

Reducing the Adverse Consequences of Workplace Aggression and Violence: The Buffering Effects of Organizational Support

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This study examined the buffering effects of 2 types of organizational support—instrumental and informational—on the relationships between workplace violence/aggression and both personal and organizational outcomes. Based on data from 225 employees in a health care setting, a series of moderated multiple regression analyses demonstrated that organizational support moderated the effects of physical violence, vicariously experienced violence, and psychological aggression on emotional well-being, somatic health, and job-related affect, but not on fear of future workplace violence and job neglect. These findings have implications for both research and intervention related to workplace violence.

Aggression and violence are becoming increasingly common in the workplace. In the largest U.S. survey of its kind, the U.S. Postal Service Commission on a Safe and Secure Workplace (2000) found that in 1999, 1 in 20 American workers was physically assaulted, 1 in 6 was sexually harassed, and 1 in 3 was verbally abused. The most serious form of workplace violence—homicide—has been found to be the second leading cause of workplace death (Bureau of Labor Statistics, 1995). A recent survey conducted by the International Labor Office shows that workplace violence is not limited to North America (Chappell & Di Martino, 1998). Chappell and Di Martino presented data from the 1996 International Crime Victim Survey demonstrating that workplace assaults occur in Western European, Asian, African, Latin American, and transitional countries as well. In some of these countries, this survey suggests that the

incidence of workplace assault is markedly higher than in Canada and the United States. Together, these data suggest that workplace violence is a serious occupational health concern, and one that merits increased attention from employers, researchers, and various levels of government.

Until recently, researchers have paid relatively little attention to the issues of workplace aggression and violence, although the recent publication of several studies (e.g., Rogers & Kelloway, 1997; Schat & Kelloway, 2000) suggests that this may be changing. The results of these studies indicate that exposure to workplace violence is associated with various negative consequences for individuals (e.g., decreased emotional well-being) and organizations (e.g., reduced affective commitment), clearly demonstrating the need for further research and action in this area. The purpose of the present study is to further examine the issue of workplace violence, and in particular, to investigate whether support from within the organization acts as a buffer against the negative consequences that are associated with the experience of workplace violence.

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Portions of this research were supported by a Social Sciences and Humanities Research Council of Canada doctoral fellowship to Aaron C. H. Schat and a research grant to E. Kevin Kelloway. We thank Anuradha Chawla, Manon LeBlanc, Deborah Miller, Anthea Zacharatos, and three anonymous reviewers for their comments on earlier versions of this article. An earlier version of this article received the RHR–Kendall Award from the Canadian Society for Industrial and Organizational Psychology in June 2001 at the annual convention of the Canadian Psychological Association in Ste. Foy, Quebec, Canada.

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Conceptualizing Workplace Aggression and Violence

Inconsistency in what has been considered as workplace violence has contributed to confusion and difficulties in comparing results across studies. For example, some researchers have focused only on direct physical assaults (e.g., Kraus, Blander, & McArthur, 1995), whereas others have included threats of assault and nonphysical acts of aggression (Folger & Baron, 1996; Rogers & Kelloway, 1997; Schat & Kelloway, 2000).

In the present study, we measured three components of workplace violence: physical assaults and threats of assault, psychological aggression, and vicarious violence. We included physical violence because it is the most serious form of workplace violence with potentially the most extreme consequences (e.g., death). In addition to physical violence, Barling (1996) recommended that researchers also consider psychological aggression. Our decision to follow this recommendation was based on three considerations. First, research suggests that psychological aggression occurs with greater frequency than physical violence (Greenberg & Barling, 1999; U.S. Postal Service Commission, 2000). Second, research on family violence indicates that psychological aggression is often a precursor to physical violence (Murphy & O'Leary, 1989). Third, previous research suggests that psychological aggression is associated with negative consequences that are similar to those of physical violence (e.g., LeBlanc & Kelloway, 2002; Schat & Kelloway, 2000). We also included a measure of vicarious violence in this study because previous research on workplace violence (Rogers & Kelloway, 1997; Schat & Kelloway, 2000) and other trauma (Taylor, 1989) suggests that secondary victims (i.e., those who witness or hear about violence and aggression) also experience stress and strain reactions.

Consequences of Workplace Aggression and Violence

The growing empirical literature on workplace violence clearly demonstrates its association with a variety of negative personal and organizational consequences. In two studies involving employees from different occupational groups (i.e., financial services and health care employees), Rogers and Kelloway (1997) and Schat and Kelloway (2000) found that direct and vicarious violence predicted fear reactions, which in turn predicted both psychological (e.g., depression and anxiety) and somatic (e.g., sleep disturbance, gastrointestinal) symptoms. More recently, LeBlanc and Kelloway (2002) distinguished between coworker-initiated and public-initiated (i.e., where the perpetrator is a client or member of the public) violence and found that the former predicted psychological and somatic symptoms.

