Aggressive Reactions to Abusive Supervision:
The Role of Interactional Justice and Narcissism

James P. Burton
Northern Illinois University
College of Business
Department of Management
Barsema Hall
DeKalb, Illinois 60115
815/753-6315 (telephone)
jburton@niu.edu

Jenny M. Hoobler
University of Illinois at Chicago
College of Business Administration
Department of Managerial Studies
2202 University Hall
601 S. Morgan M/C 243
Chicago, Illinois 60607
312/996-2680 (telephone)
jhoobler@uic.edu

Aggressive Reactions to Abusive Supervision:
The Role of Interactional Justice and Narcissism

Abstract

In this study, we explore personality and situational conditions in which negative leadership—

specifically, abusive supervision—is associated with aggressive behavior in subordinates. That

is, we examine the role that interactional justice and narcissism play in an employee's decision to

respond aggressively to an abusive supervisor. We demonstrate that interactional justice

mediates the relationship between perceptions of abusive supervision and subsequent employee

aggression. In addition, we demonstrate that narcissism interacts with interactional justice

perceptions to predict workplace aggression. We find that individuals with high levels of

narcissism are the employees who are most likely to respond aggressively when they interpret

their leader's behavior as abusive.

Key Words: Abusive Supervision, Justice, Narcissism, Aggression

Aggressive Reactions to Abusive Supervision:
The Role of Interactional Justice and Narcissism

Since nearly the inception of the discipline of organizational behavior, researchers have been diligently documenting the positive characteristics and effects of good leaders. Yet for at least 10 years the focus of another literature has been on the "dark side" of leadership, that is, poor and even abusive leadership (Tepper, 2007). Abusive supervision is defined as "subordinates' perceptions of the extent to which their supervisors engage in the sustained display of hostile verbal and nonverbal behaviors, excluding physical contact" (Tepper, 2000: 178). Leaders—abusive or otherwise—have been found to have great influence on the workplace attitudes and behaviors of their subordinates, and organizations as a whole (Avolio, Gardner, Walumbwa, Luthans, & May, 2004; Ferris, Zinko, Brouer, Buckley, & Harvey, 2007). Yet there is still much to understand about the situations in which negative, dysfunctional workplace events, such as abusive supervision, spiral, or ripple to affect others in organizations (e.g., Andersson & Pearson, 1996; Rupp & Spencer, 2006).

One important outcome of abusive supervision that stands to negatively affect interpersonal relationships inside and outside the organization, as well as physical property are subordinates' aggressive behaviors. Hoobler and Brass (2006) found that abused subordinates' family members reported social undermining from that subordinate in the home. Inness, Barling, and Turner (2005) found that abused subordinates, in a "tit for tat" fashion, responded in a non-physically aggressive way with their supervisors as targets. The initial body of research (see also Dupre & Barling, 2006; Folger & Baron, 1996) has demonstrated the importance of supervisors' interpersonal treatment of their employees as an important predictor of employee aggression. As Inness, Barling, and Turner (2005) state, a conventional practice in workplace aggression

3

research has been to attempt to identify the situational factors that predict employee aggression. Research has established that, contextually, when workers feel they are the victims of interpersonal mistreatment, they are likely to react in aggressive ways (Tedeschi & Felson, 1994). Yet, the research presented here is designed to acknowledge that subordinates are unlikely to react in a uniform manner to abusive supervision (Tepper 2000). We tested the idea that "personality times situation" would be a better predictor of employee aggressive responses.

We build on Bies, Tripp, and Kramer's (1997) assertion that responses to aggression are multi-determined—by personal and contextual factors. While there are many potential personality variables that could influence the decision to become aggressive (e.g., hostile attribution bias, type A personality, etc.), we chose to focus on narcissism due to its long association with aggression in the social psychology literature. People with high levels of narcissism think they are good at most things, which, in reality, creates a host of possible threats to their self-esteem. Said another way, since narcissists' self-esteem is contingent on contextual factors, it is fragile (Twenge & Campbell, 2003). We predict that narcissism is likely to influence an employee's response to a supervisor whom they perceive as threatening or abusive since these behaviors are seen as threats to one's self-image (Bushman & Baumeister, 1998). In addition, the personality and social psychology research suggests that those with narcissistic tendencies are particularly sensitive to justice evaluations (DeCremer & Sedikides, 2005) as they use these to draw inferences about their social acceptance and social standing (Tyler, 1989; Tyler & Smith, 1999). As having an abusive supervisor is a form of injustice (Tepper, 2000), and because those high in narcissism are highly sensitive to justice evaluations, we suggest they may engage in aggression as a way of enhancing and preserving their self-image (Duffy, Shaw, Scott, & Tepper, 2006). We employ self-verification theory (Swann, 1987) to explain our predictions.

4

Hence, we study the combined influence of interactional injustice and narcissism on the

relationship between abusive supervision and subordinate aggression in a moderated-mediation

model (see Figure 1). Below we delineate the constructs of abusive supervision and workplace

aggression, summarize the extant literatures, and present our specific hypotheses.

Abusive Supervision

Abusive supervision is a subjective assessment made by an employee regarding his or her

supervisor's behavior towards him or her. Examples of abusive supervision include a supervisor

demeaning, belittling, undermining, or invading the privacy of a subordinate. These behaviors

reflect indifference, willed hostility (Tepper, 2000), and victimization (Tepper, 2007). The study

of abusive supervision is especially important given its prevalence in American workplaces.

Persistent abuse at work is reported by 28 to 36 percent of U.S. workers (Keashly & Neuman,

2005; Lutgen-Sandvik, Tracy, & Alberts, 2005; Neuman, 2004).

Most studies of abusive supervision have focused on subordinate outcomes. Ashforth

(1997) found that abusive supervisory behavior was positively related to subordinate frustration,

stress, reactance, helplessness, and work alienation, but negatively related to self-esteem, work

unit cohesiveness, work performance, and leader endorsement. Keashly, Trott, and MacLean

(1994) established that employees who experienced abusive supervision also experienced less

job satisfaction. As one type of nonphysical, detrimental managerial behavior, it follows that

abusive supervision negatively impacts subordinates' work-related attitudes and psychological

health (Duffy, Ganster, & Pagon, 2001). Tepper (2000) found that this is indeed the case, citing

support for a positive relationship between abusive supervision and psychological distress.

Tepper also noted a negative relationship between abusive supervision and subordinate job and

life satisfaction, and normative and affective commitment—with job mobility and organizational

justice mediating most of these relationships. Hoobler and Brass (2006) found that when

employees experienced abusive supervision, their family members reported that they were more

likely to be undermined by that employee in the home—in a "kick the dog" kind of fashion.

Workplace Aggression

Aggression in organizations has been examined in multiple ways in the literature.

