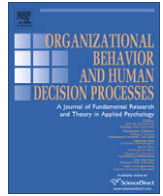




Contents lists available at ScienceDirect

Organizational Behavior and Human Decision Processes

journal homepage: www.elsevier.com/locate/obhdp

Overlooked but not untouched: How rudeness reduces onlookers' performance on routine and creative tasks

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ARTICLE INFO

Article history:

Received 15 January 2008

Accepted 20 January 2009

Available online 27 February 2009

Accepted by John Schaubrock

Keywords:

Rudeness

Performance

Social behavior

Creativity

Helpfulness

Dysfunctional behavior

Incivility

ABSTRACT

In three experimental studies, we found that witnessing rudeness enacted by an authority figure (Studies 1 and 3) and a peer (Study 2) reduced observers' performance on routine tasks as well as creative tasks. In all three studies we also found that witnessing rudeness decreased citizenship behaviors and increased dysfunctional ideation. Negative affect mediated the relationships between witnessing rudeness and performance. The results of Study 3 show that competition with the victim over scarce resources moderated the relationship between observing rudeness and performance. Witnesses that were in a competition with the victim felt less negative affect in observing his mistreatment and their performance decreased to a lesser extent than observers of rudeness enacted against a non-competitive victim. Theoretical and practical implications are discussed.

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"I couldn't believe how XXX went after him so rudely in a meeting in front of our whole team. I sat there, totally uncomfortable—he didn't deserve that treatment—nobody did." (Employee of Fortune 500 company)

"My boss was often uncivil and rude to people. One day he started screaming rudely at my colleague. I thought "what a jerk" and attempted to steer clear of him. I didn't want to be his next victim." (Manager)

Rude and disrespectful behaviors as those described above by witnesses seem to be very prevalent in organizations. In a poll of nearly 800 employees, 25% reported witnessing workplace rudeness daily (Pearson & Porath, 2005). The growing number of reported uncivil acts¹ is not limited to working organizations, nor is it restricted to one country (Truss, 2005). Sixty percent of American teenagers witness uncivil events daily in American schools (Operation Respect, 2004). In Australia, a recent study suggested that rudeness is experienced frequently and that it leaves a memorable and confronting impression on the mind (Phillips & Smith, 2004). In

England, former Prime Minister Tony Blair asserted that lack of respect was one of the top problems facing the United Kingdom (Rice-Oxley, 2006). It seems that Blair and other international leaders such as former Australian Prime Minister, John Howard (Stephens, 2004) as well as many US leaders, believe that an uncivil environment has a negative effect on people—even if they're just 'around it'.

There is some empirical evidence to suggest that these strong intuitions about the detrimental effects that mistreatment of others have on witnesses, are justified. Indeed, the interactional injustice, altruistic punishment, and other fairness and justice literatures clearly suggest that observers are affected by others treated unfairly, and may punish perpetrators. Specifically, several notable studies suggest that those who witness unfair behaviors punish wrong-doers even if their retribution requires self-sacrifice (e.g., Fehr & Gächter, 2002; O'Gorman, Wilson, & Miller, 2005). For example, Kahneman, Knetsch, and Thaler (1986) and subsequently Turillo, Folger, Lavelle, Umphress, and Gee (2002) found that participants who learned that their anonymous partner had behaved unfairly toward another partner were likely to punish the unfair partner even though they lost money in the process.

Curiously, although performance is at the core of effective organizational functioning, with one exception (e.g., De Cremer & Van Hiel, 2006) no research that we know of has investigated the influence of mistreatment of others on witnesses' performance. There are, however, reasons to believe that observing mistreatment of

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¹ We use the terms incivility, disrespect, and rudeness interchangeably. This is consistent with Andersson and Pearson (1999) and Pearson, Andersson, and Wegner (2001) and others, who define incivility as mild aggressive behaviors that are characteristically disrespectful or rude.

others will affect performance. First, several studies have recently shown that mistreatment affected victims' performance. For example, Harris, Kacmar, and Zivnuska (2007) found that downward mistreatment and Porath and Erez (2007) found that rudeness affected task performance. Similarly, Zellars, Tepper, and Duffy (2002) and Aryee, Chen, Sun, and Debrah (2007) found that abusive supervision affected citizenship behaviors. Although these studies investigated the performance consequences of the mistreatment of *self*, not *other*, their results suggest that mistreatment affects not only attitudes but actual behaviors that may hamper organizational functioning. Second, even more directly, De Cremer and Van Hiel (2006) found that perceptions of unfair procedures in treating others increased participants' own negative emotions, and decreased their intentions to cooperate and enact citizenship behaviors (OCBs). While De Cremer and Van Hiel investigated intentions and intentions do not always lead to behaviors (e.g., Fishbein & Ajzen, 1975), their findings clearly imply that witnessing mistreatment may have harmful effects on performance.

Our study was primarily designed to test whether witnessing rudeness and disrespect affects behavioral measures of task performance, creativity, and citizenship behavior. Second, we also test how witnessing mistreatment affects dysfunctional ideation. Given the sheer numbers of people who witness uncivil acts, if rudeness primes witnesses to think in an aggressive and hostile manner, it could have a meaningful toll on organizations and society. Third, we examine a mediating mechanism that links observed mistreatment and observers' performance. Finally, we test a boundary condition of witnessing incivility on performance. Specifically, we explore if witnessing rudeness has the same detrimental effects under competitive situations, or whether it is limited to situations where cooperation is important.

Effects of rudeness on witnesses' task performance and creativity

There are several reasons to believe that witnessing rudeness may trigger negative emotional responses that, in turn, reduce task performance and creativity. First, while traditional economic theories assume that most people are driven by self-interest, a growing body of evidence suggests that people are also concerned with the well-being of others (see Kollock, 1998). In fact, a substantial proportion of the population believes that people possess an innate concern for others, and are therefore willing to trust others enough to cooperate with them in one-shot, no communication experiments (Ostrom, 1998). Moreover, as Kahneman et al. (1986), Turillo et al. (2002), and Fehr and Gächter (2002) showed, people readily punish partners whom they believe did not make a fair offer to unknown others. Even more directly, De Cremer and Van Hiel (2006) showed that unfair treatment of others resulted in a significant increase in negative emotions such as anger and irritation. Accordingly, witnessing harm to others may arouse strong negative emotions such as irritability, anger, and even hostility related to perceptions of injustice as people tend to believe that all individuals deserve respect from others (Durkheim, 1964; Vidmar, 2000).

Second, negative affect may also result from the tendency of individuals to empathize with victims. Empathizing involves the "imaginative transposing of oneself into the thinking, feeling, and acting of another" (Allport, 1937, p. 536). Observers may share the emotions of others by vicariously experiencing those emotions (Kelly & Barsade, 2001; Maitlis & Ozcelik, 2004) or by psychologically placing themselves in that person's circumstance (Lazarus, 1991).

Third, witnesses of incivility may experience negative affect based not only on concern for others, but also concern relevance to the self (Frijda, 1993; Truss, 2005). Those who observe hostility directed towards others may ask: am I next in the instigator's line of fire? As a result, they may become nervous, anxious, or scared

for their own well-being. Although concern for others and concern for self may seem to be mutually exclusive dimensions located on the opposite sides of a bipolar continuum, research suggests that these are orthogonal dimensions (De Dreu, 2006). Hence, witnessing rudeness can raise concern for the victim and concern for the self simultaneously (see Frijda, 1993; Weiss & Cropanzano, 1996). Thus, witnessing incivility is likely to cause more than one emotion and may in fact arouse negative affect – a generalized dimension of various negative feelings (Watson & Clark, 1984).

Negative affect may include emotions that are low in arousal such as depression, discouragement, and misery (Watson & Clark, 1984). Although it is possible that those who observe rudeness may also feel these emotions, it is more likely that they will feel emotions high in arousal. Rudeness and disrespect are usually uncalled for, and as such these behaviors are unexpected and surprising (cf. Pearson & Porath, 2009). In turn, unexpected incidents tend to trigger arousal which is a precursor to flight or fight response (Purves et al., 2004). There is now a large body of neuroscience research that suggests that the majority of the processing of negative emotions occurs in the amygdala (Purves et al., 2004). The amygdala is particularly sensitive to unexpected events and is activated in the presence of even very minor threats (i.e., a rustling noise in the nearby woods that may or may not turn out to be a snake) (Damasio, 1994). In response to threat, the amygdala automatically, and without conscious processing, activates the sympathetic nervous system, preparing the organism for action (Kandel, Schwartz, & Jessell, 2000). This activation results in modifications to the activity of the autonomic motor system and is expressed in bodily changes such as an increase in heart rate, blushing, turning pale, and sweating. Thus, because rudeness is unexpected, it is likely to trigger a physiological state of arousal.

There are good reasons to believe that the negative affect that is high in arousal caused by witnessing rudeness will be negatively related to performance. Indeed, there is clear evidence to suggest that negative affect can harm some significant aspects of cognitive processing that may be especially important in complex and creative tasks (e.g., Easterbrook, 1959; Eysenck, 1982; Mandler, 1975).² For example, Ellis and his colleagues found that compared to those in neutral affect, individuals induced with negative affect exhibited more selective processing (Varner & Ellis, 1998), did not learn and recall as well (Ellis, Moore, Varner, & Ottaway, 1997), and were impaired in their abilities to comprehend and use prior knowledge (Ellis, Varner, Becker, & Ottaway, 1995). They also found that participants exhibited a reduction in cognitive effort (Ellis, Thomas, & Rodriguez, 1984). Therefore, in complex tasks where cognitive effort is especially crucial, negative affect may reduce performance.

Negative affect may be particularly detrimental to creativity because it requires elaboration. Elaboration is the process of relating to-be-remembered information to other information even if the additional information is not required to-be-remembered (Ellis et al., 1984). In creative tasks new ideas are generated within an extensive search through a conceptual space (Boden, 1994). When searching for ideas, people use various conceptual maps that characterize standard routes in this space. According to Boden, creativity is linked to either the exploration of new parts of this conceptual space or it emerges when the fundamental rules and routes of the space are modified. In both cases, though, creativity requires an extensive elaboration that relates the new ideas to "old" information. However, Ellis et al. (1984) found that negative

² There is no evidence to suggest that negative affect is negatively related to performance in all tasks. In fact, in some tasks such as behavioral monitoring tasks people in negative mood may perform significantly better than those in positive mood. For example, Forgas, Bower, and Krantz (1984) found that participants in negative mood interpreted more accurately skilled and unskilled behaviors in both themselves and others than participants in positive moods.

affect reduced the ability of participants to encode information that was pertinent to a target's to-be-remembered information. Thus, if negative affect causes a deficiency in encoding elaboration, it should negatively affect creativity.

