

# Towards a multi-foci approach to workplace aggression: A meta-analytic review of outcomes from different perpetrators<sup>†</sup>

M. SANDY HERSHCOVIS<sup>1\*</sup> AND JULIAN BARLING<sup>2</sup>

<sup>1</sup>*I. H. Asper School of Business, University of Manitoba, Winnipeg, Manitoba, Canada*

<sup>2</sup>*Queen's School of Business, Queen's University, Kingston, Ontario, Canada*

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## Summary

Using meta-analysis, we compare three attitudinal outcomes (i.e., job satisfaction, affective commitment, and turnover intent), three behavioral outcomes (i.e., interpersonal deviance, organizational deviance, and work performance), and four health-related outcomes (i.e., general health, depression, emotional exhaustion, and physical well being) of workplace aggression from three different sources: Supervisors, co-workers, and outsiders. Results from 66 samples show that supervisor aggression has the strongest adverse effects across the attitudinal and behavioral outcomes. Co-worker aggression had stronger effects than outsider aggression on the attitudinal and behavioral outcomes, whereas there was no significant difference between supervisor, co-worker, and outsider aggression for the majority of the health-related outcomes. These results have implications for how workplace aggression is conceptualized and measured, and we propose new research questions that emphasize a multi-foci approach. Copyright © 2009 John Wiley & Sons, Ltd.

I admit that, before I was bullied, I couldn't understand why employees would shy-away from doing anything about it. When it happened to me, I felt trapped. I felt like either no one believed me or no one cared. This bully was my direct boss and went out of his way to make me look and feel incompetent. . . I dreaded going to work and cried myself to sleep every night. I was afraid of losing my job because I started to question my abilities and didn't think I'd find work elsewhere. (HR professional as posted on a New York Times blog, 2008).

## Introduction

Growing awareness of psychological forms of workplace aggression has stimulated research interest in the consequences of these negative behaviors. Workplace aggression is defined as negative acts that are

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\* Correspondence to: M. Sandy Hershcovis, I. H. Asper School of Business, University of Manitoba, Winnipeg, Manitoba, Canada. E-mail: sandy\_hershcovis@umanitoba.ca

<sup>†</sup>An earlier version of this study was presented at the 65th Annual Meeting of the Academy of Management, Honolulu, HI.

*Received 28 April 2008*

*Revised 17 March 2009*

*Accepted 4 April 2009*

perpetrated against an organization or its members and that victims are motivated to avoid (Neuman & Baron, 2005; Raver & Barling, 2007). Much of this research (e.g., Barling, 1996; LeBlanc & Kelloway, 2002; Zapf & Einarsen, 2005) has drawn on a stressor–strain model to argue that workplace aggression is a stressor that negatively relates to a range of outcomes, such as job satisfaction, performance, commitment, and psychological and physical well being (see Bowling & Beehr, 2006). The present study takes a multi-foci perspective similar to that adopted in the justice literature (e.g., Rupp & Cropanzano, 2002; Rupp & Spencer, 2006) by comparing meta-analytically the outcomes of aggression from three different perpetrators: Supervisors, co-workers, and outsiders (i.e., non-organizational members).

There are important methodological, theoretical, and practical reasons for comparing aggression from different perpetrators. From a methodological perspective, many studies examine workplace aggression without identifying the perpetrator (Frone, 2000), which assumes that aggression does not differ by perpetrator. This may result in under- or over-estimates of the true effects of workplace aggression (Hershcovis et al., 2007) because the magnitude of effects from different sources may not be the same. From a theoretical perspective, this approach is problematic because it could lead researchers to overlook mediators and outcomes that are specific to a particular perpetrator. For example, as demonstrated in the opening quote, aggression from a supervisor may result in job insecurity, leading to job search behaviors and perhaps lower levels of self-efficacy and organizational identification. In contrast, aggression from outsiders, such as a patient against a nurse, is not likely to elicit fears about one's job security. Instead, this form of aggression may lead to personal safety concerns. From a practical perspective, aggression from a supervisor versus aggression from an outsider requires different response strategies from the victim and different prevention strategies from the organization. For example, in the case of aggression from supervisors, organizations might need to develop policies and programs around leadership selection and training to ensure managers interact appropriately with employees. In the case of patient aggression, organizations might need to develop safety policies for dealing with potentially aggressive patients or customers. To assess the need for differential policies and the ultimate effectiveness of different strategies, one would therefore need to adopt a multi-foci approach.

To understand whether a multi-foci approach is an appropriate direction for studying workplace aggression, we conduct a systematic investigation of aggression from different perpetrators to determine whether outcomes differ in magnitude. We first provide a brief overview of a process model of work stress, and describe the outcome variables of interest in this study. We then draw on theories of power and justice to explain why we expect the magnitude of outcomes to differ depending on the perpetrator. Finally, we compare meta-analytically the outcomes of aggression from three perpetrators (supervisors, co-workers, outsiders) and discuss the implications of our findings. The advantage of meta-analysis is that it allows a comparison across studies that have separately examined aggression from different perpetrators.

## Theoretical Background

Researchers have proposed several theoretical frameworks for understanding the effects of workplace aggression (e.g., Barling, 1996; Keashly & Harvey, 2005; Lim, Cortina, & Magley, 2008; Zapf & Einarsen, 2005). The common theme linking these frameworks is the emphasis on stressors, stress, and strains. Kahn, Wolfe, Quinn, Snoek, and Rosenthal (1964) defined a stressor as a characteristic of the environment that imposes upon the perceptual and cognitive processes of individuals. Stress

reflects properties of the environment as they are experienced by individuals and represented in their consciousness, while strain is defined as an individual's physiological and psychological response to stress (Eden, 1982). Barling (1996) applied this stressor model to the experience of workplace aggression, suggesting that exposure to aggression is a workplace stressor that leads to direct outcomes (stress) such as fear, and subsequently to psychological, physical, and behavioral outcomes (strain). Keashly and Harvey (2005) later proposed a similar model of emotional abuse in which abusive behaviors lead to stress experiences, and ultimately to psychological, behavioral, and physical strains.