In addition to the adverse health consequences of workplace violence, its effects can also be manifested at the organizational level. Several studies have demonstrated that workplace violence is associated with

negative work attitudes, including job dissatisfaction (Budd, Arvey, & Lawless, 1996), affective commitment (Barling, Rogers, & Kelloway, 2001; LeBlanc & Kelloway, 2002), turnover intentions (LeBlanc & Kelloway, 2002; Rogers & Kelloway, 1997), and work behaviors, including increased job neglect (Barling et al., 2001; Schat & Kelloway, 2000) and decreased job performance (Barling et al., 2001) and productivity (Budd et al., 1996). In several of the studies cited above (e.g., Rogers & Kelloway, 1997; Schat & Kelloway, 2000), the work-related outcomes of workplace violence (e.g., turnover intentions, neglect) were indirect, mediated through fear of future workplace violence and emotional well-being.

Moderating Stress and Strain

Much of the empirical research on the outcomes of workplace violence has used a traditional work stress framework that distinguishes stressors (objective environmental events), stress (subjective experience of these events), and strain (outcomes of stress; see Pratt & Barling, 1988). In the present study, we extend this framework by hypothesizing that social support acts as a moderator affecting the links between the stressor (i.e., violence and aggression) and both stress and strain outcomes.

Relationship Between Support and Work-Related Stress and Strain

Numerous aspects or types of social support have been identified (e.g., instrumental support, informational support), although the different types of support are often not clearly distinguishable (Cohen & Wills, 1985; House, 1981). In his synthesis of the literature, House (1981) classified social support into four main types: emotional, appraisal, instrumental, and informational. We consider two of these—instrumental and informational—in the present study. Our rationale for focusing on these two types of support is because (a) emotional support is partially confounded with the other types of support (Barling, MacEwen, & Pratt, 1988), and (b) appraisal support is less amenable to organizational control than instrumental and informational support.

House (1981) defined instrumental support as “involving instrumental behaviors that directly help the person in need” (pp. 24–25), which might include taking care of or helping someone. Although instrumental support was classified separately from emotional support, House suggested that the two are not

mutually exclusive, because instrumental acts have psychological consequences. Barling et al. (1988) provided empirical support for this suggestion finding that individuals rated all forms of social support as being partially confounded with emotional support.

Informational support involves "providing a person with information that the person can use in coping with personal and environmental problems" (House, 1981, p. 25). Such information could be provided informally or formally (e.g., through training). The key distinction between instrumental and informational support is that instrumental support involves providing direct help or assistance, whereas informational support is a more indirect source of support that involves providing people with resources they can then use to help themselves (House, 1981). On the basis of the research that has examined the effects of social support, we hypothesized that both instrumental and informational support would be associated with lower levels of strain that has been found to be related to workplace violence.

In general, the available data suggest that social support is positively associated with employee health, work attitudes, and behavior (Cohen & Wills, 1985). Although there is reasonable evidence for the direct and indirect effects of support on various outcomes (e.g., psychological and somatic health, job satisfaction), tests of its moderating effects have yielded a somewhat confusing picture (for reviews, see Beehr, 1995; Cohen & Wills, 1985). Some investigators have demonstrated that support interacts with work-related stressors (e.g., role conflict) to predict various outcomes (LaRocco, House, & French, 1980), whereas others have failed to demonstrate the moderating role of social support (e.g., Ganster, Fusilier, & Mayes, 1986; Shaw, Fields, Thacker, & Fisher, 1993). Still other researchers have found that support had the counterintuitive effect of exacerbating, rather than mitigating, the negative consequences of stress (Kaufman & Beehr, 1986; for reviews, see Beehr, 1995; Cohen & Wills, 1985).

Various substantive and methodological reasons have been suggested to account for the inconsistent findings regarding the moderating effects of support (e.g., Cohen & Wills, 1985). One idea that has received empirical support is that the existence, nature, and direction of the effects of a proposed moderator (e.g., support) are dependent on its congruence with the stressor of interest (Cohen & Wills, 1985; Ganster, 1988; Ganster et al., 1986; House, 1981; Pratt & Barling, 1988; Tetrick & LaRocco, 1987). According to this notion, support from one's coworkers or su-

ervisor is more likely to buffer the effects of work stressors on work-related outcomes than is support from sources outside the organization.

Consistent with this view, in the present study we focus on support provided by the organization for employees who experience violence and aggression in the workplace. In particular, we hypothesized that two types of organizational support—instrumental and informational—would interact with three dimensions of workplace violence—physical violence, psychological aggression, and vicarious violence—to predict fear of future workplace violence, emotional well-being, somatic health, job-related affect, and job neglect.

Moderating the Effects of Workplace Violence

To date, there has been little research examining ways of preventing or reducing the negative impact of workplace violence. While primary prevention is clearly the main goal, comprehensive workplace violence intervention strategy should comprise both primary and secondary (and even tertiary) levels of intervention (see Murphy, 1988, for a review of workplace stress interventions). Such a strategy would not only aim to reduce the incidence of workplace aggression and violence but also seek to address the stress and strain reactions when incidents do occur.

The development of effective secondary interventions is predicated on empirical data that identify effective means of moderating the stressor–outcome relationships of interest. We could locate only two studies that have explicitly considered variables that were hypothesized to reduce the negative effects of workplace violence on health-related and other outcomes. First, in a previous study (Schat & Kelloway, 2000), we examined the direct, indirect, and interactive effects of perceived control on fear, psychological well-being, somatic health, and neglect. We found evidence for the direct and indirect (i.e., mediated) effects of perceived control, but we found that it did not moderate the relationship between workplace violence and fear of future workplace violence, nor between fear and health-related and organizational outcomes. Although these results demonstrate that perceived control was associated with a reduction in the negative consequences of workplace violence, the buffering effects of social support were not examined in this study.

