

9-18-2013

Workplace Incivility at the Daily Level: The Effects of Rumination on Performance and Revenge Motives

Jenna Shapiro
jenna.shapiro@uconn.edu

Recommended Citation

Shapiro, Jenna, "Workplace Incivility at the Daily Level: The Effects of Rumination on Performance and Revenge Motives" (2013). *Master's Theses*. 504.
https://opencommons.uconn.edu/gs_theses/504

This work is brought to you for free and open access by the University of Connecticut Graduate School at OpenCommons@UConn. It has been accepted for inclusion in Master's Theses by an authorized administrator of OpenCommons@UConn. For more information, please contact opencommons@uconn.edu.

Workplace Incivility at the Daily Level: The Effects of Rumination on Performance and
Revenge Motives

Jenna C. Shapiro

B.S., Pennsylvania State University, 2009

A Thesis

Submitted in Partial Fulfillment of the
Requirements for the Degree of

Master of Arts

at the

University of Connecticut

2013

Masters of Arts Thesis
Workplace Incivility at the Daily Level:
The Effects of Rumination on Performance and Revenge Motives

Presented by
Jenna C. Shapiro, B.S.

Major Advisor _____
Vicki Magley

Associate Advisor _____
Steven Mellor

Associate Advisor _____
Howard Tennen

Associate Advisor _____
James Dixon

University of Connecticut

2013

ACKNOWLEDGEMENTS

I would like to extend my deepest appreciation to my advisor, Dr. Vicki Magley, for her encouragement, motivation and insight through the process of this master's thesis. I would also like to thank my committee members, Dr. Steven Mellor, Dr. Howard Tennen, and Dr. James Dixon for their continued guidance with this project. This research would not have been possible without their valued assistance as well as the support and assistance from my fellow graduate students. Thank you!

TABLE OF CONTENTS

List of Tables	v
List of Figures	vi
Abstract	1
Introduction	2
Direct Effect of Incivility on Performance and Revenge Motives	3
Stress-Reactive Rumination	5
Mediating Effect of Stress-Reactive Rumination.....	6
The Effect of Stress-Reactive Rumination on Job Performance.....	7
The Effect of Stress-Reactive Rumination on Revenge Motive	9
Daily Diary Methodology	10
Support for Time-Varying Constructs.....	12
Method	14
Participants.....	14
Procedure	14
Measures.....	15
Results.....	16
Multilevel Confirmatory Factor Analysis (MCFA)	17
Multilevel Structural Equation Modeling (MSEM).....	19
Direct and Indirect Effects at the Within-Individual Level	21
Discussion	22
Limitations and Future Research	25

Strengths and Implications.....	28
References.....	30
Tables.....	36
Figures.....	38
Appendix.....	40

List of Tables

Table 1	35
Table 2	35
Table 3	36

List of Figures

Figure 1	37
Figure 2	37
Figure 3	38
Figure 4	38
Figure 5	38

Abstract

Ruminating about stressful experiences at work may have negative effects for employees and the organization, but has been widely overlooked in organizational research. In order to address this gap, I examined the process by which incivility affects performance and revenge motives in the workplace. A mediational model was tested, in which stress reactive rumination mediates the relationship between incivility and performance, as well as between incivility and revenge motives. These mediated relationships were examined at the intra-individual level, such that data-points were nested within employees over time. I surveyed 108 healthcare professionals daily over a two-week study period. The data indicate that there was a significant indirect effect of incivility to performance through rumination; on occasions when incivility occurs, an individual's tendency to ruminate increases and consequently, performance is impaired. Theoretical and practical implications of the findings are discussed.

Workplace Incivility at the Daily Level: The Mediating Effects of Rumination on Performance and Revenge Motives

Workplace incivility has increasingly gained the interest of researchers and practitioners, given the harmful effects of mistreatment for individuals, co-workers and organizations (Bowling & Beehr, 2006). Incivility is defined as low intensity, deviant acts enacted toward another organizational member with ambiguous intent to harm (Andersson & Pearson, 1999). Research on workplace mistreatment has clearly demonstrated that employees and organizations experience detrimental outcomes as incivility occurs more frequently. As a sampling of the harmful effects observed in empirical research, incivility is associated with increased levels of stress (Miner, Settles, Pratt-Hyatt, & Brady, 2012), emotional exhaustion (Sliter, Jex, Wolford, & McInnerney, 2010), turnover intentions (Lim, Cortina, & Magley, 2008; Lim & Lee, 2011; Miner-Rubino & Reed, 2010) and counterproductive work behavior (Taylor & Kluemper, 2012), as well as decreased job satisfaction (Cortina, Magley, Williams, & Langhout, 2001; Lim et al., 2008; Lim & Lee, 2011; Miner-Rubino & Reed, 2010; Penney & Spector, 2005), creativity (Porath & Erez, 2007, 2009) and performance (Caza & Cortina, 2007; Porath & Erez, 2007, 2009; Sakurai & Jex, 2012; Sliter, Sliter, & Jex, 2012).

Research also suggests that bystanders experience negative outcomes by simply witnessing mistreatment. Customers who witness incivility among service employees experience anger and develop negative evaluations about the service organization (Porath, MacInnis, & Folkes, 2011). Additionally, the pervasiveness of this type of mistreatment is disconcerting. Incivility has been discussed as the most common form of mistreatment in the workplace. For instance, more than 70% of employees reported experiencing incivility at work (Cortina, 2008;

Cortina, Lonsway, Magley, Freeman, Collinsworth, Hunter, & Fitzgerald, 2002; Cortina, Magley, Williams, & Langhout, 2001).

Clearly, combating workplace incivility is essential for the success of organizations and well-being of employees. Consequently, it has become critical for researchers to better understand its causes and antecedents. In this study, I aim to examine the process by which incivility affects performance and revenge motives in the workplace. In particular, I explore how rumination may account for the effects of experiencing interpersonal mistreatment on such outcomes on a daily basis. I begin by first reviewing research on the effects of incivility on performance and revenge. Next, I introduce the concept of stress-reactive rumination as an explanatory mechanism for the proposed direct effects. Then I explain reasoning for why this mediational model should be examined at the daily level.

Direct Effect of Incivility on Performance and Revenge Motives

Previous cross-sectional research has established the negative relationship between experiencing incivility and behavioral work outcomes, such as an employee's job performance (Caza & Cortina, 2007; Porath & Erez, 2007, 2009; Sakurai & Jex, 2012; Sliter, Sliter, & Jex, 2012). In an experimental study, Porath & Erez (2007) found that rude and discourteous behavior resulted in a decrease in routine and creative tasks, no matter the source of mistreatment. Additionally, in a recent study by Sliter, Sliter & Jex (2012), customer and coworker incivility predicted employees' decreased sales performance and absenteeism. Negative interpersonal experiences may inhibit necessary cognitive ability to perform organizational tasks, lending support for these relationships. According to attention capacity theory (Kahneman, 1973), individuals have a limited amount of resources and attention capacity they divide among everyday activities. Once a target experiences mistreatment, the individual's cognitive resources

may be redirected toward the incident instead of focusing on performing their task. Accordingly, the target's performance while on the job may decrease due to experiencing incivility.

Hypothesis 1: On occasions when incivility occurs, an individual's job performance will be impaired.

In addition to performance, targets of incivility also experience negative attitudinal outcomes, such as an increase in motives for revenge. There has been a host of research examining mistreatment and revenge behaviors. For instance, Andersson and Pearson (1999) discuss how experiencing incivility in the workplace can cause retaliation behaviors, where continuous exchanges of negative interpersonal behaviors occur. Interactions that spark the beginning of retaliation are usually less intense in nature (e.g., incivility) and act as an antecedent to revenge (Baron & Neuman, 1996).

Yet, revenge can be viewed as a process, and an important first step in examining this process is to capture an employee's motivation for revenge behavior. For instance, individuals often think about and plan revenge behaviors before actually acting on it (Bies & Tripp, 1996), which is coined as the term revenge motive. Revenge motive is defined as, "the intention of the victim of harm to inflict damage, injury, discomfort or punishment on the party judged responsible for causing the harm" (Aquino, Tripp & Bies, 2001). Experiencing incivility might elicit feelings of inequity and unfairness for the victim (Andersson & Pearson, 1999). According to equity theory (Adams, 1965), not only do employees become dissatisfied with experiencing inequity, but they also adjust their behaviors and respond accordingly to restore equity. These perceptions of injustice increase an employee's motives to seek revenge on the perpetrator (Andersson & Pearson, 1999). In fact, Jones (2010) found that employees who experienced interpersonal injustice were more likely to report increased revenge motives against their

perpetrator. Revenge motive may be likely to emerge when targets do not fully understand their situation. Due to the ambiguous circumstances of incivility, feelings of uncertainty about the situation may be likely to occur for the victim. Therefore, revenge motives are more likely to happen in response to incivility. Thus:

Hypothesis 2: On occasions when incivility occurs, an individual's revenge motives will increase.

