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Predicting Workplace Aggression: A Meta-Analysis

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The authors conducted a meta-analysis of 57 empirical studies (59 samples) concerning enacted workplace aggression to answer 3 research questions. First, what are the individual and situational predictors of interpersonal and organizational aggression? Second, within interpersonal aggression, are there different predictors of supervisor- and coworker-targeted aggression? Third, what are the relative contributions of individual (i.e., trait anger, negative affectivity, and biological sex) and situational (i.e., injustice, job dissatisfaction, interpersonal conflict, situational constraints, and poor leadership) factors in explaining interpersonal and organizational aggression? Results show that both individual and situational factors predict aggression and that the pattern of predictors is target specific. Implications for future research are discussed.

Keywords: workplace aggression, meta-analysis, well-being, workplace deviance, counterproductive work behaviors

Whether referred to as deviance, antisocial behavior, or retaliation, workplace aggression is a significant issue facing organizations. Empirical research has focused on its prediction and conse-

quences, and theoretical reviews have attempted to integrate the diverse literatures on workplace aggression (e.g., Martinko, Gundlach, & Douglas, 2002; Spector & Fox, 2005). For instance, Martinko et al. (2002) drew on a causal reasoning framework to develop a model of workplace aggression, which proposes that both individual and situational differences predict either self-destructive or retaliatory aggression, depending on the cognitive processing of the aggressor. More recently, Spector and Fox (2005) identified common items from different measures of aggression, demonstrating that despite different labels (e.g., *aggression*, *deviance*, *retaliation*), the actual measurement of these constructs may be the same. Taken together, such efforts at integrating the workplace aggression literature are an important first step in making sense of these phenomena; however, important empirical and methodological questions remain.

Two issues concerning conceptual differences among forms of workplace aggression and their predictors have emerged in the literature. The first issue concerns the conceptualization of workplace aggression, and in particular whether aggression is target specific. We define target specificity as the propensity to aggress against either the organization itself (e.g., damaging equipment at work) or a person within the organization (e.g., yelling at someone at work), depending on the context of the situation. The second issue focuses on the relative contribution of individual and situational variables in predicting these forms of workplace aggression. These two issues highlight the different terms used to describe workplace aggression, different conceptualizations and operationalizations of workplace aggression, and diverse predictors, all of which result in empirical findings that are difficult to interpret.

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Synthesizing these findings will provide direction for future research on this topic.

In this study, we focus on insider-initiated workplace aggression, defined as any behavior initiated by employees that is intended to harm an individual within their organization or the organization itself and that the target is motivated to avoid (Neuman & Baron, 2005). We address the two issues described above by asking three interrelated research questions. First, what are the individual and situational correlates of interpersonal and organizational aggression? Second, within interpersonal aggression, are there differential predictors of supervisor- and coworker-targeted aggression? Third, what are the relative contributions of individual and situational predictors in explaining interpersonal and organizational aggression?

Dimensionality and the Target-Specific Nature of Aggression

The first issue in this study concerns the conceptualization of workplace aggression. As interest in workplace aggression has increased, conceptualizations of the workplace aggression construct have become more diverse. For example, some refer to aggression as a retaliatory behavior enacted in response to an unfair situation (e.g., Skarlicki, Folger, & Tesluk, 1999); others view aggression as a socially deviant response that violates organizational norms and threatens the well-being of the organization (Robinson & Bennett, 1995). Although the underlying act of aggression being measured is similar, the targets identified in each measure differ.

Both Neuman and Baron (1998) and Robinson and Bennett (1995) suggested that workplace aggression consists of an interpersonal (i.e., aggression targeted at a person in the organization) and an organizational dimension (i.e., aggression targeted at the organization itself). The argument for target separation is based on the idea that there are likely to be different correlates of individual and organizational targets (Robinson & Bennett, 1995), and a test of a two-factor model (interpersonal and organizational deviance) supported this proposition (R. J. Bennett & Robinson, 2000). Despite these findings, some research has continued to combine interpersonal and organizational dimensions of workplace aggression (e.g., Douglas & Martinko, 2001; Hepworth & Towler, 2004), whereas other research has separated these dimensions (e.g., Lee & Allen, 2002; Miles, Borman, Spector, & Fox, 2002). Clarification of the target-specific nature of workplace aggression will help determine whether different operationalizations of aggression are empirically warranted, and if so, which ones (Spector & Fox, 2005).

