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Exposure to Psychological Aggression at Work and Job Performance: The Mediating Role of Job Attitudes and Personal Health

Aaron Schat and

DeGroote School of Business, McMaster University Hamilton, Ontario, Canada

Michael R. Frone

Research Institute on Addictions, State University of New York at Buffalo, Buffalo, New York, US

Abstract

Despite the growing literature on workplace aggression and the importance of employee performance at work, few studies have examined the relation between workplace aggression and job performance. The purpose of this study was to investigate the relations between psychological aggression at work and two forms of job performance (task performance and contextual performance) and potential mediators of these relations. Based on Conservation of Resources theory and prior research, a model was developed and tested in which overall job attitudes (i.e., job satisfaction and organizational commitment) and overall personal health (i.e., physical and psychological health) fully mediate the relations between exposure to psychological aggression at work and both task performance and contextual performance. Data were obtained from a national probability sample of US workers ($N = 2376$) and the model was tested using structural equation modelling. The results supported the hypothesized model, demonstrating that exposure to psychological aggression at work negatively predicted both task performance and contextual performance, and that these relations were explained by decrements in job attitudes and health associated with exposure to psychological aggression at work.

Keywords

Psychological aggression; Workplace; Bullying; Work-related stress; Job attitudes; Employee health; Job performance; Contextual performance

Introduction

Aggressive behaviour at work is associated with negative consequences for individuals and organizations. Conceptualized as a workplace stressor, researchers have primarily focused on health and attitudinal consequences for the individuals exposed to workplace aggression (for a review, see Schat & Kelloway, 2005). In contrast, whether aggression predicts important work behaviours, such as job performance, has received relatively little attention. This lack of attention is striking because of the centrality of job performance in organizations. Employee job performance represents the primary contribution of individuals to organizational effectiveness and the primary reason individuals are employed by organizations. In the light of the importance of performance, research is needed to investigate whether and how experiencing psychological aggression at work influences individual job performance. Toward that end, the primary goals of the present study were (a)

to test the relation of exposure to workplace psychological aggression to both task and contextual performance and (b) to explore whether these relations are mediated by overall work attitudes and overall health. We explore these issues using data from a national probability sample of US workers.

Workplace aggression: definition and focus

Although there are a number of different definitions of workplace aggression, most scholars generally agree that it involves experiencing behaviour that (1) is potentially harmful, (2) the target is motivated to avoid, and (3) occurs while the target is working (e.g., Neuman & Baron, 2005; Schat & Kelloway, 2005). Within the superordinate construct of workplace aggression are two distinct forms of aggression: physical violence and psychological aggression. Workplace physical violence involves behaviour that is characterized by a physical act, the typical immediate and primary effect of which is physical harm. Examples of physical violence include being punched, slapped, or attacked with a weapon. Workplace psychological aggression (WPA) involves behaviour that is characterized by a verbal or symbolic act, the typical immediate effect of which is psychological harm (e.g., fear, anxiety). Examples of WPA include being shouted at, insulted, or threatened at work.

In the present study, we focus on WPA for two reasons. First, exposure to WPA is far more common in the workforce than is exposure to workplace physical violence. US data show that 41.4% of American workers reported exposure to workplace psychological aggression during the preceding 12 months compared to 6.0% who reported exposure to workplace physical violence (Schat, Frone, & Kelloway, 2006). Similarly, when the frequency of exposure was considered, 13% of workers reported weekly exposure to WPA compared to 1.3% of workers who reported weekly exposure to workplace physical violence (Schat et al., 2006). Second, it is difficult to explore the effects of aggregate exposure to workplace physical violence independent of the effects of WPA because 95.7% of US workers who experienced workplace physical violence also reported experiencing WPA. Moreover, among those who did not experience WPA, only 0.4% reported exposure to workplace violence (Frone, 2003; see Schat et al, 2006, for a description of the sample and variables. More detail regarding this cross-tabulation can be obtained from the second author).

Past research on workplace psychological aggression and job performance

Before reviewing research on WPA and job performance, it is important to differentiate two broad dimensions of job performance. Specifically, task performance involves behaviours that fulfil the prescribed duties of a given job and contextual performance (also referred to as organizational citizenship) involves behaviours that contribute to the maintenance and enhancement of the social-psychological work environment that supports task performance (Borman & Motowidlo, 1993).