Various studies have examined antisocial behavior (Robinson & O'Leary-Kelly, 1998), incivility

(Andersson & Pearson, 1999), workplace deviance (Robinson & Bennett, 1995),

counterproductive workplace behaviors (Gruys & Sackett, 2003), and retaliation (Skarlicki &

Folger, 1997). All of these constructs share a common focus on aggression in the workplace, but

differ in their specificity. For example, antisocial behavior deals with any behavior that harms or

has the potential to harm an organization. In addition, antisocial behavior does not have to be

behavior performed with harmful intent. A behavior that harms an organization but was

performed without intent can still be classified as antisocial behavior. Workplace deviance can

also be performed with or without intent, but is more specific in that it focuses on behavior that

violates organizational norms. In this paper, we focus on workplace aggression which has been

defined as any form of behavior that is intended to harm employees of an organization or the

organization itself (Baron, Neuman, & Geddes, 1999). Workplace aggression differs from some

of the broader forms of aggression (e.g., counterproductive work behaviors, antisocial behavior)

because it focuses on behavior that is specifically intended to harm an organization or the people

inside an organization.

<div align="center">

HYPOTHESES

</div>

Several studies have illustrated the direct relationship between abusive supervision and

subordinate aggression. Inness, Barling, and Turner (2005) found that abusive supervision was

<div align="center">6</div>

positively related to supervisor-directed aggression in both primary and secondary, that is "moonlighting" types of jobs. Dupre and colleagues (2006) extended the abusive supervision-supervision-targeted aggression relationship to a sample of teenage workers. On the other hand, Hoobler and Brass (2006) found that subordinates were unlikely to confront an abusive boss and instead displaced their anger and frustration in another domain—the home and family sphere—by socially undermining family members. Finally, Mitchell and Ambrose (2007) found abusive supervision to be related to three types of workplace deviance on the part of subordinates: supervisor-directed, organizational, and interpersonal deviance.

We assert these main effect findings are rather simplistic and ignore what Tepper (2000) in his early work on abusive supervision called the justice-based model of responses to abusive supervision. Tepper conveyed the associated importance of interactional justice, that is, individuals' perceptions of the degree to which organizational representatives treat them with respect, honesty, propriety, and sensitivity to their personal needs (Bies & Moag, 1986). His research established that subordinates experience interactional injustice when their supervisors are more abusive, and that this type of injustice mediates the relationship between abusive supervision and job and life satisfaction, commitment, work-family conflict, and psychological distress. That is, these perceptions of unfair treatment are the mechanism which explains abusive supervision's effect on a host of individual outcomes. When supervisors engage in abusive behaviors, the subordinates' assessment of the degree to which this behavior violates social norms, that is, interpersonal injustice, should determine their response. Recently, Aryee, Chen, Sun, and Debrah (2007) validated this mediated model, finding that subordinate interactional injustice fully explained the relationship between abusive supervision and subordinate organizational citizenship behavior and organizational commitment.

7

We believe that the direct effects of abusive supervision on subordinate aggression may be explained via subordinate perceptions of interactional justice. As Aryee and colleagues (2007) relate, only when abusive supervision is cognitively interpreted as interactional injustice does it evoke frustration and resentment. We suggest these perceptions of interpersonal mistreatment then are responsible for subordinates' need to engage in aggressive behaviors as a way of restoring their tattered social image. As Inness, Barling, and Turner (2005) hypothesized, those employees who believe they have been treated unfairly are the ones who are motivated to reestablish a sense of fairness and dignity, and one strategy they may use to elevate their self-image is to enact aggression (Aquino, Tripp, & Bies, 2001; Folger & Baron, 1996). That is, feelings of injustice have been shown to be a mechanism through which provocation (here, abusive supervision) may influence aggressive responses (Baron, Neuman, & Geddes, 1999). Theoretically, interactional injustice is a prime to aggressive behavior because it can be considered identity-threatening. Because most people strive to maintain positive self (Bies, 1999; Brockner, 1988; Steele, 1988) and social identities (Tajfel & Turner, 1985), they are highly motivated to defend themselves against acts of injustice that may serve to threaten their personal identity (Bies, 1999; Lind & Tyler, 1988) as well as their social identity as a valued organizational member (Aquino & Douglas, 2003). Hence, we predict:

> *Hypothesis 1: Perceptions of interactional justice will mediate the relationship between*
> *abusive supervision and subordinate aggressive behaviors.*

Narcissism

Narcissism has been defined as the tendency to have inflated, grandiose views of one's self, especially in comparison to others (Emmons, 1987). In addition, narcissists typically have a general disregard for others (Wink, 1991). Although some studies have demonstrated that

narcissists are more aggressive and have hostile tendencies (Papps & O'Carroll, 1998; Penney & Spector, 2002), most of the research demonstrates that narcissists are only aggressive when provoked (Baumeister, Bushman, & Campbell, 2000). The argument is that individuals with high levels of narcissism have unstable (i.e., fragile) high self-esteem and therefore are more reactive to threats to their self-esteem (Twenge & Campbell, 2003; Rhodewalt, Madrian, & Cheney, 1998).

Baumeister, Smart, and Boden (1996) argue that people with high levels of narcissism are the individuals who are most likely to engage in aggression if their self-esteem is threatened. Their argument is that people with high levels of narcissism think they are good at most things, therefore, there are more possible threats to their self-esteem, especially since their self-esteem is contingent on contextual factors. Self-verification theory (e.g., Swann, 1987) suggests that an individual's desire to confirm self-views (their thoughts and feelings about themselves) guides reactions to evaluative information about themselves. According to self-verification theory, once people formulate a self-view, they work to solidify this view by attending to information and experiences that match their self-view and by avoiding experiences that dispute their self-view (Wiesenfeld, Swann, Brockner, & Bartel, 2007). Individuals with fragile but high self-esteem, such as those with high levels of narcissism, perceive that their self-worth is always "on the line" (Kernis, Cornell, Sun, Berry, & Harlow, 1993). Therefore, they are especially sensitive to social cues and positive or negative contextual events. In a recent study by Duffy and colleagues (2006), those with fragile self-esteem were the most reactive to undermining from their social group such that they were most likely to undermine others as a result. Greenier, Kernis, McNamara, Waschull, Berry, Herlocker, and Abend (1999) found that negative events were reported as more self-esteem relevant for persons with fragile self-esteem as compared to stable

self-esteem. Kernis, Cornell, Sun, Berry, and Harlow (1993) found that individuals with unstable high self-esteem had the strongest reactions to negative events. Specifically, these individuals became more defensive than individuals with unstable low self-esteem and were more likely to derogate the source of the negative feedback. The authors argued, and subsequently demonstrated (Kernis, Greenier, Herlocker, Whisenhunt, & Abend, 1997), that individuals with unstable high self-esteem become more "ego-involved" when experiencing negative feedback while individuals with unstable low self-esteem are more likely to be more accepting of negative feedback. This may help explain why it has been shown that individuals with unstable high self-esteem are more prone to hostility and anger (Kernis, Grannemann, & Barclay, 1989). The research that has been done in this area has consistently found that stability of self-esteem, especially for those with unstable high-self esteem, predicts aggressive behavior better than level of self-esteem alone (Kernis, 1993).

