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DOES RUDENESS REALLY MATTER? THE EFFECTS OF RUDENESS ON TASK PERFORMANCE AND HELPFULNESS

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In three experimental studies, we provided an empirical test of how rudeness affects task performance and helpfulness. Different forms of rudeness—rudeness instigated by a direct authority figure, rudeness delivered by a third party, and imagined rudeness—converged to produce the same effects. Results from these studies showed that rudeness reduced performance on routine tasks as well as on creative tasks. We also found that rude behavior decreased helpfulness. We examined the processes that mediated the rudeness-performance relationship and found evidence that disruption to cognitive processes fully mediated that relationship.

In the last decade, investigations of rudeness in the workplace have generated a substantial number of studies that greatly advanced the organizational literature. Rudeness can be defined as insensitive or disrespectful behavior enacted by a person that displays a lack of regard for others. Rude behaviors are sometimes referred to as uncivil behaviors. For example, our definition of rudeness is similar to the way Cortina and her associates (Cortina, Magley, Williams, & Langhout, 2001; Lim & Cortina, 2005) defined and operationalized incivility. However, Andersson and Pearson (1999) reserved the term "incivility" for rudeness that occurs with ambiguous intentionality. Because the perceived intentionality of various types of aggression is often unclear, and people often use "rudeness" to describe others' uncivil behavior without implying the aggressive acts were unintentional, we use "rudeness." The central finding of the relevant body of research has been that rude behaviors have detrimental effects on a variety of important organizational outcomes. For example, several researchers have found that rude behaviors are linked to employees' retaliatory behaviors (Bies & Tripp, 1996, 2001, 2002, 2005; Bies, Tripp, & Kramer, 1997; Skarlicki & Folger, 1997), counterproductive behaviors (Duffy, Ganster, & Pagon, 2002), and withdrawal of leader support (Tyler & Blader, 2000).

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Notwithstanding these achievements, it is apparent that some potential key outcomes of rudeness have been largely overlooked in the organizational literature. For example, we could not locate any research that investigates how rude behaviors influence victims' task performance. In fact, most published articles that investigate rudeness outcomes explore perpetrators' and victims' self-reported attitudes and well-being rather than their functioning and behavior. Research that does investigate how aggressiveness influences behaviors such as organizational citizenship behaviors (Tepper, 2000; Zellars, Tepper, & Duffy, 2002) has focused on sustained abusive supervision rather than on one-time insensitive behaviors such as displaying rudeness or disrespect.

In an effort to bridge this gap, we investigate how rudeness enacted by others affects individuals' task performance and helpfulness. More specifically, we explore how objective performance on complex cognitive tasks (i.e., creative and flexible tasks) and helpfulness are influenced by indirect rudeness (e.g., when people overhear someone speaking rudely) as well as by direct rudeness (e.g., when people confront rudeness personally). We also investigate some of the processes that potentially mediate this relationship, such as victims' negative moods, their desire for revenge, and their ability to give cognitive attention to a task.

Whereas the effects of severely aggressive behaviors, such as violence, on victims' performance seem obvious (i.e., violence may cause injuries), the effects of rude acts may not be that apparent. In fact, there are some reasons to believe that rudeness may not strongly affect performance. For example,

research has shown that people specifically distort information in a self-serving and positive direction (see Taylor & Brown, 1988) and that they therefore regularly discount small negative events. Often, in making sense of a situation, victims may also attribute at least partial blame to the situation; for example, they may think "He was rude because of the stress of the deadline." In turn, "explaining away" the actions of a perpetrator may reduce the negative consequences associated with his/her rude behavior (Shaw, Wild, & Colquitt, 2003). Indeed, these may be some of the reasons why researchers and managers seem to remain skeptical about the effects of relatively minor aggressive acts such as rudeness on individual functioning.

At the same time, there are several reasons to believe that rudeness has a detrimental effect on performance. For example, recent studies have suggested that targets of rudeness report psychological distress (Cortina et al., 2001) and negative emotional effects (Pearson & Porath, 2005). Negative emotions and attitudes may in turn affect individuals' functioning and performance in a variety of ways (Ellis, Moore, Varner, & Ottaway, 1997; Ellis, Varner, Becker, & Ottaway, 1995; Judge, Thoresen, Bono, & Patton, 2001). Evoking negative emotions is not the only way rudeness may reduce performance, though. After experiencing a rude act, an individual may replay the act in her or his mind, assess how legitimate the instigator's actions were, and think about the consequences of various responses (Porath, Overbeck, & Pearson, in press). As the person does so, task-focused cognitive resources may be reduced, lowering performance. Thus, although we could not find research that directly shows that rudeness affects performance, theoretical work and some indirect empirical findings suggest that it may. In the next sections, we elaborate on this likelihood, hypothesizing why acts of rudeness may influence various forms of individual performance. We then describe three studies that were designed to test these hypotheses.