The current study draws on this stressor/strain framework to predict the relationship between workplace aggression and several outcomes: Job satisfaction, affective commitment, intent to turnover, psychological and physical well being, deviance, and performance. We chose these outcomes for two reasons. First, prior research (e.g., Bowling & Beehr, 2006) has demonstrated that workplace aggression is associated with these outcomes. However, that research did not investigate whether the magnitude of the outcomes varies by perpetrator. Our current aim is to use some of the same outcomes to investigate whether source of aggression will yield different conclusions than those drawn in prior research. Second, we chose outcomes that have been examined with sufficient frequency from each perpetrator to enable a fair comparison. We then investigate whether the magnitude of these outcomes differs depending on source of aggression. We first outline the key outcome variables of interest in the present study.

### *Attitudinal outcomes*

Research in the area of work stress has consistently suggested that organizational stressors lead to adverse job attitudes (e.g., Aquino & Thau, 2009; Barling, Kelloway, & Frone, 2005; Beehr & Newman, 1978; Bowling & Beehr, 2006; McGrath, 1976; Spector, 1997). In this study, we examine three attitudinal outcomes: Job satisfaction, affective commitment, and intent to turnover. Job satisfaction reflects a positive emotional state resulting from the appraisal of one's job (Locke, 1976); affective commitment is a positive feeling of identification with, attachment to, and involvement in the workplace (Meyer & Allen, 1984); while intent to turnover refers to employees' plans to leave the organization. Aggression in any form is likely to affect adversely employees' feelings about their job: By definition, the experience of workplace aggression is negative, and may lead employees to negatively evaluate their position and perceived value within the organization.

### *Employee well being*

As posited by the stressor model, workplace aggression is an event that can cause people to fear for their well being (Barling, 1996; Barling, Rogers & Kelloway, 2001; LeBlanc & Kelloway, 2002). Employee well being consists of several different components (see Diener, Suh, Lucas, & Smith, 1999) including affective responses, domain-specific satisfaction, and life satisfaction, all of which correlate highly (Diener et al., 1999). We separately examine the three most common forms of psychological well being in the workplace aggression literature: Psychological distress, depression, and emotional exhaustion. We exclude the broader category of domain satisfaction described by Diener et al. (1999), and instead focus on one specific facet of domain satisfaction (i.e., job satisfaction) as a separate outcome variable.

According to the stressor–stress–strain model, psychological strain occurs when a stressor leads to impaired cognition or effect (Gross, 1970). Workplace aggression could lead to both impaired

cognition and affect, as employees seek to make sense of and react to the aggressive event. Workplace aggression elicits both fear and anxiety as employees struggle to determine whether it will continue and how it will affect their position in the organization (Barling et al., 2001; Schat & Kelloway, 2000). As the level of fear increases, individuals may become increasingly depressed and anxious about the likely recurrence of aggression. Numerous studies have shown that job stressors are associated with both psychological and physical strain (e.g., Barling et al., 2005; Bowling & Beehr, 2006; Jex & Beehr, 1991; Kahn & Byosiere, 1992), increased anxiety, hostility, and depression (e.g., LeBlanc & Kelloway, 2002; Schat & Kelloway, 2003), and physical symptoms (Schat & Kelloway, 2005).

### *Behavioral outcomes*

As suggested by Barling (1996), stressors may also affect behavioral outcomes such as performance. Rotundo and Sackett (2002) argued that performance consists of three broad components: Task performance, organizational citizenship behaviors, and counterproductive or deviant work behaviors. They found that task performance and deviant work behaviors explained the largest proportion of variation in overall performance ratings, while organizational citizenship behaviors explained the smallest (though still significant) proportion of variation. We focus on task performance and counterproductive work behaviors in the present study because past research on aggression from different sources has not examined organizational citizenship behaviors with sufficient frequency to allow its inclusion.<sup>1</sup>

Workplace aggression is likely to reduce employee performance for at least two reasons. First, the stressor model suggests that organizational stressors, such as workplace aggression, may directly affect the cognitive and emotional resources of employees (Barling, 1996). The depletion of these resources leaves employees with less emotional and cognitive energy to focus on job performance. Victims of aggression may ruminate about the experience, or focus their energies on preventing, reducing, or avoiding continued aggression. Such cognitive activities leave fewer resources available for performance effectiveness. In addition, perceiving others to be angry, as is likely the case when someone displays aggression, can also deplete the mental resources of those around the employees, including the target (Hareli & Rafaeli, 2008; Rafaeli, Derfler, Ravid, & Rozilio, 2007). Research in the related areas of abusive supervision and workplace injustice supports the proposition that aggression is associated with lower levels of performance (e.g., Colquitt, Conlon, Wesson, Porter, & Ng, 2001; Harris, Kacmar, & Zivnuska, 2007).

In terms of interpersonal and organizational deviance, a growing body of research has argued that aggression begets aggression (e.g., Andersson & Pearson, 1999). Conflicts tend to begin with minor forms of aggression such as a verbal slight, and escalate into a spiral of increasingly intense forms of aggression (Andersson & Pearson, 1999; Baron & Neuman, 1996). Andersson and Pearson suggest that a variety of factors may contribute to such escalation, including perceptions of interactional injustice by the target, feelings of negative affect, and desires to reciprocate the aggression. Indeed, considerable research in the areas of retaliation (e.g., Skarlicki & Folger, 1997), revenge (e.g., Kim, Shapiro, Aquino, Lim, & Bennett, 2008), aggression (e.g., Greenberg & Barling, 1999), and injustice (e.g., Inness, Barling, & Turner, 2005) has shown that targets of a transgression are likely to respond aggressively.

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<sup>1</sup>We speculate that the omission of research on organizational citizenship behaviors (OCBs) is because workplace aggression is a negative behavior that elicits negative responses such as counterproductive work behaviors or deviance. Researchers have not focused as much on a reduction in *positive* behaviors, such as OCBs.

## Considering a Multi-foci Perspective

Recent research on workplace aggression and deviance (e.g., Hershcovis et al., 2007; Inness, LeBlanc, & Barling, 2008; Jones, 2009) and the related area of workplace injustice (e.g., Cropanzano, Byrne, Bobocel, & Rupp, 2001; Rupp & Cropanzano, 2002; Rupp & Spencer, 2006) highlights a need to take a multi-foci perspective on workplace aggression. We draw on the power and justice literatures to argue that the adverse attitudinal, behavioral, and health outcomes of workplace aggression will be strongest when the perpetrator is a supervisor, followed by a co-worker, with the weakest effects resulting from outsider aggression.