Stress-Reactive Rumination

An underlying mechanism that may explain the relationship between incivility on performance and revenge motives is whether the employee ruminated about the uncivil event. Little to no research has examined rumination as an explanatory mechanism within the organizational mistreatment literature. Therefore, before explaining the mediating process, I begin this section by defining conceptualizations of rumination and argue its significance in organizational research.

Self-reflection, or the process of focusing on one's experiences, thoughts or feelings, has been a widely studied topic outside of organization research (Ingram, 1990; Mor & Winquist, 2002; Nolen-Hoeksema, Wisco & Lyubomirsky, 2008). Much of this research has traditionally focused on dysfunctional forms of self-reflection, such as rumination. Although older conceptualizations of trait rumination focus on repetitive thinking about depressive symptoms (Nolen-Hoeksema, 1991), more recent developments suggest that rumination can also be conceptualized as a state, that is, a cognitive process in reaction to experiencing a stressful situation. Extending on Nolen-Hoeksema's theory of depressive rumination, Robinson and Alloy (2003) developed the concept of stress-reactive rumination. During stress-reactive rumination, the individual experiences a stressful event and ruminates on the negative inferences that

occurred after the stressful incident. The main difference between these two conceptualizations of rumination is the cause of rumination and the onset of rumination in relation to depression. According to Nolen-Hoeksema's conceptualization of rumination, rumination occurs in response to the individual's depressed moods, such that the individual is constantly focusing on the fact that he/she is depressed. For instance, with depressive rumination, the individual is focusing on their overall feelings of sadness. With stress-reactive rumination, the occurrence of repetitive thinking is thought to take place prior to depressed mood and is not a stable trait. In other words, it can vary depending on the stressful experience. Therefore, stress-reactive rumination is not focused on the depressed mood itself, but rather on the stressful occasion that the individual experienced.

Research has shown that individuals experience numerous negative outcomes as a result of ruminating. Despite limited research for stress-reactive rumination, depressive rumination was found to be associated with increased levels of depression, decreased motivation, poor health behaviors, impaired inhibition, poor concentration, decreased cognition and problem solving and higher levels of stress and difficulties in social relationships (Lyubomirsky & Tkach, 2003). Unfortunately, due to the novelty of stress-reactive rumination, little research has been conducted examining consequences outside of the depression domain. Alloy et al. (2000) and Robinson et al. (2003) found that the tendency of ruminating on negative thoughts after a stressful event caused an increase in major depressive symptoms and longer duration of such symptoms. These findings, along with research examining depressive rumination, suggest the importance of studying rumination within the organizational context.

Mediating Effect of Stress-Reactive Rumination

As previously stated, an underlying mechanism that may explain the relationships among incivility, performance and revenge is stress-reactive rumination. According to the stressor-strain model, previous research has conceptualized incivility as a significant workplace stressor that negatively relates to a wide range of outcomes for the individual (Bowling & Beehr, 2006). Experiencing such a stressful event may cause the target to dwell on the experience for an unhealthy amount of time. Previous cross-sectional research has been conducted on specific events that cause individuals to engage in ruminative thoughts. For instance, importance of understanding oneself and your context is associated with greater rumination tendencies (Watkins & Baracaia, 2001; Watkins & Mason, 2002). Additionally, increased tendency to ruminate is associated with a greater need to understand a situation, increased personal importance of the situation and the strategies of analyzing a situation and dwelling on the causes and meaning of situations (Watkins, 2003). Thus, employees who need to understand their situation may experience increased levels of rumination. Because incivility is ambiguous in nature, this form of mistreatment may elicit feelings of uncertainty for the target and a greater need to make sense of the encounter. As stated previously, when contextual cues during social interactions are obvious, then the individual can derive clear responses to that event. At the same time, targets of ambiguous mistreatment may be more likely to try to comprehend the event by replaying the situation in their mind. Experiences that are viewed as unclear in nature may cause these individuals to ruminate about their encounter when compared to unmistakable, unambiguous deviant events such as aggression or bullying. Therefore:

Hypothesis 3: On occasions when incivility occurs, an individual's stress-reactive rumination will increase.

The Effect of Stress-Reactive Rumination on Job Performance

It is clear that rumination results in negative outcomes for individuals. Yet, very few studies have examined the harmful effects of rumination in an organizational context, specifically relating to an employee's performance. Some studies on depressive rumination have shown a relationship between ruminating and impaired performance. For instance, according to response styles theory (Nolen-Hoeksema, 1991), depressive rumination interferes with effective problem solving by making the individual think in a more pessimistic manner. In a quasi-experimental study, ruminators expressed less confidence about their solution to a complex problem, were hesitant to commit to their solution and were less confident about their oral presentation (Ward, Lyubomirsky, Sousa & Nolen-Hoeksema, 2003). Previous research has also found rumination to be intrusive and disruptive to concentration, impair problem-solving skills and decrease motivation (Lyubomirsky & Tkach, 2003; Rachman, Gruter-Andrew & Shafran, 2000). As previously stated, this decrease in performance, concentration and problem-solving through rumination might be due to deficits in attention. According to attention capacity theory (Kahneman, 1973). Because individuals have a limited amount of attention capacity for everyday activities, once incivility is experienced, the individual's attention is redirected toward ruminating about the event. Therefore, for the individual, their cognitive resources are depleted and subsequently performance is impaired.

The effects stated above, although important, may be a function of depression and not the tendency to ruminate. However, studies that have controlled for depression have found rumination to be negatively related to performance, indicating that rumination may be directly related to performance outcomes. Davis and Nolen-Hoeksema (2000) found that, when controlling for group differences in depression, ruminators showed more additive errors on the Wisconsin Card Sort Task than people who score low on rumination, demonstrating an inability

for ruminators to reveal helpful strategies when performing a task. Additionally, after controlling for depression, rumination was found to be associated with low mastery, dysfunctional attitudes, and self-criticism (Nolen-Hoeksema, Wisco & Lyubomirsky, 2008). Employees who have the tendency to ruminate may be distracted by their repetitive, intrusive thoughts about the stressful event. In turn, experiencing such cognitive distraction may decrease the employee's performance. According to the processing efficiency theory (Eysenck & Calvo, 1992) and distraction-conflict theory (Sanders & Baron, 1975), distraction on the job impairs employees' performance on tasks that are highly complex, require high attention or are comprised of short-term memory demands. Because rumination may act as a distraction, employees who experience incivility may perform at lower levels due to an increase likelihood of stress-reactive rumination.

Thus:

Hypothesis 4: On occasions when rumination occurs, an individual's job performance will be impaired.

Hypothesis 5: Rumination will mediate the relationship between incivility and job performance.

The Effect of Stress-Related Rumination on Revenge Motive

On occasions when rumination occurs, individuals will experience an increase in revenge motives. Previous research on rumination has established the relationship between stress-reactive rumination and revenge, demonstrating that thoughts about revenge occur after periods of rumination on stressful experiences (Bies, et al., 1997). Multiple studies have shown that rumination elicits either revenge motives and/or revenge toward the aggressor responsible for the mistreatment or displaced revenge toward a third party, either an innocent bystander or the organization (Bies, Tripp & Kramer 1997; Bushman, Bonacci, Pedersen, & Miller, 2005). For

instance, Bies and Tripp (1996) asked individuals to describe an incident on the job when they wanted to seek revenge or get even. The authors found that individuals who engage in retrospective cognitions (e.g., rumination) after a stressful event were likely to report wanting to seek revenge on the aggressor by finding new evidence for blame during the rumination process.

These studies support a revenge theory posited by Bies, Tripp and Kramer (1997). The authors describe how the targets of mistreatment first experience a trigger behavior (e.g., interpersonal mistreatment) followed by a period of ruminating on whether the person responsible for the action should be held accountable. Consequently, this rumination process elicits feelings of anger and revenge toward the perpetrator. Additionally, this process is similar to Beugre's (2005) cognitive stage model. Beugre states that employees are likely to cognitively ruminate over an event that they perceive as unjust (e.g., incivility). This rumination process helps the employee to develop motives for revenge. Thus:

Hypothesis 6: On occasions when incivility occurs, individuals will experience an increase in revenge motives.

Hypothesis 7: Stress-reactive rumination will mediate the relationship between incivility and revenge motives.

Daily Diary Methodology

Even though much work has been done examining incivility, measuring workplace incivility can be a challenge for organizational researchers. Although cross-sectional surveys are highly practical when studying within organizations, this form of methodology limits the ability to capture the complexities of incivility. It may be difficult for a participant to accurately recall if a situation was intentional or ambiguous in nature, or to even remember if the mistreatment occurred.