Congruently, narcissists have been shown to become more aggressive or hostile in response to negative feedback (Rhodewalt & Morf, 1998; Kernis & Sun, 1994) and personal insults (Bushman & Baumeister, 1998). Abusive supervision could be viewed as one form of negative feedback or personal insult, especially to someone with high levels of narcissism. Furthermore, narcissists have been shown to become more aggressive in reaction to social rejection (Twenge & Campbell, 2003) which is a threat to their fragile self-image. Twenge and Baumeister (2005) and Williams and Govan (2005) argue that social inclusion or belonging is a basic human need. If this need is threatened, individuals feel compelled to restore it. In the face of an insult or social rejection, which violates narcissists' grandiose views about themselves, narcissists may view aggression as one strategy for regaining respect (Twenge & Campbell, 2003) especially since these individuals are more likely to view themselves as capable of

10

successful vengeance (Brown, 2004). Brown (2004) found that among people who were dispositionally prone to be unforgiving, those highest in narcissism were the ones likely to both endorse vengeance-related attitudes and also to pursue vengeance-related behavior in response to being wronged. A final reason narcissists may engage in aggression in response to interpersonal transgressions is that narcissists may feel very little restraint against revenge since they feel entitled to social inclusion (Brown, 2004).

Hoobler and Brass (2006) demonstrated that employees with a hostile attribution bias (the tendency to interpret others' behavior as hostile, even when it is not; Tedeschi & Felson, 1994) are more likely to engage in aggressive acts following an injustice. Narcissists and hostile attributors share the tendency to 1) blame situational factors and others for their lack of success and 2) distort their own positive contributions to tasks (Campbell, Reeder, Sedikides, & Elliott, 2000). We extend this work and Carroll's (1987) findings—that narcissists seek to dominate others—to predict that employees with high narcissistic tendencies will be more likely to respond to abusive supervision by becoming aggressive. However, we argue that when someone experiences an abusive supervisor, this prompts interactional injustice perceptions, which in turn influence aggressive behavior. However, narcissism qualifies the relationship between interactional justice and aggression. Aggressiveness is at least in part based on a person's personality (e.g., Folger & Baron, 1996). Specifically, a person may experience an abusive supervisor and decide that the experience was unfair. However, if the person is low in narcissism, they may react little to feelings of unfairness. On the other hand, in the case of someone with high narcissism, perceptions of unfairness may be interpreted as a strong call to preserve their self and social identities via workplace aggression, as in the Brown (2004) pattern of findings mentioned above. Please see Figure 1.

11

Hypothesis 2: Narcissism moderates the relationship between interactional justice perceptions and subordinate aggression, such that the relationship is stronger when employees have high levels of narcissism.

METHOD

Participants for this study were MBA students who were also employed full-time, located in the Midwestern, Southern, and Western United States. The participants were approached in class and granted extra credit for their participation in this study. Individuals who agreed to participate completed an on-line measure of their perceptions of abusive supervision on the part of their current supervisor as well as various demographic variables. In addition, these participants were asked to give the same survey to at least four of their coworkers who shared the same supervisor. A total of 294 volunteers agreed to participate and complete the various measures. We chose to focus on employees who had been working with their direct supervisor for more than 6 months in order to get a more accurate rating of abusive supervision, resulting in a final sample of 262[1]. Of these individuals, 44.4 percent were female, and they averaged 33.38 years of age (SD = 9.54) and 2.49 years working with their current supervisor (SD = 2.56). Approximately 40 percent of the participants worked in the management or financial services profession. Twenty-five percent worked in science or engineering. The remaining participants worked in a variety of professional fields, including healthcare, sales, and operations. Finally, 47.7 percent of the participants reported their direct supervisor represented "middle

---

[1] To control for the possibility that some participants may have completed multiple surveys, we checked the data using a very conservative approach and eliminated all responses that contained the same IP address (i.e., the survey was taken on the same computer, for example at the MBA program office or computer lab). Using this approach, the final sample consisted of 190 participants. However, the results did not change significantly.

management"; 28.5 percent reported that their direct boss represented "executive or upper management"; and 23.8 percent reported their supervisor was "lower management."

Measures

Abusive Supervision. Participants in this study answered all 15 items from Tepper's (2000) measure of perceptions of abusive supervision. Respondents used a 7-point response scale ranging from 1 = "never" to 7 = "frequently, if not always," to indicate the incidence of supervisor behaviors such as "tells me my thoughts or feelings are stupid," or "puts me down in front of others." We averaged the 15 items to create measures of abusive supervision (Mean = 1.98, SD = 1.30, alpha = .98).

Interpersonal and Organization-Directed Aggression. Respondents were asked to rate how often they have engaged in a set of 16 behaviors in the past year. The specific items were based on the work of Neuman and Baron (1998), Skarlicki and Folger (1997), and Burton, Mitchell, and Lee (2005). These items are designed to measure interpersonal as well as organization-directed aggression. Sample items include, "gossiping about my supervisor," "acting in a condescending way toward my supervisor" (both interpersonal aggression), "taking supplies home without permission," and "spending time on personal matters at work" (both organization-directed aggression). We created two composites by averaging the nine items for interpersonal aggression (Mean = 1.54, SD = .74, alpha = .84) and seven items for organization-directed aggression (Mean = 2.40, SD = .87, alpha = .70).

Interactional Justice. We examined the participants' perceptions of interactional justice with 4 items from Colquitt (2001) designed to measure the interpersonal aspect of interactional justice. Sample items include, "My supervisor treats me in a polite manner" and "My supervisor treats me with dignity." Respondents reported their agreement based on a seven-point scale (1 =

very strongly disagree, 7 = very strongly agree). The four items were averaged to form our composite measure of interactional justice (Mean = 5.64, SD = 1.24, alpha = .93).

Narcissism. Respondent level of trait narcissism was measured with 7 items (1 = strongly disagree; 5 = strongly agree) from the Narcissistic Personality Inventory (NPI) developed by Raskin and Terry (1988). Given that we are focusing our attention in this study on the idea that individuals who see themselves as better than others would be the ones most threatened by supervisors who are abusive, we focused on those items within the Raskin and Terry (1988) scale that indicate feelings of superiority or authority over others rather than items dealing with NPI categories such as vanity or exhibitionism. Sample items include, "I am more capable than other people" and "I am an extraordinary person." We created a composite score for narcissism by averaging the 7 items (Mean = 4.64, SD = .90, alpha = .86).

Gender. To control for alternative explanations to our study, we controlled for the effects of a person's gender. It has been demonstrated that in general, men are more aggressive under most neutral situations (Bettencourt & Miller, 1996). In addition, research has shown that men and women have different preferences for the kinds of aggression they pursue in the workplace (Bjorkqvist, Osterman, & Lagerspetz, 1994).

RESULTS

All analyses were checked for violations of the assumptions of the normal error regression model. All means, standard deviations, and correlations for the study are reported in Table 1.

Because up to five subordinates (MBAs and their coworkers) could have reported on the abusiveness of the same supervisor, we conducted WABA (within and between analysis) to ensure rater independence for subordinates' reports of abusive supervision. The 15° E test for

subordinate-rated abusive supervision was indeterminate (E ratio = .774), meaning abusive

supervision did not vary at the group level, but the determination could not be made that it varies

at the individual level. However, this value was quite close to the .767 value which indicates

individual-level variance (Dansereau, Alutto, & Yammarino, 1984). And, as Avolio and

Yammarino (1990) suggest, when results are equivocal, analysis at the individual level is

acceptable. Hence, we proceeded by treating our observations as independent across raters.

