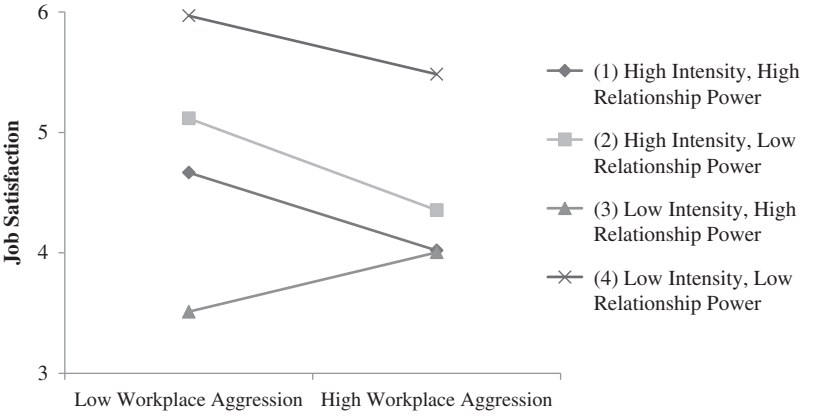

FIGURE 8 Three-way interaction of workplace aggression, intensity, and relationship power on job satisfaction.

Group 1, who reported both high-intensity and high-intention attributions, as well as Group 4, who report both low-intensity and low-intention attributions, demonstrate stronger relationships between exposure to workplace aggression and contagious disease self-exposure compared to Group 2 (high-intensity and low-intention attributions) and Group 3 (low-intensity and high-intention attributions). *T* values for the slope differences indicate that the slope for Group 2 differed significantly from Group 1 ($t = 2.10$) and Group 4 ($t = 2.03$), although it did not differ significantly from Group 3 ($t = .50$). Furthermore, the slopes for Groups 1, 3, and 4 did not differ from one another, with *t* values ranging from .14 to 1.61. Conversely, as depicted in **Figure 10**, employees who reported high (vs. low) intensity and low (versus high) perceived visibility experienced a stronger positive relationship between workplace aggression and contagious disease self-exposure than their counterparts. *T* values for the slope differences indicate that the slope for Group 2 differed significantly from Group 1 ($t = 2.81$), Group 3 ($t = 3.75$), and Group 4 ($t = 4.83$). None of the other group differed significantly from one another, with *t* values ranging

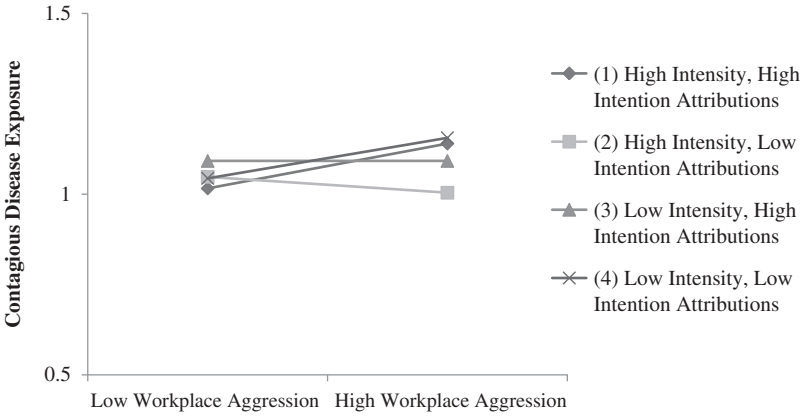

FIGURE 9 Three-way interaction of workplace aggression, intensity, and intention attributions on contagious disease self-exposure.

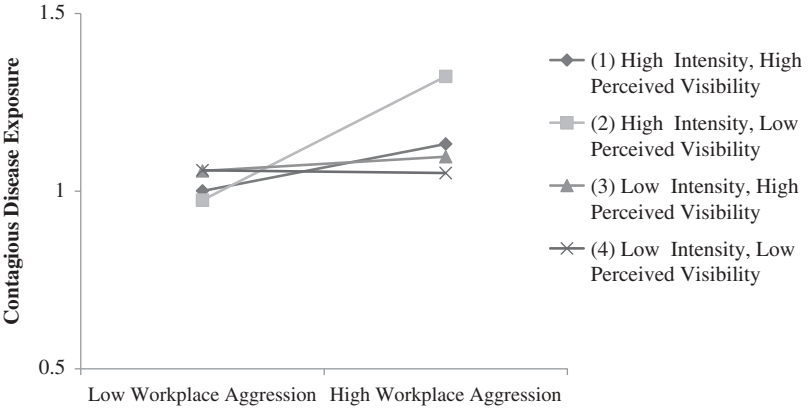

FIGURE 10 Three-way interaction of workplace aggression, intensity, and perceived visibility on contagious disease self-exposure.

from .63 to 1.71. This pattern was similar for the workplace aggression, intention attributions, and perceived visibility three-way interaction.