In addition to the interpersonal–organizational distinction, we suggest there may also be differences within the interpersonal dimension. With few exceptions (e.g., Dupré, 2003; Greenberg & Barling, 1999; Jones, 2004), existing research on interpersonal aggression does not specify the target or his or her relationship (e.g., supervisor, coworker) with the aggressor. Yet if a supervisor treats employees badly, employees are likely to aggress against the supervisor and not their coworkers, and vice versa. As supervisors and coworkers are likely to be perceived as responsible for different transgressions, one might expect different predictors to be stronger for each of these targets. With one exception (i.e., Green-

berg & Barling, 1999), research has not examined the separate predictors of coworker- and supervisor-targeted aggression; we use meta-analytic techniques to investigate this issue.

Individual and Situational Predictors

The second issue we investigate concerns the relative importance of individual (e.g., trait anger; Douglas & Martinko, 2001) and situational (e.g., injustice; Skarlicki & Folger, 1997) factors in predicting workplace aggression, with both receiving empirical support. Much less research has assessed both these perspectives simultaneously (e.g., Greenberg & Barling, 1999; Inness, Barling, & Turner, 2005; Skarlicki et al., 1999).

Individual differences refer to stable personality traits (e.g., trait anger, negative affectivity) and other factors (e.g., sex, age, alcohol abuse) that differ between people. Research has shown that individuals do have stable predispositions to engage in certain behaviors (Shoda & Mischel, 1993) and that the manner in which an individual interprets a situation can vary as a function of these stable individual differences (Skarlicki et al., 1999), suggesting an important role for individual differences in predicting workplace aggression.

In contrast, situational factors refer to aspects of the social context that are perceived by people and are largely influenced by other members of the organization (e.g., organizational injustice). Researchers (e.g., Anderson & Bushman, 2002; Martinko et al., 2002) have suggested that perceived provocations, triggers, or cues are instrumental in predicting aggression. Provocation may include factors that frustrate a person's attempt at achieving a goal or a rude or unfair behavior (Anderson & Bushman, 2002). Alternatively, Bies and Tripp (2005) argued that employees engage in workplace aggression as a form of retaliation and that workplace aggression can represent an attempt to restore justice to an unfair situation. In contrast to the individual difference approach, this suggests that aggression is a reaction to a situation. Although most researchers acknowledge that both individual and situational predictors relate to workplace aggression, the debate surrounding which type of predictor explains more variance continues. Thus, one aim of this study is to determine the predictive role of individual and situational variables in explaining workplace aggression.

The idea that perceived provocation leads to target-specific aggression suggests that target specificity applies to situational but not individual difference variables. Individual differences are not provocations; rather, they reflect factors that predispose individuals to behave in certain ways. Because individual differences are relatively stable across time and situations, one would expect individual differences to predict both interpersonal and organizational aggression.

To assess the prediction of interpersonal versus organizational aggression, we examine three individual (i.e., trait anger, negative affectivity, and biological sex) and five situational predictors (i.e., procedural injustice, distributive injustice, interpersonal conflict, situational constraints, and job dissatisfaction).

Individual Differences

Trait anger. Theory linking anger to aggressive behavior is not new (e.g., Berkowitz, 1993; Buss, 1961); indeed, early

research did not distinguish between anger and aggression (Buss, 1961). Trait anger is the predisposition to respond to situations with hostility (Spielberger, 1991), and there is both theoretical and empirical support (e.g., Douglas & Martinko, 2001) for the link between trait anger and workplace aggression. People high in trait anger are likely to be more easily provoked because of their tendency to perceive situations as frustrating.

Negative affectivity. Negative affectivity reflects the extent to which individuals experience distressing emotions such as hostility, fear, and anxiety (Watson & Clark, 1984). Individuals high in negative affectivity are more sensitive and more reactive to negative events (Douglas & Martinko, 2001). Berkowitz (1993) argued that although people act aggressive when they feel bad (state negative affect), those who are high in negative affectivity likely have the proclivity to feel bad more often. If a transitory negative affective state is related to aggression, then those with a more permanent negative disposition may also experience state negative affect more often. Therefore, we would expect negative affectivity to be positively related to aggression.

Sex. Some studies have shown that men are more aggressive than women (e.g., McFarlin, Fals-Stewart, Major, & Justice, 2001; Geen, 1990), others have shown no significant relationship between aggression and sex (e.g., Douglas, Witt, & Aquino, 2003), and still others show that women are more aggressive than men (e.g., Namie & Namie, 2000). Although this literature seems to lean toward men as the more aggressive sex, there are situations in which these differences dissipate, such as propensity to aggress under provocation (Bettencourt & Miller, 1996). As such, our examination of the relationship between sex and target-specific workplace aggression remains exploratory.