Please insert Table 1 about here

Given the strong relationship between interactional justice and abusive supervision (r = -

.56, p < .001) as well as the strong relationship between interpersonal and organizational

aggression (r = .55, p < .001), and in order to adequately analyze the measurement model

(Anderson & Gerbing, 1988), we ran multiple confirmatory factor analyses (CFAs) to help

establish the discriminant validity of our measures. The first CFA model we ran involved our

hypothesized model and involved four factors (i.e., abusive supervision, interactional justice,

interpersonal aggression, organizational aggression). The model fit our data well according to a

variety of goodness of fit indices (χ^2(146) = 476.31, p < .001; IFI = .92; CFI = .92; RMSEA =

.09; SRMR = .08). We then examined a three factor model where we combined our measures of

interpersonal and organizational aggression. The model fit our data well (χ^2(149) = 529.82, p <

.001; IFI = .91; CFI = .91; RMSEA = .10; SRMR = .09) but it demonstrated a significantly

worse model fit compared to the four factor model ($\Delta\chi^2$(3) = 53.51, p < .001). Next, we

examined another three factor model were we combined our measures of interactional justice and

abusive supervision. This model did not fit the data well (χ^2(149) = 1237.27, p < .001; IFI = .74;

15

CFI = .74; RMSEA = .17; SRMR = .13). Finally, we examined a two factor model that combined our interactional justice and abusive supervision measure as well as the interpersonal and organizational aggression measures. Again, this model did not fit the data well ($\chi^2(151)$ = 1285.34, p < .001; IFI = .73; CFI = .73; RMSEA = .17; SRMR = .13). Given the results of our CFAs, the four factor model fit the data the best. In addition, there were strong relationships between variables where expected (i.e., interactional justice and abusive supervision). These results help establish the discriminant and convergent validity of our measures.

Hypothesis 1 predicted that interactional justice would mediate the relationship between abusive supervision and workplace aggression. To test this hypothesis, we utilized the mediation tests developed by Preacher and Hayes (2004). Their approach builds on Baron and Kenny's (1986) approach to testing mediation, but also includes the examination of the total and indirect effects of abusive supervision through interactional justice to our dependent variables via path analysis and bootstrapping. This approach to mediation has been shown to be more powerful and accurate in detecting mediation than other popular methods (e.g., causal steps approach, product-of-coefficients approach, etc.) (Williams & MacKinnon, 2008; Preacher & Hayes, 2008; MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). For evidence of mediation, one should expect to find a significant total effect as well as a statistically significant indirect effect.

As recommended by Preacher and Hayes (2004), we ran our tests in AMOS (Arbuckle & Wothke, 1999) to control for measurement error and the testing of multiple relationships. We formed parcels for interpersonal aggression and abusive supervision due to the high number of latent variables and because some of the items had non-normal distributions (Williams, Vandenburg, & Edwards, 2009). We formed the parcels by balancing the best and worst loading items across the parcels (Little, Cunningham, Shahar, & Widaman, 2002). After performing

these analyses, we found a significant mediating effect of interactional justice on the relationship between abusive supervision and interpersonal aggression, but not for organizational aggression (Please see Figure 2). Specifically, we find that there is a total effect to be mediated between abusive supervision and interpersonal aggression. In addition, using 1,000 bootstrapping samples and 95% bias-corrected confidence intervals, we find a significant indirect effect for interpersonal, but not for organizational aggression.

The results above indicate there is a significant mediating effect of interactional justice on the relationship between abusive supervision and interpersonal justice. However, we further explored this relationship to determine if interactional justice fully or partially mediates the relationship using analyses suggested by Mathieu and Tayler (2006). Specifically, we examined the fit indices and change in chi-square among three different models (Please see Table 2). First we examine a model that involves only a direct relationship between abusive supervision and interpersonal aggression (i.e., although interactional justice remains in the model as a latent variable, there are no direct relationships between abusive supervision and justice as well as justice and interpersonal aggression). This particular model did not fit the data well ($\chi^2(53) = 276.01$, p < .001; IFI = .94; CFI = .94; RMSEA = .13; SRMR = .28) although there was a strong relationship between abusive supervision and interpersonal aggression (std. beta = .35, t = 5.31, p < .001). This indicates that abusive supervision likely has a direct effect on interactional justice or that justice has a direct effect on interpersonal aggression, thereby further supporting our mediating model. Second, we examined a model that had no direct relationship between abusive supervision and interpersonal aggression. Instead, the effect of abusive supervision on interpersonal aggression is transmitted through interactional justice. This model fit the data well ($\chi^2(52) = 164.71$, p < .001; IFI = .97; CFI = .97; RMSEA = .09; SRMR = .06). In addition, there

were significant relationships between abusive supervision and interactional justice (std. beta = -.58, t = -10.33, p < .001) and interactional justice and interpersonal aggression (std. beta = -.43, t = -6.50, p < .001). Finally, we ran a model were we added a direct path from abusive supervision to interpersonal aggression. This model also fit the data well ($\chi^2(51) = 160.52$, p < .001; IFI = .97; CFI = .97; RMSEA = .09; SRMR = .05) and was a significant improvement over the no direct effect model ($\Delta\chi^2(1) = 4.19$, p < .05) indicating that there is a significant relationship between abusive supervision and interpersonal aggression (std. beta = .16, p < .05). These results are indicative of partial mediation. Hypothesis 1 is supported for interpersonal aggression.

Please insert Table 2 and Figure 2 about here

Hypothesis 2 examined the interaction of the moderator, narcissism, and the mediator, interactional justice, in predicting aggressive responses to abusive supervision. To test this hypothesis, we conducted a moderated-mediation regression analysis using the path analytic approach suggested by Edwards and Lambert (2007). This approach allows us to specifically examine the effect that narcissism has on the relationship between the mediator (interactional justice) and the dependent variables (interpersonal and organizational aggression)[2]. In addition to examining the interaction of interactional justice and narcissism, this approach also allows for

---

[2] Please note that with the Edwards and Lambert (2007) approach, we could also check alternative models (i.e., direct effect model, total effects model, or a stage 1 only model). However, we did not test these alternative models, because we only hypothesized a stage 2 model (i.e., narcissism interacting with interactional justice to predict aggression).

the examination of the total and indirect effects of the model. To test moderated-mediation using this approach, two equations were used:

(1) Interactional Justice = $a_0 + a_1$(Gender) + a_2(Abusive Supervision)

(2) Aggression = $b_0 + b_1$(Gender) + b_2(Interactional Justice) + b_3(Abusive Supervision) + b_4(Narcissism) + b_5(Interactional Justice x Narcissism).

The results from Equation 1 are then utilized in Equation 2, to provide the intercept and slope of this moderated-mediation model. When conducting these analyzes, all variables were centered due to problems with multicollinearity when examining interactions (Cohen, 1978, Pedhazur, 1982; Aiken & West, 1991).