The second study, by Leather, Lawrence, Beale,

Cox, and Dickson (1998), examined the effects of social support on well-being, job satisfaction, and organizational commitment. They found evidence for the moderating effect of intraorganizational (e.g., from personnel department) but not extraorganizational (e.g., from family, friends) support. Although these results are promising, a number of methodological weaknesses limit the conclusions that can be drawn from this study. First, Leather et al. considered only one dimension of workplace violence—vicarious violence—in their study. Specifically, they asked British pub licensees to indicate how often certain violent events occurred in their pubs (as opposed to how often they themselves directly experienced such events). Although their results, as well as those of previous research (Rogers & Kelloway, 1997; Schat & Kelloway, 2000), demonstrate the negative consequences of vicarious violence, it remains to be investigated whether organizational support also mitigates the consequences of directly experiencing physical violence or aggression at work.

Second, in their study, Leather et al. (1998) used analysis of variance (ANOVA) to test the interaction between workplace violence and organizational support. Although this is a desirable analytic strategy when the predictors are naturally categorical, it is not an appropriate strategy when the predictors are continuous (Stone-Romero & Anderson, 1994). To allow the use of ANOVA as an analytic technique, workplace violence and organizational support were arbitrarily dichotomized into high and low conditions. This practice of dichotomizing continuous variables is problematic for several reasons: (a) There was no theoretical rationale for the dichotomy; (b) it reduces the power of the tests of moderation (Stone-Romero & Anderson, 1994); (c) the subtleties of the survey respondents' use of the various response options were lost; (d) collapsing the 7-point scale into two categories resulted in a distortion of the variance in the underlying scale that existed prior to the dichotomization; and (e) the psychometric properties of the original scale were compromised by the introduction of a new source of measurement error—error due to dichotomization (Aiken & West, 1991). These problems are compounded by the fact that the authors dichotomized two different continuous variables—workplace violence and organizational support—to compute their interaction terms. A more appropriate analytic strategy—one that takes advantage of the information contained within the full range of scale responses—is moderated multiple regression. Overall, the findings of Leather et al. (1998) are promising, and our goal was to replicate and extend their

results using more comprehensive measures and a more refined analytic procedure.

Present Study

Thus, the main goal of the present study was to examine whether instrumental and informational support from within one's organization act as buffers of the negative consequences of workplace aggression and violence. This study advances previous research (a) by using a more comprehensive set of predictor (i.e., physical violence, psychological aggression, and vicarious violence), moderator (i.e., instrumental and informational support), and outcome (i.e., fear, emotional well-being, somatic health, job-related affect, and job neglect) measures, and (b) by using moderated multiple regression to test for the interactions between the predictor and moderator variables.

Earlier, we discussed research suggesting the importance of proposed moderator variables being congruent with the stressor of interest. In our study, the measures of support we examined were congruent with the stressor of workplace violence in two ways. First, both the stressor (i.e., workplace violence) and types of support (i.e., instrumental support from members of the organization and informational support) were situated in the workplace context, ensuring the contextual relevance of our proposed moderators. Second, both types of support we considered (i.e., instrumental and informational) had workplace violence as a specific referent.

Method

Participants

The data for this study were collected from a sample of employees working in health care settings in the province of Ontario, Canada. Survey packages containing a cover letter, the study's measures, and a return envelope were sent to prospective respondents using internal mail. The cover letter provided information as to the purposes of the study and guaranteed respondent anonymity. In total, 863 survey packages were sent, with 229 being returned for a response rate of 26.5%. Four cases with missing data were deleted, leaving a final sample of $N = 225$.

Eighty-seven percent of the sample were women and 13% were men. Participants' ages ranged from 21 to 65, with a mean of 40.9 years ($SD = 9.8$). Nearly 90% of the sample had college- or university-level education. Mean organizational tenure was 10 years ($SD = 7.3$). Various occupations were represented in the sample, with the largest groups being nurses and health care aides (44.5%), laboratory/technical personnel (13.1%), and counselors/social workers (6.9%). Fifty-six percent of the sample had re-

ceived informational support (i.e., training) to address workplace violence.

Predictor Measures

Physical violence at work. An eight-item scale reflecting a variety of physically violent behaviors and threats was used to assess the frequency of respondents' experience of violence (e.g., being hit, kicked, threatened with a weapon) at work during the past year. The psychometric properties of this scale have been established previously by Rogers and Kelloway (1997), and internal consistency reliability was adequate in the present study ($\alpha = .90$). Scale items were rated on a 4-point scale ranging from 0 (*never*) to 3 (*4 or more times*).

Psychological aggression at work. The frequency of respondents' experience with aggression at work during the past year was measured with a three-item scale tapping several types of aggressive behaviors (e.g., being yelled at or sworn at). The items were taken from a scale used by Barling et al. (2001) and were also rated on a 4-point scale ranging from 0 (*never*) to 3 (*4 or more times*). Internal consistency of the scale was $\alpha = .87$.