RUDENESS AND TASK PERFORMANCE

There are several reasons why victims' task performance may suffer following rudeness. Perhaps the most obvious way is based on the desire for revenge. The victims' belief that the perpetrators willingly violated moral codes of behavior may prompt a deontic response (i.e., a reaction to a violation of norms such as fairness, accountability, and justice [Folger, 2001]). Deontic responses vary from mere emotional reactions to an event to emotional reactions accompanied by behaviors aimed at restoring justice (Cropanzano, Goldman, & Folger, 2003). Retaliating may fulfill the targets' need to reaffirm a damaged identity, to restore justice, or to deter future identity threats (e.g., Aquino, Tripp, & Bies, 2001; Baumeister, Smart, & Boden, 1996; Felson, 1982; Gilligan, 1996; McLean Parks, 1997; Tedeschi & Felson, 1994; Tripp & Bies, 1997; Tripp, Bies, & Aquino, 2002). In fact, unfair treatment has been found to be associated with retaliatory actions such as theft (Greenberg, 1990, 1993) and vandalism (Fisher & Baron, 1982). Although we are not aware of any studies that have directly investigated the path from rude behaviors through retaliation to reduced performance, it is a likely way for victims to get even. Thus, people who experience rude acts in a task setting can strike back by making conscious decisions not to allocate their resources toward the required tasks. Indeed, employees often admit that after experiencing rudeness, they may withhold effort and decrease commitment (Pearson & Porath, 2005).

Rude behaviors are also very likely to cause a variety of negative emotions (Pearson & Porath, 2005), and these emotions should be incompatible with task performance. In their affective events theory, Weiss and Cropanzano (1996) argued that events on the job influence work behaviors mainly through affective reactions. Of these events, however, negative events should be especially influential. Indeed, Miner, Glomb, and Hulin (2005) found that the relationship between negative events and mood was about five times stronger than that between positive events and mood. According to Weiss and Cropanzano (1996), negative emotions affect performance because they serve as signals that something in the environment is problematic. As a result, people invest extensive cognitive resources appraising their situation, a process that is disruptive to work.

Although no direct evidence shows that events on the job that involve rudeness affect performance through negative emotions, some indirect evidence to that effect exists. For example, Ellis and his colleagues found that, compared to those in neutral moods, individuals induced with negative affect exhibited more selective processing (Varner & Ellis, 1998), did not learn and recall as well (Ellis et al., 1997), and were impaired in their abilities to comprehend and use prior knowledge (Ellis et al., 1995). This reduction in cognitive functioning may be especially pronounced for emotions that involve a high degree of arousal. The work of Zillmann (1979, 1983, 1988, 1993) showed that "hot emotions" such as anger, caused by provocations, led not only to enhanced retaliatory behaviors but also to reduced cognitive functioning. For example, Zillmann, Bryant, Cantor, and Day (1975) showed

that at a high level of arousal (caused by strenuous exercise combined with experimenter provocation), participants were not likely to pay attention to mitigating messages (i.e., "He is under stress"). As a result, angry participants engaged in a retaliatory behavior whether a mitigating message was presented or not. In contrast, when participants were at a low level of arousal (no exercise), the same provocation from the experimenter did not cause retaliatory behavior when accompanied by a mitigating message. Accordingly, Zillmann (1988) concluded that "hot emotions" may narrow attention and inhibit cognition. In line with this research, we predict that when rude behaviors cause negative emotions, they lead to performance decrements.

However, even if rudeness does not cause emotional or retaliatory reactions, it may still have negative effects on performance by disrupting cognitive processes. According to cognitive theories of attention (e.g., Kahneman, 1973), individuals possess limited attentional resources that they allocate to and withdraw from various activities. Performance on a task depends on the extent to which this limited attentional capacity is devoted to the specific task (Kahneman, 1973). Expanding on this concept of limited cognitive capacity, Kanfer and Ackerman (1989) developed the integrated resource allocation model, an attempt to explain the process by which individuals allocate their attentional resources to a task. During task engagement, individuals may decide to allocate their cognitive resources to on- or off-task activities. Resources allocated to off-task activities, such as cognitions about an event and emotional processing, negatively affect task performance (Kanfer & Ackerman, 1989). Indeed, in a study of military trainees, Kanfer and Ackerman found that those with poorer performance reported higher levels of off-task, emotion-laden cognitions (i.e., anger, feelings of unhappiness) than did the trainees with better performance.