### *Power*

Power is broadly defined as the ability to exert influence over others (Bacharach & Lawler, 1981) and occurs due to mutual dependence (Van Kleef, De Dreu, & Manstead, 2004). French and Raven (1959) identified five bases of power that derive from an individual's formal position (legitimate, coercive, or reward power), social position (referent power), or expertise (expert power). A growing body of research (see Keltner, Gruenfeld, & Anderson, 2003 for a review) suggests that the interests and actions of high power individuals are more likely to shape the social environment than the actions and interests of low power individuals. For instance, Keltner, Van Kleef, Chen, and Kraus (2008) argue that "[Power] is readily and accurately perceived by group members, and serves as a prioritization device in dyadic interaction, giving priority to the emotions, goals, and actions of high-power individuals in shaping interdependent action (p. 186)."

Due to their formal positions, supervisors have the capacity to influence employees' attitudes about and behaviors toward the organization (Frone, 2000). Individuals are more likely to attend to the actions of their more powerful counterparts because those in positions of power can influence their outcomes (Chartrand & Bargh, 1996). Supervisors' legitimate positions allow them to control important organizational resources, including pay allocation, promotions, and work assignment (Rupp & Cropanzano, 2002). In turn, subordinates expect supervisors, as formal agents of the organization, to treat them in a respectful manner (Rousseau, 1990). Further, Keltner et al. (2003) posit that relatively powerless individuals have an increased sensitivity to threat or punishment. Therefore, when supervisors mistreat them, employees' expectation that they will not come to harm at the hands of the organization or its representatives is breached (Rousseau, 1996). Aggression from someone with formal power may signal to the victims that they matter less, and that their position within the company is in jeopardy (Kivimäki et al., 2005), which may strongly and adversely affect employee attitudes and behaviors. As such, we posit that aggression from supervisors will have the most detrimental effect on employees.

Co-workers may possess social power to the extent that they are able to affect the presence and quality of social relationships within the group. A large literature demonstrates that a critical part of an individual's sense of self is their need to belong (Baumeister & Leary, 1995). Social exclusion is associated with anxiety and depression (Baumeister & Tice, 1990), as well as aggressive tendencies (Twenge, Baumeister, Tice, & Stucke, 2001). Employees who seek a level of belongingness greater than what they feel they currently have engage in more interpersonally harmful behaviors (Thau, Aquino, & Poortvliet, 2007). Social science has long recognized that employees care about their status (Kivimäki et al., 2005; Lind & Tyler, 1988), and that the manner in which they are treated by their co-workers is an indication of their status within the group (Aquino, Douglas, & Martinko, 2004; Bies, 1999; Steele, 1988). Experiencing aggression from co-workers may send a signal to victims that they do not belong to the work group.

## *Justice*

While co-workers have the capacity to influence employee feelings of belongingness, the justice literature demonstrates that supervisors also have the ability to significantly affect employees' feelings of belongingness to their work group. The group value model (Lind & Tyler, 1988) suggests that people gather socially relevant information from how they are treated by authority figures. For example, if supervisors berate or undermine employees, victims not only feel bad about this experience, they may also interpret it to mean that they are not valued members of the work group. Research on interpersonal justice, defined as the degree to which employees are treated with dignity and respect by authorities (Bies & Moag, 1988), has shown that such injustice is associated with a range of negative outcomes (e.g., Ambrose, Seabright, & Schminke, 2002; Aquino, Lewis, & Bradfield, 1999; Colquitt et al., 2001; Skarlicki and Folger, 1997). Indeed, Hershcovis et al. (2007) found that interpersonal mistreatment by supervisors (e.g., abusive supervision, interpersonal injustice) was the strongest correlate of supervisor-targeted aggression. We therefore suggest that supervisor aggression produces higher levels of stress than co-worker aggression because it affects both a target's potential access to organizational resources and perceptions of belongingness, whereas aggression from co-workers affects only feelings of belongingness.

In contrast to supervisors and co-workers, organizational outsiders such as clients and members of the public generally have relatively less influence over an employee's work experience. Such individuals are neither agents nor members of the organization; therefore, they do not directly reflect the company's treatment of employees, and employees may be less likely to blame the organization for outsider aggression (LeBlanc & Kelloway, 2002). Further, while any negative act is likely to create some level of stress in victims, aggression from organizational outsiders may produce lower levels of stress because of the response options available to victims. When employees experience aggression from an outsider, they may have more latitude to confront the perpetrator (e.g., ask them to lower their voice), or to exit the relationship (e.g., direct their concerns to a manager, summon security). At worst, the employee need only endure the negative interaction for the duration of the business transaction, after which the outsider exits the organization and no longer presents a psychological threat to the employee. Research on emotional labor has examined employee endurance of customer aggression and injustice (e.g., Grandey, Kern, & Frone, 2007; Rupp & Spencer, 2006). This literature suggests that employees in many organizations are required to adhere to "display rules" in which they present a friendly or positive face even in adverse circumstances. These emotional requirements produce strain in employees resulting in burnout and emotional exhaustion. However, employees must also engage in emotional labor with respect to organizational insiders. For example, Grandey et al. (2007) found that aggression from both insiders and outsiders is associated with emotional labor and subsequent strain. Therefore, we expect aggression from outsiders to produce strain; however, for the power and justice reasons suggested previously, we hypothesize that supervisor aggression will have the strongest effect on employees attitudes, behaviors, and well being, followed by co-worker aggression, and finally outsider aggression.

Nonetheless, we need to elaborate on our prediction that aggression from supervisors will be associated with higher levels of deviance because the evidence and theory for this prediction is conflicting. O'Leary-Kelly et al. (1996) argued that workplace aggression would be targeted towards someone when that individual is identifiable as the source of a transgression. However, there are potentially significant repercussions for aggressing against a supervisor (Mitchell & Ambrose, 2007). Aquino, Tripp, and Bies (2001) found that victims were less likely to seek revenge against higher status aggressors, arguing that victims feared counter-retaliation. Further, Hoobler and Brass (2006) found that employees who experienced abusive supervision displaced their aggression towards family members.