Situational Factors

In contrast to individual differences, as suggested earlier, situational predictors trigger target-specific aggression, and we now discuss the theoretical relationships between each predictor and its hypothesized target (see Figure 1).

Distributive injustice. Distributive injustice reflects the perceived unfairness of outcomes. Adams (1965) argued that when individuals perceive their outcomes to be unfair in comparison to referent others, they attempt to restore justice. One method of restoring justice is to reduce inputs (organization-targeted aggression) or act in a counterproductive manner to rebalance the input-output ratio (Cohen-Charash & Spector, 2001). In contrast, Aquino, Lewis, and Bradfield (1999) found that those who feel that their distributions are unfair are likely to blame the source of the decision and target the person responsible for the unfair distribution. Therefore, one might expect distributive injustice to lead to supervisor- and organization-targeted aggression.

Procedural injustice. This form of injustice concerns the perceived unfairness of the procedures used to arrive at outcome decisions (Thibaut & Walker, 1975). Procedural injustice is a trigger that may well lead to an unfair outcome, adversely affecting an employee's salary or perquisites. Procedural injustice is therefore likely to lead employees to retaliate by engaging in aggression against the organization (Skarlicki & Folger, 1997) because processes and procedures are determined and implemented at the organizational level (Aquino et al., 1999).

Interpersonal conflict. As a workplace stressor, interpersonal conflict refers to discrepant views or perceived incompatibilities between two or more individuals (Boulding, 1963). Aggression is one way of coping with stressors, and research has shown that people are likely to respond to aggression with aggression. For

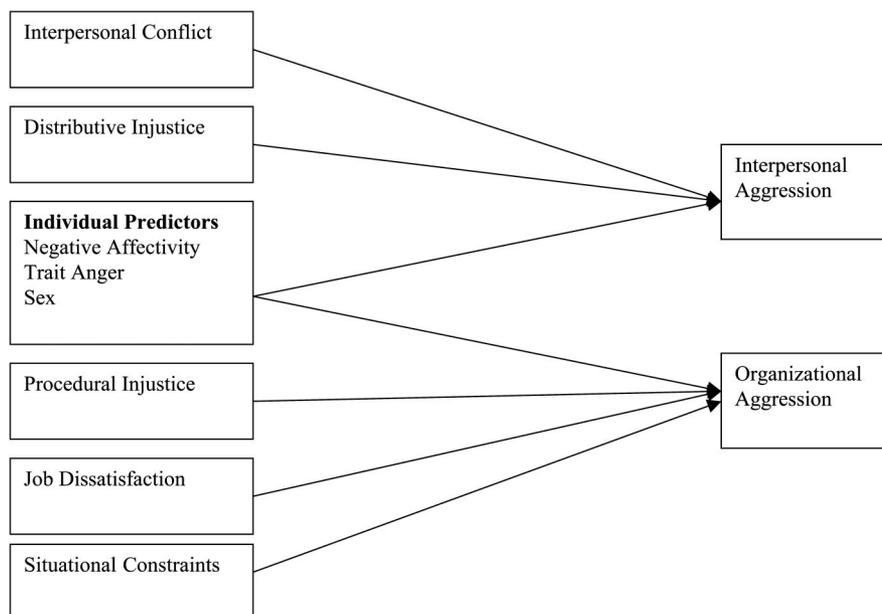


Figure 1. The predicted model.

example, Andersson and Pearson (1999) argued that incivility escalates or spirals as coworkers reciprocate uncivil behavior from colleagues by responding with more severe forms of incivility (e.g., aggression). The starting point for such spirals is the violation of a social norm of civility or respect, in which one employee is perceived to interpersonally mistreat another employee. Thus, we suggest that interpersonal conflict is a trigger that will predict interpersonal, coworker-targeted aggression.

Situational constraints. These are workplace stressors that interfere with an individual's task performance or goals at work (e.g., availability of resources, Fox & Spector, 1999). Situational constraints are posited to lead to negative emotions such as frustration because they prevent employees from attaining desired objectives and in turn are associated with aggression. The frustration-aggression hypothesis (Dollard, Doob, Miller, Mowrer, & Sears, 1939; Spector, 1975) suggests that frustration occurs when events interfere with individual goals and that one reaction to frustration is aggression. As situational constraints arise from a variety of sources within the organization (e.g., scheduling, training), we suggest that they will lead to organizational but not interpersonal aggression.