Of the four studies that have explored the relations between some form of WPA and job performance, two studies examined contextual performance alone, one study explored task performance alone, and one study explored both task performance and contextual performance. Specifically, Zellars, Tepper, and Duffy (2002) found that subordinates' exposure to abusive supervision predicted reduced contextual performance via perceptions of procedural injustice. Similarly, Aryee, Chen, Sun, and Debrah (2007) found that abusive supervision predicted reduced contextual performance via perceptions of interactional injustice. Harris, Kacmar, and Zivnuska (2007) found that abusive supervision was unrelated to self-ratings of task performance but negatively related to supervisor-ratings of task performance and to respondents' most recent formal performance appraisal rating. Finally, in a series of laboratory studies, Porath and Erez (2007) found that student participants who experienced or witnessed rude behaviour by a confederate were more likely to exhibit

reductions in performance, creativity, and helping behaviour in subsequent experimental tasks.

Although these four studies provide some support for a relation between WPA and job performance, they are collectively limited in several ways. First and most importantly, little attention has been paid to the mediating processes that link WPA to job performance. We draw on theory and research on work-related stress to suggest that two widely reported consequences of exposure to workplace stressors – negative work attitudes and ill-health – represent the primary mechanisms that link individual exposure to WPA with reduced job performance. Second, only the laboratory study (Porath & Erez, 2007) included operationalizations of both task and contextual performance, but because it involved students working on discrete experimental tasks following their exposure to rude behaviour by a confederate, the extent to which these results extend to the relation between actual employee exposure to workplace aggression and job-related task and contextual performance remains to be tested. Third, previous studies have relied on narrow convenience samples, limiting their theoretical contributions because the generalizability of their results is unknown. Therefore, we seek to extend previous research by addressing each of these limitations.

Workplace psychological aggression and job performance: A stress perspective

Empirical studies examining the relation between work stressors and job performance have produced inconsistent results, including evidence of positive, negative, curvilinear, and null relations. Jex (1998) suggested that the relation depends on, among other factors, the nature of the stressor. This suggestion has received empirical support in a study by Cavanaugh, Boswell, Roehling, and Boudreau (2000), who distinguished between challenge and hindrance stressors. Challenge stressors are those that are potentially stressful but may have benefits for individuals in that they may lead to feelings of challenge and achievement (e.g., work load, level of responsibility), whereas hindrance stressors are those that are undesirable and tend to interfere with an individual achieving valued goals (e.g., role ambiguity, job insecurity). Cavanaugh et al. (2000) found that challenge stressors were positively associated with job performance, whereas hindrance stressors were negatively associated with job performance. In a meta-analysis, LePine, Podsakoff, and LePine (2005) showed that these relations are mediated by motivation and strain. Taken together, this research shows that the stressor–task performance relationship depends on the type of stressor (i.e., challenge versus hindrance) and may be accounted for, at least partially, by a stressor's impact on individual motivation, attitudes, and health. Nonetheless, because this research used aggregate measures of challenge and hindrance stressors, it does not provide information on whether all potential challenge and hindrance stressors were related to job performance or whether these aggregate relations were driven by a smaller set of specific stressors. In addition, exposure to WPA has not been incorporated into the challenge-hindrance stressor model, and therefore was not included in these studies. Furthermore, this research did not explore contextual performance as an outcome.

Building on this prior research and drawing on insights from conservation of resources (COR) theory (Hobfoll, 1989; 2001), we propose the conceptual model depicted in Figure 1. Specifically, we posit that exposure to WPA is a hindrance stressor that has two negative indirect pathways by which it predicts reduced task and contextual performance. The first pathway represents a morale-based motivational mechanism whereby the experience of WPA is associated with decrements in job performance via negative work attitudes that reduces motivation to perform at work. The second pathway represents a health-related mechanism whereby the experience of WPA is associated with decrements in job performance via reductions in individuals' health and well-being that diminish their capacity

to perform at work. Below we outline the theoretical basis of the hypothesized relations in our model.

According to COR theory, “people strive to retain, protect, and build resources and that what is threatening to them is the potential or actual loss of these valued resources” (Hobfoll, 1989, p. 516). Resources represent a wide range of “objects, personal characteristics, conditions, or energies that are valued by an individual” (p. 516), including health, stamina, feelings of competence, commitment, and motivation, and support from and relationships with coworkers and others (Hobfoll, 2001, p. 342). In our model, these resources are represented by generally positive job attitudes and overall positive health. These are undermined when one is mistreated by others at work which, in turn, compromises individual job performance.