In response to this, researchers have been highlighting the importance of adequately measuring mistreatment constructs (Hershcovis, 2010). For a more precise measurement of incivility, scholars have suggested using daily diary methodology. This technique involves asking participants to report their experiences daily. Thus, the major benefit to daily diary methodology involves the ability to reduce recall error and bias, recency effects and summarization, all of which are common and problematic when measuring incivility (Csikszentmihalyi & Larson, 1987). Because a diary method measures all recent behavior and attitudes at or close in time to occurrence of the event, it provides a much clearer picture of the phenomenon of interest and reduces limitations associated with current measurement techniques (Spector & Ozgun, 2010). Therefore, the current study will examine incivility at the daily level using a daily diary method.

In addition to the methodological reasons mentioned above, there are also theoretical justifications supporting the use of daily diary methodology when studying incivility. A well-established theory that supports the measurement of incivility at a daily level is Affective Events Theory (AET; Weiss & Cropanzano, 1996). AET focuses on the causes and consequences of experiences at work. Experiences occur frequently in the workplace, and characteristics of the environment frequently elicit reactions from employees. These reactions are critical to capture because they shape the employee's behavior and attitudes over time and, thus, would best be captured on a daily basis. Previous research has also suggested that one characteristic of the environment that elicits employee reaction on a daily basis is experiencing deviant behavior, such as aggression, bullying or incivility (Hershcovis, 2010). Deviant behavior is dynamic in nature due to its occurrence on a daily basis and its evolving circumstances over time (Robinson & Greenberg, 1998). Previous research suggests that experiencing mistreatment behaviors acts as

significant events that cause variation within individuals' reactions (Judge, Scott & Ilies, 2006; Weiss, Suckow & Cropanzano, 1999). In this study, I aim to capture these dynamic processes from individuals who experience workplace incivility. Thus, it is vital for researchers to begin to capture dynamic, uncivil events as they occur over time by sampling employees daily.

I focus on the work of Weiss and Cropanzano (1996) in several ways. First, for the abovementioned methodological and theoretical reasons, I examine the direct effects of workplace incivility at the daily level and how it affects employee outcomes. Additionally, I focus on the dynamic nature of individual reactions to such stressors. According to Bies et al. (1996), rumination is also conceptualized as a fluctuating cognitive process, and thus should be studied at the daily level. In particular, I examine how rumination may account for the effects of experiencing incivility on negative workplace outcomes on a daily basis.

Support for Time-Varying Constructs

As previously stated, individuals may vary in the extent to which they ruminate about their mistreatment on a daily basis. First, stress-reactive rumination can be conceptualized at the state level instead of a stable trait characteristic of the individual. Researchers have stated that, as opposed to depressive rumination, stress-reactive rumination can fluctuate depending on daily interpersonal stressors (Robinson & Alloy, 2003). Theoretically, rumination can be conceptualized as a fluctuating cognitive process (Horowitz, 1986). Certain cognitive processes that are prolonged, such as rumination, might signify incomplete cognitive processing and have the capabilities of varying at the daily level (Greenburg, 1995; Janoff-Bulman 1992). Previous researchers have also stated that prolonged intrusive cognitive processes are associated with physical and psychological impairment (Baum et al., 1990). Furthermore, fluctuating cognitive processing mechanisms should be studied at the daily level due to responses individuals can have

based on stressful events. Simply put, cross-sectional data fails to capture the dynamic process of cognitive processing. Negative emotional experiences, such as experiencing mistreatment, are likely to lead to specific reactions, such as stress-reactive rumination. Therefore, within-individual variation in response to a taxing event is likely to occur, thus using daily measures will be better able to capture this process. Drawing on the support for daily variation of cognitive processes, I posit that rumination is also a time-varying construct, such that the occurrence of a stressful event will result in a variation of rumination within the individual.

Additionally, performance and revenge motives can also be conceptualized as time-varying. According to AET, performance is likely to decrease in response to a negative state that an employee experiences on the job, which can be due to the disruptiveness of a negative (as opposed to positive) experience. Because fluctuation occurs within these constructs, high variability in outcomes is also expected because affect changes over time. In other words, performance decrements due to experiencing a negative state (e.g., rumination) are likely to vary and thus would be best studied at the daily level. Additionally, even though Weiss et al. (1996) did not discuss daily variation in revenge motives specifically, they did state that withdrawal behaviors are likely to be driven by an employee's state and may vary over time. Additionally, Judge, Scott and Ilies (2006) found that about half of the variation of deviant behavior was within-individual, indicating that deviant behavior is dynamic in nature and can be studied at the daily level. In support of this research, I believe that revenge motives, which can be conceptualized as preceding revenge, would also fluctuate over time.

To sum, I propose a meditational model in which stress reactive rumination will mediate the relationship between exposure to incivility and that day's performance, as well as between incivility and revenge motives. Given previous research, the proposed meditational model will be

studied at the daily level, such that I expect to see intra-individual variation across a two-week time span.

Method

Participants

The sample consisted of healthcare professional working in correctional facilities in the northeast United States. This sample was chosen given the hostile workplace characteristics that employees experience on a daily basis. There were 108 uncivil events that were reported. Out of those 108 uncivil events, 88 occurred once during a single day throughout the study and 20 occurred more than once or twice on the same day during the study, spanning over a total of 43 employees. Eighty-two percent of employees were female, 62% were Caucasian, 77% were between the ages of 34-60 years, and 45% had a graduate degree or professional degree (e.g., MA, APRM, Ph.D, etc). In this sample, employees worked in three main disciplines; 43% of employees indicated they were in the medical/dental discipline, 35% in mental health, 16% in clerical and 4.8% other (e.g., Information Technology). About 60% of employees indicated they worked on average 10 days over a two-week period, with 85% on first shift and 15% on second shift. Participation in the study was completely voluntary.

Procedure

An email was first sent out to all employees informing them of the study and providing a link to the screening survey. The data collection process was conducted in three main phases for first and second shift separately. In the first phase, participants completed a screening survey. The screening survey was administered online to all 801 employees in the correctional facilities. Participants were screened based on the following criteria: (1) will have access to a computer twice a day and (2) would be present at work for the two weeks of data collection.

In the second phase, participants who were successfully screened were asked to take the baseline survey. An email was sent to each selected participant with a description of the next phase of the project along with the online link to the baseline survey. The baseline survey was used to measure demographic variables (sex, gender, age group) and other non time- varying constructs. Participants also created a personalized identification number (PIN) to track their responses over time. Participants received \$10 for participation in the baseline survey.

The third phase of the project started about one week after participants completed the baseline survey. Data collection involved participants taking a survey twice a day for two consecutive weeks, totaling to 14 days of data collection for each participant. All surveys were created online and the link was sent to participants through their email account as stated earlier. Participants were asked to take the daily survey before they started their work shift in the morning and after they ended their work shift in the evening on work days. The exact time the participant took the survey was recorded for validation purposes. Separate surveys were created for participants to take during the weekend and participants who were scheduled to work but stayed home instead (e.g., sick day). For the purpose of this study, only the end-of-work-shift daily diary data were used.

Measures

Below are the measures that were used to assess the variables of interest in the end-of-work shift daily diary study. All items were adapted to fit a daily format and are included in the Appendix.

Incivility. Incivility was adapted from Cortina, Magley, Hunter Williams and Langhout (2001) General Incivility Scale. The item used in the study was, “Today at work, did you

experience incivility? For example, did someone ignore, exclude, interrupt you...”. Response scale was recorded as 1 (*never*), 2 (*once or twice*) and 3 (*more than once or twice*).

Rumination. Five items of rumination were measured by Trapnell and Campbell, (1999). Referring to the mistreatment the participant experienced, an example item was, “Ruminate or dwell over the situation that happened to me.” This measure was captured on a 1 (*not at all*) to 5 (*extremely*) response scale.

Self-Reported Job Performance. Items for self-reported job performance were adapted by Farh, Dobbins and Cheng (1991). Items were phrased to indicate perceptions of how participants’ performance is viewed by their supervisor, as suggested by Schoorman and Mayer (2008). A sample item was, “Today, my clinical supervisor would rate my overall work performance as...” Response scale was recorded as 1 (*poor*) to 5 (*excellent*). There were four items in total.

Revenge Motives. Revenge motives were measured by the scale developed by Jones (2004). Revenge motives are comprised of revenge utility and retaliatory intent. Four items were used and the scale was measured from 1(*disagree*) to 5 (*agree*). A sample item included, “In regards to my negative experience today, I believe it would feel good to ‘get back’ in some way.”