DISCUSSION

The current study examined employees' experiences of workplace aggression, various theoretical moderators of workplace aggression incidents, and how these nuances of workplace aggression experiences relate to employee strain. By examining the role of nuances of aggression experiences that were theoretically expected to impact workplace aggression–strain relationships, a small, initial step was taken toward addressing several calls within the field for research illuminating

the underlying mechanisms of these relationships and how they operate, rather than propagating term proliferation (e.g., Hershcovis, 2011; Spector & Fox, 2005; Tepper & Henle, 2011). Specifically, the impact of intensity, intention attributions, relationship power, and perceived visibility of workplace aggression were examined while testing hypotheses derived from a theoretical model proposed by Hershcovis (2011), in which nuances of workplace aggression experiences operate as moderators of workplace aggression–strain relationships. Evidence from a 579-nurse sample supported many of the hypothesized relationships.

Intensity and intention attributions proved to be reliable moderators of the workplace aggression–strain relationships, moderating all of the relationships between workplace aggression and strain. Specifically, employees who reported higher intensity or intention attributions about workplace aggression experiences also reported more strain than employees who reported lower intensity or intention attributions when workplace aggression was frequent. Intensity and intention attributions did not exacerbate employee strain when workplace aggression was infrequent. However, results of the three-way interaction between these variables revealed that employees who reported high-intensity and the low-intention attributions experienced a weaker relationship between workplace aggression and contagious disease self-exposure than their counterparts who reported low-intensity and low-intention attributions. Given this unintuitive finding, these results need to be replicated in the future.

These findings on intensity and intention attributions should be interpreted in light of the current term proliferation and measurement overlap obstacles confronting the workplace aggression literature. These challenges were recently captured in Hershcovis's (2011) meta-analysis, in which almost indistinguishable differences between incivility and bullying in relationships with employee strain were identified. These findings were in opposition to theoretically derived hypotheses in which bullying was expected to have stronger relationships with employees' strain than incivility, given the intense and sustained nature of aggression intended to be captured by bullying. The correlations and moderating relationships identified here shed light on the underlying mechanisms for these identified relationships. Based on this new information, it can be concluded that that incivility, or low-intensity, ambiguous acts of aggression would not be as detrimental to employees' well-being as bullying, or high-intensity, intentional acts of aggression. It seems likely that Hershcovis's pattern of relationships is attributable to measures that did not fully capture important distinctions between the nuances underlying these aggression constructs. Although bullying and incivility have been particularly highlighted here, this phenomenon is not confined to these constructs. Intensity and intention attributions are both explicitly or implicitly assumed by many workplace aggression constructs including emotional abuse (Keashly et al., 1997), mobbing (Leymann, 1990), victimization (Aquino et al., 1999), and social undermining (Duffy et al., 2002). These findings indicate that the distinctions among varying forms of aggression might well be more important in explaining employee strain and well-being than the existing literature, which does not show much variance between construct–strain relationships, have indicated. Future research will be needed to confirm these findings and disentangle the unique relationships between workplace aggression constructs–employee strain that are currently obscured by measures that fail to capture the critical and unique elements of workplace aggression constructs and include substantial item overlap.

Relationship power moderated the relationships of workplace aggression with depression and physical symptoms, although these relationships were not as hypothesized. Although employees who reported more workplace aggression experiences perpetrated by their superiors also

reported more strain than their counterparts who reported workplace aggression perpetrated by someone who is perceived as an equal or organizational outsider, employees who reported fewer acts of aggression perpetrated by their superiors reported a larger increase in strain as frequency of workplace aggression increased than employees reporting high relationship power. Thus, the relationship between workplace aggression and employee strain was stronger when aggression perpetrated by those without formal power over the target. The overall higher strain response when workplace aggression is perpetrated by superiors aligns with theoretical expectations, workplace aggression perpetrated by superiors would lead to more negative outcomes (e.g. Ashforth, 1994; Emerson, 1962; Molm, 1988; Tepper, 2000), as would be expected based on theories concerning power, dependency, and recourses options (Emerson, 1962; French & Raven, 1959; Molm, 1988). However, these theoretical arguments do not explain why the positive relationship between workplace aggression and strain was stronger when aggression was perpetrated by those not in a position of power.