Workplace psychological aggression, job attitudes and job performance

In our conceptual model, we position overall job attitude as a partial mediator of the relation between WPA and both task and contextual performance. By doing so, we are proposing a morale-based motivational explanation for this relation. Because WPA represents aversive behaviour, an individual who experiences it will have negative emotional and cognitive reactions toward both the aggressor and the context in which the aggression occurs. In this way, WPA threatens a number of valued resources outlined in COR theory that derive from an individual’s work, including supportive relationships with others (such as coworkers), feeling successful and valuable to others, and commitment. Because these resources represent important elements of satisfaction with one’s job, their loss will contribute to deterioration of a worker’s job satisfaction. In addition, the worker may blame the organization for “allowing” the aggression to occur, compromising the individual’s affective bond with the organization, leading to lower affective commitment (e.g., Rogers & Kelloway, 1997). As Meyer, Becker, and Vandenberghe (2004) suggest, job attitudes such as affective commitment have important motivational value in that they affect workers’ motivation to engage in both non-discretionary (task) and discretionary (contextual) performance behaviours. Accordingly, when workers’ satisfaction and commitment are compromised by work-related stressors such as WPA, their motivation to exert effort to perform their job tasks and engage in discretionary work behaviours to benefit the organization will also be compromised.

Therefore, work attitudes represent one pathway by which exposure to WPA will be associated with diminished task and contextual performance. Although job satisfaction and affective organizational commitment are distinct constructs, both are attitudinal variables that reflect an evaluative judgment of one’s work circumstances (Weiss, 2002) differing only in their object: job (i.e., job satisfaction) versus organization (i.e., affective organizational commitment). Therefore, consistent with the work of Harrison, Newman, and Roth (2006), in this study we integrate them into a variable that reflects overall job attitude. This is supported by the results of a meta-analysis (Bowling & Beehr, 2006) showing that workplace aggression exhibits similar corrected correlations with both job satisfaction ($-.39$) and organizational commitment ($-.36$).

- Hypothesis 1** Exposure to WPA will be negatively associated with overall job attitude.
- Hypothesis 2** Overall job attitude will be positively associated with task (Hypothesis 2a) and contextual (Hypothesis 2b) performance.
- Hypothesis 3** There will be a negative indirect effect via overall job attitude from WPA to task performance (Hypothesis 3a) and contextual performance (Hypothesis 3b).

Workplace psychological aggression, personal health and job performance

In addition to the mediational mechanism that we propose involving overall job attitude, we draw on COR theory to propose that the relation between WPA and job performance also will be partially mediated by an individual's psychological and physical health. Mental and physical health are essential for sustained effective functioning at work. Indeed, performing task and extra role behaviours require an individual to be rested, have energy, be able to focus attention, and engage mental and/or physical effort. In sum, these provide an individual with the capacity to engage in job performance behaviours. When workers experience stressors such as WPA, their health resources are taxed because their attention and energy are being directed elsewhere and they feel anxious, alienated, or scared, which may manifest in symptoms of sleep loss and physical illness (e.g., Hogh, Henriksson, & Burr, 2005; Rogers & Kelloway, 1997). Together these symptoms compromise workers' capacity to direct attention and effort toward their work, diminishing their task and contextual performance (e.g., Pransky, Berndt, Finkelstein, Verma, & Agrawal, 2005; Wang, Beck, Berglund, McKenas, Pronk, Simon, & Kessler, 2004). Related to this, COR theory also suggests that when resources are threatened or depleted, individuals will try to preserve their resources, expending no more than is necessary to function adequately (Hobfoll, 2001). At work, this would involve an employee performing their job to a "good enough" level, but limiting the investment of discretionary time and effort required to perform exceptionally. In sum, when an individual's overall health suffers and they act to preserve their health in response to a threat (such as WPA), both their task and contextual performance will be adversely affected.

- Hypothesis 4** Exposure to WPA will be negatively associated with overall individual health.
- Hypothesis 5** Overall health will be positively associated with task (Hypothesis 5a) and contextual (Hypothesis 5b) performance.
- Hypothesis 6** There will be a negative indirect effect via overall health from WPA to task performance (Hypothesis 6a) and contextual performance (Hypothesis 6b).

Method

Study design

The study included 2829 individuals who participated in the US National Survey of Workplace Health and Safety. This random digit dialled telephone survey was designed to sample the population of all non-institutionalized adults aged 18 to 65 who were employed in the civilian labour force and residing in households in the 48 contiguous United States and the District of Columbia. Data were collected by 19 extensively trained interviewers using computer-assisted telephone interviewing (CATI) stations. Of all selected eligible individuals, 57% participated in the study. On average, the interview lasted 45 minutes and participants were paid \$25.00 for their time (For more detail on study design, see Frone, 2006a, 2006b; Schat et al., 2006). Of the 2829 study participants, the present analyses were restricted to the 2376 wage and salary workers who had complete data on all of the variables used in this report.