Results

First, analyses for this study depended on the frequency of incivility that employees experienced within the two-week time frame. First, at the within-individual level, there were 1,984 time points nested within 105 employees. Since I only examined end of shift data for two weeks, there was a total of 10 days (i.e., Monday through Friday for two weeks) that participants could have answered the survey. Thus, the average number of observations within each

participant was 6.7, indicating a 67% response rate for this study. Forty-three out of 105 employees experienced incivility during the two-week data collection period, with 21 employees experiencing incivility once and 22 employees experiencing incivility more than once or twice. In other words, 41% of employees in the study experienced some form of incivility, with about evenly distributed exposures to single and repeated events of mistreatment. Due to the high frequency of incivility, modeling within a multilevel SEM framework could be conducted. The means and standard deviations of all Level-2 variables are listed in Table 2 .

Multilevel Confirmatory Factor Analysis (MCFA)

Because items for this study were adapted for analysis at the daily level, it was necessary to examine whether items were loading properly on their unique constructs at the within-individual level. Multilevel confirmatory factor analysis (MCFA) was conducted to determine construct validity for the factor structure of rumination, performance and revenge motives at the within-individual level while controlling for the between-individual level. MCFA examines the covariance matrices for within-groups and between-groups and uses these matrices to analyze the factor structure for each level. In other words, a single-level CFA is based on the total covariance matrix of observed variables, whereas for a MCFA the total covariance matrix is broken up into between- and within-components. MCFA allows researchers to examine models that include the same factors and loadings at each level. For this analysis, I will examine the within-individual factor structures, while modeling the same factors and loadings at the between-individual level in order to control for non-independence.

Prior to conducting the MCFA, item-level ICCs were examined to assess the amount of variability between constructs and the amount of non-independence within constructs for each item. Essentially, item-level ICCs represent the appropriateness of studying items at the daily

level (Dedrick & Greenbaum, 2010). Cutoff values for ICCs for MCFA have been reported as ICCs greater than .10 (Dyer, Hanges & Hall, 2005). Within-level correlations and ICCs for all items are found in Table 1, ranging from .60 to .71. All ICC values indicate support for multilevel analysis. Average item means for rumination at the between-level were 1.8 with an average standard deviation of .85. These results indicate overall low-levels of rumination, given the construct is scaled from 1 (*not at all*) to 5 (*extremely*). The mean performance items were an average of 3.9 with a standard deviation average of .65. Because job performance was on a 1 (*poor*) to 5 (*excellent*) scale, the average employee rated themselves as having high levels of performance. Additionally, given Level-2 means are a function of Level-1 parameters, all Level-1 means were 0 due to grand mean centering. The final sample size for MCFA was 105 employees with an average of 6.7 reporting occasions within each person time points within each person. Again, since I only examined end of shift data for two weeks, there was a total of 10 days (i.e., Monday through Friday for two weeks) that participants could have answered the survey. Therefore, an average of 6.7 time points for the MCFA indicates a response rate of 67%.

Mplus (Muthén & Muthén, 2010) was used due to the robustness to non-normal data and non-independence of time points. Oblique rotation was used for all factor structures to obtain correlations among items. I examined RMSEA and CFI to examine fit indices, as well as examining degrees of freedom and Chi-square to determine the best fitting model. Acceptable fit was examined by CFI values greater than .95 and RMSEA values less than or equal to .08 (Hu & Bentler, 1999).

Rumination, job performance and revenge motives were examined in the MCFA; incivility was a one-item indicator and thus not appropriate to include in a MCFA model. Results for the first MCFA model indicated a failure to converge due to the correlations among the

revenge motives. Each revenge motive item was correlated at 1.00 at the within-individual level, indicating support for a one-item indicator due to a lack of variability among items. The item chosen to represent revenge motives had the largest ICC (.79), which was, “getting even would outweigh the risks of getting caught.” Further, the last item for job performance resulted in the model failing to converge. Because no unique variability was found between the last job performance item and all other job performance items, retaining the last item was not necessary. Consequently, all further analyses include job performance with three-item indicators and revenge motives with a one-item indicator.

A final MCFA model included rumination and job performance only. The ICCs for each item are represented in Table 1, all indicating support for within-person variation. All items loaded appropriately on their respective factors for each construct. The comparative fit index (CFI) = 1.00, the RMSEA = .00 and the SRMR = .072/.036, (within/between, respectively); all indicate good model fit. The loading for each job performance item onto the latent variable job performance were all significant and ranged from .60 to .78 at the within- individual level. The loading for each rumination item onto the latent variable rumination were all significant and ranged from .64 to .94. Loadings are shown in Table 1.

Multilevel Structural Equation Modeling (MSEM)

To test the mediation analysis at the within-individual level, multilevel SEM (MSEM) was used to account for lower-level non-independence. The computer program Mplus was used to conduct the analyses (Muthén & Muthén, 2010). The model includes time-varying predictors, mediators and outcome variables, where Level-1 represents intra-individual change and Level-2 represents the inter-individual differences in the intra-individual change. I will be examining a 1-1-1 model which focuses on intra-individual change (see Figure 1 and 2). Because the data are

non-independent, it is necessary to model Level-2 variability. Modeling a fully saturated Level-2 mediation controls for the non-independence of Level-1 data, allowing misfit to be represented at the lower level. Thus, at each stage in the MSEM process, a fully saturated Level-2 model was retained. Within-level correlations and ICCs for all constructs retained in the analyses are found in Table 2.

I specified random intercepts and fixed slopes for each construct of interest, modeling mean differences among each construct. Grand mean centering was applied for all constructs at Level-2, so Level-2 effects are interpreted as comparisons among people. Group mean centering was applied for all constructs at Level-1. In other words, group mean centering removes all between-level variance, rendering it strictly a within-level model. This centering is appropriate to examine at Level-1 because I am only interested in within-individual differences.

A total of 105 employees were retained for the MSEM model with an average cluster size of 6.6. I examined ICCs, which determine the proportion of total variance that is explained by unit membership. Results indicate ICCs for rumination = .71, job performance = .72, and revenge motives = .92, suggesting justification for between-level variation. First, a fully saturated model was examined, in which direct and indirect paths were modeled for all latent variables that were retained from the measurement model for both within- and between-levels. Next, I reduced the fully saturated model at Level-1 based on non-significant path coefficients. Further, interval estimates for non-normal data were computed due to the skewness and non-normality of the outcomes. Results indicated that incivility, rumination and revenge motives were positively skewed, whereas job performance was negatively skewed. For non-normal data in multilevel mediation structure, it is suggested to conduct Bayes credibility interval to examine the within-level indirect effects (Preacher, 2013).

Direct and Indirect Effects at the Within-Individual Level.

Fit indices for the fully saturated model examining job performance and revenge motives are presented in Table 3. Estimation of the path coefficients for the fully saturated models for both dependent variables are presented in Figures 3-5.

Results for the job performance model are reported first. Before reporting the within-level results, I first examined between-level descriptives. For the relationship between incivility and job performance, employees who did not experience incivility had slightly higher job performance ratings (mean = 4.0) than employees who did experience incivility (mean = 3.6), $t = 3.7, p < .001$. Job performance differed significantly depending on whether employees experienced incivility at the $p = .00$ level. Because this significance level might be due to the sample size and/or not accounting for clustering effects, I next tested MSEM to take into account lower-level non-independence. As shown by Figure 3, results for MSEM indicate a non-significant path coefficient for the direct effect of incivility to performance, not supporting Hypotheses 1. All non-significant paths were dropped from further analyses.

Interestingly, support for Hypotheses 3 and 4 were found. On occasions when incivility occurred, an individual's rumination increased and in turn, on occasions when rumination occurred, an individual's performance was impaired. Thus, support for an indirect effect of rumination between incivility and job performance was found to be significant. Examining within-individual indirect effects in the reduced model, the Bayes interval estimates for lower 5% and upper 5% for Hypotheses 3 and 4 are .23 to .47 and -.50 to -.26, respectively. Further, support for an indirect effect at the within-individual level is shown in Table 3, Beta = -.14, $p > .00$.

Because support for a direct effect was not shown in the fully saturated model, hypothesis

5 is not supported. A revised version of the model included the removal of the direct effect to obtain better model fit. When this was implemented, the model fit improved (see Table 3). Additionally, the Bayes credibility interval estimates were still significant and non-zero for Hypotheses 3 and 4; .23 to .46 and -.50 to -.26, respectively. Further, when the direct effect of incivility to job performance was deleted, support for an indirect effect was still shown at the within-individual level, $Beta = -.14, p > .00$. The final reduced model along with path coefficients is shown in Figure 4.

For revenge motives, parallel analyses with mistreated and non-mistreated individuals was not able to be examined because individuals only responded to revenge motives if they experienced mistreatment. Results indicate a non-significant path coefficient for the direct effect of incivility on revenge motives, thus, Hypothesis 2 was not supported. Further, a non-significant path was found from rumination to revenge motives, not supporting Hypotheses 6 and 7.