It is consistent with the resource allocation model that after victims experience a rude interaction, their attentional resources may be directed away from on-task activities and allocated to off-task activities. For example, after a rude incident victims may try to restore their well-being and sense of right by reinterpreting the event or relaxing their normative standards of what constitutes appropriate behavior. Victims can do that by assigning blame to the situation (e.g., "We are under a strict deadline") or by trying to find justifications for the perpetrator's behavior (e.g., "She is under a lot of stress"). Victims of rude acts may also just replay the acts in their minds, trying to understand the events. Note that although these thoughts are neutral in their hedonic tone and are not particularly arousing, they require attention. Thus, in just appraising rudeness, victims are distracted from tasks at hand. This distraction reduces task-focused cognitive resources and may affect their performance (Kane & Montgomery, 1998; Montgomery, Kane, & Vance, 2004). This effect should be especially likely when task performance requires enhanced cognitive resources, as does creative and flexible performance.

At the core of many old theories of creativity lies the concept of illumination, in which the solution to a problem comes to the thinker spontaneously, in "a sudden insight" (Wallas, 1926). However, current accounts of creativity suggest instead that this sudden emergence of a solution actually requires extensive cognitive attention and effort. For example, Boden (1994) suggested that creativity requires an extensive memory search and may cause a major working memory overload. Flexibility also requires extensive cognitive resources, because to change the course of action or produce diverse ideas, individuals must simultaneously "hold in their heads" both old and new information: They need to retrieve the old information from long-term memory and compare it to the new information that is stored momentarily in working memory (Baddeley & Hitch, 1974). The demands of performing two tasks together often introduce new demands for coordination and avoidance of interference (Eysenck & Keane, 2003). Thus, thoughts about a rude act may not only steal cognitive resources from a task, decrease attention, and potentially overload working memory with distracting thoughts, but may also disrupt tasks that require coordination of ideas. As a result, exposure to rude behaviors may disrupt the production of diverse ideas and the creative process.

Importantly, some scholars have argued that people who feel negative emotions can be more, not less, creative (George & Zhou, 2002). Accordingly, rude behaviors that cause negative emotions may actually enhance and not reduce creativity. However, the evidence for these effects is currently quite weak. For example, in their 2002 study George and Zhou found a null correlation ($r = .03$) between negative affect and creativity. These authors did hypothesize and find a three-way interaction between negative affect, role recognition, and rewards and creativity. However, three-way interactions are notoriously difficult to replicate and are therefore suspected by many researchers (Alexander & DeShon, 1994; Judge, 2007). Moreover, these results are not compatible with theory and existing data. For example, even researchers

(i.e., Forgas, 2002; Schwarz & Clore, 1996) who have strongly argued that people in negative moods "think better" have consistently hypothesized and found that positive and not negative affect leads to creativity. According to these researchers, negative affect leads to systematic processing. However, this type of processing is counter to what creativity requires (Fredrickson, 1998; Isen, 2000). Thus, following the majority of research, we predict that exposure to rude behaviors that causes negative emotions leads to lower levels of creativity.

The rude behaviors that may have a negative influence on task performance and creativity are not limited to direct insults. Both experiencing direct rudeness and experiencing indirect rudeness should cause the same retaliatory effects, emotional effects, and disruption to focused attention. As a result, direct as well as indirect behaviors should negatively affect task performance. For example, a victim's hearing derogatory remarks about a group he or she belongs to (e.g., a group based on gender or national origin) may cause anger and a desire to strike back even if the perpetrator did not specifically direct the comment to the victim (Rodriguez Mosquera, Manstead, & Fischer, 2002). Similarly, individuals who overhear an insult about an institution they identify with (e.g., an alma mater) may contemplate the reasons for this attack, which disrupts the cognitive attention devoted to a task at hand. Thus,

Hypothesis 1. Targets of direct and indirect rudeness perform less well on cognitively complex, creative, and flexible tasks than their counterparts who do not experience rudeness.

Hypothesis 2a. Negative affect mediates the relationship between rudeness and task performance.

Hypothesis 2b. A desire to strike back mediates the relationship between rudeness and task performance.

Hypothesis 2c. Disruption of cognitive processes such as memory-recall mediates the relationship between rudeness and task performance.