For all analyses, the interviewees were weighted according to standard procedures for sample survey data in order to generalize to the target population defined earlier (e.g., Korn & Graubard, 1999; Levy & Lemeshow, 1999). More detail on the sampling weights can be found in Frone (2006a, 2006b) and Schat et al. (2006).

Respondent characteristics

The respondent (i.e., population) characteristics are described using weighted means and percentages. Fifty-three percent of the participants were male. Seventy-two percent were White, 13% were Black, 8% were Hispanic, and 7% were of other racial/ethnic makeup. The average age of participants was 39 years. Average total family income was \$60,740. The participants worked an average of 42 hours per week and had held their present job for an average of 5 years. Additional information on respondent characteristics can be found in Frone (2006a, 2006b) and Schat et al. (2006).

Measures

The reporting period for this survey was the previous 12 months. Descriptive statistics and correlations for the major constructs are reported in Table 1.

Workplace psychological aggression—Six items assessed the frequency of exposure to psychological aggression at work and were adapted from McFarlin, Fals-Stewart, Major, and Justice (2001). Participants were asked how frequently during the past 12 months someone at work did each of the following: Did or said something to annoy you or to hurt your feelings; Shouted obscenities at you or screamed at you in anger; Insulted you or called you names in front of other people; Made an indirect or hidden threat, such as saying that “something bad” would happen to you; Threatened to hit you or throw something at you; and Threatened you with a knife, gun, or another weapon. All items used the following frequency-based response anchors: (0) never, (1) less than once a month, (2) 1 to 3 days a month, (3) 1 to 2 days a week, (4) 3 to 5 days a week, and (5) 6 to 7 days a week. Reliability was .79. More detailed information about the prevalence of worker exposure to these behaviours is available in Schat et al. (2006).

Overall job attitude—Job satisfaction was assessed using a five-item facet free scale developed for the 1977 Quality of Employment Survey (Quinn & Staines, 1979; See Fields, 2002 for the items). A sample item is “All in all, how satisfied would you say you are with your job? Would you say very satisfied, somewhat satisfied, not too satisfied, or not at all satisfied?” Each satisfaction item used a different set of response anchors and items were scored so that high scores reflected greater job satisfaction. Affective organizational commitment was assessed with three items developed by Meyer and Allen (1997). A sample item is “This organization has a great deal of personal meaning to me.” All commitment items used the following four response anchors (1) strongly disagree, (2) disagree, (3) agree, and (4) strongly agree. For the construct-level descriptive statistics presented in Table 1, overall job attitude was created by averaging the scores for job satisfaction and organizational commitment. Reliability was .80 for job satisfaction, .87 for organizational commitment, and .91 for overall job attitude.

Overall health—Self-ratings of overall health using single items are commonly used in epidemiological and public health research. The items are generally worded to reflect absolute ratings of health or to reflect ratings of health relative to others of one’s gender or age. Based on items developed and used in past research on overall health, four items were developed for the present study that distinguished between physical and mental health and that employed both absolute and relative ratings (see Frone, 2007 for more detail on the development and validity of the items used to assess physical and mental health). Specifically, physical health was assessed with the following two items: (1) “In general, would you say your physical health is poor, fair, good, very good, or excellent?” and (2) “In general, compared to most (men/women) of your age, is your physical health much better, somewhat better, about the same, somewhat worse, or much worse?” Mental health was assessed with the following two items: (1) “In general, would you say your mental or

emotional health is poor, fair, good, very good, or excellent?” and (2) “In general, compared to most (men/women) of your age, is your mental or emotional health much better, somewhat better, about the same, somewhat worse, or much worse?” For both physical and mental health, the item responses were scored from 1 (poor) to 5 (excellent) and a composite score for each was created by averaging the respective two items. For the construct level descriptive statistics presented in Table 1, overall health was created by averaging the scores for physical and mental health. Reliability was .67 for both physical and mental health, and .77 for overall health.

Task performance—Three items adapted from Wayne and Ferris (1990) were used to assess overall task performance. However, to reduce the likelihood of bias in the self-reporting of one’s own job performance, the referent for each item was changed so that respondents provided the performance rating from the perspective of their supervisor rather than from their own perspective. Accordingly, an example item in this study was “Considering all of your job duties and responsibilities, how would your supervisor or boss rate your overall performance at work during the past 12 months?” Each task performance item used the following response anchors: (1) poor, (2) fair, (3) good, (4) very good, and (5) excellent. Coefficient alpha was .89. The utility of having respondents provide a performance rating from their supervisor’s perspective is supported by the results of recent research by Schoorman and Mayer (2008) who found that such ratings are more highly correlated with actual supervisory ratings than are direct employee self-reports of one’s own performance.