Despite these findings, meta-analytic evidence shows a strong relationship between supervisor mistreatment and deviance directed at a supervisor (Hershcovis et al., 2007). One possible explanation

for these conflicting findings is that higher intensity forms of aggression make the desire for retaliation harder to suppress. Marcus-Newhall, Pedersen, Carlson, and Miller (2000) found that the higher the intensity of the initial provocation, the more likely employees were to target aggression towards the transgressor. Taken together with aforementioned evidence that employees target deviance towards supervisors, this research suggests that because (1) a supervisor is an identifiable transgressor, and (2) the transgression is of high intensity, the desire for revenge (Jones, 2009) may overpower the fear of retaliation.

Further, it is possible to enact aggression in a covert or indirect manner, such that supervisors are unable to identify the perpetrator or are unable to infer intent on the part of the perpetrator. For instance, employees may spread rumors or make fun of supervisors without the supervisor knowing. Alternatively, employees may “forget” to give a supervisor a message or may “misplace” information needed by the supervisor in an effort to thwart performance, or damage a supervisor’s reputation. To a supervisor, these activities may not be visible, or identifiable as workplace deviance.

As a result of the mixed theory and findings, our investigation is somewhat exploratory. Given the aforementioned arguments combined with prior empirical evidence, we make the tentative hypothesis that victims of aggression from supervisors will engage in stronger interpersonal deviance than victims of co-worker and outsider aggression. Similarly, we expect victims of aggression from supervisors to engage in stronger organizational deviance than victims of aggression from co-workers and outsiders, since the supervisor is a salient agent of the organization. For the same arguments leveled throughout this paper, we expect the weakest relationship to be between outsider aggression and interpersonal and organizational deviance.

## Method

Prior meta-analyses (e.g., Berry, Ones, & Sackett, 2007; Bowling & Beehr, 2006; Hershcovis et al., 2007) have examined comprehensively the predictors and outcomes of workplace aggression. Therefore, we focus here only on the subset of studies that explicitly measure and separate workplace aggression from a supervisor, co-worker, or outsider.

### *Literature search*

We used several methods to search for both published and unpublished studies on workplace aggression. First, we performed an electronic literature search of the PsychINFO and ProQuest databases up to and including 1 February 2008. Our keyword search terms included variations on: Aggression, bullying, abusive supervision, incivility, workplace deviance, mobbing, mistreatment, tyranny, abusive supervision, undermining, interpersonal conflict, and victimization. Second, we conducted a manual search of the reference list of recent workplace aggression studies to identify any studies that did not appear in our database search. Third, we examined the conference programs of the largest English-speaking management (i.e., Academy of Management) conference for 2006 and 2007, and the largest industrial/organizational psychology (i.e., Society for Industrial and Organizational Psychology) conference in 2006, 2007, and 2008. Fourth, we contacted published researchers in the field of workplace aggression to inquire about any unpublished datasets or manuscripts on workplace aggression. Finally, we sent an email to the Academy of Management’s Organizational Behavior Division electronic list server asking for details of unpublished papers or unpublished data.

### *Inclusion criteria*

We used the following criteria for including studies in the meta-analysis. First, the data had to focus on experienced workplace aggression. After eliminating articles that were not related to workplace aggression (e.g., domestic and child abuse, animal aggression, legal issues), we were left with 207 studies. Second, the articles had to include correlations at the individual level of analysis, or statistics that could be transformed into such correlations (e.g., ANOVA with two levels). In cases where the study met the other criteria for inclusion, and this information was not in the published paper, we contacted the corresponding author to try to obtain the correlation matrix. Studies were eliminated that did not include appropriate data (e.g., descriptive data, no measure of aggression, higher level of analysis, inappropriate variables, theory paper, or qualitative data), or for which we were unable to obtain, after repeated attempts, a correlation matrix from the corresponding author. Third, to avoid double-counting data, the sample could not have been used in a previous study unless different variables were measured. In addition to these exclusions, certain studies had samples that were used in multiple studies but included one or two new variables (e.g., Hoobler & Tepper, 2001; Tepper, Duffy, Hoobler, & Ensley, 2004). Great care was taken to avoid double-counting and only variables that were not already measured in another study were included. Finally, we only included studies that explicitly identified the perpetrator within the study design or measure (see detailed explanation below). The remaining sample consisted of 55 independent studies and 66 samples with a total of 39 supervisor aggression samples, 22 co-worker samples, and 32 samples of aggression from outsiders. This adds up to more than 66 because several studies measured more than one source of aggression within the same study (e.g., Fox & Stallworth, 2005; Frone, 2000; Schat, Desmarais, & Kelloway, 2005). Studies included in the present meta-analysis are represented by an asterisk in the reference section.

### *Meta-analytic procedures and analysis*

#### **Aggression measures**

Given that this study aimed to compare non-violent aggression from supervisors, co-workers, and outsiders, it was necessary to distinguish among these three sources of aggression. Therefore, only studies that examined these sources distinctly were included in this study (see Bowling & Beehr, 2006 for a comprehensive meta-analysis of overall aggression). We therefore excluded studies that combined sources within the measure. For instance, the incivility measure (e.g., Cortina, Magley, Williams, & Languh, 2001; Penney & Spector, 2005) asks whether a supervisor or co-worker engaged in a given act; therefore, it was excluded from the analyses except where the authors explicitly identified the source (e.g., Perez & Riley, 2006). Similarly, the Negative Acts Questionnaire (Einarsen & Raknes, 1997) measures aggression from multiple perpetrators. In some cases, the aggression measure was ambiguous. For example, the Interpersonal Conflict at Work Scale (Spector & Jex, 1998) measures interpersonal arguments and yelling. Given that the respondent may think of either a supervisor or a co-worker as a referent, these studies were excluded except when the study authors identified a particular source (e.g., Frone, 2000). In addition to examining the measures, we also examined the samples to determine whether aggression was coming from an insider or an outsider. In cases where the perpetrator was ambiguous, the study was excluded. For example, Keashly, Hunter, and Harvey (1997) measured aggression against individuals employed as student residence assistants from both residents and their guests; however, they did not separate aggression from these two perpetrators. While guests may be considered outsiders, employees serving as resident assistants could be considered insiders due to the ongoing proximity among residents and resident assistants.

### Correlation analysis

We used the computer program MetaExcel (Steel, 2003), which follows Hunter and Schmidt's (1990) meta-analytic procedures, to calculate all meta-analytic results. To correct for attenuation, we coded for the reliability of both the dependent and independent measure in each study. When the reliability coefficient ( $\alpha$ ) was not provided, we followed Hunter and Schmidt's recommendation to compute a weighted average reliability from the other studies measuring the variable in question. Second, we corrected for artificial dichotomization of the independent or dependent variable, as artificial dichotomization of continuous variables limits the variance in the relationship, thereby understating the correlation (Hunter & Schmidt, 1990). After correcting for these errors, we weighted the corrected correlation by the population sample size (also corrected for reliability) to compute the weighted average effect size.