The arousal associated with rude behaviors also should reduce performance.³ First, multiple studies have shown that arousal produces 'perceptual and memory narrowing' where high intensity emotions improve memory for the 'central' features of an event, but decrease memory for the 'peripheral' aspects (e.g., Burke, Heuer, & Reisberg, 1992; Christianson & Loftus, 1987, 1991; Christianson, Loftus, Hoffman, & Loftus, 1991; Safer, Christianson, Autry, & Osterlund, 1998; Wessel & Merckelbach, 1997). When aroused, people tend to ignore partially relevant information and direct their attention to immediately relevant cues (Easterbrook, 1959). This may improve performance on simple tasks. However, in complex or creative tasks, arousal tends to interfere with task performance by diminishing the cue utilization of incidental information and delaying reaction to them (Easterbrook, 1959). Second, arousal causes people to default to their dominant response (Hull, 1943; Zajonc, 1965), which has also been shown to negatively impact problem solving ability (Beier, 1951; Maltzman, Fox, & Morrisett, 1953; Pally, 1954). Other arousal-based studies such as those involving test anxieties also demonstrate how high arousal, particularly if it has an affective negative tone, interferes with task-focused thinking (e.g., Sarason, 1984).

Based on the above discussion of the effects of rude behaviors on negative affect and of high arousal negative affect on cognitive functioning, we predict that:

Hypothesis 1. Witnesses of rudeness will perform less well on complex and creative tasks than their counterparts who do not observe rudeness.

The logic of the link between witnessing rudeness and negative affect along with the link between negative affect and performance just described also implies that:

Hypothesis 2. The relationships between witnessing rudeness and performance will be mediated by negative affect.

Effects of rudeness on witnesses' social behavior

There are two main reasons to believe that witnessing rudeness reduces observers' cooperation and helpfulness. First, witnesses of rudeness may retaliate against the offender because they believe that people should be treated respectfully. In other words, witnesses of an offense may feel compelled to punish the offender for violating their sense of justice (Kray & Lind, 2002; Turillo et al., 2002). Such reactions may stem from deontic justice, the belief that "people value justice simply because it is moral" (Colquitt & Greenberg, 2001, p. 221). Perhaps the strongest support for the

deontic justice explanation comes from Turillo et al.'s study. In their Study 3, the perpetrator was identified as a supervisor who was delighted in belittling and ridiculing an employee in public. Fifty percent of the participants were willing to punish the offender even though it cost them financially. De Cremer and Van Hiel (2006) extended these findings and showed that when participants believed that an unfair procedure was enacted against others by a supervisor or an organization, they intended to be less cooperative and helpful. These results suggest that uncivil acts or unfair procedures are likely to trigger a deontic response (i.e., reaction to a wrongful misconduct that violates norms such as fairness, accountability, or justice) (Folger, 2001; Folger & Skarlicki, 2005) and reduce helpfulness to the offender.

One interesting finding in the Turillo et al. (2002) study suggests though, that the pure deontic explanation may not be adequate to explain witnesses' behavior. In their Study 3, 50% of the participants chose to deprive themselves and a neutral party in order to punish the offending supervisor. While depriving funds from self in order to punish an offending party could be perceived as altruistic behavior, depriving funds from an innocent party may be construed as unjust. In fact, in this case the desire to punish the offender overrides several moral principles such as "not hurting innocent observers," "two wrongs do not make a right," and the utilitarian principle of "greatest good for the greatest number" (Turillo et al., 2002). Thus, the Turillo et al. findings suggest that it is not only a pure sense of justice at play here. The fact that rudeness and disrespect may trigger more than just a reaction towards the perpetrator, and that it may affect innocent observers was also demonstrated in the Porath and Erez (2007) study. In their study, victims of rudeness were less likely to help an experimenter pick up several books he accidentally knocked down, even though he was not the offending party. Together, these results suggest that fairness considerations and concern for others are not the only psychological process enacted when people encounter incivility.

There are several reasons to believe that witnessing incivility may also prime non-specific aggressive and anti-social thoughts, which inadvertently may affect innocent third-parties (cf. Denson, Pedersen, & Miller, 2006; Hoobler & Brass, 2006; Marcus-Newhall, Pedersen, Carlson, & Miller, 2006). Based on social learning theory (Bandura, 1973, 1983; Mischel & Mischel, 1994) researchers hypothesize that simply *witnessing* rudeness and other forms of deviance may lead people to behave in more aggressive and deviant ways (see Andersson & Pearson, 1999; O'Leary-Kelly, Griffin, & Glew, 1996). A meta-analysis of laboratory studies on the effects of media aggression and violence (Anderson, 1977) and longitudinal studies reveal that viewing aggression may lead to aggressiveness (Eron, Huesmann, Lefkowitz, & Walder, 1972; Huesmann & Eron, 1986). There is also some evidence that this may be the case in organizations; Robinson and O'Leary-Kelly (1998) found that anti-social behavior exhibited by a work group was a significant predictor of an individual's anti-social behavior at work.

Moreover, although witnessing aggression may not always explicitly influence people, it may still influence them implicitly. A growing body of research shows that attitudes may be primed (James, 1890; Lashley, 1951) by the mere presence of an object subconsciously, without intention or awareness (see Bargh, 1989). Such attitudes may subsequently influence thought and/or behavior (e.g., Bargh, Chaiken, Gendler, & Pratto, 1992; Fazio, Sanbonmatsu, Powell, & Kardes, 1986). Priming research has demonstrated that automatic social behavior may occur as a result of merely perceiving that behavior in another person (Berkowitz, 1984) (see Bargh, Chen, & Burrows, 1996 for a review). Indeed, priming based on witnessing aggression and violence has been found to lead to more aggressive tendencies (cf. Anderson & Bush-

³ Although we discuss negative affect and arousal as separate dimensions, a large body of research, starting with the work of William James (1884), suggests that arousal almost always has an affective tone. Arousal involves alteration in the activity of the autonomic motor system which governs smooth muscles, cardiac muscles, and glands throughout the body. Thus, arousal entails an increase or a decrease in heart rate, changes in cutaneous blood flow (blushing or turning pale), sweating, and changes in gastrointestinal activity (Kandel et al., 2000). These bodily reactions are habitually coupled with specific information coming from the senses, from the individual's expectations, and social context to produce specific emotions (Schachter, 1964). Damasio (1994), for example, argues that the subjective feeling state of emotions is in fact just a story that the brain constructs in an effort to interpret bodily reactions. Accordingly, arousal is rarely, if at all, perceived as a pure bodily function and instead, it is coupled with a specific affective tone interpretation. Moreover, there is some evidence to suggest that people, in general, tend to interpret arousal more negatively than positively (Rozin & Royzman, 2001; Taylor, 1991). That is because arousal is habitually associated with threat in stressful situations (Cannon, 1932; Taylor, 1991).

man, 2001; Centerwall, 1989; Friedrich-Cofer & Huston, 1986; Geen & Berkowitz, 1967; Zillmann & Weaver, 1999).

One study, conducted by Bargh et al. (1996), provides evidence that priming individuals with rudeness may lead people to behave in a rude manner. They found that participants' behavior following completion of a scrambled sentence test, in which they had to quickly construct a grammatically correct sentence, was predictably polite or rude based on the priming condition. People who unscrambled "polite" or "neutral" sentences behaved politely; people who unscrambled "rude" sentences behaved rudely. Thus, rudeness may be elicited, subconsciously and automatically, with seemingly minor cues (Bargh et al., 1996).

Whether observing uncivil acts increases deontic justice reactions or primes witnesses with aggressive thoughts and lowers their threshold for hostile actions, both explanations lead us to predict that:

Hypothesis 3. Witnesses of rudeness will be (a) less likely to be helpful and (b) more likely to engage in dysfunctional ideation, than their counterparts who do not observe rudeness.

Method overview

The results of three studies are presented in this paper. In Study 1, we investigated how witnessing rude behavior enacted by an authority figure toward a peer influenced performance. In Study 2, we tested how witnessing a rude behavior enacted by a peer toward another peer influenced performance. In Study 3, we tested a boundary condition for our findings of Studies 1 and 2. Specifically, we tested whether in a competitive situation where people may benefit from the misfortune of others, witnessing rudeness reduced performance or alternatively, whether the effect found in the previous studies disappeared. In all three studies we also investigated whether negative affect mediated the relationship between rudeness and performance.

Study 1

Participants

Students enrolled in a required course at a large western United States university were asked to participate in a laboratory study aimed at investigating the personality correlates of task performance. Participation was on a voluntary basis, and the 74 undergraduates who participated received extra-credit in their courses. Ages of the participants ranged from 18 to 29 years, with a median age of 20. Of the sample, 50% were male, 34% were white, and 45% were Asian.

Procedure

The procedure employed in this study was similar to the procedure employed by Porath and Erez (2007) with one major difference. In the Porath and Erez study the participant was alone in the room with the experimenter and the rudeness was directed towards the participant. In our study a group of five participants were in the room with the experimenter and they observed the experimenter act rudely to a confederate. Groups of five participants attended sessions that took about 40 min to complete. The sessions were randomly assigned to be in either the rudeness or neutral condition. Upon arriving at the lab, students were told that the purpose of the study was to investigate personality factors that affect people's performance. Then the experimenter asked participants to answer a personality questionnaire, which took about 10 min to complete. The personality measure was designed as a filler task to give enough time to a confederate to show up late. About

7 min after the start of the experiment, a confederate arrived at the lab and said, "I am really sorry that I am late, my class across campus was not released on time." In the neutral condition, the experimenter accepted his apology but told him that the study had already started and therefore he could not participate in the session. In the rudeness condition, the experimenter delivered the rudeness manipulation (described below) and then asked the confederate to leave.