Vicarious violence at work. Five items were used to assess vicarious experience of violence at work, which reflected witnessing or hearing about violence or threats of violence directed at others within one's own workplace (e.g., coworkers, managers) or directed at others outside one's workplace (e.g., friends, relatives) during the past year. Previous research has demonstrated the construct validity of this scale (Rogers & Kelloway, 1997). The items were rated on a 4-point scale ranging from 0 (*never*) to 3 (*4 or more times*), and in the present study, internal consistency was $\alpha = .88$.

Because of the intercorrelation between these three dimensions of workplace aggression, confirmatory factor analysis (CFA) was used to determine whether the three proposed dimensions were empirically distinct from one another or whether a common factor (i.e., one-dimensional) solution better reflected the data. Comparison of a common factor solution with a three-factor oblique solution demonstrated that the latter exhibited significantly better fit to the data than the former, $\chi^2_{diff}(3) = 281.79, p < .001$, providing empirical support for the three-dimensional conceptualization of workplace violence used in the present study.

Moderator Measures

Instrumental support. This was measured with three items representing support received from coworkers, supervisors, and management following the experience of aggression or violence (e.g., "My coworkers provide support when I experience an aggressive or violent situation at work"). Items were rated on a 7-point scale (ranging from *strongly disagree* to *strongly agree*) and had an internal consistency of $\alpha = .81$.

Informational support. Informational support was operationalized as whether respondents had received training on how to deal with aggressive or threatening events at work (1 = *yes*, 0 = *no*). This operationalization accords with House's (1981) definition of informational support in that the organization made this training available to its

employees to provide them with information and other resources that they could then use to help themselves deal with various aggressive and violent acts they may confront while carrying out their work responsibilities.

Outcome Measures

Fear of future violence at work. A 12-item scale was used to assess respondents' fear of experiencing future violence at work. Response options ranged from 1 (*strongly disagree*) to 7 (*strongly agree*). Previous research has shown the scale to be valid and reliable (Rogers & Kelloway, 1997; Schat & Kelloway, 2000), and reliability was high in the present study as well ($\alpha = .97$).

Emotional well-being. The 12-item version of the General Health Questionnaire (Banks et al., 1980) was used to measure respondents' general psychological functioning (e.g., self-confidence, depressive symptoms). A 7-point response scale was used, with higher scores indicating greater emotional well-being. As with previous research (see Banks et al., 1980), internal consistency was acceptable in the present study ($\alpha = .90$).

Somatic health scale. A 14-item scale based on items used by Spence, Helmreich, and Pred's (1987) was used to measure respondents' somatic health. The items represent four dimensions of somatic symptoms (i.e., headaches, sleep disturbance, gastrointestinal problems, and respiratory infections) and were rated on a 7-point frequency scale. Scale scores were coded so that higher scores reflected better somatic health. Internal consistency was $\alpha = .86$.

Job-related affect. This was measured by Warr's (1990) six-item scale. Respondents were asked to indicate how often their jobs made them feel various ways (e.g., uneasy, enthusiastic) over the past year. The items were rated on a 7-point scale ranging from 1 (*never*) to 7 (*all of the time*) and were internally consistent ($\alpha = .86$).

Neglect. Barling et al.'s (2001) 12-item neglect scale was used in the present study. The items on this scale refer to the frequency with which respondents engage in a variety of behaviors that represent neglect of one's job duties (e.g., leaving early). Item response options range from 1 (*never*) to 7 (*all of the time*), and internal consistency was $\alpha = .76$.

Method of Data Analysis

To test for the interactive effects of workplace violence and organizational support on fear of future workplace violence, emotional well-being, somatic health, job-related affect, and job neglect, we conducted a series of moderated multiple regressions according to the following procedure. In Step 1, we standardized the predictor (i.e., workplace violence dimensions) and moderator (i.e., support) variables and computed interaction terms with the standardized variables (Aiken & West, 1991). Each of the three dimensions of workplace violence was crossed with the two types of organizational support, resulting in six interaction terms. In Step 2, to test for the moderating effects of instrumental support, we entered the main and interaction effects hierarchically, whereby the three workplace violence dimensions and two organizational support variables were entered into the regression analyses as a first block and the three interaction terms involving instrumental support were entered as

a second block. A significant moderating effect for instrumental support would be demonstrated if Block 2 accounted for significant incremental criterion variance (as indicated by a significant F ratio). In Step 3, in cases in which Block 2 was significant, to further explore this effect, we proceeded to conduct independent hierarchical moderated regressions to examine the significance of each individual interaction term. Finally, Steps 2 and 3 were repeated for the interaction terms involving informational support. In this data-analytic procedure, Step 2 amounts to an omnibus test of the moderating effects of each type of organizational support (after controlling for the main effects of the workplace violence and organizational support dimensions), and Step 3 represents post hoc assessment of the individual interaction terms to elucidate which combination(s) of the workplace violence and organizational support dimensions interact to predict the criterion variables.

Because our theoretical predictions of the moderating effects of organizational support are dependent on interaction effects and because interaction effects supersede direct effects (Pedhazur, 1973), we consider only the interaction effects in our interpretation of the results. To further explicate the nature and direction of the significant interactions that emerge, we plotted the simple slopes (Aiken & West, 1991) of the three dimensions of workplace violence at high and low levels of instrumental support and across the two levels of informational support.