Finally, we also followed Hunter and Schmidt's (1990) approach for correcting for sampling error, thereby incorporating a correction for sampling error into the estimation of the population standard error. The weighted average standard error used to compute all results involves a parceling of the population standard error between the variance of the observed correlations and the sampling error variance. To compute the population error variance, the sampling error is subtracted from the observed error.

### Comparisons

To test for the differences between aggression from co-workers and outsiders, we conducted *Z*-tests. This test was appropriate because the correlations for aggression from outsiders and aggression from co-workers came primarily from different studies<sup>2</sup>. In contrast, to compare co-worker and supervisor aggression, we conducted *t*-tests for dependent correlations recommended by Williams (1959). This type of *t*-test was used because it acknowledges the dependent nature of the co-worker and supervisor aggression samples, which were frequently measured within the same study therefore requiring that dependence be taken into account.

### Sub-analyses

Various scales have been used to measure workplace aggression. This may pose a threat to the findings of this meta-analysis because of the comparative nature of the hypotheses. For example, we argued that supervisor aggression will have stronger outcomes than co-worker aggression, and co-worker and supervisor aggression will have stronger outcomes than outsider aggression. If supervisor aggression does have stronger outcomes than co-worker aggression, this could be due either to the theoretical explanation provided—that supervisors have influence over employees' feelings of belongingness and work outcomes—or to the difference in measures used to examine these two types of aggression. To begin to address this issue, we conducted an additional sub-analysis comparing co-worker and supervisor aggression using only those studies that measure *both* co-worker and supervisor aggression within the same study using the same measure.

A similar concern exists when comparing supervisor and co-worker aggression with outsider aggression. However, very few studies measured insider and outsider aggression within the same study, or used the same measure for outsider aggression as insider aggression between studies. Therefore, we are unable to conduct the same sub-analysis here. We address this concern in more detail below.

<sup>2</sup>Depending on the relationship, up to three studies within the comparison between outsider aggression and coworker aggression overlapped. For example, in the comparison relating job satisfaction to outsider versus coworker aggression, three of the studies measured both outsider and coworker aggression. Therefore, the correlations were partially dependent. To address the possible concern of dependent correlations, we conducted a separate analysis using a *t*-test of dependent measures for all the coworker/outsider comparisons. This separate analysis did not result in any changes to the significance of the comparisons between coworker and outsider aggression.

## Results

Table 1 presents the weighted average corrected and uncorrected correlations, as well as the confidence intervals and *Q*-statistics for supervisor, co-worker, and outsider aggression and all the outcomes variables. Except where indicated, all correlations are statistically significant.

Table 1. Relationships between types and sources of aggression and outcome variables

Aggression variable	<i>K</i>	<i>n</i>	<i>r</i>	<i>r<sub>c</sub></i>	Sdev	CI	<i>Q</i>
Job satisfaction							
Supervisor aggression	18	7242	-.32	-.38	.07	-.42 to -.34	35.33***
Co-worker aggression	14	8421	-.20	-.25	.09	-.29 to -.20	46.67***
Outsider aggression	7	1927	-.12	-.14	.08	-.20 to -.07	10.93
Affective commitment							
Supervisor aggression	15	5845	-.24	-.28	.08	-.32 to -.24	30.88***
Co-worker aggression	10	4843	-.17	-.20	.10	-.27 to -.14	37.07***
Outsider aggression	6	1287	-.07	-.08	.06	-.13 to -.03	3.85
Intent to turnover							
Supervisor aggression	16	7474	.26	.30	.09	.26 to .35	59.95***
Co-worker aggression	12	6361	.20	.23	.08	.19 to .28	30.66***
Outsider aggression	6	1268	.15	.17	.10	.10 to .25	9.63
Psychological distress							
Supervisor aggression	5	3406	-.25	-.28	.15	-.42 to -.14	85.05***
Co-worker aggression	5	3406	-.19	-.21	.05	-.25 to -.17	7.36
Outsider aggression	12	4603	-.19	-.22	.07	-.26 to -.18	17.24
Emotional exhaustion							
Supervisor aggression	5	1482	.30	.35	.12	.25 to .44	18.52***
Co-worker aggression	3	425	.25	.31	.03	.26 to .35	.36
Outsider aggression	13	3066	.31	.36	.07	.33 to .40	12.04
Depression							
Supervisor aggression	8	2752	.24	.26	.07	.21 to .32	13.88
Co-worker aggression	8	4748	.18	.24	.09	.16 to .31	29.70***
Outsider aggression	3	407	.38	.36	.10	.25 to .47	3.89
Physical well being							
Supervisor aggression	12	5455	-.15	-.20	.13	-.28 to -.12	60.36***
Co-worker aggression	11	3131	-.20	-.24	.08	-.29 to -.19	15.14
Outsider aggression	14	4657	-.17	-.19	.11	-.25 to -.13	50.50***
Interpersonal deviance							
Supervisor aggression	11	3692	.29	.34	.08	.29 to .38	18.89*
(Supervisor-directed deviance)	(3)	(2295)	(.56)	(.62)	(.09)	(.50 to .73)	(27.19***)
Co-worker aggression	10	5230	.38	.47	.11	.40 to .53	62.51***
Outsider aggression	4	995	.24	.28	.08	.20 to .37	5.99
Organizational deviance							
Supervisor aggression	11	4908	.34	.39	.13	.30 to .47	79.80***
Co-worker aggression	7	2439	.25	.29	.08	.23 to .35	15.20*
Outsider aggression	3	560	.18	.20	.12	.08 to .33	6.72*
Performance							
Supervisor aggression	6	3503	-.15	-.17	.04	-.19 to -.14	3.55
Co-worker aggression	2	4745	-.07	-.09	.02	-.09 to -.09	1.09
Outsider aggression	—	—	—	—	—	—	—

Note: *K* = number of studies; *n* = total sample size; *r* = uncorrected correlation; *r<sub>c</sub>* = corrected correlation; Sdev = standard deviation; CI = confidence interval; *Q* = *Q*-statistic.