RUDENESS AND HELPFULNESS

People help others for a variety of reasons. For example, individuals may help those who benefit them, those who are kind to them, or those with whom they feel a connection (Anderson & Williams, 1996; Mossholder, Settoon, & Henagan, 2005; Settoon & Mossholder, 2002). Individuals may also help others because helping is the right thing to do (e.g., helping a coworker to meet a deadline). We believe that rudeness directly diminishes some of these antecedents of helpfulness and thus reduces helping behaviors. First, helpfulness depends to a certain extent on the norm of reciprocity by which people help those who benefit them (cf. Becker, 1956; Blau, 1964; Festinger, 1950; Gouldner, 1960). Because rudeness may undermine reciprocity (i.e., the offender is not beneficial and is unkind), people who are being mistreated may not help those who mistreat them. Second, although being helpful is societally valued and considered "the right thing to do," individuals may not feel obligated to help those who mistreat them or those deemed responsible for allowing mistreatment (e.g., Heider, 1958; Parsons, 1951). In fact, the norm of reciprocity may even dictate that people retaliate against those who have abused them in order to restore justice. Indeed, theory suggests that targets may retaliate in several ways, including withdrawing helpfulness (cf. Andersson & Pearson, 1999).

Because helping is an individual discretionary behavior that is not formally required, targets of rudeness can get even by withholding actions that benefit perpetrators. Targets may not only reduce help to those who abused them but may also reduce help to those associated with the abusers, or even those unrelated to the abuse. For example, Tepper (2000) and Zellars et al. (2002) found that abused subordinates reported that they might reduce organizational commitment, although their organization was not directly responsible for the abuse. Although Tepper and Zellars et al. investigated the influence of *sustained* displays of hostile behaviors on subordinates, and we test the influence of one-time rudeness, we make a similar prediction: rudeness will also affect parties that did not instigate the aggressive act. A target may also withhold help after experiencing rude behavior as a result of displaced aggression (cf. Denson, Pederson, & Miller, 2006; Hoobler & Brass, 2006; Marcus-Newhall, Pedersen, & Miller, 2006). That is, the target may exhibit aggression by withholding help because of frustration or anger caused by the rudeness—even though the person requesting help had nothing to do with the incident. Moreover, emotional responses to provoking situations are sometimes delayed or transferred to other situations, and they direct people's behavior without the people being conscious of the behavioral shaping (cf. Zillmann, 1979). Therefore, a target may very well be unaware that he or she is displacing aggression by being unhelpful. Thus, we hypothesize:

Hypothesis 3. Targets of rudeness are less likely to be helpful after experiencing direct or

indirect rudeness than those who do not experience rudeness.

METHODOLOGY OVERVIEW

This article presents the results of three studies. In Study 1, we investigated how rude behavior enacted by an authority figure influences performance. In Study 2, we tested how a third party's rude behavior influenced performance. In Study 3, we asked participants to think about an incident involving rude behavior and measured how "just thinking" about rudeness influences performance. By triangulating the results obtained with three different methods of exposing people to rude behaviors, we could better ascertain the validity of our conclusions. Our main purpose was to investigate whether or not rudeness affects performance, but we also investigated some of the mediating processes that may explain rudeness-performance relationships. Study 1 examined whether negative mood mediates the relationship between rudeness and performance. Study 2 examined whether the desire for revenge mediates this relationship. Study 3 examined the hypothesis that rude behaviors reduce performance via disruption to cognitive processes such as memory-recall.

STUDY 1

Participants and Procedures

Participants. Students enrolled in a required management course at a large western university were asked to participate in a laboratory study aimed at investigating the personality correlates of task performance. Participation was voluntary, and those who participated received extra course credit. Participants were 98 undergraduate students ranging from 19 to 25 years of age, with a median age of 21. Of the sample, 54 percent were male, 46 percent were white, and 30 percent were Asian.

Procedures. Participants were randomly assigned to one of the two experimental conditions, rudeness and control, and the laboratory sessions took about one hour to complete. Upon a participant's arriving at the lab, an experimenter told him or her a cover story that the study was about the link between personality and performance. The experimenter then asked the participant to answer a personality questionnaire[1] that took about ten minutes to complete. This questionnaire was a "filler task" intended to give a confederate of the experimenter's enough time to show up late to the experimental session. About six minutes after the start of the experiment, the confederate arrived at the lab and said, "I am really sorry that I am late. My class across campus was not released on time." The experimenter then told him (in a neutral tone) that it was too late, that he would not be able to participate in the experiment, and that he would have to leave. As soon as the confederate had left the room, the experimenter introduced the rudeness manipulation (described below).