Job dissatisfaction. Job dissatisfaction reflects the extent to which people like or dislike their jobs (Spector, 1997). Individuals who are dissatisfied with their jobs are likely to put less effort into their work or to act in destructive ways toward their organization. As the measurement of job dissatisfaction generally consists of evaluations of diverse work-related dimensions (e.g., rewards, colleagues, nature of work; Spector, 1997), it is reasonable to argue that those who are dissatisfied at work may engage in organization-targeted aggression rather than interpersonal-targeted aggression. Judge, Scott, and Ilies (2006) argued that employees who are dissatisfied with their jobs may aggress against the organization in an effort to regain some form of control over their job, and we therefore suggest that job dissatisfaction will be related to organizationally targeted aggression.

Predicting Supervisor-Targeted Aggression

Two additional variables, interpersonal injustice and poor leadership, are examined to study supervisor-targeted aggression. Interpersonal injustice refers to the perceived interpersonal treatment of the employee by the supervisor during the enactment of formal procedures and more generally the degree of respect, honesty, and dignity with which the supervisor communicates with the employee (Bies & Moag, 1986). Poor leadership encompasses a range of leadership perceptions and behaviors, including perception of supervisor hostile verbal and nonverbal behavior (Zellars, Tepper, & Duffy, 2002), overcontrol (Dupré, 2003), authoritarian management style (Marrs, 1999), and lack of charismatic leadership (Hepworth & Towler, 2004). Although poor leadership and interpersonal injustice are similar, interpersonal justice refers to individuals' appraisal of whether they were treated fairly by an authority figure during the enactment of a formal procedure, whereas poor leadership refers to more specific behavioral cues (e.g., "puts me down in front of others"). Poor leadership is likely to be an important predictor of supervisor-targeted aggression because the degree to which a supervisor behaves badly toward employees will likely affect the behavioral response of the em-

ployees (Dupré, 2003). Similar to the incivility spiral discussed earlier, bad behavior from supervisors may spiral to increasingly negative interactions with the supervisor until the employee becomes aggressive toward the supervisor.

In summary, by examining these variables, we can address our three research questions: (a) What are the individual and situational correlates of interpersonal and organizational aggression? (b) Within interpersonal aggression, are there differential predictors of supervisor- and coworker-targeted aggression? (c) What are the relative contributions of individual and situational predictors in explaining interpersonal and organizational aggression?

Method

Data and Sample

We searched for both published and unpublished studies on workplace aggression. First, we searched the PsycINFO, Sociological Abstracts, ERIC, and ABI-Inform databases, including studies published as of July 15, 2005. We used the following keywords to conduct our search: *aggress**, *counterproductive work behavior**, *deviance*, *antisocial behavior**, *assault*, *bully**, *incivility*, *mistreatment*, *mobbing*, *retaliat**, *tyranny*, and *violen** (using an asterisk allowed a search for all words that include the letters that precede the asterisk and accommodated different spellings). To identify additional published and unpublished studies, we conducted a manual search of the bibliographies of recent workplace aggression studies, contacted researchers in the area of workplace aggression, and searched the scientific programs of conferences (Academy of Management, Society of Industrial and Organizational Psychology, and the American Psychological Association's Work, Stress, and Health conferences). This search yielded 191 relevant articles examining some form of workplace aggression. Studies that were retained for the meta-analysis measured enacted aggression (as opposed to experienced aggression or aggressive intentions) at the individual level of analysis. The studies included adult workers (as opposed to young workers) and had to include at least one independent variable of interest. Finally, only studies with a measure of association that could be translated into a correlation were retained. The resulting sample consisted of 57 studies with 59 independent samples, all of which are indicated with an asterisk in the reference section.¹

Meta-Analytic Procedures and Analysis

Our model suggests that the strength of predictor-aggression relationships depends on the targets of the aggression. This required us to classify the aggression constructs on the basis of the targets identified in each of the measures. We first divided studies into four categories, depending on the target identified in the study scale—interpersonal aggression (coworker and unspecified only), interpersonal aggression (supervisor target), organizational aggression, and a combined interpersonal and organizational category—and then conducted separate meta-analyses on these types of aggression. When possible, we compared the relationships in each type of aggression to determine whether different targets resulted in significantly different relationships.

We followed Hunter and Schmidt's (1990) recommendations for conducting meta-analyses, including calculation of weighted average reliabilities (when reliability information was not available) and confidence intervals. After examining the correlations for interpersonal and organizational

¹ The number of asterisks does not correspond to the number of samples because some samples come from doctoral dissertations, which included multiple studies.

aggression, we conducted a *t* test for nonindependent correlations (Williams, 1959) to compare whether the predictors were significantly different.