Discussion

The aim of the current study was to investigate whether rumination mediated the effects of incivility on job performance and revenge motives. A multilevel SEM model was implemented to examine intra-individual relationships while controlling for inter-individual differences. These analyses were believed to provide more accurate and valid representation of the relationships among the variables being studied at the daily level. First, due to measurement error in the MCFA, I was not able to retain all items for revenge motives and job performance. Thus, a five-item scale of rumination, three-item scale of job performance and one-item indicator of revenge motives were retained. For MSEM analyses, Hypotheses 3 and 4 were supported. Results indicated that on occasions when incivility occurred, an individual's rumination increased and in turn, on occasions when rumination occurred, an individual's performance was impaired.

In the MCFA model, revenge motives and job performance failed to converge at the within-individual level for both statistical and theoretical reasoning. For revenge motives, all items were perfectly correlated with each other at 1.0 at the within-level of analysis. One possible explanation is that the items chosen to represent the latent construct of revenge motives may best be examined at the between-person level. Consequently, there might not be enough variation among the items themselves at the daily level to examine revenge motives. Future research should begin to develop scales that can tap into meaningful latent constructs at the daily level. Further, wording of the last job performance item asked participants to rate their *overall* job performance, which may be more appropriate for cross-sectional surveys or between-individual items than it is for daily items.

Additionally, there are conceptual reasons as to why revenge motives was not significant in the MSEM model. Some studies have found that rumination produces revenge toward individuals who are *not* responsible for the mistreatment. For instance, in an experimental study, rumination increased displaced aggression after participants went through a minor provoking event (Bushman, Bonacci, Pedersen, Vasquez & Miller, 2005). In this study, participants who ruminated on their stressful situation displaced their revenge on innocent confederates. In other words, individuals who ruminate may not necessarily seek revenge on the person who initially harmed them. These interchangeable revenge behaviors may be due to the nature of the stressful event. Given the ambiguous circumstances of incivility, targets of incivility may not have clear causal reasoning to infer either who is responsible for the mistreatment and/or if the mistreatment is directed toward them. In order for the target to feel like they have restored justice, individuals will seek out revenge despite whether the behavior is aimed toward the appropriate party. Future research might benefit from asking employees if they engaged in revenge motives toward

individuals other than the perpetrator.

Additionally, even though experiencing mistreatment may lead perceptions of injustice, injustice was not measured in this study. Directly measuring injustice may account for the lack of effects with revenge motives that were found. As previously discussed, equity theory (Adams, 1965), states that employees adjust their behavior in response to inequity to restore justice. Therefore, future research should examine perceptions of injustice as a precursor to revenge motives.

Next, the non-significant direct relationship between incivility and job performance in the MSEM model might be due to a few reasons. First, the sample was very specific. Healthcare employees working in correctional facilities have workplace characteristics that may not generalize to the greater population. Because they are working in an uncharacteristically hostile environment, employees might have learned how to perform their job despite levels of mistreatment or incivility. For instance, employees working in these conditions might have adapted ways to normalize or justify incivility and continue to perform at high levels despite the hostile environment. Thus, experiencing incivility no longer *directly* affects their daily performance due to learned behavior. The second reason as to why a direct effect of incivility on job performance is not significant may be due to the level of analysis. Although it was theoretically hypothesized that job performance should vary at the daily level due to experiencing incivility, performance may instead fluctuate in response to other workplace stressors, such as fairness perceptions or lack of control. Future research should examine specific workplace stressors that may negatively affect employees at the daily level.

Even though a direct effect was not found, results from the Bayes CI test of indirect effects indicate strong support for an indirect effect of incivility on performance, via rumination. In

other words, incivility affects performance on the job through rumination tendencies. Even though previous research has found a direct relationship between incivility and job performance, the relationship might be different at the within-individual level. Consequently, within-individual cognitive processes may play a salient role for explaining cross-sectional, between-individual research findings. These findings lend support for attention capacity theory (Kahneman, 1973) which states that individuals have a limited amount of cognitive resources they use daily, which may be depleted once a target experiences mistreatment. An individual's attention capacity may be depleted even further if they focus their attention on ruminating about the mistreatment. The importance of dynamic processes at the daily level, such as rumination, is vital to more accurately capture the relationships between workplace stressors and negative outcomes for employees.

Limitations and Future Research

Like any study, this study is not without limitations. The daily diary approach addresses limitations of a cross-sectional design, yet it is important to acknowledge the limitations associated with this approach as well. First, the specificity of the sample limits generalizability of the results. As previously mentioned, healthcare employees working in correctional facilities might encounter everyday experiences that are unique to this specific workplace. Future research should examine these relationships at the within-level of analysis across other organizational samples and disciplines. Second, some authors have criticized the daily diary approach because of the possibility of retrospective reporting biases (Levine & Safer, 2002). Recall and other biases are not entirely eliminated when using daily diary methodology. For instance, an employee's mood could affect the recall of rumination at the end of the day. Nevertheless, retrospective biases might not play as large of a role in this study because of the nature of our

questions. Survey answers about specific events are less likely to be biased when compared to retrospective aggregate answers (Bolger, Davis & Rafaeli, 2003; Genet, & Siemer, 2012).

Because I asked employees about their rumination tendencies from a specific event (e.g., incivility), retrospective bias is less likely to be an issue.

Third, common method bias might have inflated the relationships among the variables in this study. Nevertheless, examining the variables of interest from the employee's perception does have some advantages. Because the variables of interest were cognitive processes and interpersonal interactions, examining individual perceptions seems an appropriate form of measurement. To decrease the possibility of inflated scores due to common method bias, future research should examine job performance from another source, either from survey completed by supervisors and/or co-worker, or coding performance appraisal documents.

Additionally, person-level variables such as depression or *trait* rumination were not taken into account as control variables in this study. The within-level relationships examined in this paper may be affected by such person-level traits. For this specific study, rumination was conceptualized as a state, such that an employee's rumination was thought to fluctuate due to experiencing incivility. Yet, other research conceptualizes rumination as a stable trait (e.g., depressive rumination), which could be examined as a Level-2 control variable in a MSEM framework. In other words, whether or not the employees in this study were actually trait ruminators was not taken into account. Previous research has debated whether rumination is a trait or a state, and thus should be studied as a mediator or moderator. For instance, Genet and Siemer (2012) examined the moderating effects of rumination on stressful daily events and negative mood, whereas Moberly and Watkins (2008) examined rumination as a mediator between stressful daily life events and negative mood. The main difference between these papers

was the conceptualization of rumination as a trait or state. Due to the novelty of stress-reactive rumination in the I/O literature, future research should conceptually and empirically examine the differences between trait and state rumination with relation to antecedents and outcomes. Future research could also examine trait rumination (e.g., depressive rumination) as a moderator at the between-individual level or control for trait rumination in relation to measuring incivility and performance relationships at the daily level.

Another limitation to the study is that support for causal inferences cannot be made. First, support for causal inferences imply temporal separation of constructs, such that incivility would be measured at a time point before rumination, and rumination would be measured at a time point after incivility and before job performance. Because all measures were examined at all time points, causal inference cannot be established. Second, based on their findings, Imai, Keele and Tingley (2010) state that one reason (among others) it is problematic for linear MSEM models to establish causal mediation is due to the difficulty in extending linear frameworks to nonlinear models. Examining nonlinear models is crucial to establish causal effects. In addition, rumination might actually be a short-lived phenomenon, where the tendency to ruminate decreases over time. The temporal properties of the constructs may be shifting at different rates. Accordingly, the curvilinear relationship between rumination and time might depend on other factors as well, such as co-rumination or person-level trait rumination. Future research should examine this model within a causal framework by temporally separating constructs and modeling nonlinear as well as curvilinear relationships. For this study, the relationship between the variables of interest and time was not the focus of the study. In other words, I accounted for time statistically, but time was not part of the conceptual model. Future research should take into account time and examine the variables within a time series framework. For instance, questions

such as, “how long does rumination last over time?” or “when, over the two-week time span, is performance most negatively affected?” would help advance the understanding of the affects of mistreatment over time.

Strengths and Implications

Despite some limitations, there are several strengths that are worthy to note. First, more accurate perceptions and outcomes of incivility were examined by measuring daily reports of the mistreatment. Due to the ambiguity of such mistreatment, cross-sectional studies could have potential biases associated with their results. For instance, previous cross-sectional studies found incivility to have a direct effect in predicting an impairment in job performance, but at the daily level this was not the case. Even though results from this study should be interpreted with caution due to the sample, it adds to previous research by helping address whether relationships vary at different levels of analysis. This argument is not intended to undermine the value in cross-sectional research, yet examining organizational constructs at different levels of analyses will help advance the field theoretically and analytically.