\**p* < .05; \*\*\**p* < .001.

Table 2. Dependent *t*-test comparing co-worker and supervisor aggression

	All samples			<i>K</i>	Matched Samples		
	Co-worker	Supervisor	<i>t</i>		Co-worker	Supervisor	<i>t</i>
Job satisfaction	-.25	-.38	12.29***	13	-.28	-.37	7.50***
Affective commitment	-.20	-.28	6.03***	9	-.20	-.27	4.98***
Intent to turnover	.23	.30	6.05***	12	.23	.32	7.50***
Psychological distress	-.21	-.28	4.21***	5	-.21	-.28	4.21***
Emotional exhaustion	.31	.35	1.30	5	.31	.35	1.30
Depression	.24	.26	1.26	7	.29	.26	1.36
Physical well being	-.24	-.19	-2.68**	12	-.19	-.19	0.00
Interpersonal deviance 1 <sup>a</sup>	.47	.62	11.06***	—	—	—	—
Interpersonal deviance 2 <sup>b</sup>	.47	.34	-9.75	9	.43	.35	4.75***
Organizational deviance	.29	.39	6.53***	6	.29	.31	1.35
Performance	-.09	-.17	5.26***	—	—	—	—

\*\* $p < .01$ ; \*\*\* $p < .001$ .

<sup>a</sup>Interpersonal deviance 1 represents deviance targeted at supervisors only for the supervisor sample. For the co-worker sample, the specific referent is not identified as not enough studies have examined deviance targeted specifically at co-workers.

<sup>b</sup>Interpersonal deviance 2 represents the comparison between interpersonal deviance without identifying the referent in the supervisor measure.

### *Supervisor, co-worker, and outsider aggression*

We predicted that supervisor aggression would have the strongest adverse outcomes, followed by co-worker, and then outsider aggression. Results from Table 1 indicate that supervisor, co-worker, and outsider aggression, respectively, are significantly related to job satisfaction ( $r_c = -.38, -.25, \text{ and } -.14$ ), affective commitment ( $r_c = -.28, -.20, \text{ and } -.08$ ), intent to turnover ( $r_c = .30, .23, \text{ and } .17$ ), general health, ( $r_c = -.28, -.21, \text{ and } -.22$ ), emotional exhaustion ( $r_c = .35, .31, \text{ and } .36$ ), depression ( $r_c = .26, .24, \text{ and } .36$ ), physical well being ( $-.20, -.24, \text{ and } -.19$ ), interpersonal deviance ( $r_c = .34, .47, \text{ and } .28$ ), organizational deviance ( $r_c = .39, .29, \text{ and } .20$ ), and performance ( $r_c = -.17, -.09, \text{ and } \text{not applicable}$ )<sup>3</sup>. The relationship between supervisor aggression and interpersonal deviance targeted at the supervisor was .62.

Table 2 presents the *t*-test comparisons for dependent measures between co-worker and supervisor aggression. The comparison includes two different *t*-tests: (1) All co-worker and supervisor samples (all samples), and (2) only the studies (matched samples) that measured both co-worker and supervisor aggression within the same study, using the same measure (except with a different source as the referent). To clarify, the “all samples” *t*-test compared all studies that measured aggression from a supervisor towards a victim and all studies that measured aggression from a co-worker towards a victim. It did not matter which measures were used as long as they identified the perpetrator within the measure. In contrast, the “matched sample” *t*-test only compared co-worker and supervisor aggression from within the same study, therefore controlling for the measure used to ensure that the findings are not a function of the measure rather than the referent.

Results show that supervisor aggression has stronger adverse relationships than co-worker aggression with job satisfaction ( $t = 12.29, p < .001$ ), affective commitment ( $t = 6.03, p < .001$ ), turnover intent ( $t = 6.05, p < .001$ ), general health ( $t = 4.21, p < .01$ ), organizational deviance ( $t = 6.53, p < .001$ ), and performance ( $t = 5.26, p < .001$ ). In contrast, co-worker aggression had a

<sup>3</sup>We are unable to examine whether outsider aggression affects performance because past studies have not examined this relationship.

Table 3. Z-test differences between the outcomes of co-worker aggression and outsider aggression

	$r_c$ – co-worker	$r_c$ – Outsider	Z
Job satisfaction	-.25	-.14	4.36***
Affective commitment	-.20	-.08	3.83***
Intent to turnover	.23	.17	1.96*
Psychological distress	-.21	-.22	.44
Emotional exhaustion	.31	.36	.97
Depression	.24	.36	1.12
Physical well being	-.24	-.19	2.16**
Interpersonal deviance	.47	.28	5.49***
Organizational deviance	.29	.20	1.92

\*\* $p < .05$ ; \*\*\* $p < .001$ .

stronger adverse relationship than supervisor aggression with physical well being ( $t = -2.68, p < .01$ ), and there was no significant difference between these perpetrators in relation to emotional exhaustion ( $t = 1.30, ns$ ) and depression ( $t = 1.26, ns$ ). Further, supervisor aggression was related to a significantly stronger level of deviance targeted at the *supervisor*, as compared to the relationship between co-worker aggression and interpersonal deviance (with no referent target named in the measure) ( $t = -9.75, p < .001$ ).

The matched sample  $t$ -tests show the same overall pattern of findings; however, in the matched sample, the  $t$ -test differences became non-significant for two outcome variables: Physical well being and organizational deviance.

With respect to the comparison between co-worker aggression and outsider aggression,  $z$ -scores are presented in Table 3. Results show that co-worker aggression had a stronger adverse relationship than outsider aggression in relation to job satisfaction ( $z = 4.36, p < .001$ ), affective commitment, ( $z = 3.83, p < .001$ ), intent to turnover ( $z = 1.96, p = .05$ ), interpersonal deviance ( $z = 5.49, p < .001$ ), and physical well being ( $z = 2.16, p < .05$ ). There was no significant differences between co-worker aggression and outsider aggression in relation to general health ( $z = .44, ns$ ), emotional exhaustion ( $z = .97, ns$ ), depression ( $z = 1.12, ns$ ), and organizational deviance ( $z = 1.92, p > .05$ ).