As noted by Huffcutt and Arthur (1995), the influence of outliers should be examined as they can influence the corrected correlation and the residual variability in the corrected correlation. Consistent with Colquitt, Conlon, Wesson, Porter, and Ng's (2001) treatment of outliers, we eliminated data from Beugré's (1996) study, which was the only one in the current sample that showed a positive relationship between distributive justice and aggression.

We used observed variable path analyses and maximum likelihood estimation as implemented in LISREL 8.3 (Jöreskog & Sörbom, 1999), which allowed us to test the relative contribution of individual difference and situational predictors of interpersonal versus organizational aggression. When conducting meta-analytic path analyses, one must make choices as to the appropriate treatment of empty cells and the appropriate sample size (Viswesvaran & Ones, 1995). Out of the 45 cells in the current intercorrelation matrix, three (7%) were empty, and all involved the relationship between sex and situational predictors. As there was no theoretical reason to expect a relationship between sex and situational constraints, we took a conservative approach and assumed a correlation of zero. For the relationship between sex and procedural injustice and sex and distributive injustice, we followed Viswesvaran and Ones's (1995) suggestion and used existing meta-analytic findings ($-.09$ and $-.02$, respectively; see Cohen-Charash & Spector, 2001). To address the issue of sample size, we used the harmonic mean of the studies ($n = 193$) that made up the correlation matrix.

Results

Our first research question concerned the correlates of interpersonal and organizational aggression. Tables 1 and 2 present the corrected correlations between all predictor variables and interpersonal and organizational aggression, respectively. Table 1 shows that trait anger and interpersonal conflict were the strongest predictors of interpersonal aggression (corrected correlations of $.43$ and $.50$, respectively). In contrast, the strongest predictors of organizational aggression were interpersonal conflict, situational constraints, and job dissatisfaction (corrected correlations of $.41$, $.36$, and $.37$, respectively). *t* tests comparing the differences between interpersonal and organizational aggressions shown in Table 3 partially support our prediction that individual differences predict both types of aggression, whereas situational predictors dif-

ferentially predict aggression. There was no statistical difference between one of the individual differences (negative affectivity) in predicting the two types of aggression. However, sex, $t(2515) = -4.70$, $p < .001$, and trait anger, $t(1548) = 5.00$, $p < .001$, were stronger predictors of interpersonal aggression than of organizational aggression. With respect to the situational predictors, interpersonal conflict was a stronger predictor of interpersonal aggression than of organizational aggression, $t(636) = 3.02$, $p < .01$. In contrast, job dissatisfaction, $t(769) = -6.41$, $p < .001$, and situational constraints, $t(975) = -2.31$, $p < .05$, were stronger predictors of organizational aggression than of interpersonal aggression. However, there was no difference between distributive and procedural injustice in predicting each type of aggression.

Our second research question asked whether there are differential predictors of supervisor- and coworker-targeted aggression. These results (see Table 4) primarily support our hypothesis that selected situational variables would be stronger predictors of supervisor-targeted aggression. Poor leadership and interpersonal injustice were the strongest predictors of supervisor-targeted aggression with corrected correlations of $.52$ and $.51$, respectively; the corrected correlations between poor leadership and interpersonal injustice and coworker-targeted aggression were $.16$ and $.18$, respectively. The confidence intervals of these relationships do not overlap for the two targets, supporting the hypothesis that poor leadership and interpersonal injustice are stronger predictors of supervisor-targeted aggression than of coworker-targeted aggression. Procedural injustice was also a stronger predictor of supervisor-targeted aggression ($r = .29$) than of coworker-targeted aggression ($r = .20$); however, there was some overlap between the confidence intervals, suggesting they may have the same population correlation. There was also significant overlap between the confidence intervals for distributive injustice, suggesting that they may have the same population correlation.

The results of the path analysis are shown in Figure 2 and help to address our third research question. We tested a fully saturated model in which all predictors led to both interpersonal- and organization-targeted aggression. The results showed that two of the three individual differences (sex and trait anger) predicted both interpersonal ($\beta_s = -.18$ and $.29$, respectively) and organizational ($\beta_s = -.14$ and $.16$, respectively) aggression. Negative affectivity

Table 1
Interpersonal Targeted Aggression (Coworker and Unspecified Only)

Predictor	<i>k</i>	<i>N</i>	<i>r</i>	<i>r_c</i>	CI <i>r_c</i>
Individual					
Trait anger	10	2,648	.37	.43	.29, .57
Negative affectivity	5	1,532	.22	.29	.18, .39
Sex	14	3,653	-.19	-.21	-.29, -.14
Situational					
Distributive justice	11	2,757	.12	.13	.02, .24
Procedural justice	12	2,817	.18	.20	.12, .28
Interpersonal conflict	7	1,654	.40	.50	.37, .62
Job dissatisfaction	9	2,209	.14	.18	.08, .28
Situational constraints	10	2,734	.26	.30	.19, .43

Note. For sex, men = 0 and women = 1. *k* = the number of samples in each analysis; *N* = the sample size; *r* = the uncorrected correlation; *r_c* = the corrected correlation, CI *r_c* = the confidence interval of the corrected correlation.