Table 3 presents the coefficient estimates from Equations 1 and 2. After controlling for the effects of gender, we found evidence of moderated-mediation. Specifically, the interaction between interactional justice and narcissism significantly predicts interpersonal and organizational aggression. In addition, using 1,000 bootstrapping samples and 95% bias-corrected confidence intervals, we find a significant indirect and total effect for both interpersonal and organizational aggression (Please see Table 4). When examining the simple effects in Table 4, we find that differences in a person's level of narcissism are driving these significant indirect and total effects. Analyzing these effects shows that when individuals experience an abusive supervisor, this is associated with justice perceptions. These perceptions of fairness are then moderated by the level of narcissism of the individual in predicting an aggressive response. Specifically, individuals with high levels of narcissism respond with more interpersonal aggression to the perceived unfairness of an abusive supervisor than individuals with low levels of narcissism. Hypothesis 2 is supported. Please see Figure 3.

Please insert Tables 3 & 4 and Figure 3 about here

DISCUSSION

In this study, we examined the role that interactional justice and narcissism play in subordinate aggressive behavior in response to abusive supervisors. Specifically, we explored the interactive effects of interactional justice and narcissism using a moderated-mediation analysis. Findings from the study lend support to the idea that interactional justice is an important mediating cognitive process through which individuals interpret their abusive supervisor when deciding to respond aggressively to abuse. We also found that aggressive reactions to perceived abuse were directed toward not only other organizational actors, but also toward the organization itself. Our research is consistent with previous studies which have demonstrated that when subordinates feel they have an abusive supervisor this is related to acts of aggression directed both toward the organization (e.g., sabotage, stealing, intentionally low productivity) (e.g., Mitchell & Ambrose, 2007), and toward their supervisors (e.g., Inness, Barling, and Turner, 2005).

In addition, we demonstrated that narcissism is a potentially important moderator of the abusive supervision-aggression relationship (especially when combined with justice perceptions). This has important implications for workers and organizations. Earlier researchers have called attention to the rippling effects of negativity in the workplace, for example, "downward incivility spirals" (Andersson & Pearson, 1999) and aggressive cultures (Hoobler & Swanberg, 2006), which may perpetuate, trigger, or extend acts of aggression beyond initial provocations. Yet our research illustrates that acts of aggression are likely not fatalistic, that is, individual differences may play a role in determining whether or not acts of aggression are

passed down through organizations. This may be good news for organizations who are

concerned with fostering positive, aggression-free cultures. While the research on abusive

supervision has not pointed to personality traits which predict abusive supervision, and

companies have few tools by which to screen potential applicants for these tendencies, what is

possible, on the subordinate side, is to measure narcissism. Screening for personality traits such

as narcissism is relatively easy, and has a long history in employee selection. Ideally,

organizations should make a "no-hire" decision on applicants who have the potential for abusive

supervision, not on applicants whose personality types will determine how they are affected by

having an abusive supervisor; we hope future research will begin translating the abusive

supervision literature into actionable human resource policy recommendations.

In general, we feel future research should continue to define the conditions under which

aggression which will be magnified, perpetuated, or stopped altogether, especially those which

are discernible in the hiring process, such as personality factors. In our study, we have

uncovered but one personality trait—narcissism—which serves to qualify the extent to which

interpersonal aggression ripples beyond the abusive supervisor. As organizations continue to

promote cultures of non-violence and wish to identify and eliminate the causes of workplace

violence (Hoobler & Swanberg, 2006), research in this vein is timely and relevant. Future

studies may aid not only in informing selection tools, but also in developing intervention

strategies to help organizations predict when aggressive acts may occur and to model leadership

development efforts from a justice-based model.

Limitations

There are limitations to these studies that must be addressed. First, our study may suffer

from a common method variance problem. Both the independent and dependent variables were

assessed using the same method from the same source. Although we were unable to collect the

data at different times and with different sources (e.g., supervisor ratings of employee

aggression) given the constraints of this particular study, we did adopt the approach suggested by

Podsakoff, MacKenzie, Lee, and Podsakoff (2003) and ensured the participants that their

responses were anonymous and that there were no right or wrong answers. In addition, we used

established scales to reduce problems with item ambiguity that can lead to common method

variance problems. Also, given the complexity of the analyses involving moderated-mediation,

it is unlikely that the significant indirect and total effects, as well as the significant interactions

are caused by common method issues. We also conducted a Harman single-factor test and found

that no single factor emerged from the analysis.

In addition, although abusive supervision and interactional justice were highly correlated

in this sample, which may have inflated our results, confirmatory factor analyses show that they

are independent constructs. Finally, because MBA students approached coworkers and invited

them to participate, it is not possible to estimate response rates because we can not know for sure

if all potential respondents received surveys. Again, this may have introduced a degree of

sampling bias that we are unable to rule out.

Conclusion

Limitations withstanding, using a sample of working adults, we demonstrated that

interactional justice is an important mediator between perceptions of abusive supervision and

workplace aggression. These findings lend support to Tepper's (2000) argument for justice-

based responses to abusive supervision. In addition, we demonstrated that a person's narcissism

is an important moderator between perceptions of abusive supervision and their own aggression,

especially when considering interactional justice. Taken together, this supports the idea that all

individuals do not react uniformly to instances of abusive supervision. Instead, future researchers should consider that when it comes to abusive supervision, the person and the situation combine to determine the aggression that results.

References

Aiken, L.S. & West, S.G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage Publications.

Anderson, J.C. & Gerbing, D.W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103: 411-423.

Andersson, L.M., & Pearson, C.M. (1999). Tit for tat? The spiraling effect of incivility in the workplace. *Academy of Management Review*, 24: 452-471.

Aquino, K., & Douglas, S. (2003). Identity threat and antisocial behavior in organizations: The moderating effects of individual differences, aggressive modeling, and hierarchical status. *Organizational Behavior and Human Decision Processes*, 90: 195-208.

Aquino, K., Tripp, T.M., & Bies, R.J. (2001). How employees respond to personal offense: The effects of blame attribution, victim status, and offender status on revenge and reconciliation in the workplace. *Journal of Applied Psychology*, 86: 52-59.

Arbuckle, J.L. & Wothke, W. (1999). *Amos 4.0 User's Guide*. Chicago, IL: SmallWaters Corporation.

Aryee, S., Chen, Z.X., Sun, L.Y., & Yaw, D. (2007). Antecedents and outcomes of abusive supervision: Test of a trickle-down model. *Journal of Applied Psychology*, 92: 191-201.

Ashforth, B. (1997). Petty tyranny in organizations: A preliminary examination of antecedents and consequences. *Canadian Journal of Administrative Sciences*, 14: 126-140.

Avolio, B.J., Gardner, W.L., Walumbwa, F.O., Luthans, F., & May, D.R. (2004). Unlocking the mask: A look at the process by which authentic leaders impact follower attitudes and behaviors. *Leadership Quarterly*, 15: 801-823.

Avolio, B. J., & Yammarino, F. J. (1990). Operationalizing charismatic leadership using a level of analysis framework. *Leadership Quarterly,* 1: 193–208.

Baron, R.A. & Neuman, J.H. (1996). Workplace violence and workplace aggression: Evidence on their relative frequency and potential causes. *Aggressive Behavior*, 22: 161-173.