Another strength of this study is examining the role of rumination in relation to workplace incivility. To date, few studies examine the negative effects of employees ruminating about uncivil experiences at work. In fact, very few studies even examine rumination at work. This is problematic because both trait and state rumination have been found to have negative effects that can influence the health and well-being of the employee, as well as the success of the organization. For instance, previous research has demonstrated rumination increases stress, displaced aggression and longer periods of strain after work, while decreasing sleep quality, recovery from fatigue, effective problem solving, motivation and concentration (Bushman, Bonacci, Pedersen, Vasquez & Miller, 2005; Cropley, Dijk & Stanley, 2007; Papageorgiou &

Wells, 2004; Pravettoni, Cropley, Leotta & Bagnara, 2007). Therefore, organizational researchers should begin to examine the role that rumination plays for the employee and organization.

Finally, it is important to note the prevalence of incivility at the daily level. Over the two-week time span, 41% of employees believed they experienced incivility once and 21% believed they experienced incivility more than once or twice. These are alarming rates. Developing climates that are supportive of civility through educational workshops, training sessions or even informational posters would help make employees aware of the negative outcomes of incivility on their own health and well-being. Starting at the source by first addressing incivility may help eliminate negative effects in the long run. Organizations can also communicate in the workshops the negative effects of ruminating on mistreatment experiences and other ways to address and alleviate the situation by using specific coping mechanisms.

In sum, this study found an indirect effect of incivility to performance through rumination. In other words, in days where an individual experienced incivility, their rumination increased. In turn, on days when an individual ruminates, he/she's performance was impaired. This study highlights the importance of studying workplace stressors and cognitive processes at the daily level. In terms of practical implications, organizations can educate employees on the negative effects of rumination and advise them on more efficient ways of coping with workplace mistreatment. Future research can focus on building multi-level theories that incorporate daily variation of workplace stressors, cognitive processes and workplace outcomes.

References

- Adams, S.J. (1965). Inequity in social exchange. In Bekowitz, L. (Ed.), *Advances in Experimental Social Psychology* (pp. 267-299). New York: Academic Press.
- Alloy, L. B., Abramson, L.Y., Hogan, M.E., Whitehouse, W.G., Rose, D.T., Robinson, M.S., Kim, R. S. & Lapkin, J.B. (2000). The temple-wisconsin cognitive vulnerability to depression project: lifetime history of axis I psychopathology in individuals at high and low cognitive risk for depression. *Journal of Abnormal Psychology, 109*, 403-418.
- Andersson, L. M. & Pearson, C.M. (1999). Tit for tat? The spiraling effect of incivility in the workplace. *The Academy of Management Review, 24*, 452-471.
- 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.
- Baron, R. A. & Neuman, J.H. (1996). Workplace violence and workplace aggression: evidence on their relative frequency and potential causes. *Aggressive Behavior, 22*, 163-173.
- Beugre, C. D. (2005). Reacting aggressively to injustice at work: a cognitive stage model. *Journal of Business and Psychology, 20*, 291-301.
- Bies, R. J. & Tripp, T. M. (1996). Beyond distrust: “getting even” and the need for revenge. In Tyler, T. R., & Kramer, R. M. (Eds.). *Trust in Organizations: Frontiers of Theory and Research*. Thousand Oaks, CA, US: Sage Publications, Inc.
- 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.
- Bliese, P. D. (2000). Within-group agreement, non-independence, and reliability: Implications for data aggregation and analyses. In K. J. Klein, & S. W. J. Kozlowski (Eds.), *Multilevel Theory Research and Methods in Organizations: Foundations, extensions and new directions* (pp. 349–381). San Francisco CA: Jossey-Bass.
- Bolger, N., Davis. A. & Rafaeli, E. (2003). Daily methods: capturing life as it is lived. *Annual Review of Psychology, 54*, 579-616.
- Bowling, N. A & Beehr, T. A. (2006). Workplace harassment from the victim’s perspective: a theoretical model and meta-analysis. *Journal of Applied Psychology, 91*, 998-1012.
- Bushman, B.J., Bonacci, A.M., Pedersen, W.C., Vasquez, E.A., & Miller, N. (2005). Chewing on it can chew you up: effects of rumination on triggered displaced aggression. *Journal of Personality and Social Psychology, 88*, 969-983.

- Caza, B. B. & Cortina, L. M. (2007). From insult to injury: explaining the impact of incivility. *Basic and Applied Social Psychology, 29*, 335-350.
- Cortina, L.M. (2008). Unseen injustice: Incivility as modern discrimination in organizations. *Academy of Management Review, 33*, 55-75.
- Cortina, L.M., Lonsway, K.A., Magley, V.J., Freeman, L.V., Collinsworth, L.L., Hunter, M. & Fitzgerald, L.F. (2002). What's gender got to do with it? Incivility in the federal courts. *Law and Social Inquiry, 27*, 235-270.
- Cortina, L.M., Magley, V.J., Hunter Williams, J. & Langhout, R.D. (2001). Incivility in the workplace: incidence and impact. *Journal of Occupational Health Psychology, 6*, 64-80.
- Cropley, M., Dijk, D. J., & Stanley, N. (2007). Job strain, work rumination, and sleep in school teachers. *European Journal of Work and Organizational Psychology, 15*, 181-196.
- Davis, R.N., & Nolen-Hoeksema, S. (2000). Cognitive inflexibility among ruminators and nonruminators. *Cognitive Therapy & Research, 24*, 699-711.
- Dedrick, R. F & Greenbaum, P.E. (in press). Multilevel confirmatory factor analysis of a scale measuring interagency collaboration of children's mental health agencies. *Journal of Emotional and Behavioral Disorders, 1-14*.
- Dyer, N. G., Hanges, P. J., & Hall, R. J. (2005). Applying multi-level confirmatory factor analysis techniques to the study of leadership. *Leadership Quarterly, 16*, 149-167.
- Eysenck, M. W., & Calvo, M. G. (1992). Anxiety and performance: the processing efficiency theory. *Cognition and Emotion, 6*, 409-434.
- Farh, J., Dobbins, G.H., Cheng, B. (1991). Cultural relativity in action: a comparison of self-ratings made by Chinese and U.S. workers. *Personnel Psychology, 44*, 129-147.
- Gross, J.J., & Thompson, R.A. (2007). Emotion regulation: conceptual foundations. In J.J. Gross (Ed.), *Handbook of emotion regulation* (pp. 3-26). New York: Guilford.
- Genet, J. J., & Siemer, M. (2012). Rumination moderates the effects of daily events on negative mood: Results from a diary study. *Emotion, 12*, 1-9.
- Hayes, A.F. (2009). Beyond Baron and Kenny: Statistical Mediation Analysis in the New Millennium. *Communication Monographs, 76*, 408-420.
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indices in covariance structure analysis: conventional criteria versus new alternatives. *Structural Equation Modeling, 6*, 1-55.

- Hershcovis, M. S. (2011). "Incivility, social undermining, bullying... oh my!": a call to reconcile constructs within workplace aggression research. *Journal of Organizational Behavior*, 32, 499-519.
- Hofmann, D. A., Griffin, M. A., & Gavin, M. B. (2000). The application of hierarchical linear modeling to organizational research. In K. Klein, & S. W. J. Kozlowski (Eds.), *Multilevel Theory research and methods in organizations* (pp. 467–511). San Francisco: Jossey-Bass.
- Hofmann, D. A. (1997). An overview of the logic and rationale of hierarchical linear models. *Journal of Management*, 23, 723-744.
- Ingram, R.E. (Ed.). (1990). Contemporary psychological approaches to depression: Theory, research, and treatment. New York: Plenum Press.
- Imai, K., Keele, L., & Tingley, D. (2010). A general approach to causal mediation analysis. *Psychological Methods*, 15, 1-26.
- Ilies, R. & Judge, T. A. (2002). An experience-sampling measure of job satisfaction and its relationships with affectivity, mood at work, job beliefs, and general job satisfaction. *European Journal of Work and Organizational Psychology*, 13, 367-389.
- Jones, D. A. (2004). Toward a Better Understanding of Fairness in the Workplace: Attitude strength, predictive asymmetry, and the revenge motive. Dissertation Abstracts International Section A: Humanities and Social Sciences, Vol 65(12-A), 2005. pp. 4462.
- Jones, D. A. (2010). Getting even for interpersonal mistreatment in the workplace: triggers of revenge motives and behaviors. In Greenberg, Jerald (Ed.). *Insidious Workplace Behavior* (pp. 101-148), New York: Taylor and Francis Group
- Judge, T. A., Scott, B.A., & Ilies, R. (2006). Hostility, job attitudes, and workplace deviance: test of a multilevel model. *Journal of Applied Psychology*, 91, 126-138.
- Kocovski, N.L., Endler, N.S., Rector, N.A., Flett, G.L. (2005). Ruminative coping and post-event processing in social anxiety. *Behaviour Research and Therapy*, 43, 971-984.
- Kahneman, D. 1973. Attention and Effort. Englewood Cliffs, NJ: Prentice Hall
- Kenny, D. A., Kashy, D., & Bolger, N. (1998). Data analysis in social psychology. In D. Gilbert, S. Fiske, and G. Lindzey (Eds.), *Handbook of social psychology* (4th ed., pp. 233-265). New York: McGraw-Hill.
- Lazarus, R. S. & Folkman, S. (1984). *Stress, Appraisal, and Coping*. Springer Publishing Company: New York.
- Levine, L. J., & Safer, M. A. (2002). Sources of bias in memory for emotions. *Current Directions in Psychological Science*, 11, 169-173.