Table 2
Correlations Between Independent Variables and Organizational Aggression

Predictor	<i>k</i>	<i>N</i>	<i>r</i>	<i>r_c</i>	CI <i>r_c</i>
Individual					
Trait anger	7	2,032	.28	.33	.19, .47
Negative affectivity	4	1,168	.24	.28	.19, .38
Sex	11	3,363	-.11	-.13	-.34, .09
Situational					
Distributive justice	11	3,257	.12	.15	.12, .17
Procedural justice	11	3,257	.18	.21	.07, .35
Interpersonal conflict	5	1,100	.33	.41	.21, .61
Situational constraints	8	1,974	.31	.36	.31, .40
Job dissatisfaction	6	1,345	.31	.37	.28, .46

Note. For sex, men = 0 and women = 1. *k* = the number of samples in each analysis; *N* = the sample size; *r* = the uncorrected correlation; *r_c* = the corrected correlation; CI *r_c* = the confidence interval of the corrected correlation.

did not predict either interpersonal or organizational aggression. In terms of situational correlates, job dissatisfaction and situational constraints were related to organizational (β s = .28 and .19, respectively) but not to interpersonal aggression, whereas interpersonal conflict predicted interpersonal (β = .38) but not organizational aggression. In the presence of these other variables, neither injustice variable was significantly related to interpersonal or organizational aggression.

The preceding results suggest that aggression is target specific such that researchers should separate interpersonal and organizational aggression into different measures. To further test the need to separate measures across targets, we compared the correlations of three different measures: interpersonal, organizational, and a measure that combines both interpersonal and organizational targets. Only a subset of our predictor variables—distributive, procedural, and interpersonal injustice; poor leadership; sex; and trait anger—were measured with sufficient frequency using each measure for inclusion in this analysis. The results (see Table 5) show that although the corrected correlations differ between the three measures, the confidence interval for the combined measure is extremely wide for all variables. For the combined measure, the minimum range in the confidence interval is .39 and the maximum spread is .82. In contrast, the minimum range for interpersonal and

organizational aggression is .13 and .05, respectively, and the maximum spread is .28 and .43, respectively. These results indicate a much larger standard error for the relationships using the combined measure, suggesting that measures that combine targets seem to confound important target-specific differences.

Discussion

The purpose of this study was to address the target-specific nature of aggression and its differential predictors by conducting a meta-analytic review of the workplace aggression literature. In addressing these issues, this study aimed to examine three research questions: (a) What are the individual and situational correlates of interpersonal and organizational aggression? (b) Are there differential predictors of coworker- and supervisor-targeted aggression? (c) What are the relative contributions of individual and situational predictors in explaining interpersonal and organizational aggression?

Our findings suggest that both individual and situational factors differentially predict workplace aggression. The current study suggests that trait anger and sex are significant predictors, with men being more aggressive than women; however, we do not yet have a comprehensive understanding of the range of individual differences relevant to workplace aggression. Although research on

Table 3
t Test Differences Between Organizational and Interpersonal Aggression

Predictor	<i>r_c</i> organization	<i>r_c</i> interpersonal	<i>t</i>	<i>df</i>
Individual				
Trait anger	.33	.43	5.00***	1548
Negative affectivity	.28	.29	0.49	1624
Sex	-.13	-.21	-4.70***	2515
Situational				
Distributive justice	.15	.13	-0.82	1235
Procedural justice	.21	.20	-0.36	914
Interpersonal conflict	.41	.50	3.02**	636
Job dissatisfaction	.37	.18	-6.41***	769
Situational constraints	.36	.30	-2.31*	975

Note. For sex, men = 0 and women = 1. *r_c* = the corrected correlation.
* *p* < .05. ** *p* < .01. *** *p* < .001.