This unexpected finding may be explained by the relationships depicted in the three-way interaction analyses, where relationship power interacted with intensity to affect the relationship between exposure to workplace aggression with depression and job satisfaction, as well as with perceived visibility to affect the relationship between exposure to workplace aggression and depression. In these interactions, the workplace aggression–strain relationship was negative for employees who reported frequent acts of workplace aggression perpetrated by a supervisor but was perceived as either low intensity or not visible to other employees. In all cases, employees reporting these conditions displayed significantly different stressor–strain relationships than their counterparts, who reported positive workplace aggression–strain relationships when the aggression was frequent, intense, or visible and was perpetrated by either supervisors or colleagues without formal power over the target. The workplace aggression–strain relationships under these circumstances were not significantly different from each other. It seems as though the weaker workplace aggression–strain relationship when superiors perpetrate aggression seen in the initial moderation analyses could be explained by this combination of negative and positive relationships occurring in tandem.

This three-way interaction analysis adds complexity to our nascent understanding of the interplay among the nuances of workplace aggression experiences and provides fertile ground for future research to replicate and extend these findings. These findings may have implications for the workplace aggression literature, as historically, supervisor perpetrated aggression has been perceived as more negative then similar aggression perpetrated by those without formal power over the target (e.g., Ashforth, 1994; Tepper, 2000). These findings indicate that there may be contingent circumstances in which supervisor perpetrated aggression might have a weaker, or even positive, workplace aggression–strain relationship compared to nonsupervisor perpetrated aggression. One possible explanation might be that when employees are experiencing frequent workplace aggression, specific types of nonintense or nonvisible acts of aggression might be perceived as relatively more acceptable to an employee than aggression perpetrated by someone who is perceived as an equal or organizational outsider. Prior research has identified moderators in the strength of the relationship between supervisor initiated workplace aggression–strain relationships (e.g., Mackey, Ellen, Hochwarter, & Ferris, 2013), but, to our knowledge, the positive relationship between supervisor-initiated aggression and employee strain that is contingent on other moderating nuances of the aggression experience has not been identified.

Research will be needed to understand under what circumstances supervisor-initiated workplace aggression–strain relationships could be negative. As this is an initial study of this phenomenon, data from other industries and samples can further illuminate how the nuances examined here moderate supervisor initiated workplace aggression–strain relationships. Furthermore, this relationship might be contingent not only on other moderators of the workplace aggression experience but also on the norms and values of the target of aggression. Perhaps individuals from low power distance cultures experience a weaker negative workplace aggression–strain relationship than those from high power distance cultures (Hofstede, 2001), as their cultural norms are violated to a larger extent by these supervisor-initiated acts of aggression. Likewise, organizational factors, such as climate for civility, might impact this relationship such that employees in strong civility climates experience a weaker negative workplace aggression–strain relationship than those from weak civility climates, again being driven by norm-based expectations of workplace behavior. Future research can also investigate how recourse options and coping may operate with regard to these relationships (e.g., Molm, 1988). Overall, this research provides additional support for the importance of research examining supervisor-initiated aggression.

Perceived visibility moderated the workplace aggression–strain relationship, serving to exacerbate the relationship between workplace aggression and depression. Several mechanisms could explain this relationship. First, given the relationship between perceived visibility and intention attributions, it seems that visible aggression is perceived as more likely to be intentional than covert aggression (Neuman & Baron, 2005). Therefore, perceived visibility, along with intention attributions, may be related to constructs such as blame attributions (Aquino et al., 2001). Alternatively, the relationships between perceived visibility and strains may be best explained through mechanisms identified in justice and groups research, where mistreatment from one individual signals others to mistreat that person as well, or humiliation acts to exacerbate initial insults (Lind & Tyler, 1988). Or it could be that certain types of aggression are more visible and more severe, such as physical aggression. Likewise, when workplace aggression is more frequent, there are more opportunities for it to be visible.