- Lee, K. & Allen, N. J. (2002). Organizational citizenship behavior and workplace deviance: the role of affect and cognitions. *Journal of Applied Psychology, 87*, 131-142.
- Lim, S., Cortina, L.M., & Magley, V.J. (2008). Personal and workgroup incivility: impact, on work and health outcomes. *Journal of Applied Psychology, 93*, 95-107.
- Lim, S. & Lee, A. (2011). Work and nonwork outcomes of workplace incivility: does family support help? *Journal of Occupational Health Psychology, 16*, 95-111.
- Lyubomirsky, S. & Tkach, C. (2003). The consequences of dysphoric rumination. In Papageorgiouand, C. & Wells, A. (Eds.), *Rumination: nature, theory and treatment of negative thinking in depression* (pp. 21-41). Chichester: John Wiley and Sons.
- Mathieu, J.E & Taylor, S.R. (2007). A framework for testing meso-mediational relationships in Organizational Behavior. *Journal of Organizational Behavior, 28*, 141-172.
- Miner-Rubino, K. & Reed, W.D. (2010). Testing a moderated mediational model of workgroup incivility: the roles of organizational trust and group regard. *Journal of Applied Social Psychology, 40*, 3148-3168.
- Miner, K. N., Settles, I. H., Pratt-Hyatt, J. S., & Brady, C. C. (2012). Experiencing incivility in organizations: the buffering effects of emotional and organizational support. *Journal of Applied Social Psychology, 42*, 340-372.
- Moberly, N. J., & Watkins, E. R. (2008). Ruminative self-focus and negative affect: an experience sampling study. *Journal of Abnormal Psychology, 117*, 314–323.
- Mor, N., & Winquist, J. (2002). Self-focused attention and negative affect: a meta-analysis. *Psychological Bulletin, 128*, 638–662.
- Muthén, L.K. and Muthén, B.O. (1998-2010). Mplus User's Guide. Sixth Edition. Los Angeles, CA: Muthén & Muthén.
- Nolen-Hoeksema, S. (1991). Responses to depression and their effects on the duration of depressive episodes. *Journal of Abnormal Psychology, 100*, 569–582.
- Nolen-Hoeksema, S., Wisco, B.E., & Lyubomirsky, S. (2008). Rethinking rumination. *Perspectives on Psychological Science, 3*, 400-424.
- Papageorgiou, C., & Wells, A. (2004). Depressive rumination. *Nature, theory and treatment*. Southern Gate, Chichester: John Wiley & Sons.
- Porath, C.L. & Erez, A. (2007). Does Rudeness Really Matter? The Effects of Rudeness on Task Performance and Helpfulness. *Academy of Management Journal, 50*, 1181-1197.

- Porath, C.L., & Erez, A. (2009). Overlooked but not untouched: how rudeness reduces onlookers' performance on routine and creative tasks. *Organizational Behavior and Human Decision Processes*, 109, 29-44.
- Porath, C., MacInnis, D., & Folkes, V. (2011). Witnessing incivility among employees: Effects on consumer anger and negative inferences about companies. *Journal of Consumer Research*, 37, 292-303.
- Pravettoni, G., Cropley, M., Leotta, S.N. & Bagnara, S. (2007). The differential role of mental rumination among industrial and knowledge workers. *Ergonomics*, 50, 1931-1940.
- Preacher, K.J. (2013, May). Multilevel SEM with Complex Applications. Workshop presented at the meeting of Modern Modeling Methods Conference, Storrs, Connecticut.
- Rachman, S., Gruter-Andrew, M. & Shafran, R. (2000). Post-event processing in social anxiety. *Behaviour Research and Therapy*, 38, 611-617.
- Raudenbush, S. W., Bryk, A. S., Cheong, Y. F., Congdon, R. T., & du Toit, M. (2004). HL M6: Hierarchical linear and nonlinear modeling. Lincolnwood, IL: Scientific Software International, Inc.
- Robinson, M. S., & Alloy, L. B. (2003). Negative cognitive styles and stress-reactive rumination interact to predict depression: a prospective study. *Cognitive Therapy and Research*, 27, 275-291.
- Robinson, S. L., & Greenberg, J. (1998). Employees behaving badly: Dimensions, determinants and dilemmas in the study of workplace deviance. In C.L. Cooper & D.M. Rousseau (Eds.), *Trends in organizational behavior* (pp. 1-30). New York: John Wiley & Sons.
- Sakurai, K., & Jex, S.M. (2012). Coworker incivility and incivility targets' work effort and counterproductive work behaviors: the moderating role of supervisor support. *Journal of Occupational Health Psychology*, 2, 150-161.
- Sanders, G. S., & Baron, R. S. (1975). The motivating effects of distraction on task performance. *Journal of Personality and Social Psychology*, 32, 956- 963.
- Sliter, M., Jex, S., Wolford, K., & McInnerney, J. (2010). How rude! Emotional labor as a mediator between customer incivility and employee outcomes. *Journal of Occupational Health psychology*, 15, 468-481.
- Sliter, M., Sliter, K., & Jex, S. (2012). The employee as a punching bag: the effect of multiple sources of incivility on employee withdrawal behavior and sales performance. *Journal of Organizational Behavior*, 33, 121-139.

- Spector, P.E. & Ozgun, R.B. (2010). Methodological Issues in Studying Insidious Workplace Behavior. In Greenberg, J. (Eds.), *Insidious Workplace Behavior*, (pp. 273-374) New York: Taylor and Francis Group.
- Susan Nolen-Hoeksema, S., Parker, L.E., & Larson, J. (1994). Ruminative coping with depressed mood following loss. *Journal of Personality and Social Psychology*, 67, 9-104.
- Taylor, S. G. & Kluemper, D. H. (2012). Linking perceptions of role stress and incivility to workplace aggression: the moderating role of personality. *Journal of Occupational Health Psychology*, 3, 316-329.
- Tennen, H., Affleck, G., Armeli, S., & Carney, M. A. (2000). A daily process approach to coping: linking theory, research, and practice. *American Psychologist*, 55, 626.
- Thompson, E.R. (2007). Development and validation of an internationally reliable short-form of the positive and negative affect schedule (PANAS). *Journal of Cross-Cultural Psychology*, 38, 227-242.
- Trapnell, P. D., & Campbell, J. D. (1999). Private self-consciousness and the five-factor model of personality: distinguishing rumination from reflection. *Journal of personality and social psychology*, 76, 284.
- Ward, A., Lyubomirsky, S., Sousa, L., & Nolen-Hoeksema, S. (2003). Can't quite commit: rumination and uncertainty. *Personality and Social Psychology Bulletin*, 29, 96-107.
- Watkins, E. (2003). Appraisals and strategies associated with rumination and worry. *Personality and Individual Differences*, 37, 679-694.
- Watkins, E. & Baracaia, S. (2001). Why do people ruminate in dysphoric moods? *Personality and Individual Differences*, 30, 723-734.
- Watkins, E., & Mason, A. (2002). Mood as input and rumination. *Personality and Individual Differences*, 32, 577-587.
- Weiss, H.M. & Cropanzano, R. (1996). Affective Events Theory: A theoretical discussion of the structure, causes and consequences of affective experiences at work. *Research in Organizational Behavior*, 18, 1-74.

Table 1 *Item loadings, ICCs, Standard Deviations and Correlations Among Items for Within-Individual Level*

Item	Latent Construct		R1	R2	R3	R4	R5	P1	P2	P3
	Rumination	Performance								
R1	.94		.66(.60)							
R2	.92		.83	.67(.61)						
R3	.79		.62	.72	.66(.60)					
R4	.87		.82	.70	.70	.71(.57)				
R5	.64		.55	.53	.68	.62	.60(.66)			
P1		.78	-.44	-.48	-.30	-.43	-.21	.60(.51)		
P2		.77	-.26	-.27	-.16	-.29	-.14	.60	.68(.46)	
P3		.61	-.31	-.30	-.13	-.36	-.16	.46	.49	.66(.48)

Note: R1 = first rumination item in appendix, P1 = first performance item in appendix. L2 N=105, L1 avg. N = 6.7. Factor loadings appear in columns 2 and 3; all loadings were significant at the .001 level. Diagonal line is ICCs and standard deviations.