When the participant had completed the personality questionnaire, the experimenter explained again that the purpose of the study was to investigate the link between personality and performance and that the participant would therefore perform two tasks. The experimenter then handed the participant the first task, which consisted of ten anagrams (purposely scrambled words) that the participant had ten minutes to solve. Upon completion of the task, he or she was asked to complete the second task, which was to write down as many uses for a brick as possible in five minutes. Upon completion of the second task, the participant answered a questionnaire about the experiment that included manipulation checks. He or she was subsequently debriefed, thanked, and released.

Manipulation. Immediately after dismissing the late-arriving confederate (as described above), the experimenter did one of two possible things. When a participant was in the control condition, the experimenter said nothing. When a participant was assigned to the rudeness condition, however, the experimenter said: "What is it with you undergrads here at XXX [university name]? You always arrive late; you're not professional. I conducted this type of study at other universities, and I can tell you that students here at XXX leave a lot to be desired as participants." This rudeness display was designed to be abstract and general and not specifically directed toward the participant. Accordingly, the experimenter delivered the rude statement indirectly, using a low voice (i.e., not louder than normal) and not looking directly at the participant.

[1] The personality measures used as fillers were the following: the "Big Five" personality traits using Saucier's (1994) "mini-markers" measure. Core self-evaluations was measured using a scale developed by Judge, Erez, Bono, and Thoresen (2003). Rosenberg's (1965) ten-item self-esteem scale was used to measure self-esteem. Generalized self-efficacy was measured with a ten-item scale developed by Judge, Locke, Durham, and Kluger (1998). Narcissism was measured with the Narcissistic Personality Inventory Scale (Raskin & Hall, 1979). Coefficient alpha reliability estimates for all these scales ranged from .83 to .91.

Measures of Endogenous Variables

Task performance. As described above, performance on two tasks was measured. The ten anagrams constituting the first task have been used in previous studies (e.g., Erez & Isen, 2002) and shown to be moderately difficult. The number of anagrams correctly solved in ten minutes was one measure of task performance here. The second task, writing down uses for a brick, is a brainstorming task commonly used in creativity studies as a dependent measure of creativity (Frick, Guilford, Christensen, & Merrifeld, 1959; Guilford, 1975). The number of brick uses produced in five minutes was our second measure of task performance.

Creativity. Three graduate assistants who were blind to the experimental conditions independently rated the creativity of the brick uses participants produced. The "high" (coded 6 or 7) and "low" (1 or 2) portions of the scales were anchored with examples taken from a pilot study that investigated creative solutions for the brick problem. Examples of anchors in the high portion were "hang it from a wall in the museum and call it abstract art," and "sell it on e-Bay." The lower end of the scale was anchored with examples such as "use it as a door stop." Values for interrater reliability (intraclass correlation coefficients) suggested that aggregation over raters was appropriate: ICC(1) was .78, and ICC(2) was .92.

Flexibility. The diversity of a research participant's uses for a brick may be different from the creativity of these solutions. For example, one can produce creative solutions that are all related to using a brick as a building material. Alternatively, one can produce noncreative solutions in diverse categories, such as using the brick to build or as a weapon. Thus, as have previous researchers (Frick et al., 1959; Guilford, 1975), we also rated the brick uses for *flexibility* (i.e., varied categories). The same three judges who rated creativity rated responses for flexibility on a scale ranging from 1, "zero variety," to 7, "many distinct categories." For example, a rating of 1 indicated answers like "to build a house, to make buildings," whereas a rating of 7 had items like "use as a building block, paper weight, piece for interior design, weapon to hurt someone, and to break a window to get your keys." Interrater reliability again justified aggregation over raters (ICC[1] = .82, ICC[2] = .93).

Helpfulness. To assess participants' helpfulness, while giving participants the brainstorming (brick) task described above, the experimenter knocked over a jar with ten pencils that was on his desk. Helpfulness was measured by whether participants picked any pencils up and by the number of pencils they picked up.

Negative affect. Negative affect of participants was measured with the negative affect subscale of the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988), a ten-item measure of an individual's experienced negative (e.g., upset, distressed) emotional states. As Watson et al. (1988) recommended, we measured "state negative affect" (NA) by using short-term instructions (that is, "Indicate to what extent you feel this way right now"). The negative affect measure, which appeared at the end of the personality questionnaire, was answered by all participants after the rude behavior manipulation had been introduced. The coefficient alpha reliability estimate was .86.