Contextual performance—Two dimensions of contextual performance were assessed. Three items adapted from Van Scotter and Motowidlo (1996) and Van Dyne, Graham, and Dienesch (1994) assessed job dedication. An example item is “How likely are you to put in extra hours to get your work done on time?” Three items adapted from Van Scotter and Motowidlo (1996) and Van Dyne and LePine (1998) assessed interpersonal facilitation. An example item is “How likely are you to praise coworkers when they are successful?” Each contextual performance item used the following response anchors: (1) not at all likely, (2) somewhat likely, (3) moderately likely, and (4) extremely likely. For the construct level descriptive statistics presented in Table 1, overall contextual performance was created by averaging the scores for job dedication and interpersonal facilitation. Reliability was .74 for job dedication, .64 for interpersonal facilitation, and .79 for contextual performance.

Covariates—We used seven demographic variables as covariates in the structural equation analysis to reduce possible spurious relations among the latent variables. The covariates were gender (0 = female, 1 = male), race (0 = White, 1 = Non-white), age, years of education (10 ordinal categories), total family income, job tenure, and number of hours worked per week.

Data analysis

The correlations and structural equation modeling analyses employed sampling weights and all standard errors were estimated using Taylor linearization (e.g., Asparouhov, 2005; Lehtonen & Pahkinen, 2004; Muthén & Muthén, 2007). The latent variable structural model shown in Figure 1 was analyzed using Mplus software where, in addition to the complex sampling issues involving sampling weights and the computation of standard errors, the mix of continuous and ordinal indicator variables were taken into account using a robust weighted least squares estimator (Asparouhov, 2005; Muthén & Muthén, 2007). Overall exact model fit was assessed with the chi-square statistic and overall relative model fit was assessed using the comparative fit index, (CFI), Tucker-Lewis index (TLI), and the root mean square error of approximation (RMSEA). Although not shown in the figures (but see

Table 1), the seven covariates were treated as correlated exogenous variables and each covariate predicted each of the five latent variables.

Results

The proposed model showed a reasonably good fit to the data: Chi-square (58, $N = 2376$) = 297.49, $p < .001$; CFI = .98; TLI = .98; and RMSEA = .042. Table 2 provides the standardized path coefficients relating the covariates to each of the five latent variables. Figure 2 presents the path coefficients and factor loadings for the substantive portion of the model. Finally, Table 3 presents the total effects of WPA on the performance outcomes and their decomposition into direct and indirect effects. Before discussing the specific hypotheses, it is useful to point out that the results in Table 3 show that WPA had a significant and negative overall relation (total effect) to both task performance and contextual performance.

Supporting Hypothesis 1, Figure 2 shows that WPA was significantly and negatively related to overall job attitude. Supporting Hypotheses 2a and 2b, respectively, Figure 2 shows that overall job attitude was positively related to task performance and contextual performance. Supporting Hypotheses 3a and 3b, respectively, Table 3 shows that there were significant and negative indirect effects of WPA on task performance and contextual performance via overall job attitude. Turning to Hypothesis 4, the results in Figure 2 show that WPA was significantly and negatively related to overall health as predicted. Supporting Hypotheses 5a and 5b, Figure 2 shows that overall health was positively related to task performance and contextual performance. Supporting Hypotheses 6a and 6b, Table 3 shows that there was a significant and negative indirect effect of WPA on task and contextual performance via overall health.

Finally, consistent with the proposed conceptual model, the results in Table 3 show that the direct effects of WPA on task and contextual performance were zero. This indicates that overall job attitude and overall health fully mediated the relation of WPA to both task and contextual performance.

Discussion

Theoretical implications

Our study contributes to research and theory related to workplace aggression and job performance in several ways. First, we found that exposure to WPA is negatively related to both task and contextual performance. This finding adds to our understanding of how individual job performance is influenced by characteristics of the psychosocial work environment, and by exposure to the psychologically aggressive behaviour of others, in particular. Moreover, it shows that WPA – itself an indicator of a negative work environment – may exacerbate the deterioration of the psychosocial work environment by reducing contextual performance behaviours that contribute to the psychosocial work environment (Borman & Motowidlo, 1993).

Second, and most importantly, our study suggests two mechanisms that explain how exposure to WPA may undermine employee task and contextual performance by eroding key resources that underlie individual job performance. One mechanism involves a reduction in job satisfaction and affective organizational commitment. These job attitudes reflect employee morale and represent the motivational substrate for engaging in both non-discretionary behaviours, such as task performance, and discretionary behaviours, such as contextual performance (Meyer et al., 2004). When job attitudes are compromised, employees are demotivated and more likely to engage in “on-the-job” withdrawal (e.g.,

reduced discretionary effort) that is manifested in reduced job performance (Judge, Thoreson, Bono, & Patton (2001).