Baron, R.A., Neuman, J.H., & Geddes, D. (1999). Social and personal determinants of workplace aggression: Evidence for the impact of perceived injustice and the Type A behavior pattern. *Aggressive Behavior*, 25: 281-296.

Baron, R.M. & Kenny, D.A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51: 1173-1182.

Baumeister, R.F, Bushman, B.J., & Campbell, W.K. (2000). Self-esteem, narcissism, and aggression: Does violence result from low self-esteem or from threatened egotism? *Current Directions in Psychological Science*, 9: 26-29.

Baumeister, R.F., Smart, L., & Boden, J.M. (1996). Relation of threatened egotism to violence and aggression: The dark side of high self-esteem. *Psychological Review*, 103: 5-33.

Bettencourt, B.A. & Miller, N. (1996). Gender differences in aggression as a function of provocation: A meta-analysis. *Psychological Bulletin*, 119: 422-447.

Bies, R. J. (1999). Interactional (in)justice: The sacred and the profane. In J. Greenberg & R. Cropanzano (Eds.), *Advances in organizational behavior*. San Francisco: The New Lexington Press.

Bies, R. J., & Moag, J. S. (1986). Interactional justice: Communication criteria of fairness. *Research on Negotiation in Organizations*, 1: 43-55.

Bies, R.J., Tripp, T.M., & Kramer, R.M. (1997). At the breaking point. Cognitive and social dynamics of revenge in organizations. In R.A. Giacalone & J. Greenberg (eds.), *Antisocial Behavior in Organizations*, (pp. 18-36). Thousand Oaks, CA: Sage Publications.

Bjorkqvist, K., Osterman, K., & Lagerspetz, K.M.J. (1994). Sex differences in covert aggression among adults. *Aggressive Behavior*, 20: 27-33.

Brockner, J. (1988). *Self-esteem at work: Research, theory, and practice*. Lexington, Massachusetts: Lexington Books.

Brown, R.P. (2004). Vengeance is mine: Narcissism, vengeance, and the tendency to forgive. *Journal of Research in Personality*, 38: 576-584.

Burton, J.P., Mitchell, T.R., & Lee, T.W. (2005). The role of self-esteem and social influences in aggressive reactions to interactional injustice. *Journal of Business and Psychology*, 20: 131-170.

Bushman, B.J. & Baumeister, R.F. (1998). Threatened egotism, narcissism, self-esteem, and direct and displaced aggression: Does self-love or self-hate lead to violence? *Journal of Personality and Social Psychology*, 75: 219-229.

Campbell, W.K., Reeder, G.D., Sedikides, C., & Elliott, A.J. (2000). Narcissism and comparative self-enhancement strategies. *Journal of Research in Personality*, 34: 329-347.

Carroll, L. (1987). A study of narcissism, affiliation, intimacy, and power motives among

students in business administration. *Psychological Reports*, 61: 355-258.

Cohen, J. (1978). Partialed products are interactions; partialed vectors are curve components. *Psychological Bulletin*, 85: 858-866.

Colquitt, J.A. (2001). On the dimensionality of organizational justice: A construct validation of a measure. *Journal of Applied Psychology*, 86: 386-400.

Dansereau, F., Alutto, J. A., & Yammarino, F. J. (1984). *Theory Testing in Organizational Behavior: The Variant Approach.* Englewood Cliffs, NJ: Prentice Hall.

DeCremer, D. & Sedikides, C. (2005). Self-uncertainty and responsiveness to procedural justice. *Journal of Experimental Social Psychology*, 41: 157-173.

Duffy, M. K., Ganster, D. C., & Pagon, M. (2001). Social undermining and social support in the workplace. *Academy of Management Journal*, 45: 331-351.

Duffy, M.K., Shaw, J.D., Scott, K.L. & Tepper, B.J. (2006). The moderating roles of self-esteem and neuroticism in the relationship between group and individual undermining behavior. *Journal of Applied Psychology*, 91: 1066-1077.

Dupre, K.E. & Barling, J. (2006). Predicting and preventing supervisory workplace aggression. *Journal of Occupational Health Psychology*, 11: 13-26.

Dupre, K.E., Inness, M., Connelly, C.E., Barling, J., & Hoption, C. (2006). Workplace aggression in teenage part-time employees. *Journal of Applied Psychology*, 91: 987-997.

Edwards, J.R. & Lambert, L.S. (2007). Methods for integrating moderation and mediation: A general analytical framework using moderated path analysis. *Psychological Methods*, 12: 1-22.

Emmons, R.A. (1987). Narcissism: Theory and measurement. *Journal of Personality and Social Psychology*, 52: 11-17.

Ferris, G.R., Zinko, R., Brouer, R.L., Buckley, M.R., & Harvey, M.G. (2007). Strategic bullying as a supplementary, balanced perspective on destructive leadership. *The Leadership Quarterly*, 18: 195-206.

Folger, R. & Baron, R.A. (1996). Violence and hostility at work: A model of reactions to perceived injustice. In G.R. VandenBos & E.Q. Bolatao (Eds.), *Violence on the job: Identifying risks and developing solutions* (pp. 51-85). Washington, D.C.: American Psychological Association.

26

Greenier, K.D., Kernis, M.H., McNamara, C.W., Waschull, S.B., Berry, A.J., Herlocker, C.E., & Abend, T.A. (1999). Individual differences in reactivity to daily events: Examining the roles of stability and level of self-esteem. *Journal of Personality*, 67: 185-208.

Gruys, M.L. & Sackett, P.R. (2003). Investigating the dimensionality of counterproductive work behavior. *International Journal of Selection and Assessment*, 11: 30-42.

Hoobler, J.M., & Brass, D.J. (2006). Abusive supervision and family undermining as displaced aggression. *Journal of Applied Psychology*, 91: 1125-1133.

Hoobler, J.M., & Swanberg, J. (2006). The enemy is not us: Unexpected workplace violence trends. *Public Personnel Management*, 35: 229-246.

Inness, M., Barling, J., & Turner, N. (2005). Understanding supervisor-targeted aggression: A within-person, between-jobs design. *Journal of Applied Psychology*, 90: 731-739.

Keashly, L., & Neuman, J.H. (2005). Bullying in the workplace: Its impact and management. *Employee Rights and Employment Policy Journal*, 8: 335-373.

Keashly, L., Trott, V., & MacLean, L.M. (1994). Abusive behavior in the workplace: A preliminary investigation. *Violence and Victims*, 9: 341-357.

Kernis, M.H. (1993). The roles of stability and level of self-esteem in psychological functioning. In R.F. Baumeister (ed.) *Self-esteem: The puzzle of low self-regard* (pp. 167-182). New York, NY: Plenum Press.

Kernis, M.H. & Sun, C. (1994). Narcissism and reactions to interpersonal feedback. *Journal of Research in Personality*, 28: 4-13.

Kernis, M.H., Cornell, D.P., Sun, C.R., Berry, A., & Harlow, T. (1993). There's more to self-esteem than whether it is high or low: The importance of stability of self-esteem. *Journal of Personality and Social Psychology*, 65: 1190-1204.