Results

Prior to conducting the hierarchical multiple regressions, we examined the data and found no marked violations of assumptions or any serious outliers. As expected, the distribution of the physical violence variable showed some positive skewness, although responses covered the full range of the scale (from 0 to 2.88 on a scale ranging from 0 to 3), and only 33% of the sample reported experiencing no instances of physical violence at work over the past year. For the other two dimensions of workplace violence—aggression and vicarious violence—the full range of the scales was used as well, with 89% and 87% of respondents reporting at least some exposure to aggression and vicarious violence, respectively, during the past year. Descriptive statistics, internal consistency coefficients, and intercorrelations for all study variables are provided in Table 1.

We considered controlling for the effects of several demographic variables (i.e., sex, age, organizational tenure, and education level) in our analyses by including them in the first step of the hierarchical regressions. However, because correlational analyses revealed no significant correlations between these demographic variables and the strain variables used in our study, demographic variables were excluded from subsequent analyses.¹

Results of the omnibus moderated multiple regres-

sion analyses are presented in Tables 2 and 3. As shown in Table 2, instrumental support was found to significantly moderate the effects of workplace violence on emotional well-being, somatic health, and job-related affect, but not fear or job neglect. Follow-up regression analyses showed that instrumental support significantly interacted with all three dimensions of workplace violence to predict these criteria, accounting for 3%–6% of the variance in emotional well-being, 2%–3% of the variance in somatic health, and 3%–4% of the variance in affect (see Table 4).

As shown in Table 3, informational support significantly moderated the effects of workplace violence on emotional well-being but not the other four criteria (although the moderating effect approached significance for the job neglect criterion), $F(3, 216) = 2.47, p = .06$. Subsequent analyses showed that informational support and the three workplace violence dimensions significantly interacted to predict emotional support, with R^2 values ranging from 2% to 4% (see Table 4).

Rather than presenting figures for all significant interaction effects, for illustration, several of the significant interaction effects are shown in Figures 1–4. Figures 1, 2, and 3 represent plots of the simple slopes for physical violence at high and low levels of instrumental support (based on a median split) for emotional well-being, somatic health, and job-related affect, respectively. Figure 4 represents the interaction between physical violence and informational support with emotional well-being as the criterion.

Discussion

In the present study, we investigated whether organizational support that specifically relates to workplace violence buffers the effects of violence on health and work-related outcomes. In our study, we considered three different dimensions of workplace violence (physical violence, psychological aggression, and vicarious violence), two types of organizational support (instrumental and informational), and

¹ The large number of different occupations represented in our sample—some of which consisted of fewer than five people—precluded meaningful analysis of occupational differences in the strain outcome variables. However, when the occupation variable was coded as either *nursing staff* and *other* and compared on the outcome variables, fear of future workplace violence was the only variable on which mean differences emerged, with the nursing staff group scoring higher on this variable than the other group. All other means were statistically equivalent.

Table 1
Descriptive Statistics, Internal Consistency Coefficients, and Intercorrelations of Study Variables

Variable	M	SD	1	2	3	4	5	6	7	8	9	10
1. Physical violence	0.72	0.82	(.90)									
2. Psychological aggression	1.93	1.09	.69***	(.87)								
3. Vicarious violence	1.52	1.04	.71***	.69***	(.88)							
4. Instrumental support	5.34	1.37	-.004	.01	.04	(.81)						
5. Informational support ^a	0.56	0.50	.29***	.23***	.38***	.28***	N/A					
6. Fear	3.61	1.84	.52***	.57***	.56***	-.11	.24***	(.97)				
7. Emotional well-being	5.34	0.85	.01	-.09	-.02	.31***	.13	-.16*	(.90)			
8. Somatic health	5.07	0.92	-.13	-.19**	-.08	.21***	.10	-.27***	.60***	(.86)		
9. Job-related affect	4.70	1.13	-.02	-.16*	-.02	.45***	.12	-.26***	.66***	.49***	(.86)	
10. Job neglect	1.70	0.49	-.08	-.03	-.09	-.10	-.18**	.03	-.50***	-.29***	-.44***	(.76)

Note. Scale reliabilities are indicated in parentheses along the diagonal.

^a Variable is dichotomous—mean and standard deviation reflect 56% who received training (coded 1) and 44% who did not (coded 0).

* $p < .05$. ** $p < .01$. *** $p < .001$.

five health and work-related outcomes variables (i.e., fear of future workplace violence, emotional well-being, somatic health, job-related affect, and job neglect).

The results of this study provide some supportive evidence for our hypotheses that instrumental and informational support from within the organization would moderate the effects of the three dimensions of workplace violence on health and work-related outcomes. The strongest and most consistent buffering effects were found for instrumental support, which interacted with the three workplace violence dimensions to predict emotional well-being, somatic health, and affect. Informational support was found to be a significant moderator of the relationship between the workplace violence dimensions and emotional well-being. The significant interactions accounted for 2%–6% of criterion variance, which, based on previous research on effect size in moderated multiple regression, are quite substantial moderation effects (Champoux & Peters, 1987; Evans, 1985). Overall, the pattern of the significant interactions suggests that when employees experience workplace aggression or violence, the availability of instrumental or informational support is associated with a reduction in negative psychological health consequences, and—for instrumental support only—a reduction in somatic symptoms and negative affect.