Table 4
Supervisor- Versus Coworker-Targeted Aggression

Independent variable	Supervisor					Coworker				
	<i>k</i>	<i>N</i>	<i>r</i>	<i>r_c</i>	CI <i>r_c</i>	<i>k</i>	<i>N</i>	<i>r</i>	<i>r_c</i>	CI <i>r_c</i>
Distributive justice	4	1,264	.14	.17	.06, .29	11	2,757	.12	.13	.02, .24
Procedural justice	4	1,264	.23	.29	.20, .37	12	2,817	.18	.20	.12, .28
Interpersonal injustice	8	2,050	.45	.51	.38, .63	11	2,620	.16	.18	.08, .29
Poor leadership	8	1,716	.45	.52	.31, .74	5	1,339	.14	.16	.10, .23

Note. *k* = the number of samples in each analysis; *N* = the sample size; *r* = the uncorrected correlation; *r_c* = the corrected correlation; CI *r_c* = the confidence interval of the corrected correlation.

individual differences has received a great deal of attention, the literature covers a wide range of individual differences. More focused research is needed to determine the strongest individual difference predictors of aggression. In addition, the finding that men are more aggressive than women should be interpreted with caution. In particular, there was no main effect between sex and aggression targeted at the organization, suggesting that men and women may not differ on more indirect forms of aggression. In terms of situational factors, there were significant differences between variables that predicted interpersonal and organizational aggression. We discuss these findings in more detail below with respect to target specificity.

The finding that both individual and situational correlates predict workplace aggression lends support to the importance of an interactionist approach. Recent research advocates studies that consider the interaction between individual and situational predictors (Aquino, Galperin, & Bennett, 2004; Inness, Barling, & Turner, 2005; Skarlicki et al., 1999). Consistent with Folger and Skarlicki's (1998) popcorn model of aggression, the interactionist perspective argues that situational factors may be a necessary but insufficient condition for pre-

dicting workplace aggression. Although the current meta-analysis suggests that there are main effects for both individual and situational correlates, future research should focus on the possible interaction of individual and situational predictors.

One of the reasons for examining the target specificity of workplace aggression was to help direct future operationalizations of aggression. This study suggests that because the predictors of workplace aggression are dependent on the target (i.e., supervisor, coworker, or organization), measures that combine targets may provide results that either understate or overstate the population effect. Given the current findings, we believe that combined measures may provide ambiguous if not misleading information about the strength of predictive relationships.

As such, future research needs to explore the notion of target specificity in more detail. One avenue would be the potential mediating effects of blame attributions. Although some research has investigated attributions and aggression (e.g., Aquino, Tripp, & Bies, 2001; Douglas & Martinko, 2001; Hepworth & Towler, 2004; Homant & Kennedy, 2003), with the exception of the study by Aquino et al. (2001), these studies have tended to concentrate

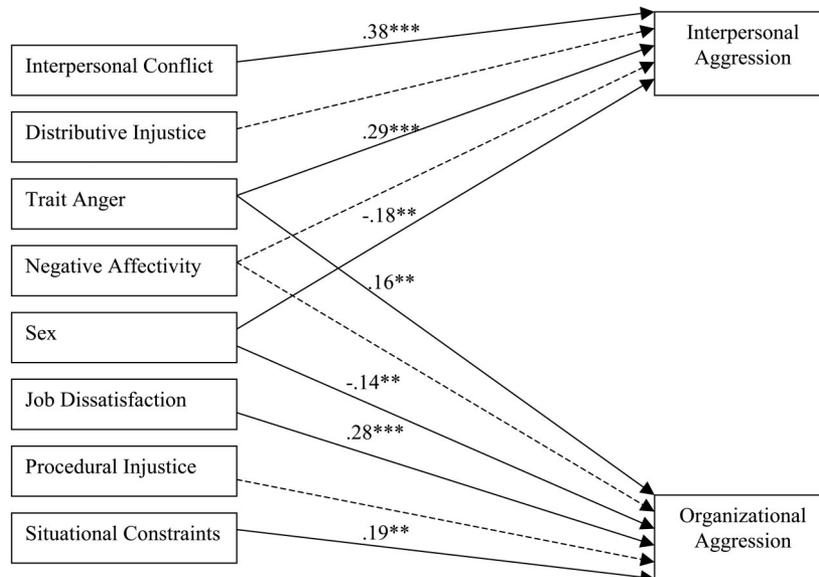


Figure 2. Results of the fully saturated model. Only significant beta weights are shown. The dashed arrows depict nonsignificant relationships. ***p* < .01. ****p* < .001.