When participants had completed the personality questionnaire, the experimenter administered two performance tasks. The first task consisted of 10 anagrams that the participants had 10 min to solve. Upon completion of this task, participants completed a brain-storming task which took 5 min. Participants then answered an attitude questionnaire about the experiment and were told that they completed the required study. After making it clear that they were free to go and had received full credit for participating, the experimenter asked participants to volunteer to help in another unrelated study in which they would not get credit. Those that volunteered were given another anagram test, and told they were helping to validate it for use in future studies. After deciding whether to volunteer or not, all participants were debriefed, thanked, and released.

Rudeness manipulation

Immediately after the confederate explained why he was late to the experimental session (as described above) and apologized, the experimenter did one of two things. In the control condition, the experimenter said nothing. In the rudeness condition, however, the experimenter responded to the apology by saying, "What is it with you? You arrive late...you're irresponsible...look at you...how do you expect to hold a job in the real world?" After the manipulation was delivered, the experimenter told the confederate that the study had already started and that therefore he could not participate in the session and asked him to leave. This manipulation was designed to be a direct and specific rude act toward the confederate, who was late for the experimental session, but had a reasonable explanation and apologized. Thus, in the neutral condition a dismissal from the experimental session without the accompanied rudeness seems an appropriate reaction to this situation. In contrast, the experimenter's rude response was designed to seem uncalled for. At the same time, the manipulation was designed not to be overly aggressive; the experimenter did not raise his voice and delivered the manipulation using a medium level voice (i.e., did not scream at the confederate).

Measures

Task performance

We tested task performance using two tasks. The first task was the number of anagrams (purposely scrambled words) participants solved correctly in a 10 anagram performance task. These anagrams were pre-tested in a previous study (Erez & Isen, 2002) and were shown to be moderately difficult. Participants had 10 min to solve these anagrams. Second, participants were asked to produce as many uses as they could for a brick in 5 min. This type of brain-storming task is frequently used by psychologists to test task performance and motivation (Guerin, 1999; Harkins, 1987). The number of uses produced was taken as a measure of task performance.

Creativity

The brick brain-storming task is also frequently used by psychologists to test creativity (Frick, Guilford, Christensen, & Merrifield, 1959; Guilford, 1975). The uses participants produced for brick were rated for creativity by three graduate assistants who were blind to the experimental conditions, using a scale ranging

from 1 = low to 7 = high. The high (6–7) and low (1–2) portions of the scale were anchored using examples taken from a pilot study that investigated creative solutions for brick. Examples of anchors in the high portion were “use it as a goal post for a street soccer game” and “decorate it like a pet and then give it to a kid as a present.” The lower end of the scale was anchored with examples such as “build a house.” The inter-rater reliability $ICC1$ (.67) and $ICC2$ (.86) suggested that aggregation across raters was appropriate.

Citizenship behavior

We asked participants to volunteer to stay and participate in another short study for which they would not get extra-credit. All participants had about an equal amount of discretionary time to volunteer since participants had spent approximately only 40 of the 60 min that they were informed the experiment would take. Whether or not participants stayed to help the experimenter was taken as a measure of citizenship behavior.

Dysfunctional ideation

Dysfunctional ideation was measured by evaluating the nature of the uses generated by participants to brick. Guerin (1999) found that some participants tend to generate dysfunctional uses to brick such as “breaking a window” and “hitting somebody in the head.” The brick uses were rated for their dysfunctionality, expressive aggressiveness, and hostility of ideas by independent raters on a scale ranging from 1 = *dysfunctional* to 7 = *functional*. An example of an anchor in the high end of the scale was “use as a hammer”; examples of anchors at the lower end of the scale were “use it as a weapon” and “use it to sink a body in the river.” This measure was reverse coded for the analysis. The inter-rater reliability $ICC1$ (.76) and $ICC2$ (.91) suggested that aggregation across raters was appropriate.

Negative affect

We assessed negative affect using a combination of 21 items from Watson, Clark, and Tellegen’s (1988) Positive and Negative Affect Schedule (PANAS) and items from Thayer (1989) arousal scale. Of the 10 items of the NA sub-scale we selected seven items that specifically represented negative affect with high level of arousal (hostile, angry, upset, agitated, on edge, jittery, and irritable). Thayer’s scale measures various transitory arousal states, including energetic (positive) and tense (negative) arousal. This scale has been used widely in many psychophysiological contexts and has been shown to be a valid measure of arousal (see Thayer, 1989). We specifically selected items that represented negative types of arousal (i.e., tense, fearful, frustrated) to represent negative affect. As recommended by Watson et al. (1988), we measured state-affect by using short-term instructions (i.e., indicate to what extent do you feel this way right now). Participants were asked to rate the items on a scale ranging from 1 = *Not at All* to 7 = *Very Much*.⁴

⁴ To test the underlying structure of the scale we used confirmatory factor analysis, conducted with LISREL 8.52 (Jöreskog & Sörbom, 2002). Data on participants’ responses to the 21 items from Studies 1, 2, and 3 were combined to create a variance-covariance matrix that was entered as input into the program. Several researchers argued that fitting measurement models with a large numbers of items is an overly stringent approach which may yield poor fit (e.g., Bagozzi & Heatherton, 1994; Kishston & Widaman, 1994; Quintana & Maxwell, 1999). Instead, item-parcels should be used to represent the indicators of the latent constructs. Accordingly, we assigned items randomly to two sets of two items and one set of three items of negative affect. Similarly, three sets of three items and one set of four randomly selected items formed the four indicators of the arousal construct. We tested two models where we loaded all seven indicators either on two factors representing negative affect and arousal or alternatively on one factor combining negative affect and arousal. The fit indices for the two-factor model were: χ^2 (13, $N = 223$)=99.09, RSEA = .18; NNFI = .93; IFI = .95; CFI = .95; PFNI = .63. In the one factor model, the fit statistics were: χ^2 (14, $N = 223$)=44.16, RSEA = .10; NNFI = .97; IFI = .98; CFI = .98; PFNI = .60. These statistics indicate that the more parsimonious one-factor model had a better fit to the data than the two-factor model.

All items were combined to one scale and the coefficient alpha reliability estimate was $\alpha = .89$.

Results

To determine whether our experimental manipulations created the intended conditions for the study, we conducted a one-way analysis of variance (ANOVA) with the rudeness manipulation as the independent variable. For the dependent variable, at the end of the session participants’ rated their agreement with a three-item construct indicating the experimenter’s behavior ($\alpha = .84$). Items included “the experimenter treated participants in a polite manner,” “the experiment treated participants with dignity,” and “people were insulted by the experimenter (reverse coded)” (where 1 = *Strongly Disagree* and 7 = *Strongly Agree*). The results indicated that rudeness significantly influenced participants’ agreement with this construct ($M_{\text{control}} = 6.11$, $SD_{\text{control}} = .97$; $M_{\text{rudeness}} = 4.78$, $SD_{\text{rudeness}} = 1.41$; $F(1, 73) = 22.68$, $p < .001$). Thus, results confirmed the expected manipulation effects.

Table 1 presents the means, standard deviations, and inter-correlations among study variables. We tested our hypotheses using multivariate analysis of variance (MANOVA) for the two indicators of performance, the indicators of creativity and dysfunctional ideation, and negative affect. The overall model representing the influence of rudeness on the five dependent variables was significant, Multivariate $F(5, 71) = 3.56$, $p < .01$, $\eta^2 = .21$. The results of this analysis, as presented in Table 2, show that participants in the rudeness condition did not perform as well as controls on the anagrams assignment, they produced less uses for brick, and their solutions were rated as less creative, supporting H1.

Those in the rudeness condition also tended to exhibit less citizenship behavior than controls. In fact, in comparison to the neutral condition, in which 50% of participants volunteered to stay longer and helped the experimenter with the extra task, only 26.5% of those in the rudeness condition helped ($\chi^2 = 4.27$,

Table 1

Means (M), standard deviations (SD), and intercorrelations among Study 1 variables.

	M	SD	1	2	3	4	5	6
1. Number of anagrams solved	5.35	1.64	–					
2. Number of brick ideas	8.87	3.38	.14	–				
3. Rated creativity for the brick uses	5.42	.92	.38	–.09	(.86)			
4. Citizenship behavior	.39	.49	.20	–.19	.10	–		
5. Dysfunctional ideation	2.73	1.14	–.29	.08	–.26	–.16	(.91)	
6. Negative affect	2.63	.84	–.34	–.26	–.38	–.13	.45	(.89)

Notes: $N = 74$. Reliabilities are on the diagonal. Correlations above .22 are significant at the $p < .05$ level. Correlations greater than .29 are significant at the $p < .01$ level.

Table 2

Influence of witnessing rudeness on task performance, creativity, dysfunctional ideation and negative affect in Study 1.

	Control		Rudeness		F
	Mean	SD	Mean	SD	
1. Number of anagrams solved	5.79	1.59	4.82	1.59	6.79**
2. Number of brick ideas	9.74	3.93	7.88	2.35	5.80**
3. Rated creativity for the brick uses	5.61	.80	5.20	1.01	3.72*
4. Dysfunctional ideation	2.49	1.02	3.04	1.23	4.42*
5. Negative affect	2.37	.80	2.95	.79	9.67**

Notes: $N = 74$ ($N = 40$ neutral condition, $N = 34$ witnessing rudeness condition).

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

$p < .05$). Logistics regression analysis suggested an odds-ratio of 2.78 ($p < .05$), indicating that people in the neutral condition were almost three times as likely to enact citizenship behavior as those in the rudeness condition. Thus, H3(a) was also supported.

As shown in Table 2, in comparison to those in the control condition, participants in the rudeness condition also generated more dysfunctional uses for brick (i.e., “hurt someone,” “hit someone”). These results supported H3(b). Additionally, one of the anagrams that we used in the first task was the word “demure” scrambled as “remdue.” This word was incorrectly reorganized by some participants to spell “murder.” Twelve participants wrote murder (10 in the rudeness condition, two in the neutral condition, $\chi^2 = 8.01$, $p < .01$). Logistic regression analysis suggested an odds-ratio of 7.92 ($p < .01$), indicating that people in the rudeness condition were almost eight times as likely to write “murder” as those in the neutral condition.