Conversely, when the impact of perceived visibility was examined in conjunction with other moderators, its relationship on the workplace aggression–strain relationships was more complicated. When workplace aggression was frequent and was perceived as either intense or intentional but was not perceived as visible to other employees, the likelihood of an accident leading to contagious disease exposure increased. Thus, perceived visibility is displaying a weakening effect on the stressor-strain relationship, rather than the exacerbating effect it displayed in its interaction with workplace aggression predicting depression. This finding provides some evidence, albeit limited, that the relationship between visibility, workplace aggression, and employee strain might be complicated and highly interrelated with other moderators of the workplace aggression experience. This has interesting implications given most workplace aggression measures currently include both covert and overt acts of aggression. It could be that evaluating this particular moderator of workplace aggression explicitly can illuminate many unexamined underlying mechanisms that will help researchers and practitioners better understand how employees are impacted by workplace aggression and how we can best address this impact.

As this is the first explicit examination of perceived visibility, there are many possibilities that warrant further investigation, as do other mechanisms that can explain how this variable operates and fits within the aggression–strain process. One question for future research to examine is whether increased cognitive processing occurs when frequent intense or intentional aggression

occurs in a covert capacity, which might explain the stronger relationship this group displayed with contagious disease exposure compared to their counterparts. However, as this effect was found only when studying contagious disease self-exposure, future research should replicate these findings.

Limitations

This study was based on self-report data, and we cannot rule out the possibility that shared biases (i.e., common method variance) may have affected bivariate relationships. However, given the perceptual nature of some of the variables used this study, self-report measures of subjective perceptions and subjective experiences may be the most appropriate option (Schaubroeck, 1999; Spector, 1999). Many of the variables included in this study measure internal cognitive and emotional states, which are difficult, if not impossible, for other individuals to report. In addition, although artifacts associated with common method variance may have affected bivariate relationships, such artifacts are unlikely to account for the significant interaction effects (Evans, 1985; Siemsen, Roth, & Oliveira, 2010). Common method variance can, however, deflate interaction terms; thus it is possible that interaction effects were missed due to these artifacts, though most expected moderating relationships were significant. In the future, this area of research can be enhanced by the inclusion of other research methodologies, such as organizational records of incidences of physical aggression, contagious disease self-exposure, or others' reports of accidents and incidences of workplace aggression. In addition, the moderation hypotheses proposed in this study can be further examined with a larger sample of nurses, as well as by including employees from diverse employment environments.

Furthermore, this study used a cross-sectional design; therefore, assumptions of causality are limited. In the future, researchers could address this limitation by applying a range of informative research designs, including longitudinal designs, experimental designs, and diary or event study methodologies. These designs can enhance our understanding of how workplace aggression and moderators of aggression experiences relate to employee strain. Further, as demographic information was collected at the start of the survey, future studies should collect this data at the end to ensure answers to substantive questions of interest are not impacted by the survey design (e.g., Roberson & Sundstrom, 1990; Teclaw, Price, & Osatuke, 2012).

Finally, the causal scales used to assess workplace aggression and nuances of the workplace aggression experience were designed because existing measures did not exist. We used self-reports, as they are generally used in studies of exposure to workplace aggression. Although we assume that our respondents were able and willing to report their aggression experiences, it is possible that their reports were inaccurate. Initial evidence for reliability and validity has been satisfactory across a limited number of studies and samples (Nixon, 2012; Nixon & Spector, 2012). However, our results need confirmation using different methods to provide construct validity evidence and convergence of conclusions.

Implications and Future Research Directions

This research contributes to the literature on workplace aggression in several important ways. First, by responding to calls from the field for a more unified model, this study provides a

first step toward clarifying the findings we have accumulated on workplace aggression. Future research in this area can further unite the fractured workplace aggression research literature by providing a mechanism for researchers to understand how diverse workplace aggression constructs relate to one another as well as to antecedents and consequences of workplace aggression. Research using scales that distinguish specific aggression behaviors and their nuances in tandem with other workplace aggression scales will allow us to directly test the underlying elements that are driving stressor–strain relationships. Moreover, this study also provides an early attempt to examine some of the major tenets of the simplified model of workplace aggression proposed by Hershcovis (2011). Everything considered, this study provides evidence that supports a model in which nuances of workplace aggression act as moderators of workplace aggression–strain relationships.