The pattern of results comparing supervisor versus co-worker and co-worker versus outsider aggression render a direct comparison of supervisor versus outsider aggression redundant for most of the attitudinal and behavioral outcomes. However, the comparison was appropriate for the well-being outcomes. Supervisor aggression has a stronger adverse relationship with general health than outsider aggression ( $z = 2.65, p < .01$ ); however, there was no significant difference between supervisor aggression and outsider aggression on emotional exhaustion ( $z = .32, ns$ ), depression ( $z = -1.88, ns$ ), or physical health ( $z = .50, ns$ ).

## Discussion

### *Summary of findings and implications*

Consistent with prior research, this study found that workplace aggression has adverse effects on employees. However, this study provides some insights into how attitudinal, behavioral, and health outcomes differ in magnitude by source of aggression. The findings show that supervisor aggression has the strongest negative relationships with workplace attitudes (i.e., job satisfaction, affective commitment, intentions to quit) and behaviors (i.e., organizational deviance), followed by co-worker

aggression, with the weakest relationships being with outsider aggression. We also found that supervisor aggression is related to lower levels of performance than is co-worker aggression.

There was one interesting exception to the pattern of our findings. Specifically, the pattern did not hold for the health-related outcomes. Whereas psychological distress was significantly worse when supervisors perpetrated the aggression, for most of the health outcomes, the difference in effects between the three perpetrators were not significant. We argued that power and justice differences may explain the differential effects expected in this study. However, it appears that the pattern of outcomes may also depend on the dependent variable. To understand this finding, it might be informative to conceptualize the outcome variables in this study in two broad categories: Organizational-related strains (i.e., job satisfaction, commitment, deviance, and performance), and personal strains (i.e., health). When employees experience aggression from an organizational *insider*, such as co-workers and supervisors, victims are likely to attribute their negative experience to the organization. Employees have a basic psychological contract with their organization that they will be safe and well treated by their colleagues (Rousseau, 1990). When such contracts are violated (i.e., by experiencing aggression from insiders), employees are likely to hold the organization responsible because employees may expect that organizations can and should prevent aggression from insiders (LeBlanc & Kelloway, 2002). Therefore, organizational-related outcomes are likely to be particularly affected by aggression from insiders.

In contrast, source (i.e., supervisor, co-worker, or outsider) may be a less salient moderator of aggression on non-organizational strains such as well being, because such outcomes are not organizationally focused. Regardless of who commits the aggressive act, victims still experience aggression as a stressor, and a large body of research has suggested and found that stressors result in a range of personal strains. Further, research in the area of emotional labor (Grandey, Dickter, & Sin, 2004; Grandey et al., 2007) has shown that the positive display rules employees are required to exhibit when dealing with aggressive outsiders results in burnout for victims. Together, these explanations suggest potentially different mediators between aggression and outcomes depending on source, with emotional labor mediating the relationship between aggression from outsiders and health effects, and blame attribution mediating the relationship between aggression from insiders and health effects. This again highlights the importance of taking a multi-foci approach.

The present findings have theoretical and methodological implications for the way in which future research on workplace aggression is conducted. Specifically, researchers must be explicitly cognizant of the source of any workplace aggression, as not doing so may result in findings of limited practical value.

## *Research and practical implications*

### **Towards a multi-foci approach**

From a theoretical perspective, a multi-foci approach to workplace aggression suggests new research questions that focus on the relationship within which aggression occurs. It is likely that outcomes of aggression from different sources not only differ in magnitude (as demonstrated in the present study), but also in type. The literature on power suggests that victims react differently towards perpetrators depending on their relative level of power. For instance, Keltner et al. (2003) proposed that individuals with lower levels of power are more likely to express negative affect while individuals with higher levels of power are more likely to express positive affect. These differences suggest the possibility that supervisor-on-supervisor aggression yields different victim response strategies than supervisor-on-subordinate aggression. For example, victims of aggression with formal or informal power may feel more confident in their ability to cope, resulting in more reparative response strategies. In contrast, due

to increased sensitivity to threats (Keltner et al., 2003) and greater expression of negative affect, lower power victims may respond more spontaneously and more negatively, increasing the chance of an incivility spiral (Andersson & Pearson, 1999).

Further, while there has been some focus on the outcomes of abusive supervision, there has been very little research that specifically examines peers as perpetrators. It is likely that aggression from peers differs in form from aggression from supervisors. Given that the expectation of mutual respect may be lower in a peer-to-peer relationship than in supervisor-to-subordinate relationship, aggression from peers may be more overt; therefore, responses to aggression from peers may be more confrontational. While the present study showed that victims of aggression engage in deviant acts towards both co-workers and supervisors, given the power and counter-retaliation concerns discussed previously, it is possible that victims use different (i.e., more covert) forms of deviance when retaliating towards a supervisor.

Finally, aggression from customers may lead to outcomes that have not been considered. While researchers have examined emotional labor as a mediating mechanism between customer injustice (Rupp & Spencer, 2006) or aggression (Grandey et al., 2007) and employee well being, a range of other types of outcomes may result from customer aggression. Future research questions may include: To what extent do employees engage in customer deviance or retaliation and to what extent does such counter-aggression affect work group performance or repeat business? What coping strategies do employees find most effective in dealing with customer aggression? Are they more likely to report, confront, or ignore aggressive customers?

### **Towards a relational approach**

While we focused on power and justice as key explanations for the differential magnitude of effects, a focus on these factors alone is likely too simplistic. A second and perhaps more important theoretical implication from the present study is that research to date has largely examined the act of aggression without considering the *relationship* in which it occurs. The findings that aggression outcomes differ in magnitude (and likely in form) by source suggest that the nature of the perpetrator/victim relationship may have an effect on the enactment and on the experience of workplace aggression. Power is only one aspect of this relationship. Other factors might include task interdependence, the extent to which employees work within physical proximity to each other, or the expected longevity of the working relationship (Herscovits & Barling, 2007). Moving forward, we propose that researchers investigate workplace aggression within the social relationship in which it occurs. Aggression is a social experience, and therefore an understanding of the perpetrator/victim relationship has implications for the victim's experience and coping strategies.