STUDY 1 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 rude behavior manipulation as the independent variable. For the dependent variable, participants rated their agreement with the items "The experimenter refrained from improper remarks and comments" and "The experimenter treated me with respect" (1, "strongly disagree," to 7, "strongly agree"). The first item was taken from Cortina et al.'s (2001) incivility measure, and the second item was taken from Porath, Shapiro, and Duffy's (2004) incivility measure. The coefficient alpha reliability estimate for the two items was .79, and we therefore combined them to form one scale. A comparison of mean responses showed lower agreement with these items among participants in the exposure to rudeness condition ($\bar{x}$ = 4.63, s.d. = 1.48) than among participants in the control condition ($\bar{x}$ = 5.70, s.d. = 1.07), and these differences were significant ($F[1, 94] = 16.62$, $p < .01$). Thus, those in the rudeness condition were clearly less satisfied with the treatment that they had received from the experimenter.

Table 1 provides means, standard deviations, and correlations among the Study 1 variables. We tested the influence of rude behaviors on task performance using four indicators: the number of anagrams solved, the number of uses produced for brick, the creativity of the brick uses, and the flexibility of the brick uses. We tested our hypotheses using multivariate analysis of variance (MANOVA). The overall model representing the influence of rudeness on the five dependent variables was significant (multivariate $F[5, 88] = 17.96$, $p < .01$, $\eta^2 = .51$). Table 2 presents these results, which show that participants in the rudeness con-

TABLE 1
Means, Standard Deviations, and Correlations among Study 1 Variables[a]

Variables	Mean	s.d.	1	2	3	4	5	6	7
1. Manipulated rudeness exposure	0.46	0.50							
2. Number of anagrams solved	4.43	2.18	−.29						
3. Number of uses produced for a brick	10.32	6.27	−.27	.21					
4. Rated creativity for the brick uses	2.48	1.31	−.26	.03	.45	(.92)			
5. Rated flexibility for the brick uses	3.51	1.25	−.28	.12	.32	.19	(.93)		
6. Helpfulness	5.12	4.71	−.62	.14	.11	−.02	.18		
7. Negative affect	1.61	0.72	.21	−.21	.05	−.07	.13	.05	(.86)

[a] $n = 98$. Reliabilities are on the diagonal in parentheses. Correlations above .19 are significant at $p < .05$. Correlations greater than .25 are significant at $p < .01$.

dition did not perform as well as those in the control condition on solving the ten anagrams. Those that experienced rudeness also produced significantly fewer uses for brick, and their uses were rated significantly lower for creativity and flexibility than the uses produced by those in the control condition. Thus, overall the results show that rude behavior significantly reduced performance on four measures of task performance, supporting Hypothesis 1. As can be seen in Table 2, ANOVA results with rudeness as the independent variable and negative affect as the dependent variable revealed that those in the rudeness condition also reported greater negative affect than those in the control condition.

Consistently with Hypothesis 3, those exposed to rudeness also tended to be less helpful to the experimenter. As shown in Table 2, the mean number of pencils that those in the neutral condition helped the experimenter pick up was close to eight, but individuals in the rudeness condition picked up on average only two pencils. In fact, in comparison with those in the neutral condition, of whom 89.8 percent helped the experimenter pick up the pencils, only 35.5 percent of the rudeness-exposed participants helped the experimenter ($\chi^2 = 29.89$, $p < .01$). Because men are less likely to feel guilty or anxious regarding reciprocal aggression than women (Eagly & Steffen, 1986; Harris & Knight-Bohnhoff, 1996) and women are more likely to feel that they should master anger and aggression in the service of "being nice" (Hochschild, 1983), we tested the relationship between gender, rudeness exposure, and helping behavior. The results of a logistic regression analysis with helping versus not helping as the dependent variable and rudeness, gender, and the interaction between rudeness and gender as independent variables showed that exposure to rudeness significantly influenced helping. The odds ratio was 9.0 ($p < .01$), suggesting that people in the neutral condition were generally nine times more likely to help than those in the rudeness condition. Gender and the interaction between gender and rudeness were not statistically significant.