Beyond steps taken to clarify the role of nuances of workplace aggression, contributing to the ongoing discussion of measurement overlap within the literature, and testing hypotheses derived from Hershcovis (2011) proposed model, this article makes an additional contribution, as this is the first time many of the underlying nuances of workplace aggression constructs have been explicitly examined. Currently, term fragmentation precludes our ability to draw conclusions about relationships between distinct workplace aggression constructs and employee strain. Through examining explicit measures of these nuances, including intensity, intention attributions, relationship power, and perceived visibility, the relationships between these elements and employees' strains can be examined more clearly. Evidence for the role that workplace aggression construct measures play in obstructing our ability to draw conclusions based on distinctions between workplace aggression constructs was identified through the explicit examination of intensity and intention attributions. Furthermore, these nuances of workplace aggression had varying direct and moderating roles in predicting employee strain, indicating that they are important variables in understanding how workplace aggression impacts employees. A novel relationship was identified with relationship power, in that supervisor initiated aggression demonstrated a contingency-based negative relationship with employee strain. Future research should seek to further investigate how these nuances of the workplace aggression experience relate to the myriad consequences of workplace aggression, going beyond the strain variables examined in this study, as well as identifying what conclusions can be drawn about the impact of the distinctions underlying numerous workplace aggression constructs on employee strain. Finally, it is critical to expand our knowledge of how these nuances contingently impact employee strain when examined in the broader organizational context that includes norms, values, and multiple workplace aggression moderators occurring simultaneously.

It is important to note that, as far as we know, this is the first examination of how perceived visibility may relate to workplace aggression–strain relationships, as various theoretical accounts imply conflicting propositions for its impact. This study demonstrates that perceived visibility is detrimentally related to strain, such that when employees feel that their coworkers are aware of the aggression, they also report increased strain. In addition, perceived visibility exacerbated the relationship between workplace aggression and depression. These relationships support arguments that perceived visibility may operate through mechanisms such as initial acts of aggression being associated with intention attributions (Neuman & Baron, 2005) or by humiliation (Lind & Tyler, 1988) due to the overt nature of the aggression. Although conclusions about the nature of all of these relationships cannot be drawn from these data, the primarily evidence established by this research provide a platform from which future research should be launched.

Finally, this project responds to many calls for research examining how exposure to workplace aggression relates to nurses' accidents and injuries (e.g. International Labour Office, International Council of Nurses, World Health Organization, & Public Services International, 2002; Lanza et al., 2006; NIOSH, 2009). The relationships between workplace aggression and contagious disease self-exposure have been rarely studied (we could find only one prior study; Yang, 2009), and the results of this study have provided a much-needed replication, particularly given the low base-rate of contagious disease self-exposure. These relationships are exceptionally critical to examine given nurses higher than the average population's experience of workplace aggression, as well as accidents and injuries. Due to the high costs associated with nurses' strains, accidents, and injuries, which not only affect nurses but also impact patients and society as a whole through decreased healthcare quality (e.g., Lanza, 2006; LeBlanc & Barling, 2005; Schat et al., 2006), future research into this area is essential. Further, this line of research may have important practical implications. For instance, individual differences in the tendency to attribute acts of aggression as intentional, or hostile attribution bias (Dodge & Newman, 1981), could prove to be useful as a selection criterion for jobs in which people are at high risk for aggression. Alternatively, individuals could be trained to reframe ambiguous situations involving aggressive responses as due to unintentional factors, potentially mitigating strain.

CONCLUSIONS

This study addressed a significant gap in the workplace aggression literature by testing hypotheses derived from a theoretical model proposed by Hershcovis (2011) and examining four moderators of the workplace aggression experience that have been theoretically pivotal in the proliferation of workplace aggression constructs. Intensity, intention attributions, relationship power, and perceived visibility had significant direct, moderating, and three-way interaction effects on employee strain and workplace aggression-strain relationships. Results from this study confirm the significant role that these moderators have on the experience of workplace aggression and consequential strains for employees. It is vital that research in this area continues so that we can advance our understanding of how workplace aggression relates to important outcomes for employees, and eventually move on to designing, implementing, and evaluating interventions to reduce exposure to workplace aggression, as well as help employees healthfully cope with workplace aggression when it occurs.

FUNDING

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APPENDIX

Workplace Aggression Scale Items

How many times have you experienced verbal aggression at work (for example, someone yelled at, ridiculed, insulted you, or told you that you were incompetent) in the past month?

How many times have you experienced intimidation at work (for example, threatening looks or postures) in the past month?

How many times have you been excluded at work (for example, someone excluded you from a social activity or withheld information in the past month?

How many times have you been undermined at work (for example, someone made negative comments about you to others, tried to make you look bad, or sabotaged you) in the past month?

How many times have you experienced to rude behavior at work in the past month?

How many times have you experienced interpersonal conflict at work (for example, arguing with or having shouting matches with others at work) in the past month?

How many times have you experienced physical aggression at work (for example, you've been punched, slapped, pushed, bit, spit on, or have been hit with an object) in the past month?