## **Limitations and Future Directions**

### *Limitations*

First, as with all meta-analyses, judgment calls were required. We had to determine which studies to include based on the scales used to measure the aggression and outcomes variables. With both the independent and dependent variables, different scales were often combined into one meta-analysis following Hunter and Schmidt's (1990) recommendation; and this may account for some of the variance that led to larger confidence intervals in some instances. Second, while models of work stress (e.g., Barling, 1996; Bowling & Beehr, 2006) suggest that cognitive and emotional factors, such as fear,

cognitive distraction, or attributions mediate the relationship between aggression and different outcomes, the current study was unable to examine mediating relationships because sufficient data from prior studies were not available. Stress may help explain some of the perpetrator-specific outcomes. For instance, Schat et al. (2005) found that fear mediated the relationship between aggression from outsiders and supervisors, but not co-workers on outcomes. Third, this study compared supervisor, co-worker, and outsider aggression. Conducting a fair analysis is critical (Cooper & Richardson, 1986), and the fairness of any comparison is maximized when the measures used to examine the three types of aggression are identical. While we were able to examine the same measures for the comparison between co-worker and supervisor aggression, there were not enough overlapping studies that examined insider and outsider aggression to enable a similar matched comparison, leaving open the possibility that findings relating to outsider aggression might be a function of measurement differences. Future research needs to examine this possibility directly.

Finally, we were unable to conduct a comparison between supervisor, co-worker, and outsider aggression on the one hand, and supervisor-targeted, co-worker-targeted, and outsider-targeted deviance on the other. While evidence suggests that deviance is target-specific (e.g., Hershcovis et al., 2007; Jones, 2009; Mitchell & Ambrose, 2007), few studies have specified the target within the measure of interpersonal deviance. The present study demonstrates that the relationship between aggression from supervisors and employee interpersonal deviance is different when the source is not identified within the measure of deviance, and when it is identified to be the supervisor. This finding replicates prior research and echoes prior calls (e.g., Hershcovis et al., 2007, Jones, 2009; Mitchell & Ambrose, 2007) to specify the target within the measure. Not doing so is likely to lead to an under-or over-estimate of the true effect size between *any* predictor variable and deviance.

### *Future directions*

A move towards a multi-foci or relational approach to aggression would have important methodological implications. With few exceptions, most existing research on workplace aggression operationalizes aggression in one of two ways. First, researchers ask about aggression from “someone at work,” which leaves open the possibility that the participant’s referent may be a supervisor, co-worker, member of the public, or any combination of the above (e.g., Mikkelsen & Einarsen, 2002). Second, some researchers ask specifically about a supervisor, co-worker, or member of the public (e.g., Duffy, Ganster, & Pagon, 2002; Frone, 2000; Tepper, 2000). This latter method is likely to result in more accurate predictions because it narrows the aggression to one broad source. However, we propose that even within one source, there may be differential experiences. For example, employees who experience workplace aggression from co-workers with whom they are highly interdependent (e.g., one is an internal supplier to another) are likely to experience stronger outcomes and engage in different coping strategies than employees who experience workplace aggression from co-workers with whom they are not interdependent (e.g., they work on different sides of the factory). Within interdependent relationships, victims may be more likely to engage in relationship repair strategies because their own work performance is at stake. Within non-interdependent relationships, victims may be more likely to retaliate, or to simply avoid the aggressor. Similarly, aggression from members of the public with whom employees have an ongoing business relationship (e.g., a lawyer/client relationship) is likely to be experienced differently than aggression from a member of the public with whom one is involved in only a single transaction relationship (e.g., a retail worker/customer). Not accounting for the moderating effects of these explanatory factors (e.g., task interdependence, relationship importance, power) might well result in truncated models of the effects of workplace aggression (Hershcovis & Barling, 2007).

We propose three possible methods to investigate workplace aggression within the context of its relationship. First, the critical incident technique is a useful way to understand workplace aggression within its relationship (e.g., Aquino, Tripp, & Bies, 2006). The critical incident technique asks the participants to focus on one meaningful negative relationship or experience of aggression, and enables the researcher to explore moderators such as power, task interdependence, and other aspects of the perpetrator victim relationship. Second, daily diary studies would enable researchers to record any salient experiences of workplace aggression, and then ask about the perpetrator/victim relationship related to that experience. Third, social network analysis could improve our understanding of the dyadic relationship between a perpetrator and victim. Most employees are likely mistreated in ongoing work relationships (Lamertz & Aquino, 2004); therefore, it is important to understand how the dynamics of these dyads and their broader social networks affect victims' experiences and responses to aggression (Aquino & Thau, 2009).

In conclusion, workplace aggression is fundamentally about a relationship between two (or more) people. To date, research has focused on workplace aggression as a stressor, without considering the relationship embedded in the experience of workplace aggression. The findings from this study suggest that a more complete understanding of the consequences of workplace aggression must account for the nature of the relationship between perpetrator and victim. The present study opens up new directions for workplace aggression research that brings relational issues back into the experience of workplace aggression.

## Acknowledgements

We express our appreciation to Mike Frone, Laurent Lapierre, and Paul Spector for their technical assistance with our research. We also express our gratitude to Jennifer Bozeman, Patrick Bruning, Amy Christie, Lilia Cortina, Kate Dupré, Colette Hopton, Jana Raver, Tara Reich, Sean Tucker, and Nick Turner for their feedback at various stages in the project. We also gratefully acknowledge the developmental feedback provided by the three anonymous reviewers and the financial support of the Social Sciences and Humanities Research Council of Canada. This study was part of M. Sandy Hershcovis' dissertation, under the supervision of Julian Barling.

## Author biographies

**M. Sandy Hershcovis** is an assistant professor of Organizational Behavior at the I. H. Asper School of Business, University of Manitoba. Her primary research area is workplace aggression (e.g., incivility, bullying, social undermining, abusive supervision, counterproductive work behaviors, workplace deviance). She is currently investigating how the relationship between the perpetrator and target of workplace aggression affects victim experiences and outcomes. She has published her research in journals such as the *Journal of Applied Psychology*, *Journal of Occupational Health Psychology*, and *Journal of Business Ethics*.

**Julian Barling** is the Queen's Research Chair and the Associate Dean of Graduate Studies and Research at the Queen's School of Business, Queen's University. His research interests include transformational leadership, unethical leadership, workplace aggression, and employees' physical and

psychological well being. In addition to writing *Employment, stress, and family functioning*) and co-editing several books (e.g., *Handbook of Organizational Behavior*), Dr Barling has published his work in journals such as the *Annual Review of Psychology*, *Journal of Applied Psychology*, *Journal of Occupational Health Psychology*, *Leadership Quarterly*, and *Work & Stress*

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