To test whether negative affect mediated the relationship between rudeness and the measures of task performance, we used the Sobel (1982) test for mediation. Because the Sobel test imposes distributional assumptions that often cannot be satisfied in small samples, we used a bootstrapping approach (see Preacher & Hayes, 2004). In bootstrapping, a random sample is drawn from a data set

TABLE 2
Task Performance and Helpfulness as a Function of Rudeness Exposure in Study 1[a]

	Control Condition		Rudeness Condition		
Variables	Mean	s.d.	Mean	s.d.	*F*
1. Number of anagrams solved	5.04	2.14	3.78	2.08	8.40**
2. Number of uses produced for a brick	11.82	7.42	8.51	4.10	6.97**
3. Rated creativity for the brick uses	2.73	1.35	2.11	1.13	5.83*
4. Rated flexibility for the brick uses	3.85	1.31	3.14	1.14	7.78**
5. Helpfulness	7.92	4.04	2.07	3.30	58.53**
6. Negative affect	1.47	0.63	1.77	0.80	4.29*

[a] $n = 98$ (53, neutral condition; 45, rudeness exposure condition).
* $p < .05$
** $p < .01$

multiple times. In each random sample drawn, direct and indirect effects and their standard errors are estimated. Thus, on the basis of 3,000 random samples, we estimated the direct and indirect effects of rudeness through negative affect on each of the four performance variables. Results of using the Sobel test to assess such mediation were not significant (anagram performance, $Z = -0.26$, n.s.; brick performance, $Z = 0.31$, n.s.; brick creativity, $Z = -0.01$, n.s.; and brick flexibility, $Z = .10$, n.s.). Thus, Hypothesis 2a was not supported.

STUDY 2

Participants and Procedures

Participants. Students enrolled in a required management course at a large western university were asked to participate in a laboratory study aimed at investigating the personality correlates of task performance. Participants were 82 undergraduates, ranging in age from 19 to 36 years and having a median age of 21; 45 percent were female, 41 percent were white, and 49 percent were Asian.

Procedures. As in Study 1, each session had a single participant. An experimenter informed each participant that the purpose of the study was to investigate personality as a correlate of task performance; provided a short questionnaire consisting mainly of mood items; explained the anagram task and the brainstorming (brick) task used in Study 1; instructed the participant to do these tasks, starting with the anagram task; and ultimately thanked and debriefed the participants. A difference between Study 1 and Study 2 was that the experimenter dropped ten books rather than ten pencils (as in the previous study) while administering the second task.

A second difference between this study and the first was that here a confederate outside the experimental laboratory enacted the rudeness manipulation. This was accomplished as follows: Participants initially received instructions to go to a certain office in the Management Department for the experiment. When a participant arrived at the supposed experimental room, he or she encountered a half-open door to a room in which the confederate was sitting behind a desk. On the door was a small sign saying that the experiment would actually take place in a different room and giving directions to that room. The sign was positioned in such a way that participants could easily miss it—it was off center, and several other signs with different announcements were also on the door. As expected, all of the participants missed the sign and entered the room to ask the confederate (who did not appear to be especially busy) if this was where the experiment was to take place. The confederate's reply constituted the rudeness manipulation (described below). Following this reply, the confederate gave the participants instructions on how to get to the experimental room.

When the participant arrived at the experimental room, he or she was greeted by the experimenter, who said, "Sorry we had to change the rooms. I hope it was easy for you to find this room and that the professor who was sitting in room XXX gave you instructions on how to get here." The experimenter then proceeded with the session, as described above under Study 1.

Manipulation. When participants arrived at the initially scheduled experimental room, where they found the confederate (as described above), the latter did one of two things: She told the participants assigned to the control condition that the room had changed and gave them directions to the experimental room. In contrast, the confederate delivered the following statement to the participants in the rudeness condition: "Can't you read? There is a sign on the door that tells you that the experiment will be in room YYY. But you didn't even bother to look at the door, did you? Instead, you preferred to disturb me and ask for directions when you can clearly see that I am busy. I am not a secretary here, I am a busy professor." The rudeness manipulation was specifically designed to occur outside of the laboratory and to be delivered by a third party who was seemingly unrelated to the experiment.

Measures of Endogenous Variables

Task performance. As in Study 1, we assessed task performance as the number of anagrams correctly solved and as the number of uses for a brick that participants named in five minutes.

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. Aggregation over raters was appropriate (ICC[1] = .80; ICC[2] =.92).

Flexibility. The uses participants produced for a brick were rated for flexibility on the same scale used in Study 1 by the same graduate assistants who rated creativity. Again, aggregation was appropriate (ICC[1] = .81; ICC[2] = .93).

Helpfulness. To assess participants' helpfulness, while giving them the brainstorming (brick) task, the experimenter dropped ten books. Helpfulness was measured as whether participants picked up any books and by the number they picked up.

Desire for revenge. Desire for revenge was measured by asking participants to state their agree-

ment with three questions (1, "not at all," to 7, "very much"): "I did not perform up to my capacity because I didn't want to help," "I was not motivated to do the tasks because of the way I was treated," and "I would like the experiment to fail because of the way I was treated" ($\alpha = .89$).