Neither type of organizational support was found to significantly moderate the relationship between workplace violence and fear of future workplace violence or between workplace violence and job neglect. In recent research on workplace violence that has used the stressor–stress–strain framework (e.g., Rogers & Kelloway, 1997; Schat & Kelloway, 2000), fear of future violence was found to mediate the stressor–strain (i.e., workplace violence–health/behavioral outcome) relationship. Our present results suggest that organizational support has stronger moderating effects on the more distal strain outcomes (i.e., health/behavioral outcomes) than on the mediator (i.e., fear)

Together, these results suggest that the buffering effects of organizational support are strongest and most consistent for health and affect-related variables. We offer two reasons for why the interactions were more strongly predictive of health and affect rather than neglect. First, there are more organizational constraints on people’s job-related behavior (Johns, 1991) than on their mental health or affect, making the former less amenable to change. Second, it may be that the organizational support received by these employees is perceived by them as being pri-

Table 2
Summary of Results for Omnibus Moderated Multiple Regression Analyses of the Interactions Between Workplace Violence and Instrumental Support on Personal and Organizational Outcomes

Step	Fear		Emotional well-being		Somatic health		Job-related affect		Neglect	
	ΔF	ΔR^2	ΔF	ΔR^2	ΔF	ΔR^2	ΔF	ΔR^2	ΔF	ΔR^2
1 ^a	30.08***	.41***	5.87***	.34***	4.51***	.09***	14.91***	.25***	1.79	.04
2 ^b	1.03	.01	6.05***	.07***	2.93*	.04*	4.79**	.05**	0.91	.01

^a Step 1 consisted of the following variables: physical violence, aggression, vicarious violence, instrumental support, and informational support. ^b Step 2 consisted of the following interaction terms: Physical Violence × Instrumental Support, Aggression × Instrumental Support, Vicarious Violence × Instrumental Support.

* $p < .05$. ** $p < .01$. *** $p < .001$.

marily emotional in nature, making it more congruent with emotional (e.g., emotional well-being) than behavioral functioning (e.g., job neglect), resulting in a more substantial moderating effect on the former than the latter.

The results of this study, which demonstrated a number of buffering effects of organizational support on the negative health consequences of workplace violence, extend the research in this area in two major ways. First, we found that the effects of three dimensions of workplace violence—direct physical violence, psychological aggression, and vicarious violence—were moderated by two types of organizational support. Previous research has shown all of these workplace violence dimensions to be associated with various negative consequences (e.g., reduced psychological well-being). One study (Leather et al., 1998) has provided some evidence that support buffers the effects of vicarious violence, but no previous research has examined whether the effects of direct physical violence or psychological aggression can be moderated by organizational support.

Second, evidence of moderation was found for both instrumental and informational support (although the effects were more consistent for instrumental support). That both of our support measures specifically referred to support provided to deal with workplace violence likely contributed to the consistency of our results and provides further evidence that moderation is most likely to happen when there is congruence between the stressor and the proposed moderator. Furthermore, the idea that support is an emotionally laden variable, and that our results showed the strongest interactive effects on emotional and health-related outcomes, suggest that the likelihood of moderation occurring (and the likelihood of detecting moderation effects) is further enhanced when there is congruence between the proposed moderator and the outcome variable(s) as well.

In addition to this study’s contribution to the literature on workplace violence, our results also have practical implications for addressing the growing problem of workplace violence. The strain-buffering effects of instrumental and informational support that

Table 3
Summary of Results for Omnibus Moderated Multiple Regression Analyses of the Interactions Between Workplace Violence and Informational Support on Personal and Organizational Outcomes

Step	Fear		Emotional well-being		Somatic health		Job-related affect		Neglect	
	ΔF	ΔR^2	ΔF	ΔR^2	ΔF	ΔR^2	ΔF	ΔR^2	ΔF	ΔR^2
1 ^a	30.08***	.41***	5.87***	.34***	4.51***	.09***	14.91***	.25***	1.79	.04
2 ^b	1.46	.01	2.80*	.03*	1.24	.02	0.68	.01	2.47	.03

^a Step 1 consisted of the following variables: physical violence, aggression, vicarious violence, instrumental support, and informational support. ^b Step 2 consisted of the following interaction terms: Physical Violence × Informational Support, Aggression × Informational Support, Vicarious Violence × Informational Support.

* $p < .05$. *** $p < .001$.

Table 4
Summary of Moderated Multiple Regression Analyses Results for Individual Interaction Terms on Emotional Well-Being, Somatic Health, and Job-Related Affect

Interaction term	Emotional well-being				Somatic health				Job-related affect			
	B	SE _B	β	ΔR ²	B	SE _B	β	ΔR ²	B	SE _B	β	ΔR ²
Physical Violence × Instrumental Support	.21	.05	.25***	.06***	.16	.06	.18**	.03**	.20	.06	.18**	.03**
Aggression × Instrumental Support	.18	.05	.22***	.05***	.15	.06	.17**	.03**	.22	.06	.21***	.04***
Vicious Violence × Instrumental Support	.15	.06	.17***	.03**	.13	.06	.14*	.02*	.24	.07	.20***	.04***
Physical Violence × Informational Support	.41	.13	.39***	.04***								
Aggression × Informational Support	.25	.12	.21*	.02*								
Vicious Violence × Informational Support	.27	.12	.23*	.02*								

* $p < .05$. ** $p < .01$. *** $p < .001$.

we found suggest that secondary intervention strategies aimed at improving support from other members of the organization (e.g., coworkers) and providing employees with relevant information regarding workplace violence (e.g., through training) should mitigate the negative consequences of workplace violence and improve individual and organizational functioning.