Kernis, M.H., Grannemann, B.D., & Barclay, L.C. (1989). Stability and level of self-esteem as predictors of anger arousal and hostility. *Journal of Personality and Social Psychology*, 56: 1013-1023.

Kernis, M.H., Greenier, K.D., Herlocker, C.E., Whisenhunt, C.R., & Abend, T.A. (1997). Self-perceptions of reactions to doing well or poorly: The roles of stability and level of self-esteem. *Personality and Individual Differences*, 22: 845-854.

Lavelle, J.J., Rupp, D.E., & Brockner, J. (2007). Taking a multifoci approach to the study of justice, social exchange, and citizenship behavior: The target similarity model. *Journal of Management,* 6: 841-866.

Lind, E. A., & Tyler, T. R. (1988). *The social psychology of procedural justice*. New York: Plenum.

Little, T.D., Cunningham, W.A., Shahar, G., & Widaman, K.F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. *Structural Equation Modeling*, 9: 151-173.

Lutgen-Sandvik, P., Tracy, S.J., & Alberts, J.K. (2005). Burned by bullying in the American workplace: A first time study of US prevalence and delineation of bullying "degree." Paper presented at the annual conference of the Western States Communication Association, San Francisco, CA.

MacKinnon, D.P., Lockwood, C.M., Hoffman, J.M., West, S.G., & Sheets, V. (2002). A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods*, 7: 83-104.

Mathieu, J.E. & Taylor, S.R. (2006). Clarifying conditions and decision points for mediation type inferences in organizational behavior. *Journal of Organizational Behavior*, 27: 1031-1056.

Mitchell, M.S., & Ambrose, M.L. (2007). Abusive supervision and workplace deviance and the moderating effects of negative reciprocity beliefs. *Journal of Applied Psychology*, 92: 1159-1168.

Neuman, J.H. (2004). Injustice, stress, and aggression in organizations. In R.W. Griffin & A.M. O'Leary-Kelly (Eds.), *The Dark Side of Organizational Behavior* (pp. 42-102). San Francisco: Jossey-Bass.

Neuman, J.H. & Baron, R.A. (1998). Workplace violence and workplace aggression: Evidence concerning specific forms, potential causes, and preferred targets. *Journal of Management*, 24: 391-419.

Papps, B.P. & O'Carroll, R.E. (1998). Extremes of self-esteem and narcissism and the experience and expression of anger and aggression. *Aggressive Behavior*, 24: 421-438.

Pedhazur, E.J. (1982). *Multiple regression in behavioral research.* New York: Holt, Rinehart, & Winston.

Penney, L.M. & Spector, P.E. (2002). Narcissism and counterproductive work behavior: Do bigger egos mean bigger problems? *International Journal of Selection and Assessment*, 10: 126-134.

Preacher, K.J. & Hayes, A.F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40: 879-891.

Preacher, K.J. & Hayes, A.F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers*, 36: 717-731.

Raskin, R. & Terry, H. (1988). A principal-components analysis of the Narcissistic Personality Inventory and further evidence of its construct validity. *Journal of Personality and Social Psychology*, 54: 890-902.

Rhodewalt, F. & Morf, C.C. (1998). On self-aggrandizement and anger: A temporal analysis of narcissism and affective reactions to success and failure. *Journal of Personality and Social Psychology*, 74: 672-685.

Rhodewalt, F., Madrian, J.C., & Cheney, S. (1998). Narcissism, self-knowledge organization, and emotional reactivity: The effect of daily experiences on self-esteem and affect. *Personality and Social Psychology Bulletin*, 24: 75-87.

Robinson, S.L. & Bennett, R.J. (1995). A typology of deviant workplace behaviors: A multidimensional scaling study. *Academy of Management Journal*, 38: 555-572.

Robinson, S.L. & O'Leary-Kelly, A.M. (1998). Monkey see, monkey do: The influence of work groups on the antisocial behavior of employees. *Academy of Management Journal*, 41: 658-672.

Rupp, D.E., & Spencer, S. (2006). When customers lash out: The effects of customer interactional injustice on emotional labor and the mediating role of discrete emotions. *Journal of Applied Psychology*, 91: 971-978.

Skarlicki, D.P. & Folger, R.(1997). Retaliation in the workplace: The roles of distributive, procedural, and interactional justice. *Journal of Applied Psychology*, 82: 434-443.

Steele, C. M. (1988). The psychology of self-affirmation: Sustaining the integrity of the self. In L. Berkowitz (Ed.), *Advances in experimental psychology* (Vol. 21, pp. 261–302). New York: Academic Press.

Swann, W. B., Jr. (1987). Identity negotiation: Where two roads meet. *Journal of Personality and Social Psychology*, 53: 1038-1051.

Tajfel, H. & Turner, J. C. (1985). The social identity theory of intergroup behavior. In S. Worchel & W. G. Austin (Eds.), *Psychology of intergroup relations* (2nd ed., pp. 7–24). Chicago: Nelson-Hall.

Tedeschi, J.T., & Felson, R.B. (1994). *Violence, Aggression, and Coercive Actions*. Washington, D.C.: American Psychological Association.

Tepper, B.J. (2007). Abusive supervision in work organizations: Review synthesis, and research agenda. *Journal of Management*, 33: 261-289.

Tepper, B. J. (2000). Consequences of abusive supervision. *Academy of Management Journal*, 43: 178-190.

Twenge, J.M. & Baumeister, R.F. (2005). Social exclusion increases aggression and self-defeating behavior while reducing intelligent thought and prosocial behavior. In D. Abrams, M.A. Hogg, & J.M. Marques (eds.) *The social psychology of inclusion and exclusion* (pp. 27-46). New York: Psychological Press.

Twenge, J.M. & Campbell, W.K. (2003). "Isn't it fun to get the respect that we're going to deserve?" Narcissism, social rejection, and aggression. *Personality and Social Psychology Bulletin*, 29: 261-272.

Tyler, T.R. (1989). The psychology of procedural justice: A test of the group-value model. *Journal of Personality and Social Psychology*, 57: 830-838.

Tyler, T.R. & Smith, H.J. (1999). Justice, social identity, and group processes. In T.R. Tyler, R.M. Kramer, & O.P. John (Eds.) *The psychology of the social self* (pp. 223-260). Mahwah, NJ: Lawrence Erlbaum Associates.

Wiesenfeld, B.M., Swann, W.B., Jr., Brockner, J., & Bartel, C. (2007). Is more fairness always preferred? Self-esteem moderates reactions to procedural justice. *Academy of Management Journal*, 50: 1235-1253.

Williams, J. & MacKinnon, D.P. (2008). Resampling and distribution of the product methods for testing indirect effects in complex models. *Structural Equation Modeling*, 15: 23-51.

Williams, L.J., Vandenberg, R.J., & Edwards, J.R. (2009). Structural equation modeling in management research: A guide for improved analysis. *Academy of Management Annals*, 3: 543-604.

Williams, K.P. & Govan, C.L. (2005). Reacting to ostracism: Retaliation or reconciliation. In D. Abrams, M.A. Hogg, & J.M. Marques (eds.) *The social psychology of inclusion and exclusion* (pp. 47-62). New York: Psychological Press.