Table 5
Comparing Different Operationalizations

Independent variable	Interpersonal					Organizational					Combined measure				
	<i>k</i>	<i>N</i>	<i>r</i>	<i>r_c</i>	CI <i>r_c</i>	<i>k</i>	<i>N</i>	<i>r</i>	<i>r_c</i>	CI <i>r_c</i>	<i>k</i>	<i>N</i>	<i>r</i>	<i>r_c</i>	CI <i>r_c</i>
Distributive justice	11	2,757	.12	.13	.02, .24	11	3,257	.12	.15	.12, .17	2	327	-.31	-.35	-.16, -.55
Procedural justice	12	2,817	.18	.20	.12, .28	11	3,257	.18	.21	.07, .35	3	564	-.32	-.40	.01, -.80
Interpersonal injustice	11	2,620	.16	.18	.08, .29	10	3,200	.17	.20	.12, .29	4	724	-.33	-.39	.00, -.78
Poor leadership	5	1,339	.14	.16	.10, .23	4	1,215	.18	.21	.09, .34	3	1,252	.19	.26	.07, .50
Sex	14	3,653	-.19	-.21	-.29, -.14	11	3,363	-.11	-.13	-.34, .09	6	1,843	-.21	-.21	-.55, .12
Trait anger	10	2,648	.37	.43	.29, .57	7	2,032	.28	.33	.19, .47	4	1,941	.30	.38	.10, .70

Note. For sex, men = 0 and women = 1. *k* = the number of samples in each analysis; *N* = the sample size; *r* = the uncorrected correlation; *r_c* = the corrected correlation; CI *r_c* = the confidence interval of the corrected correlation.

on attribution as an individual difference variable. However, situational blame attribution is more likely to explain why an individual chooses to aggress against one target rather than another. Attribution theory thus provides a plausible framework for understanding the underlying reasons why aggression is target specific.

Future research also needs to modify and validate existing scales to recognize target specificity. R. J. Bennett and Robinson (2000) demonstrated earlier that interpersonal and organizational aggression are separate dimensions. More research is needed that separates interpersonal aggression into its supervisor, coworker, and subordinate components, demonstrating different patterns of individual and situational predictors. In particular, we advocate a measurement approach that includes the specific target under investigation (e.g., supervisor, coworker, or organization).

In this study, we were able to show that interpersonal injustice and poor leadership are stronger predictors of supervisor- than coworker-targeted aggression; however, we were unable to assess situational predictors for coworker-targeted aggression. As existing research has not separated these two targets, we still do not have an adequate understanding of what situational variables predict coworker-targeted aggression. Research examining the link between interpersonal conflict and aggression does not explicitly specify the coworker as a target in either the conflict or the aggression research. Most scales refer to "someone at work" to identify the target, and an explicit question that asks specifically about the identity of the target would provide less ambiguous results.

Finally, future research should consider the differences between predicting aggression against the supervisor and organization. Although some research has examined the specific predictors of supervisor-targeted aggression (Dupré, 2003; Greenberg & Barling, 1999; Jones, 2004), it is not yet clear under which conditions employees will aggress against the supervisor or the organization. In the present research, abusive supervision and interpersonal injustice were much stronger predictors of supervisor- than organization-targeted aggression.

As with all research, this study has some limitations that warrant discussion. First, the relatively small number of studies involved in this meta-analysis is a concern. Nonetheless, large disparities in scales used and dimensions examined warranted a systematic evaluation to guide future research; this meta-analysis is timely to ensure that future research can add meaningfully to growing

knowledge about workplace aggression. Second, a number of judgment calls were required in conducting this meta-analysis. For example, we had to decide whether to use only self-report data and eliminate other report data (eight studies) or whether to include both in the analysis. We also had to decide whether to limit the analysis to North American studies only, as we could locate only four studies conducted outside North America. We chose to include both other-report and international studies. We ran the analysis without these studies to ensure these changes would not affect the results and found that although there were minor differences in the correlations, the removal of these studies did not affect any conclusions. Third, aggression against coworkers may be more likely to occur because there are higher numbers of fellow employees than of supervisors, making it difficult to compare mean levels of coworker and supervisor aggression.² Finally, although individual and situational differences have been hypothesized to interact, this meta-analysis does not allow us to test interactions. Although our research shows the importance of both individual and situational correlates, future research should focus on their interaction.

Although our meta-analysis supports many previous findings on the individual and situational predictors of workplace aggression, it also challenges and extends the way in which some of these questions have been addressed. Workplace aggression does not occur in a social vacuum. Rather, relational and contextual factors play a strong role in determining whether individuals will aggress and against whom they will aggress. This study provides meta-analytic evidence for the need to clearly separate the targets of workplace aggression and to examine both individual and situational predictors of workplace aggression.

² We thank an anonymous reviewer for pointing out this possible limitation.

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