As can be seen in Table 2, rudeness also influenced participants' affect. Those in the rude behavior condition reported greater negative affect than those in the control condition. To test whether negative affect mediated the relationship between rudeness and task performance and creativity we used a bootstrapping approach for multiple mediation effects (see Preacher & Hayes, 2004). In bootstrapping a random sample is drawn from the data set multiple times. In each random sample drawn, direct and indirect effects and their standard errors are estimated. Thus, based on random samples drawn 3000 times from the data set we estimated the direct and indirect effects from rudeness through negative affect to each of the three dependent variables of performance. Commonly, a Sobel (1982) test is used to test for the significance of the mediation paths. However, the Sobel test incorrectly assumes normality and therefore we report the confidence intervals for the indirect effects, correcting for skewness bias (Preacher & Hayes, 2004). Table 3 shows that the relationship between witnessing rudeness and anagram ($-.30$, $p < .05$) and brick ($-.43$, $p < .05$) performance and creativity ($-.21$, $p < .05$) was mediated by negative affect, supporting H2.

Discussion

In Study 1 we found that observing rudeness from a supervisor negatively affected performance on routine and creative tasks. These results suggest that the effects of rudeness are not confined to the perpetrator and victim. Instead, rudeness affects witnesses and it has a detrimental effect on their performance. Moreover, Study 1 results showed that witnesses' performance could be affected even by an isolated and a relatively mild rude incident. Given the sheer number of employees, teams, students, and members of society that witness acts of rudeness daily (Pearson & Porath, 2005; Truss, 2005), these findings are of great practical importance. Witnessing rudeness was also associated with reduced OCBs. Because citizenship behaviors are discretionary behaviors that are not formally required, witnesses of rudeness may reduce their

helping behaviors or withhold actions that benefit the offender without drawing serious attention or consequences to themselves. Witnessing rudeness also increased dysfunctional ideation, as participants produced more aggressive and dysfunctional thoughts for a brick. These dysfunctional ideation results suggest that observing an isolated rudeness act could prime dysfunctional and aggressive thoughts. Because priming of aggression may lead to aggressive tendencies (Anderson & Bushman, 2001) this particular result should be of great concern for managers.

Taken together, Study 1 results suggest that witnessing incivility has a number of detrimental effects. However, it is possible that it is not the rudeness by itself that affected performance, but the specific aggressive act from an authority figure. Witnessing rudeness by an authority figure may be particularly upsetting, threatening, and damaging to performance. That is because witnesses of mistreatment by authority figures may be dependent on the perpetrator for resources (e.g., course credit) and may feel helpless and powerless to take direct corrective actions (see Ashforth, 1997; Tepper, 2000). Therefore, it is possible that witnessing rudeness by itself may not be particularly detrimental to performance but when it represents a threat from an authority figure it reduces performance. Alternatively, if the act of rudeness by itself is indeed harmful to witnesses' performance then even if it is enacted by non-authority figures, it should have an effect. Thus, Study 2 was designed to investigate whether witnessing rudeness from a non-authoritative figure is harmful.

Study 2

In this study we tested whether witnesses' performance would also decrease as a result of rudeness from peers. Thus, the second study replicated Study 1 with one major difference—the person performing the rude act was a peer, a confederate who had no direct authority over the participant. Increasingly, more employees work in teams or self-managing teams (e.g., O'Toole & Lawler, 2006) where this issue may be very important. Replicating the results obtained in Study 1 with peers may help us gain additional insight into the consequences of rudeness and enhance the generalizability of Study 1 findings.

Participants and procedure

Sixty-eight undergraduate students from a large western United States university participated in this study, with an age range from 17 to 51 years and a median age of 20. Of the sample, 59% were female; 41% were white, and 27% were Asian. As in Study 1, students were told that the purpose of the study was to investigate personality factors that affect people's performance. Each session was run with a group of six participants. The groups were comprised of four participants and two confederates.

Table 3
Mediation effects of negative affect on the relationship between witnessing rudeness and performance, Study 1.

	Anagrams task		Brick task		Creativity	
	<i>b</i>	s.e.	<i>b</i>	s.e.	<i>b</i>	s.e.
Witnessing rudeness to negative affect	.58**	.19	.58**	.19	.58**	.19
Negative affect to DVs	-.52*	.23	-.74	.49	-.38**	.13
Direct effect of witnessing rudeness to DVs controlling for negative affect	-.67	.39	-1.43	.82	-.19	.22
Indirect effect of witnessing rudeness to DV through negative affect	-.30* (-.74, -.03)		-.43* (-1.14, -.05)		-.21* (-.44, -.07)	
R ²	.15**		.11*		.15**	

Notes: The coefficients are based on bootstrapping 3000 re-sampling. Confidence intervals for indirect effect are in parenthesis.

* $p < .05$.

** $p < .01$.

Upon arriving at the lab, the experimenter asked participants to complete the consent form. In the rudeness condition, one of the confederates took his time, reading everything extremely carefully. When other participants finished, this confederate was still reading the form. At this point, the rudeness manipulation (described below) was enacted. The participants then completed a short personality survey that contained the affect questionnaire. The procedure from this point on was consistent with that of Study 1. Participants performed two tasks, were asked to volunteer to stay for another study that was not part of the experiment, and then thanked, debriefed, and released.

Rudeness manipulation

The consent form was rather short (about a half-page of printed material) and participants, on average, took only a few minutes to read and sign the form. In contrast, a confederate of the experimenter took his time reading the consent form and purposefully delayed signing it. After a few minutes another confederate did one of two things. In the rudeness condition, the second confederate said to the ‘slow confederate’, “come on...what’s taking so long? What are you, stupid? Can’t you read? This thing is a no-brainer...just do it and let’s get on with this. Can’t you tell you’re holding the entire group up?” In the neutral condition, the confederate made no such statement. The rudeness manipulation was specifically designed to be delivered by a “peer” of the confederate and was seemingly unrelated to the experiment or the experimenter.

Measures

Task performance

As in Study 1, we assessed task performance by the number of anagrams correctly solved and by the number of uses for a brick that participants generated in 5 min.

Creativity

The uses participants produced for brick were rated for creativity on the same scale used in Study 1 by three graduate assistants who were blind to the experimental conditions. The inter-rater reliability ICC1 (.84) and ICC2 (.94) suggested that aggregation across raters was appropriate.

Citizenship behavior

As in Study 1, whether or not participants stayed to help the experimenter was taken as a measure of citizenship behavior.

Dysfunctional ideation

The uses participants produced for brick were rated for dysfunctional ideation on the same scale used in Study 1 by the same three graduate assistants who rated creativity. The inter-rater reliability ICC1 (.82) and ICC2 (.93) suggested that aggregation across raters was appropriate.

Negative affect

We used the same 21 items from the PANAS (Watson et al., 1988) and the arousal scale (Thayer, 1989) used in Study 1 to measure negative affect ($\alpha = .90$).

Results

To determine whether our rudeness manipulation created the intended experimental conditions, we conducted a one-way analysis of variance (ANOVA) with rudeness as the independent variable. For the dependent variable, participants rated their agreement with a three-item construct indicating the participants’ behavior toward others ($\alpha = .94$). The items included “I felt like we treated

one another in a polite manner,” “I felt we treated one another with dignity,” and “I felt like we treated one another with respect” (where 1 = *Strongly Disagree* and 7 = *Strongly Agree*). The results confirmed the expected manipulation effects ($M_{\text{control}} = 4.76$, $SD_{\text{control}} = .74$; $M_{\text{rudeness}} = 3.49$, $SD_{\text{rudeness}} = .66$; $F(1,68) = 56.45$, $p < .01$).

Means, standard deviations, and intercorrelations among the study variables are provided in Table 4. As in Study 1, we tested our hypotheses using MANOVA for the five dependent variables of performance, creativity, dysfunctional ideation, and negative affect. The overall model representing the influence of rudeness on the five dependent variables was significant, Multivariate $F(5,66) = 5.34$, $p < .01$, $\eta^2 = .25$. The results of this analysis, presented in Table 5, show that participants in the rudeness condition did not perform as well as controls on the anagrams and the brick assignment, and their solutions were rated as less creative than the uses produced by the controls, supporting H1. Those in the rudeness condition also tended to enact less citizenship behaviors than controls, supporting H3(a). In comparison to the neutral condition, in which 52.3% of participants volunteered to stay longer and helped the experimenter with the extra task, only 25% of those in the rudeness condition helped the experimenter ($\chi^2 = 5.46$, $p < .05$). Logistics regression analysis suggested an odds-ratio of 3.35 ($p < .05$), indicating that people in the neutral condition were at least three times as likely to exhibit citizenship behavior as those in the rudeness condition. As in Study 1 and consistent with H3(b), participants in the rudeness condition also produced more dysfunctional uses for brick and here again some participants misspelled the anagram “demure” as “murder.” Seven participants wrote murder (six in the rudeness condition, one in the neutral condition, $\chi^2 = 4.68$, $p < .05$). Logistic regression analysis suggested an odds-ratio of 8.08 ($p < .05$), indicating that people in the rudeness condition were almost eight times as likely to write “murder” as those in the neutral condition. As Table 5 shows, participants who witnessed rudeness reported greater negative affect. To test whether negative affect mediated the relationship between rude-

Table 4
Means (M), standard deviations (SD), and intercorrelations among Study 2 variables.

	M	SD	1	2	3	4	5	6
1. Number of anagrams solved	4.68	1.61	–					
2. Number of brick ideas	9.12	3.18	.32	–				
3. Rated creativity for the brick uses	4.72	1.31	.24	.35	(.94)			
4. Citizenship behavior	.40	.49	.24	.29	.35	–		
5. Dysfunctional ideation	3.18	1.24	.01	–.18	–.10	.00	(.93)	
6. Negative affect	2.65	.91	–.44	–.42	–.36	–.29	.33	(.90)

Notes: N = 68. Reliabilities are on the diagonal. Correlations above .23 are significant at the $p < .05$ level. Correlations greater than .31 are significant at the $p < .01$ level.

Table 5
Influence of witnessing rudeness on task performance, creativity, dysfunctional ideation, and negative affect in Study 2.

	Control		Rudeness		F
	Mean	SD	Mean	SD	
1. Number of anagrams solved	5.14	1.54	4.16	1.57	6.90*
2. Number of brick ideas	10.33	3.36	7.75	2.34	13.23**
3. Rated creativity for the brick uses	5.10	1.11	4.28	1.40	7.21**
4. Dysfunctional ideation	2.92	1.06	3.47	1.37	4.92*
5. Negative affect	2.11	.66	3.26	.78	42.60**

Notes: N = 67 (N = 35 neutral condition, N = 32 witnessing rudeness condition).