The second mechanism that explains how exposure to WPA is negatively associated with performance is diminished individual health. Whereas job attitudes represent a motivational mechanism, individual health represents a capacity-related mechanism. In particular, the ability to perform one's job requires psychological and physical resources, such as energy and the ability to sustain attention and effort toward a task. When an individual's health is compromised these resources are depleted, leaving reduced capacity for required or discretionary performance behaviours, undermining task and contextual performance.

We believe that the finding that individual health partially explains the relation between WPA and performance is an important contribution to theory on work-related stress and strain. In most theoretical frameworks of work-related stress, employee health and job performance are treated as independent outcomes of stress (i.e., strain), the theoretical relations among which are rarely examined. Our results suggest the importance of examining such relations because (ill-) health, in addition to being an important stress outcome in its own right, is also a pathway by which exposure to work-related stressors such as WPA predict decreased job performance (and perhaps other behaviours as well). Theories and models of work stress would benefit from further consideration of the linkages between variables that are often treated as distinct terminal manifestations of strain.

Our study also contributes to theory and research on the relations between work-related stressors and job performance. Although the performance implications of various work-related stressors have been the subject of substantial research and several meta-analyses (e.g., Gilboa, Shirom, Fried, & Cooper, 2008; LePine et al., 2005), the relation between exposure to workplace aggression and employee job performance has received minimal attention. The finding that WPA is negatively associated with both task and contextual job performance is significant because it shows that exposure to WPA represents a hindrance stressor that may broadly affect an individual's performance at work.

Practical implications

Although there has been an increase in public and organizational attention toward the prevention of workplace physical violence, the same cannot be said about the prevention of WPA. This difference may arise because, relative to workplace physical violence, WPA is often less visible, considered to be a less serious offence, and is more likely to be viewed as a normal part of organizational life. The results of this study, however, provide evidence that workers' task and contextual performance may be compromised when they experience WPA. Because organizational performance is contingent on the aggregated contribution of an organization's employees, individual performance decrements that are related to WPA will collectively lead to an erosion of organizational performance as well. Taken together with costs associated with decrements in job attitudes and employee health, evidence suggests that WPA exacts a significant toll on individuals, organizations, and the US economy. This is especially noteworthy when one considers, for instance, that in a US national study more than 40% of the workforce (some 47 million workers) reported having experienced WPA during a 12-month period, and 13% of the workforce (some 15 million workers) experienced WPA on a weekly basis (Schat et al., 2006). Therefore, although it is difficult to precisely quantify the aggregated economic impact of WPA, it is likely to be staggering. If organizational leaders need a "business case" for why it is necessary to address WPA, this constellation of costs should provide it.

In addition to demonstrating the potential costs of WPA, this study's results also suggest two approaches that organizations may use to enhance (or prevent decrements in) individual job

performance. The first approach involves implementing practices and programs that prevent or reduce worker exposure to WPA. Not only should this positively affect performance, but the effects may also extend beyond performance to include reductions in absence, turnover, and health-care related costs. The second approach relates to the mediational role played by work attitudes and health. Because these are more proximally associated with performance than WPA, even in situations where WPA cannot be prevented, interventions that seek to enhance employee attitudes and health (e.g., psychosocial workplace interventions, stress management training, relaxation and meditation, coping skills training; for a review, see Lamontagne, Keegel, Louie, Ostry, & Landsbergis, 2007) may help to limit the decrements in job performance that might otherwise ensue when workers experience WPA. In addition, periodic monitoring of employee attitudes and health may be diagnostically useful in that poor work attitudes or employee health concerns may signal the presence of work stressors such as WPA that organizations ought to address through primary and secondary interventions.