Wink, P. (1991). Two faces of narcissism. *Journal of Personality and Social Psychology*, 61: 590-597.

Table 1: Means, Standard Deviations, and Correlations[a, b]

Variable	M	SD	1	2	3	4	5
1. Interpersonal Agg.[c]	1.54	.74	(.84)				
2. Organizational Agg.[d]	2.40	.87	.55***	(.70)			
3. Abusive Supervision	1.98	1.30	.35***	.11	(.98)		
4. Narcissism	4.64	.90	.10	.15*	.06	(.86)	
5. Interactional Justice	5.64	1.24	-.43***	-.11	-.56***	.09	(.93)
6. Gender[e]	--	--	.08	.02	-.04	-.06	-.02

[a] *p < .05, **p < .01, ***p < .001 (two-tailed)
[b] Numbers in parentheses are coefficient alpha.
[c] Interpersonal Agg. = Interpersonal Aggression
[d] Organizational Agg. = Organizational Aggression
[e] Employee Gender coded as 1 = female, 2 = male

Table 2: Partial vs. Full-Mediation Analyses

Models	df	χ^2	IFI	CFI	RMSEA	SRMR
Direct Only[a]	53	276.01	.94	.94	.13	.28
No Direct[b]	52	164.71	.97	.97	.09	.06
Indirect and Direct[c]	51	160.52	.97	.97	.09	.05

[a] Direct Only = Model where there is only a direct relationship between abusive supervision and interpersonal aggression.

[b] No Direct = Model where the effect of abusive supervision on interpersonal aggression is transmitted totally through interactional justice (i.e., full mediation)

[c] Indirect and Direct = Model where there is an indirect effect of abusive supervision on interpersonal aggression via interactional justice, but also there is a direct link between abuse and aggression (i.e., partial mediation).

Table 3: Path Estimates for Moderated-Mediation Analyses[a]

	Interactional Justice[b]	Int. Agg.	Org. Agg
Gender	-.04	.09	.04
Abusive Supervision	-.56***	.12	.03
Interactional Justice	- -	-.40***	-.13
Narcissism	- -	.09	.13*
Nar. X Int. Jus.[c]	- -	-.20***	-.14*
Total R^2	**.31***	**.26***	**.06***

[a] *p < .05, **p < .01, ***p < .001 (two-tailed)
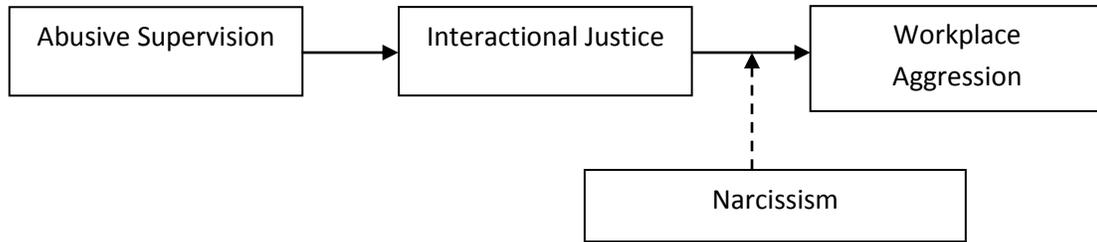[b] Standardized coefficient estimates from the final regression equation are reported
[c] Nar. x Int. Jus. = the interaction of narcissism and interactional justice

Table 4: Analysis of Simple Effects[a]

Dependent Variable	Moderator Variable	Stage		Effect		
		First	Second	Direct	Indirect	Total
Inter. Agg.						
	Low Nar.	-.52*	-.16*	.07	.08*	.15*
	High Nar.	-.52*	-.32*	.07	.16*	.23*
	Differences	.00	-.16*	.00	.08*	.08*
Org. Agg.						
	Low Nar.	-.52*	-.02	.02	.01	.03
	High Nar.	-.52*	-.16*	.02	.08*	.10*
	Differences	.00	-.14*	.00	.07*	.07*

[a] Please note that we controlled for gender in all of our analyses. In addition, tests for differences between high and low narcissism at the second stage are equivalent to the tests for the interaction of narcissism and interactional justice as shown in Table 2. The tests for differences for total and indirect effects were calculated using bias-corrected confidence intervals using 1,000 bootstrap estimates.

Figure 1: Hypothesized Model

```
┌──────────────────────┐      ┌──────────────────────┐      ┌──────────────────────┐
│                      │      │                      │      │      Workplace       │
│  Abusive Supervision │─────▶│ Interactional Justice│──┬──▶│     Aggression       │
│                      │      │                      │  ▲   │                      │
└──────────────────────┘      └──────────────────────┘  ┊   └──────────────────────┘
                                                         ┊
                                            ┌────────────┊──────────┐
                                            │          Narcissism    │
                                            └───────────────────────┘
```

Figure 2: Mediation Test[a]
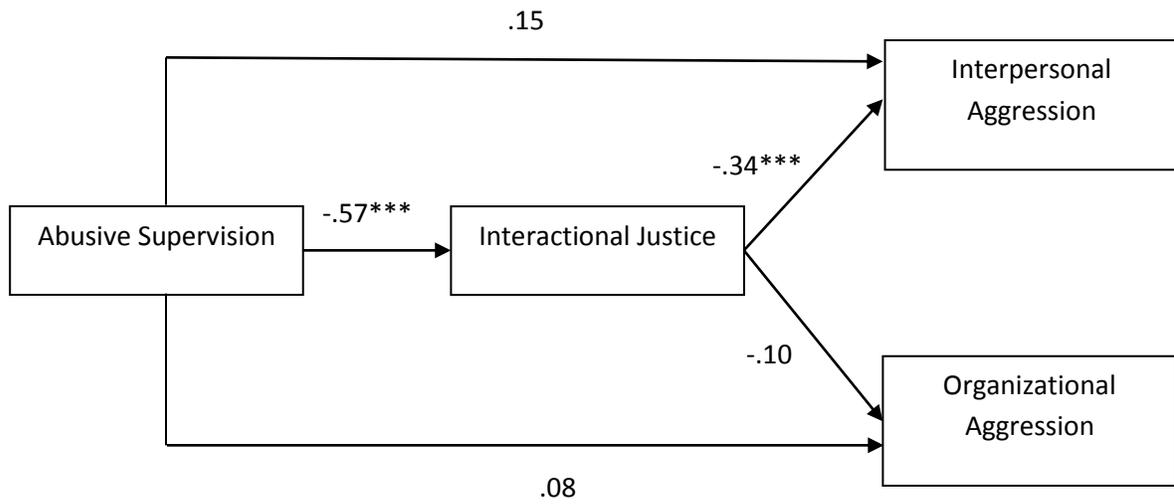
	Direct Effect	Indirect Effect	Total Effect
Interpersonal Aggression	.15	.20***	.35***
Organizational Aggression	.08	.06	.14

[a] The significance test for the total and indirect effects was calculated using bias-corrected confidence intervals using 1,000 bootstrap estimates.

Figure 3: Interaction of Interactional Justice and Narcissism