* $p < .05$.

** $p < .01$.

ness and task performance and creativity we used a bootstrapping approach for multiple mediation effects. Table 6 shows that the relationship between witnessing rudeness and anagram ($-.82$, $p < .01$) and brick (-1.06 , $p < .05$) performance and creativity ($-.45$, $p < .05$) was mediated by negative affect. Thus, H2 was supported.

Discussion

In Study 2 we found that observing rudeness from a peer affected performance on rather complex tasks and creativity. These findings fully replicated the results found in Study 1 showing that witnessing rudeness has a detrimental effect on performance, whether people witness supervisor's or peer's rudeness. Given that performance in the modern organization mandates that employees be creative, adaptable to changing work requirements, and handle more cognitively complex issues (National Research Council, 1999) witnessing rudeness may have disruptive consequences to organizational functioning.

Notwithstanding these results, the effect of witnessing incivility on performance is not likely to be completely general and unqualified. One situational variable that is likely to moderate the relationship between witnessing incivility and performance is the competitive nature of the relationship between the observer and victim. Indeed, several scholars hypothesized that in a competitive promotions system or a situation of scarce resources, people may not be very concerned about the well-being of their competitors (e.g., Nozick, 1974; Ortony, Clore, & Collins, 1988; Smith et al., 1996; Sullivan, 1953). Accordingly, witnessing rudeness may not have such detrimental effects on performance in a competitive situation. Thus, Study 3 was designed to test whether competition moderated the relationship between witnessing rudeness and performance.

In Studies 1 and 2 we also found that witnessing rudeness reduced helpfulness. In Study 3 we expand these findings by investigating whether this reduction in helpfulness could be attributed to a general reduction in prosocial behavior that occur after observing rude behavior. Thus, Study 3 was designed to test whether witnessing rudeness reduced witnesses' prosocial tendencies and whether competition served as a boundary condition for the relationship between witnessing rudeness and performance.

Study 3

One of the most surprising findings in Study 2 was that witnesses tended to be less helpful to the experimenter, even though the perpetrator was a peer. Thus, while in Study 1 it is more understandable why participants refused to help the rude experimenter, Study 2 results suggest that even in a situation where the person seeking help was not the perpetrator, participants were less likely to help. One possible explanation is that participants saw the

experimenter as an authority figure and, as such, expected him to intervene and discipline the rude peer. Because he failed to do so, they were not willing to help him. However, it is also possible that observing people behave in a rude manner causes others to imitate this behavior and become less concerned about the well-being of others.

Indeed, the results of Studies 1 and 2 showed that witnessing rudeness led individuals to produce dysfunctional and aggressive uses for a brick, suggesting that witnessing rudeness primed anti-social thought in the observers. In turn, priming anti-social thoughts has been shown to produce rude and anti-social behavior in individuals (Anderson, 1977; Bargh et al., 1996; Eron et al., 1972; Huesmann & Eron, 1986). Accordingly, it is possible that witnessing rudeness not only reduces helpfulness but also reduces prosocial tendencies in general. Thus,

Hypothesis 4. Witnesses of rudeness will be less prosocially oriented than their counterparts who do not observe rudeness.

One of the underlying assumptions of our hypothesis that witnessing rudeness would affect performance is that people are, in general, concerned for others. However, it is possible that concern for others may not be enacted equally in all situations. For example, in a competitive situation where people compete for scarce resources people may not be as concerned for others. Indeed, the basic assumption of many economic theories is that individuals are naturally in competition with others and therefore act in their own self-interest and are not particularly concerned for others. This heightened concern for self is so strong that it may guide people's behavior even in situations that call for cooperation and where selfish behavior is self-defeating. Take for example the most famous version of the "tragedy of the commons" in which a group of herders have open access to a common grazing field (Hardin, 1968). If all herders act selfishly, and let as many of their cows graze in the common field, the field may be destroyed. Although many of the herders may understand the need to cooperate and how their selfish actions may contribute to a disaster, they cannot behave differently if they follow the dominant self-interest rationale (Kollock, 1998). In this type of situation, one can imagine how if some misfortune befell one of the herders, and for instance, he lost a significant number of his cows, it may not displease other herders.

While there is no direct empirical evidence to suggest that witnessing others' misfortune is pleasing to competitors, there is some indirect evidence to suggest just that. For example, one line of research shows that people are actually pleased at the misfortune of successful others. Consistently, Feather and colleagues found that participants felt sympathy towards average achievers while they felt pleasure at the misfortune of high achievers (*schadenfreude*) (Feather, 1989, 1991, 1999; Feather & McKee, 1992; Feather & Sherman, 2002; Feather, Volkmer, & McKee, 1991). Feather and Sherman (2002) specifically showed that *schadenfreude* is positively related to resentment towards successful others and it is

Table 6
Mediation effects of negative affect on the relationship between witnessing rudeness and performance, Study 2.

	Anagrams task		Brick task		Creativity	
	<i>b</i>	s.e.	<i>b</i>	s.e.	<i>b</i>	s.e.
Witnessing rudeness to negative affect	1.15**	.18	1.15**	.18	1.15**	.18
Negative affect to DVs	-.72**	.25	-.92*	.47	-.39	.21
Direct effect of witnessing rudeness to DVs controlling for negative affect	-.16	.46	-1.53	.89	-.37	.38
Indirect effect of witnessing rudeness to DV through negative affect	-.82**		-1.06*		-.45*	
	(-1.53, -.22)		(-2.30, -.03)		(-.99, -.05)	
<i>R</i> ²	.20**		.21**		.14**	

Notes: The coefficients are based on bootstrapping 3000 re-sampling. Confidence intervals for indirect effect are in parenthesis.

* $p < .05$.

** $p < .01$.

negatively related to sympathy directed at the misfortune befalling high achieving individuals. In turn, high achievers may be perceived as competitors and based on these lines of research, we hypothesize:

Hypothesis 5. Competition for resources with victims would moderate the relationship between witnesses of rudeness and (a) performance, (b) creativity, (c) helpfulness, (d) dysfunctional ideation, and (e) negative affect. Specifically, the effects of witnessing rudeness on these dependent variables will be weaker under a competitive condition than under a cooperative condition.

Participants

Students enrolled in a required course at a large western United States university were asked to participate in a laboratory study aimed at investigating the personality correlates of task performance. Participation was on a voluntary basis. Eighty undergraduates participated in the study. Ages of the participants ranged from 17 to 24 years, with a median age of 19. Of the sample, 56% were male, 43% were white, and 23% were Asian.

Procedure

The study employed a 2×2 analysis of variance design, with two levels of rudeness (neutral and rudeness) and two levels of competitiveness (competitive versus cooperative situations). Groups of five participants attended sessions that took about 50 min to complete. The sessions were randomly assigned to be in one of the four conditions. The experimenter came to get the five participants at a meeting area. Upon meeting them the experimenter said: "OK I see that there are only five of you here. I need six people for my study but let's go to the experimental room and get started. I will come back to get the sixth student later." The experimenter then took them to the experimental room, gave them the consent form to read and sign, and said: "While you are reading the consent form I will go to see if the sixth person showed up." The experimenter came back after a couple minutes without the sixth participant. The experimenter then informed the participants that the purpose of the study was to investigate personality factors that affect people's performance, and gave them an instruction sheet that explained that they would answer a personality questionnaire and then perform four tasks. The four tasks described were: the anagram task, the brick task, a decomposition game (described below in the measures section), and a resource allocation task that served as the first part of the competitiveness manipulation (described below). Then the experimenter asked participants to begin answering the personality questionnaire, which took about 10 min to complete.

As in Study 1, about 7 min after the experimenter returned to the room (after supposedly looking for the sixth participant), a confederate arrived at the lab and said, "I am really sorry that I am late, my class across campus was not released on time." In the neutral condition, the experimenter accepted his apology but told him that the study had already started and therefore he could not participate in the session. In the rudeness condition, the experimenter delivered the exact rudeness manipulation that was described in Study 1 and asked the confederate to leave. When the confederate left, the experimenter delivered the second part of the competitiveness manipulation (described below).

When participants had completed the personality questionnaire, the experimenter administered the four tasks. After that, as in Studies 1 and 2, participants were asked to volunteer to stay for another study that was not part of the experiment, and then were thanked, debriefed, and released.

Manipulations

Rudeness

Immediately after the confederate explained why he was late to the experimental session and apologized, the experimenter did one of two things, just as in Study 1. In the control condition, the experimenter said nothing. In the rudeness condition, however, the experimenter responded to the apology by saying, "What is it with you? You arrive late. . . you're irresponsible. . . look at you. . . how do you expect to hold a job in the real world?" After the manipulation was delivered, the experimenter told the confederate that the study had already started and that therefore he could not participate in the session and asked him to leave.

Competitiveness

To manipulate competitiveness versus cooperativeness we used a similar manipulation to the one used by Dawes, Orbell, Simmons, and Van De Kragt (1986) who investigated cooperation and the lack of it. This manipulation was introduced in two parts. In the first part participants in the competitive condition read the following instructions (on the instruction sheet given to them at the beginning of the study):

You will be asked to make a decision about how to share resources between yourself and a group of five other participants. In this game each of the six individuals who participate in this game gets five points (for a total of 30 points for the entire group). Each of you will have the option of contributing your five points to a common pool of resources. If enough of you contribute their stake (five points) to the public-good pool then every person in the group would receive 10 more bonus points. The number of points that has to be in the public-good pool for all of you to receive the bonus points is 15 points. If enough of you contribute a sufficient number of points to the common pool and together you reach 15 points, then those who contributed to the pool would each leave with the 10 points from the bonus points. Those who have decided not to contribute to the pool would also get the 10 bonus points and would leave with 15 points (10 bonus points and five of their original points). Thus, for example, if three of you decide to contribute your five points to the pool, as a group, you will reach the 15 points required and the three contributors would leave with 10 points each, while the non-contributors would leave with 15 points each. However, if only two of you decide to contribute your five points you will only have 10 points in the pool. In this case the contributors would leave with nothing and the non-contributors would leave with their original five points. You will not be able to talk with the other participants and will have to make the decision by yourself about how much you would like to contribute to the pool. At the end of the semester you will participate in a lottery where the prizes are gift certificates for the XXX campus store. There will be eight certificates of \$20 each. The lottery method will be the following: For every point that you have at the end of this decision-making game the experimenter will create a lottery entry with your XXX ID number written on it. For example, if you had at the end of the game 10 points your XXX ID number will appear on 10 entries. At the end of a series of this experiments which will involve about 80 people, all the entries from all the individuals participating will be entered into one jar and mixed. The experimenter then will pull eight notes from the jar that will win the prizes. An individual can win only one prize. If one XXX ID number is pulled out twice, the experimenter will discard one of these notes and will pull another entry from the jar. The experimenter will e-mail you if you win a prize and you will be able to collect it.