Finally, because evaluations of individual job performance influence important employment decisions such as pay increases, promotions, and terminations (Rynes, Gerhart, & Parkes, 2005), the performance implications of WPA suggest that it may also adversely affect individuals' employment opportunities, career development, and financial well-being. Related to this, decreased job performance that is related to WPA may put some workers in a position of "double jeopardy" of experiencing higher rates of aggression, because incompetence – whether real or perceived – may be targeted by potential aggressors. Thus, an individual whose performance is adversely affected by experiencing aggression faces an elevated risk of experiencing further criticism, ridicule, and condescension related to their diminished job performance. Moreover, it is possible that an individual experiences a recurring cycle of psychological aggression by their coworkers or supervisor that compromises their job performance to such an extent that their employment is subsequently terminated due to poor performance. Although the termination may be justified by the individual's poor performance, its fundamental cause is the aggressive behaviour of others. Cases like this have been highlighted in the literature (e.g., Leymann, 1990) and may have triggered acts of violence that resulted in the loss of lives (e.g., Smith, 1999). Therefore, if a manager is considering terminating an employee's employment due to poor performance, it is essential that the root causes of the poor performance are investigated to ensure that targets of workplace aggression are not unjustly penalized for the aggressive behaviour of others and to prevent such injustice from escalating into more serious acts of violence.

Strengths, limitations and directions for future research

We believe that the large probability sample used in this study made a major methodological contribution by addressing several weaknesses in prior research. First, the probability sampling strategy allowed us to address directly the issue of generalizability. Most previous studies on workplace aggression are based on convenience samples that may not represent a specific population of interest to the primary researchers. Therefore, the results of those studies – and even meta-analyses thereof – are not truly generalizable to other populations of workers. That the present study is based on a probability sample of wage and salary workers in the US enables the present findings to be generalized to this population, and it increases the credibility of prior research findings based on convenience samples in this population. Second, the use of a large probability sample in this study addresses two limitations associated with the small samples that are commonly used (Schmidt, 1992). Studies that use small samples will fail to detect a relation that actually exists in the population unless the effect is very large (i.e., low power). Also, when small samples are used, studies supporting a relation that exists in the population may yield biased estimates of its size (too large in absolute terms) because they need to obtain a much larger effect than the actual relation in

the population to reject the null hypothesis (i.e., effect size bias). This bias may be compounded by the use of convenience samples. The large probability sample used in this study not only provides adequate statistical power to detect the hypothesized relations, it also provides more accurate effect size estimates.

Notwithstanding these strengths, this study also has potential limitations. One is that the cross-sectional nature of these data precludes us from being able to conclusively rule out alternative models with different causal linkages. Previous longitudinal studies of the consequences of work-related stressors and health are generally consistent with the causal ordering implied by our model, in which exposure to stressors leads to reduced job attitudes and well-being, which in turn lead to reduced behavioural effectiveness (e.g., Dormann & Zapf, 2002; Halbesleben & Bowler, 2007; Riketta, 2008). However, a general theoretical issue that remains relates to the temporal dynamics of the relations we observe. For example, while our results suggest that exposure to WPA predicts psychological and physical health symptoms and reduced job satisfaction and affective organizational commitment, they do not indicate exactly when such effects occur. Are job attitudes and health immediately reduced when one experiences an episode of WPA or do these effects occur sometime later (an hour, a day, a week, or more)? Do some effects emerge immediately or very soon after (e.g., job dissatisfaction, negative mood, physiological manifestations of tension such as upset stomach or headaches) whereas others (e.g., reduced affective commitment, clinical depression) take longer to emerge? Are there effects that will only emerge if there is chronic exposure to WPA (e.g., bullying), such as Rospenda, Richman, Wislar, and Flaherty (2000) have found regarding the link between exposure to chronic harassment and alcohol use? How long does it take for negative job attitudes and health to adversely affect job performance? Research aimed at answering these questions has the potential to illuminate further our understanding of the relations between exposure to aggression, health, job attitudes, and job performance.

Another potential limitation is that task and contextual performance were self-reported. When measuring job performance, there is a necessary trade-off between external and internal validity. To obtain data from a broad national sample enhances external validity but restricts the ability to obtain job performance data from collaterals (e.g., peers, supervisors, company records). In contrast, studies that obtain collateral reports of job performance enhance internal validity but are typically restricted to convenience samples drawn from a single organization or work group. Therefore, research studies that collectively use both strategies are required. As far as we are aware, this is the first study exploring the mediated relations of WPA to task and contextual performance that maximizes the external validity of the observed relations. Moreover, as noted earlier, our measure of task performance asked respondents to report how their supervisors would rate them rather than the typical assessment of respondents' self-evaluations of their performance. A recent study by Schoorman and Mayer (2008) showed that this approach increases the correspondence between self- and supervisor-ratings, thus attenuating the usual concerns regarding the validity of self-reported task performance (e.g., Harris & Schaubroeck, 1988).