Table 2 *ICCs, Standard Deviations and Correlations Among Constructs for Within-Individual Level*

	Mean(SD)	Incivility	Rumination	Performance	Revenge
1. Incivility	.18 (.41)	.30			
2. Rumination	1.9 (.49)	.44	.79		
3. Performance	3.9 (.44)	-.22	-.42	.69	
4. Revenge	1.2 (.44)	-.21	-.50	.42	.71

Note: L2 N=105, L1 avg. N = 6.8. Diagonal line are ICCs.

Table 3 *Within-Individual Fit Indices*

Dependent Variable	Model	X ²	df	CFI	RMSEA
Job performance	Fully Saturated	3.5	1	.90	.06
	Reduced	3.6	2	.93	.03
Revenge Motives	Fully Saturated	.13	1	1.00	.00

Note: L2=105, L1=avg. 6.8. Diagonal line is ICCs and standard deviations.

Figure 1. Conceptual Model of within- and between-level relationships

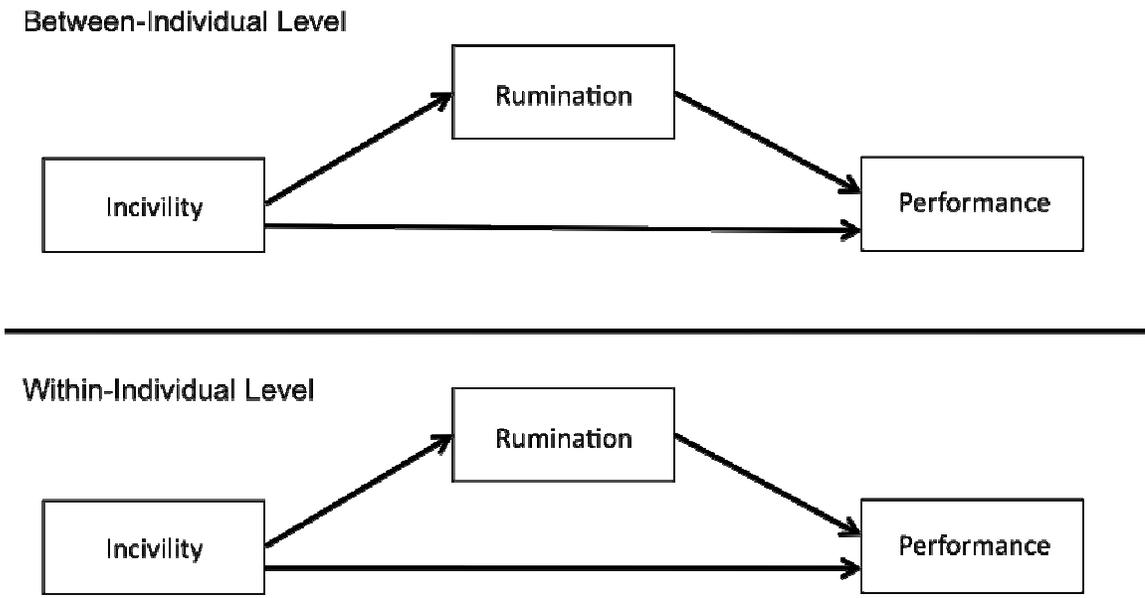


Figure 2. Conceptual Model of within- and between-level relationships for revenge motives

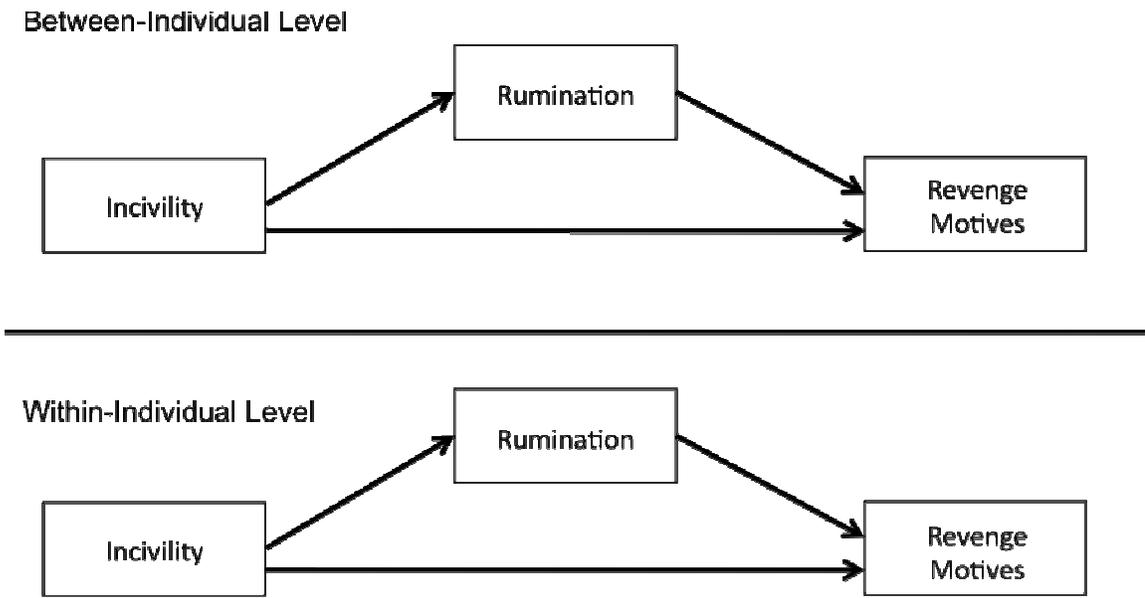
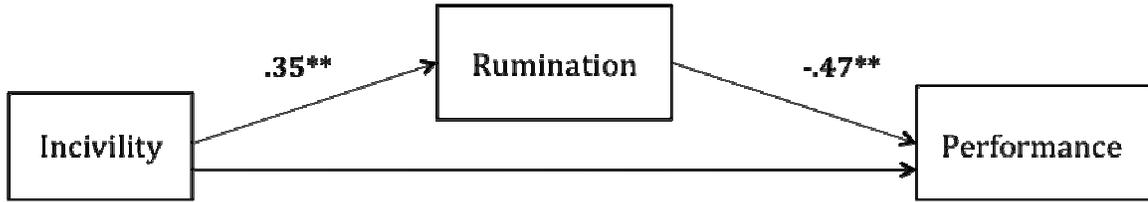
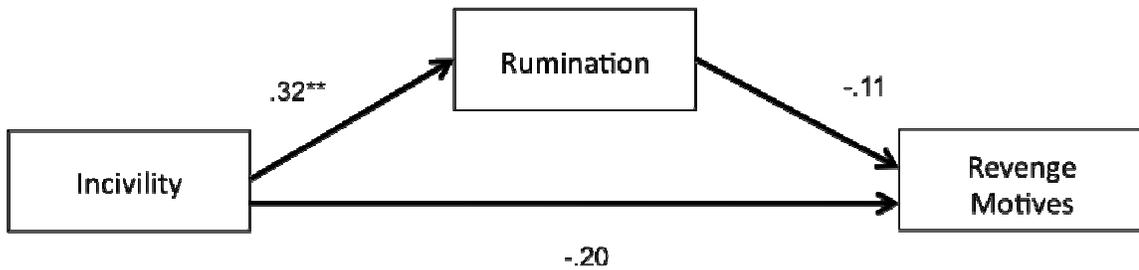


Figure 3. Fully saturated MSEM for job performance



Note: ** = $p < .001$

Figure 4. Fully saturated MSEM for revenge motives



Note: ** = $p < .001$

Figure 5. Final MSEM with path coefficients



Note: ** = $p < .001$

Appendix

Table 1. Item for Incivility

Incivility1	Today at work, someone ignored, excluded, interrupted, spoke rudely, behaved rudely (e.g., gestures, facial expressions, etc.), interrupted or “cut me off” while speaking, behaved without consideration, withheld information, belittled my opinions, or spread rumors about me.
-------------	--

Table 2. Items for Stress-Reactive Rumination

	I seem to:
Rumination1	Ruminate or dwell over the situation that happen to me
Rumination2	Play back over in my mind how I acted
Rumination3	Be rehashing in my mind the things I've said or done
Rumination4	Keep going back to what happened
Rumination5	Often find myself re-evaluating the situation

Table 3. Items for Self-Rated Performance

	Today, my clinical supervisor would rate my:
Performance1	Interactions with other team members as
Performance2	Interactions with patients as
Performance3	Completion of work tasks as
Performance4	Overall work performance as

Table 4. Items for Revenge Motives

Revenge Motives1	Getting even would outweigh the risks of getting caught
Revenge Motives2	It would feel good to “get back” in some way
Revenge Motives3	In “settle the score”
Revenge Motives4	In getting even