In the cooperative situation the payoff was changed such that all participants would receive the same number of entries (10) if the number of contributors was sufficient (at least three participants). Thus, in this condition although the risk of contribution to the common pool was the same as in the competitive condition (i.e., end up with nothing) the benefits were equitable. That is, greed was not a factor here and all participants could benefit equally from cooperating. Dawes et al. (1986) found that while in the standard game (competitive manipulation) 51% tend to contribute to the common pool, in the “no greed” or cooperative situation, 87% of the participants tend to contribute to the common pool.

The second part of the manipulation was delivered after the confederate left the room. In the competitive condition, the experimenter turned to the participants and said:

OK I guess now we have only five participants and not six in this group. So this will affect your decision in the second decision-making task where you have to decide if you want to contribute your five points to the common pool. I'll tell you what I will do to compensate for that. The pool still has to be 15 points but I will give each of you one more point that you can keep. So you still have to decide if you want to contribute five points to the pool but the sixth point is yours to keep in any case.

In the cooperative condition, the experimenter said:

OK I guess now we have only five participants and not six in this group. So in the decision-making task where you need to decide whether to contribute your five points to the common pool you need to take it into consideration that you now have only five people here.

Thus, in the competitive situation condition participants benefited from the “misfortune” of the confederate while in the cooperative situation they did not.

Measures

Task performance

As in Studies 1 and 2, we assessed task performance by the number of anagrams correctly solved and the number of uses for a brick that participants generated.

Creativity

The uses participants produced for brick were rated for creativity on the same scale used in Studies 1 and 2 by three graduate assistants who were blind to the experimental conditions. The inter-rater reliability $ICC1$ (.80) and $ICC2$ (.92) suggested that aggregation across raters was appropriate.

Citizenship behavior

As in Study 1 and 2, whether or not participants stayed to help the experimenter was taken as a measure of citizenship behavior.

Dysfunctional ideation

We measured dysfunctional ideation with the same measure used in Studies 1 and 2. The brick uses were rated for their dysfunctionality, expressive aggressiveness, and hostility by three independent raters. The inter-rater reliability $ICC1$ (.88) and $ICC2$ (.96) suggested that aggregation across raters was appropriate.

Negative affect

Here again, we used the same 21 items from the PANAS (Watson et al., 1988) and the arousal scale (Thayer, 1989) used in Studies 1 and 2 to measure negative affect ($\alpha = .93$).

Prosocial value orientation

We used a measure created by De Dreu and Van Lange (1995) to measure participant's prosocial value orientation. In the third task of this study, participants were given a series of nine decomposed games (Messick & McClintock, 1968). In each of these nine games they had to choose how to distribute resources between themselves and another person. In each game they had three options – a prosocial choice where the outcomes were equally divided between self (40) and other (40); an individualistic option where outcomes for self (50) was larger than outcome for other (20); and a competitive option where outcome for self (40) was much larger than outcome for other (0). Prosocial tendency was measured as the number of times participants chose the prosocial option over the other two options ($\alpha = .88$).

Results

To determine whether our experimental manipulations created the intended conditions for the study, we conducted a two-way analysis of variance (ANOVA) with the rudeness and the competitiveness manipulations as the independent variables and measures of rudeness and competition collected at the end of the session as the dependent variables. Using the same three-item construct indicating the experimenter's behavior ($\alpha = .84$) used in Study 1, the results indicated the expected manipulated effects ($M_{\text{control}} = 6.58$, $SD_{\text{control}} = .58$; $M_{\text{rudeness}} = 5.10$, $SD_{\text{rudeness}} = 1.34$; $F(1,76) = 39.74$, $p < .01$). The competitiveness manipulation was not related to the rating of the experimenter behavior, $F(1,76) = 1.45$, *ns*, nor was the interaction between competitiveness and rudeness significant, $F(1,76) = .61$, *ns*. To test whether the competitive versus cooperative nature of the task manipulation worked, we used a four-item measure. Items included “I believe that the public-good decision-making task was a competitive task,” “I believe that the public-good decision-making task was an individualistic task,” “I believe that the public-good decision-making task was a cooperative task (reverse coded)” and “I believe that the public-good decision-making task was an altruistic task (reverse coded)” (where 1 = *Strongly Disagree* and 7 = *Strongly Agree*) ($\alpha = .85$). The results indicated the expected manipulated effects ($M_{\text{cooperative}} = 3.24$, $SD_{\text{cooperative}} = .36$; $M_{\text{competitive}} = 5.13$, $SD_{\text{competitive}} = .74$; $F(1,76) = 206.44$, $p < .01$). The rudeness manipulation was not related to the rating of competitiveness, $F(1,76) = .00$, *ns*, nor was the interaction between competitiveness and rudeness significant, $F(1,76) = .23$, *ns*.

Table 7 presents the means, standard deviations, and inter-correlations among the study variables. To test the hypothesis that manipulated rudeness interacts with manipulated competitiveness to influence performance, social behavior, and negative affect, we conducted two two-way MANOVAs.⁵ In the first MANOVA the anagram and brick performance, and negative affect, were the dependent variables. Results suggested a significant main effect of manipulated rudeness, Multivariate $F(3,74) = 26.05$, $p < .01$, $\eta^2 = .51$. The MANOVA results suggested that the main effect of manipulated competitiveness was not significant, Multivariate $F(3,74) = 2.51$, *ns*, but the results showed a significant interaction effect, Multivariate $F(3,74) = 3.01$, $p < .05$, $\eta^2 = .11$. While competitiveness did not affect anagram performance, $F(1,76) = 1.29$, *ns*, witnessing rudeness, $F(1,76) = 8.19$, $p < .01$, $\eta^2 = .10$, and the interaction between competitiveness and rudeness, $F(1,76) = 5.39$, $p < .05$,

⁵ We run a MANOVA with all five dependent variables together. The rudeness manipulation was significant for all the variables and the competitiveness manipulation was not significant for any of them. The interaction between the rudeness and the competitiveness manipulation was only significant for the anagrams and brick tasks, and negative affect. To make the interpretation and presentation of these findings clearer we conducted and present the MANOVA with the significant interaction and the MANOVA with the insignificant interaction separated.

Table 7
Means (*M*), standard deviations (*SD*), and intercorrelations among Study 3 variables.

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1. Number of anagrams solved	4.86	2.20	–						
2. Number of brick ideas	10.98	5.19	.30	–					
3. Rated creativity for the brick uses	4.31	1.45	.28	.63	(.92)				
4. Citizenship behavior	.21	.41	.19	.39	.38	–			
5. Dysfunctional ideation	4.04	1.87	–.08	–.03	.10	–.23	(.96)		
6. Negative affect	3.16	1.16	–.45	–.55	–.46	–.39	.35	(.93)	
7. Prosocial value orientation	4.40	3.30	.04	.14	.09	.19	–.01	–.32	(.88)

Notes: *N* = 80. Reliabilities are on the diagonal. Correlations above .23 are significant at the *p* < .05 level. Correlations greater than .29 are significant at the *p* < .01 level.

$\eta^2 = .07$, affected anagram performance, confirming H5(a). To further clarify the interaction effects we decomposed the interaction to simple effects. These results are presented in Table 8 and along with Fig. 1. They show that there was a significant difference between the anagram performance of the participants in the neutral and the rude condition in the cooperative situation. In contrast, in the

Table 8
Influence of witnessing rudeness and competitiveness on task performance and negative affect in Study 3.

	Control		Rudeness		<i>F</i> (1, 76)
	Mean	<i>SD</i>	Mean	<i>SD</i>	
<i>Number of anagrams solved</i>					
Competitive situation	5.25	2.14	5.00	2.13	.15
Cooperative situation	5.80	2.02	3.40	2.01	13.44**
<i>Number of brick ideas</i>					
Competitive situation	13.90	4.29	9.55	1.96	11.40**
Cooperative situation	14.20	5.95	6.25	2.95	38.07**
<i>Negative affect</i>					
Competitive situation	2.72	.85	3.80	1.00	15.03**
Cooperative situation	2.13	.86	3.98	.79	44.33**

Notes: *N* = 80 (20 in each cell).

** *p* < .01.

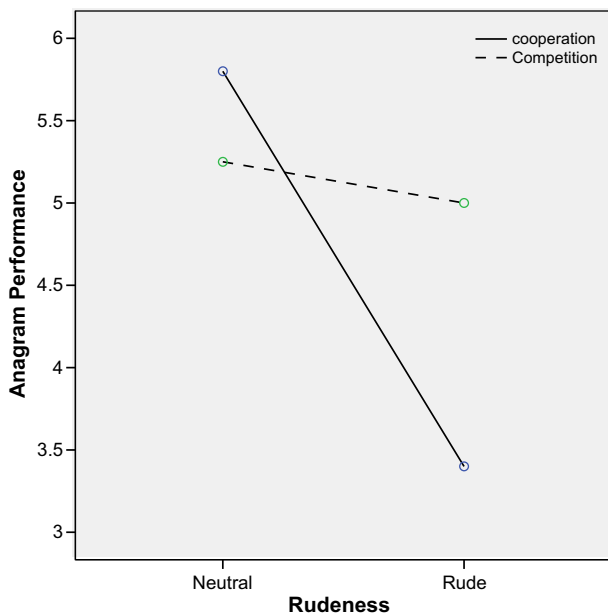


Fig. 1. Moderating effects of competition on the relationship between rudeness and anagram task performance.

competitive situation rudeness did not significantly affect performance. Furthermore, in the rudeness condition, participants in the competitive situation outperformed those in the cooperative situation, $F(1, 76) = 5.97$, $p < .05$. No such difference was obtained in the neutral condition, $F(1, 76) = .71$, *ns*.