We also acknowledge that our measure of WPA focused on verbal and overt behaviours (e.g., being insulted, screamed at, threatened) and did not include those that are more indirect and covert (e.g., being socially excluded or the subject of rumours). The overt manifestations of WPA may be less prevalent than covert manifestation. Nonetheless, our measure did include a set of items that ranged in terms of their level of employee exposure. For example, in a national study of US workers, exposure to threats regarding being hit was reported by 7.6% of workers and being threatened with a knife or gun was reported by 1.9% of workers during the previous 12 months (Schat et al., 2006). In contrast, other items had a much higher rate of exposure in that study. For example, employee exposure to someone

who shouted obscenities or screamed at them in anger was reported by 35% of the sample during the past 12 months and 10.5% reported exposure on a weekly basis (Schat et al., 2006). Even so, future research should test the proposed model using measures that more exhaustively sample overt and covert manifestations of WPA.

Earlier, we suggested that work attitudes mediate the relation between WPA and job performance because they represent an important basis of a worker's performance motivation (Meyer et al., 2004). In our study, however, we did not directly measure motivation. Similarly, we suggested that overall health mediates the relation between WPA and job performance because of reduced capacity (e.g., attention, energy, and effort) to perform discretionary and non-discretionary work behaviours. In our study, however, we did not directly measure capacity. Therefore, a logical extension of this study would be to incorporate measurement of these resources into the proposed model and test their additional mediating role. Such research would elaborate our understanding of the process by which exposure to WPA is associated with employee job performance.

Conclusion

This study, using data from a large probability sample of wage and salary workers in the US, found that exposure to workplace psychological aggression indirectly predicted decrements in task and contextual job performance by compromising workers' overall health and job attitudes. Thus, workplace aggression may place a significant burden on workers, organizations, and collectively, a nation's economy. Further research is needed to understand the nature, causes, and consequences of workplace aggression, and perhaps most importantly, policies and interventions to reduce it.

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Figure 1.
Conceptual model of exposure to workplace aggression and job performance

Figure 2.

Structural equation modelling results for conceptual model (weighted). $N = 2376$. All coefficients are standardized. Relations involving the covariates are shown in Table 2. * $p < .05$; ** $p < .01$; *** $p < .001$.

Table 1

Descriptive statistics and correlations (weighted), $N = 2376$.

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Gender (male)	0.53	0.50	--											
2. Race (non- white)	0.27	0.45	-.01	--										
3. Age (years)	38.7	11.9	-.01	-.10	--									
4. Educational category	5.5	2.1	.01	-.06	.11	--								
5. Family Income (US\$)	60,740	43,306	.07	-.12	.32	.40	--							
6. Job Tenure (years)	4.8	5.8	.02	-.06	.44	.04	.21	--						
7. Hours worked per week	42.1	10.5	.24	-.08	.19	.15	.32	.12	--					
8. Workplace Psychological Aggression	0.48	0.66	-.01	.02	-.10	-.03	-.03	-.02	.09	--				
9. Overall Job Attitude	2.79	0.64	-.03	-.12	.23	.05	.18	.16	.15	-.21	--			
10. Overall Health	3.86	0.69	.07	.06	.02	.15	.17	.04	.05	-.09	.17	--		
11. Task Performance	4.28	0.68	-.15	-.13	.06	.03	.10	.02	.01	-.08	.26	.23	--	
12. Contextual Performance	3.41	0.59	-.12	-.07	.07	.01	.09	-.01	.14	-.05	.26	.09	.29	--

Note: Correlations with absolute values of .05 or higher are significant at $p < .05$.

Table 2
Standardized path coefficients relating covariates to the latent variables (weighted). $N = 2376$.

Covariates	Latent Dependent Variable				
	Workplace Psychological Aggression	Overall Job Attitude	Overall Health	Task Performance	Contextual Performance
1. Gender (male)	-.04	-.09***	.08**	-.19***	-.20***
2. Race (non-white)	.02	-.09***	.10**	-.13***	-.05
3. Age	-.16***	.10***	-.07*	.00	.03
4. Educational category	-.02	-.03	.13***	-.05	.06
5. Family Income	-.01	.12***	.17***	.04	.04
6. Job Tenure	.04	.06*	.04	-.03	-.10***
7. Hours worked per week	.17***	.14***	.00	.00	.14***

*
 $p < .05$,

**
 $p < .01$,

 $p < .001$

Table 3

Effects of exposure to workplace psychological aggression on job performance and contextual performance (weighted). $N = 2376$.

	Job Performance	Contextual Performance
Total effect	-.10 **	-.05 **
Direct effect	.00	-.01
Total Indirect effect	-.10 ***	-.04 ***
Indirect effect via Job Attitude	-.06 ***	-.03 ***
Indirect effect via Overall Health	-.04 **	-.01 *

*
 $p < .05$,

**
 $p < .01$,

 $p < .001$