Although such interventions may be beneficial, it is imperative that prevention of workplace violence also receives consideration. Dekker and Barling (1998) found that perceived organizational sanctions against sexual harassment were associated with a reduction in sexual and gender harassment in the workplace. Examining whether organizational sanctions help to prevent workplace aggression and violence is one promising direction for research in this area.

It is interesting to note that, in this study, informational support was correlated with the three dimensions of workplace violence but not with the strain variables, and that instrumental support correlated with strain but not with the workplace violence dimensions. As was noted by Schat and Kelloway (2000), the former is probably an artifact of organizations offering workplace violence training to those employees who have experienced or are most likely to experience instances of aggression or violence while they are working. Such a practice would lead to an observed correlation between informational support and the experience of workplace violence. Conversely, the lack of correlation between instrumental support and the workplace violence dimensions suggests that the provision of instrumental support is not as organizationally constrained as informational support, resulting in its effects being experienced both by those who do and do not experience aggression at work.

The absence of main effects of informational support on the strain variables is likely because the information provided in a workplace violence training program would not be expected to be directly associated with strain. Rather, this information would be expected to predict reduced strain only to the extent that employees actually experience workplace violence. That is, informational support would not necessarily exert a main effect on strain outcomes, but rather, may interact with workplace violence to predict these variables. However, the main effects of instrumental support on strain outcomes that we observed correspond to the main effects of support that have been consistently demonstrated in the work

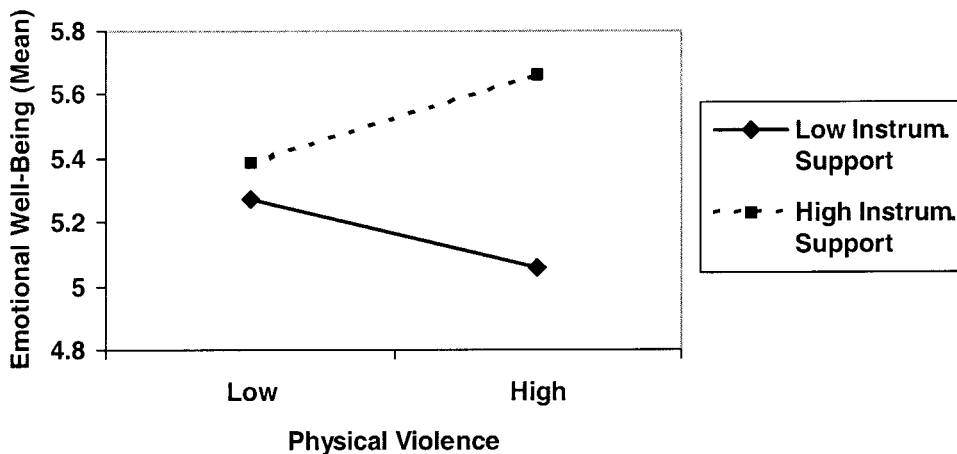


Figure 1. Interaction between physical workplace violence and instrumental (Instrum.) support on emotional well-being.

stress literature (for reviews, see Beehr, 1995; Cohen & Wills, 1985).

Potential Limitations

Despite the potentially important findings of this study, there are several limitations that should be considered. First, the data came entirely from self-reports, which leads to the possibility that mono-method bias or unmeasured third variables (e.g., disposition) may be inflating the correlations between

the study variables. Although both suggestions are possible, they are mitigated by the presence of numerous nonsignificant zero-order correlations in the correlation matrix (see Table 1). Moreover, in the absence of a theory of method variance (Schmitt, 1994) that would predict such effects, there are few grounds on which to posit third-variable effects associated with multiplicative interactions as opposed to main effects (Aiken & West, 1991). Although these results are limited to the parameters of the simulation, they provide some empirical support for

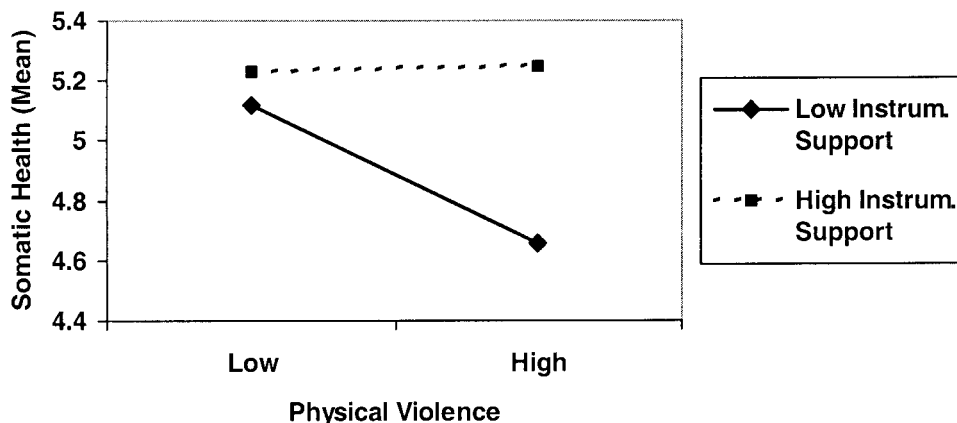


Figure 2. Interaction between physical workplace violence and instrumental (Instrum.) support on somatic health.