Competitiveness also did not affect brick performance, $F(1, 76) = 2.71$, *ns*. However, witnessing rudeness, $F(1, 76) = 45.57$, $p < .01$, $\eta^2 = .38$, and the interaction between competitiveness and rudeness, $F(1, 76) = 4.03$, $p < .05$, $\eta^2 = .05$, affected brick performance, here again confirming H5(a). Table 8 and Fig. 2 show that participants in the neutral condition outperformed those in the rude condition in generating brick ideas in both the cooperative and the competitive conditions. However, the reduction in production of ideas due to the experimenter rudeness was much more noticeable in the cooperative (from *M* = 14.20 to 6.25) than in the competitive condition (from *M* = 13.90 to 9.55). Here again, in the rudeness condition, participants in the competitive situation outperformed those in the cooperative situation, $F(1, 76) = 6.56$, $p < .05$, but no such difference was observed in the control condition, $F(1, 76) = .05$, *ns*.

Witnessing rudeness, $F(1, 76) = 55.49$, $p < .01$, $\eta^2 = .42$, and the interaction between competitiveness and rudeness, $F(1, 76) = 3.98$, $p < .05$, $\eta^2 = .05$, also affected negative affect, confirming H5(e). In contrast, competitiveness did not affect negative affect, $F(1, 76) = 1.15$, *ns*. As seen in Table 8 and Fig. 3, those in the rudeness condition felt more negative emotions than controls in both the competitive and the cooperative situations. However, the increase in participants' negative affect due to the experimenter's rudeness was more dramatic in the cooperative condition (from *M* = 2.13 to 3.98) than in the competitive situation (from *M* = 2.72 to 3.80). Here, in the rudeness condition, participants in the competitive situation did not feel more negatively than those in the cooperative situation, $F(1, 76) = .40$, *ns*. In contrast, those in the control condition experienced significantly, $F(1, 76) = 4.62$, $p < .05$, more negative affect in the competitive situation in comparison to those participants in the cooperative situation.

A 2 × 2 MANOVA showed that the competitiveness manipulation, Multivariate $F(2, 76) = .79$, *ns*, and the interaction between competitiveness and rudeness, Multivariate $F(2, 76) = .42$, *ns*, were not significantly related to the ratings of creativity or dysfunctional ideation, disconfirming H5(b) and H5(d). However, rudeness was significantly related to creativity and dysfunctional ideation, Mul-

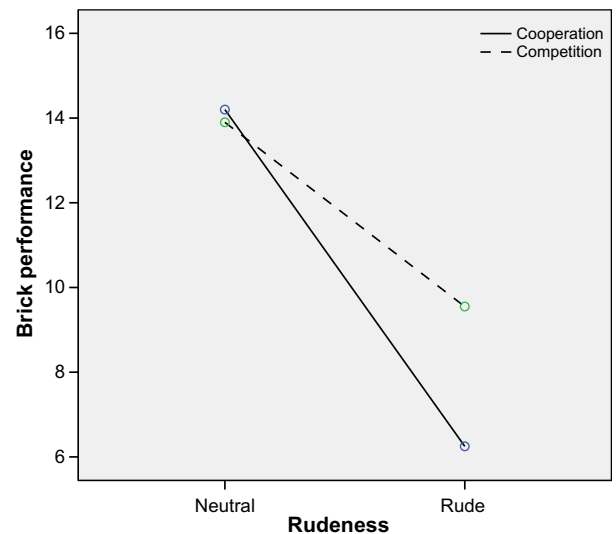


Fig. 2. Moderating effects of competition on the relationship between rudeness and brick task performance.

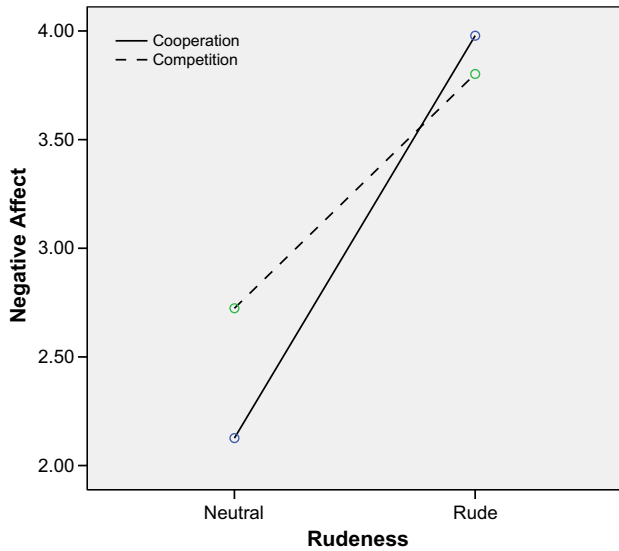


Fig. 3. Moderating effects of competition on the relationship between rudeness and negative affect.

tivariate $F(3,76) = 23.30, p < .01, \eta^2 = .48$. The results of this analysis show that as in the previous two studies, the uses participants produced for brick in the control condition ($M = 5.13, SD = 1.16$) were rated as more creative, $F(1,78) = 37.86, p < .01$, than those produced in the rudeness condition ($M = 3.48, SD = 1.24$). As in Studies 1 and 2, participants in the rudeness condition ($M = 4.58, SD = 1.94$) also produced more dysfunctional ideas for brick, $F(1,78) = 7.26, p < .01$, than those in the control condition ($M = 3.50, SD = 1.65$). Here again some participants misspelled the anagram “demure” as “murder.” Seven participants wrote murder (six in the rudeness condition, one in the neutral condition, $\chi^2 = 3.91, p < .05$). Logistic regression analysis suggested an odds-ratio of 6.88 ($p < .05$), indicating that people in the rudeness condition were almost seven times as likely to write “murder” as those in the neutral condition.

Logistic regression with citizenship as the dependent variable and rudeness, competitiveness, and the interaction between rudeness and competitiveness showed that only rudeness was significant in predicting citizenship behavior ($b = 2.35, p < .01$). Thus, H5(c) has been disconfirmed. The odd-ratio was 10.5 indicating that people in the neutral condition were almost eleven times as likely to exhibit citizenship behavior as those in the rudeness condition. In comparison to the neutral condition, in which 37.5% of participants volunteered to stay longer and helped the experimenter with the extra task, only 5% of those in the rudeness condition (two participants out of 40) helped the experimenter ($\chi^2 = 12.62, p < .01$).

To test whether witnesses of rudeness were less prosocially oriented than their counterparts who did not observe rudeness we conducted a 2×2 ANOVA with prosocial value orientation as the dependent variable. The results showed that the competitiveness manipulation, $F(1,76) = 1.02, ns$, and the interaction between competitiveness and rudeness, $F(1,76) = .64, ns$, were not significantly related to prosocial behavior. However, witnessing rudeness was significantly related to prosocial distribution of choices, $F(1,76) = 4.22, p < .05, \eta^2 = .05$. Out of the nine decomposed games, those in the control condition chose to equally distribute resources between themselves and another person in 5.25 ($SD = 3.00$) games on average. In contrast, those in the rudeness condition chose to do the same thing in only 3.78 ($SD = 3.39$) games on average. This result suggests that people generally exhibit less prosocial tendencies after observing rude behavior, confirming H4.

To test whether negative affect mediated the relationship between rudeness, competition, and their interaction and the dependent variables of performance and creativity we conducted two regression analyzes, using a bootstrap approach with 3000 iterations. First, we regressed each of the three dependent variables on witnessing rudeness, competition, and their interaction. Table 9 shows that witnessing rudeness affected all three dependent variables while competition affected none of them. The interaction between rudeness and competition affected the anagram and brick performance, but not creativity. Second, we tested the mediation effect of negative affect using a bootstrapping approach with 3000 iterations for moderated mediation effects (see Preacher, Rucker, & Hayes, 2007). Witnessing rudeness ($b = 1.85, p < .01$), competition ($b = .60, p < .05$), and the interaction term ($b = -.77, p < .05$) were all significantly related to negative affect. Table 9 shows that negative affect was significantly and negatively related to anagram and brick performance, but not to creativity.

Table 9 also shows that the relationship between witnessing rudeness and anagram performance was no longer significant when negative affect was entered into the regression. Thus, it seems that negative affect mediated the relationship between witnessing rudeness and anagram performance. Similarly, the interaction term also dropped from significance when negative affect was in the regression suggesting a “negative affect mediation” effect. Conditional indirect effects between rudeness and anagram performance at a competition value of zero (i.e., cooperation manipulation) and at a competition value of one (i.e., competition manipulation) showed that both indirect effects were significant. However, there was a significant difference ($t = 6.62, p < .01$) between these indirect effects. These results suggest that the indirect effect from witnessing rudeness to anagram performance was stronger under a cooperative situation than it was under a competitive situation.

The relationship between rudeness and brick performance remained significant when negative affect was entered into the regression; however, the interaction terms dropped from significance. Here again, both indirect effects from witnessing rudeness to brick performance through negative affect under cooperative and competitive situations were significant. However, here there was also a significant difference ($t = 5.25, p < .01$) between these indirect effects. Thus, similar to the anagrams results, the indirect

Table 9
Mediation effects of negative affect on the relationship between witnessing rudeness, competition, their interaction, and performance, Study 3.

	Anagrams task		Brick task		Creativity	
	b	s.e.	b	s.e.	b	s.e.
<i>First regression</i>						
Witnessing rudeness (R)	−1.33**	.46	−6.15**	.91	−1.65**	.27
Competition (C)	.53	.46	1.50	.91	.23	.27
R × C	.54*	.23	.92*	.39	.12	.14
<i>Second regression</i>						
Negative affect	−.80**	.25	−1.22*	.52	−.20	.16
Witnessing rudeness (R)	−.92	.78	−5.69**	1.57	−1.51**	.48
Competition (C)	−.07	.64	.43	1.29	.12	.39
R × C	1.53	.90	2.66	1.81	.31	.55
Indirect effect of witnessing rudeness to DV at a cooperative situation	−1.47**	.51	−2.24**	.89	−.34	.30
Indirect effect of witnessing rudeness to DV at a competitive situation	.84**	.32	−1.33*	.64	−.20	.19

Notes: The coefficients are based on bootstrapping 3000 re-sampling. Confidence intervals for indirect effect are in parenthesis.

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

effect from witnessing rudeness to brick performance was stronger under a cooperative situation than it was under a competitive situation. Unlike Studies 1 and 2, negative affect did not mediate the relationship between witnessing rudeness and creativity in this study.

Discussion

As in Studies 1 and 2, in Study 3 we found that witnessing rudeness affected performance and social behavior. Thus, our three studies show that just witnessing rudeness reduces observers' performance, creativity, and citizenship behaviors, and increases their tendency to think in aggressive terms. However, our Study 3 results also showed that, at least in part, competitiveness with the victim reduced the effects of witnessing rudeness on task performance. Witnessing rude behavior also had less effect on the negative affect of observers in the competitive situation than those who observed rudeness in the cooperative situation. Note, however, that the effects of witnessing rudeness did not disappear under the competitive situation. For example, those who witnessed rudeness produced less uses for brick, their uses were rated as less creative, and they were less likely to engage in OCBs in both the cooperative and the competitive situations. Because concern for others is not likely to be the only psychological process at play here it is not surprising that competition with the victim did not nullify the effects of witnessing rudeness. In fact, our Study 3 results suggested that after observing rude behavior, people became less, not more, concerned for others. Indeed, those who witnessed rudeness were much less likely to be prosocial and share their resources as compared with those in the neutral condition.

Nonetheless, our results seem to be particularly relevant to situations where cooperation is important. The most obvious organizational structure where observing rudeness is likely to be important is in the team structure. Recently [Felps, Mitchell, and Byington \(2006\)](#) theorized and provided strong evidence from ample studies suggesting that a negative and a destructive team member can have detrimental effect on team processes such as cooperation and cohesion. Our study provides additional strong support to Felps et al. theory by showing that even an isolated rude behavior enacted by a "bad apple" may affect observers and "spoil the barrel." In the modern organization, groups increasingly appear to be the structure of choice ([O'Toole & Lawler, 2006](#)). As the nature of work is rapidly changing from being structured around individuals to being organized around teams ([Ilgen & Pulakos, 1999](#)) it seems that even if rudeness affected only those in cooperative relationships, it would have a significant impact on organizational functioning.

General discussion

In Study 1, we investigated how rudeness administered directly by a supervisor influenced witnesses' behavior and affect. The second study replicated the results of Study 1 with one major difference—the person performing the rude act was a confederate who was rude to a peer. In Study 3, we found that the detrimental effect on witnesses' performance is exacerbated when witnesses are in a cooperative (versus competitive) relationship with the target. The effects of these different forms of experimental manipulations converged to reveal that witnessing rudeness has serious consequences for performance. Indeed, our three studies provide evidence that just witnessing rudeness tends to reduce observers' performance, creativity, and citizenship behaviors and increase their aggressive thoughts. We believe that these results are important because they illustrate that the rudeness effect is pervasive and has a spillover effect. The conclusion that rudeness may not be contained within the instigator-target dyad and that it affects

performance is theoretically and practically significant because it implies that the organizational functioning and climate could be affected by isolated rude incidents.

Clearly, much remains to be learned about why witnessing rudeness affects task performance and creativity. Our studies suggested a partial answer to this question. Observing rudeness increased witnesses' negative affect and this, in turn, decreased their performance and creativity. We believe that negative affect instigated by witnessing rudeness is disruptive to performance because it affects complex cognitive tasks that required some degree of creativity or flexibility. Because witnesses are clearly upset by the rude incident they are likely to spend cognitive resources evaluating the situation, engaging in sense-making, making moral judgments (i.e., Was someone wrongly mistreated?), and processing what reactions might be appropriate (i.e., Should I say something? What should I do?) (see [Weiss & Cropanzano, 1996](#) for a review). These off-task cognitions about the event are likely to disrupt cognitive processing and negatively affect task performance ([Kanfer & Ackerman, 1989](#)).

Some support to the hypothesis that witnessing rudeness affected performance because it influenced cognition and not just the effort invested in the tasks may come from noting the differences among the three studies. In Study 1 creativity was not significantly related to the number of uses for brick ($r = -.09$) and in Study 2 it was only moderately ($r = .35$) related to brick performance. In contrast, in Study 3 this relationship was strong ($r = .63$) indicating that in this study quantity affected quality. In other words, unlike in Studies 1 and 2 where creativity scores likely represented cognitive quality in Study 3 these scores may have simply represented effort. In Study 3 negative affect also did not mediate the relationship between witnessing rudeness and creativity while in Studies 1 and 2 it did. In turn, these results may suggest that negative affect, resulting from observing rudeness, may not simply reduce effort invested in tasks, but instead, that it affects cognition. Based on these limited results we speculate that witnessing rudeness affects performance through cognition to a greater extent than it influences it through motivation reduction. Of course only future studies that include specific measures of motivation and cognition will be able to directly test this hypothesis.

The negative affect that we measured in these studies was coupled with high arousal. [Zillmann \(1988\)](#) suggested that arousal is non-specific, is slow to decay, and that often people do not recognize that they are aroused. Arousal is expressed in modifications to the activity of the autonomic motor system; it typically involves an increase in heart rate, changes in cutaneous blood flow (blushing or turning pale), sweating, and changes in gastrointestinal activity. That is, arousal involves the activation of the sympathetic nervous system and it takes time, along with the counter-activation of the parasympathetic nervous system, to bring the smooth muscles, cardiac muscles, and glands throughout the body to their original state ([Kandel et al., 2000](#)). Therefore, the effects of excitation can "stay in the body" for long periods of time. Because it is slow to decay, arousal that is retained from a previous small infraction, such as witnessing rudeness, can be combined with arousal of a new situation to intensify the emotional reaction ([Fiske & Taylor, 1991](#)). Moreover, research suggests that in a state of high arousal, if people are unable to take immediate action, they may commit themselves to future actions such as revenge ([Fiske & Taylor, 1991](#)). Thus, although it remains to be tested, arousal caused by witnessing a rude act may have an unexpected and insidious effect long after the act is forgotten.

Our findings also suggest that even if witnesses do not respond immediately against the instigator or the organization they may find ways to get even in seemingly unrelated ways. Witnesses, for example, may reduce citizenship behaviors that benefit the

instigator, team members or an authority figure. Indeed, our three studies clearly show that participants in the rude condition were less likely to engage in OCBs than those in the neutral condition. These results give credence to De Cremer and Van Hiel's (2006) findings that witnessing behavior that is perceived as unfair reduces observers' intentions to engage in OCBs. Our three studies show that the intention to be less cooperative and helpful translated to actual behavior. This result was especially surprising in Study 2 in which the perpetrator was not the person seeking help. Yet those who witnessed rudeness were more than three times less likely to help the innocent party. Our Study 3 results shed some light on this finding by showing that witnesses of rude behavior generally became less prosocial and chose to share less of their resources with others.

This tendency to become less prosocial, after observing rude behavior, was also observed in the finding that rudeness could spark dysfunctional ideation. In all three studies participants in the rudeness condition were more likely to create dysfunctional uses for brick than in the neutral condition. In fact, respondents in the rudeness condition wrote things like, "I'd like to smash the experimenter's face with a brick," as well as "break someone's nose," and "smash someone's fingers." Many stated that a brick could be used to "murder someone," "kill people," "attack someone," "beat someone up," "hurt someone," "injure another person," "throw at someone," "trip someone," "throw through a window," and could be used as a weapon. Thus, our studies seem to suggest that an isolated rude comment could provoke the urge to aggressively retaliate. Participants who were exposed to rudeness not only produced more dysfunctional uses (which may be conscious or subconscious) but also tended to incorrectly reassemble the scrambled word "remdue" as "murder." This kind of implicit measure is used by cognitive psychologists to uncover important facts about subconscious thinking processes (see Eysenck & Keane, 2003). Thus, our studies seem to suggest that an isolated rude comment could provoke conscious as well as subconscious aggressive thoughts that may prime individuals to behave in an aggressive manner.

These results could be extremely important to organizations and organizational research because they suggest the possibility that observing rudeness could be the starting point to a spiral of aggression. Andersson and Pearson (1999) suggested that rudeness may provoke people to "strike back," and that these aggressive outcomes could deteriorate further as conflict continues. To date, researchers have found it difficult to test this proposition and previous self-report research (e.g., Cortina, Magley, Williams, & Loughout, 2001) often cites an inability to determine their studies' point of entry in the rudeness spiral. Our experimental studies provide an opportunity to better decipher this phenomenon. Future research may use our methods as a starting point, and trace the rudeness spiral further to more accurately ascertain whether a spiral follows rude behavior. Because of the potential important implications for organizations, schools, and society, it warrants further discussion and we encourage future research in this area.

As in all studies, our studies also have limitations. Most notably many of the processes mediating the relationship between observing rudeness and performance and social behaviors remain unclear. For example, it is not clear which specific cognitive processes are affected by rudeness. Does observing rudeness affect encoding, recall of information, or both? Does it affect working memory, and if so, which part of working memory does it affect? In order to really understand why observing rudeness affects performance on complex and creative tasks, these questions need to be addressed. Second, the processes mediating the relationships between observing rudeness and social behavior were not specified or tested in this study. Thus, it is not really clear from our study why observing rudeness reduces citizenship behavior. Third,

although it is very likely that motivation processes such as motivation decrements and motivation to withdraw efforts may explain some of the relationships between witnessing rudeness and performance we did not test them. Given that this is the first study we know of investigating the influence of witnessing rudeness on task performance, we had to balance comprehensiveness with parsimony. Therefore, we assessed what we believed to be the most important process that mediates these relationships – negative affect. However, we encourage research directed at investigating the more specific motivational and other processes that may explain these relationships.

Our findings should provide an increased incentive for organizations and schools to pay closer attention to rudeness. There are quite a few methods that organizations can employ in an effort to reduce rudeness (cf. Pearson & Porath, 2009). Organizations might employ 360-feedback to assess how well employees treat one another across various levels of the hierarchy. This may be especially important because rudeness is often a top-down phenomenon, and thus more likely to go unreported (e.g., Cortina, 2008; Pearson, Andersson, & Porath, 2000). Organizations might also pay close attention to the types of role models provided for employees (O'Leary-Kelly et al., 1996) since research has found that leadership's uncivil behavior exacerbates the negative consequences associated with rudeness. No matter what specific preventive actions they take, one conclusion clearly emerges from our findings – managers and organizations should take a proactive role in curtailing rudeness.

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