Figure 3. Interaction between physical workplace violence and instrumental (Instrum.) support on job-related affect.

the suggestion that third-variable effects have a minimal impact on our tests for moderation.

Second, the demographics of our sample (e.g., 87% women, 90% college educated) and our response rate of 26.5% introduce the concerns that our sample may be selective and our results not generalizable. That our sample—which is drawn from health care settings—contains a high percentage of employees who are women and college educated seems

reasonable, although it does not preclude the possibility that the sample is biased.

An additional limitation concerns the potential overlap in the sources of workplace violence and instrumental support. The available evidence, however, suggests that most aggression and violence comes from the public rather than from coworkers (LeBlanc & Kelloway, 2002). This is particularly likely in a health care setting (from which our sample

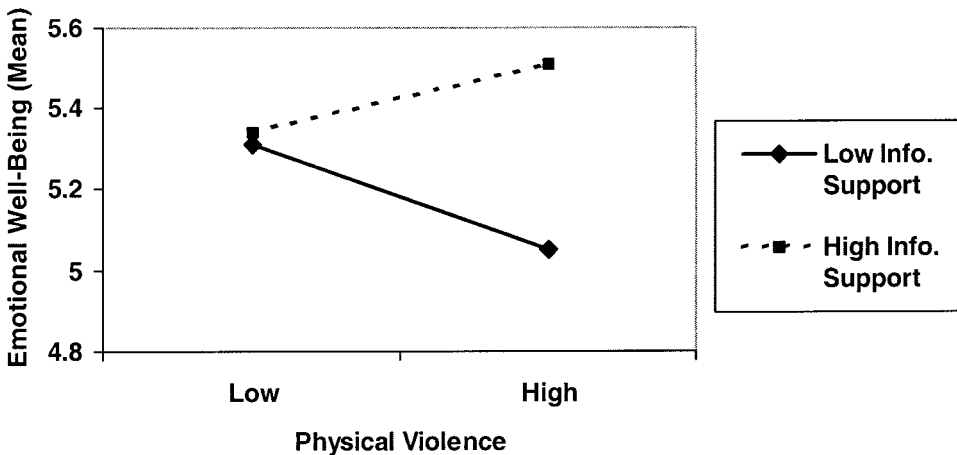


Figure 4. Interaction between physical workplace violence and informational (Info.) support on emotional well-being.

was drawn), where workers have a great deal of contact with members of the public (i.e., patients) in potentially risky situations (e.g., due to illness, drug-altered states of mind).

A final limitation that should be considered is the lack of power that was available to detect the interaction effects, particularly for those involving informational support. Previous researchers have noted the notoriously low power of moderated multiple regression analyses (e.g., Aguinis & Stone-Romero, 1997; Champoux & Peters, 1987; Evans, 1985). As Aguinis and Stone-Romero (1997) suggested, when a power estimate is low, “researchers should interpret null findings with caution, and not easily dismiss the existence of a hypothesized moderating effect” (p. 201).

Directions for Future Research

More research is needed to further explore the results found in this study. Such research should include investigating the impact of organizational support on the effects of workplace violence in other occupations as well as consideration of other types of aspects of support. It is also necessary to further explicate how and why instrumental and informational support moderate the effects of workplace violence on various personal and organizational outcomes. For example, research examining the similarities and differences in instrumental support received from different sources (i.e., coworkers, supervisors, and management) may help to shed light on this construct and clarify whether the effectiveness of such support is contingent on, for example, the nature of the supportive act(s) or the source of the support.

In addition, research on the prevention of workplace violence is needed. We suggest a number of potential directions for research in this area. One direction is examining whether organizational sanctions are effective means of preventing workplace aggression and violence. A study by Dekker and Barling (1998) demonstrated that perceived sanctions were associated with a reduction in workplace sexual harassment, and it remains to investigate whether the effectiveness of sanctions generalizes to aggressive behaviors as well. Another direction for research would be to examine whether electronic monitoring and other surveillance technology help to reduce the incidence of work-related aggression or violence. Finally, although the present study shows that informational support (i.e., training) can be an effective secondary intervention, future research should exam-

ine whether training is also an effective primary intervention strategy. Overall, investigations of this sort would make an important contribution to workplace violence research, by empirically demonstrating how it might be prevented.

Conclusion

In summary, this study found that instrumental support moderated the effects of workplace violence on emotional well-being, somatic health, and job-related affect; informational support moderated the effects of workplace violence on emotional well-being; and neither type of support had interactions that predicted fear or job neglect. The major practical implication of this research is that the negative health-related consequences of workplace violence should be mitigated by interventions that enhance the availability of instrumental or informational support for employees experiencing workplace violence. In addition to the practical implications, these results should provide impetus for future research to further examine the effects of organizational support on workplace violence outcomes and to explore other factors that might help to prevent or reduce the negative consequences of workplace violence.

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Received December 18, 2001

Revision received July 19, 2002

Accepted September 28, 2002 ■