Negative affect. As in Study 1, negative affect of participants was measured with the negative affect subscale of the PANAS (Watson et al., 1988; $\alpha = .86$).

STUDY 2 RESULTS

To determine whether our rudeness manipulation created the intended experimental conditions, we conducted an ANOVA with rudeness exposure as the independent variable. For the dependent variable, participants indicated their agreement with two items: "The professor refrained from improper remarks and comments" and "The professor treated me with respect" (1, "strongly disagree," 7, "strongly agree"). The two items ($\alpha = .84$) were combined to form one scale. A comparison of means showed a lower agreement with these items among participants exposed to rudeness ($\bar{x} = 3.68$, s.d. = 2.11) than among participants in the control condition ($\bar{x} = 4.97$, s.d. = 1.86), and these mean differences were significant ($F[1, 71] = 7.29$, $p < .01$). Thus, as in Study 1, it seems that those in the rudeness condition were less satisfied with the treatment that they received.

Table 3 gives means, standard deviations, and correlations among the Study 2 variables. Here again, we tested our hypotheses using MANOVA for the five dependent variables of performance and helpfulness. The overall model representing the influence of rudeness on the five dependent variables was significant (multivariate $F[5, 75] = 13.29$. $p < .01$, $\eta^2 = .47$). Table 4 presents the results of effect of rudeness on each dependent variable and shows that experiencing rude behavior from someone outside of the experimental session affected participants' performance. Those exposed to rudeness did not perform as well as the controls on the anagrams, produced fewer uses for brick, and were rated as less creative and less flexible on their brick uses than were those in the control condition. Thus, Hypothesis 1 was supported. As can be seen in Table 4, a one-way ANOVA revealed that those in the rudeness condition also reported greater desire for revenge than those in the control condition. In contrast, ANOVA results showed that those in the rudeness condition did not report higher negative affect than those in the control condition.

Although the perpetrator of rude behavior in this study was not the experimenter, participants in the control condition helped the experimenter pick up more books ($\bar{x} = 3.98$, s.d. = 3.04) than did those who were treated in a rude way by the confederate ($\bar{x} = 0.62$, s.d. = 1.40). Indeed, 72.5 percent of those in the neutral condition picked up the books, and only 23.8 percent of those in the rudeness condition helped the experimenter ($\chi^2 = 19.48$, $p < .01$). As in Study 1, we tested whether gender interacted with rudeness to influence helping behavior. Logistic regression analysis suggested an odds ratio of 8.87 ($p < .01$), indicating that people in the neutral condition were generally nine times more likely to help than were those in the rudeness condition. Gender and the interaction between gender and rudeness did not significantly affect helping.

Because the rudeness manipulation was not related to negative affect, we did not test the latter as a mediator. However, to test whether the desire for revenge mediated the relationship between rudeness and the measures of task performance, we used the bootstrapping approach to the Sobel test for mediation suitable for small samples. As in Study 1, we used 3,000 random samples drawn from the data set to estimate the direct and indirect effects from rudeness through desire for revenge to the four performance indicators. Using the Sobel

TABLE 3
Means, Standard Deviations, and Correlations among Study 2 Variables[a]

Variables	Mean	s.d.	1	2	3	4	5	6	7	8
1. Manipulated rudeness exposure	0.51	0.50								
2. Number of anagrams solved	4.20	2.28	−.44							
3. Number of uses produced for a brick	8.85	3.88	−.51	.37						
4. Rated creativity for the brick uses	2.60	1.51	−.24	.12	.47	(.92)				
5. Rated flexibility for the brick uses	4.01	1.44	−.34	.24	.61	.53	(.93)			
6. Helpfulness	2.26	2.88	−.59	.44	.42	.09	.17			
7. Negative affect	1.86	0.85	−.15	−.15	−.04	−.11	−.08	.03	(.86)	
8. Desire for revenge	2.16	1.59	.25	−.25	−.30	−.24	−.03	−.27	.28	(.89)

[a] $n = 82$. Reliabilities are on the diagonal in parentheses. Correlations above .21 are significant at $p < .05$. Correlations greater than .30 are significant at $p < .01$.

TABLE 4
Task Performance and Helpfulness as a Function of Exposure to Rudeness in Study 2[a]

Variables	Control Condition		Rudeness Condition		
	Mean	s.d.	Mean	s.d.	*F*
1. Number of anagrams solved	5.18	2.15	3.21	1.97	18.43**
2. Number of uses produced for a brick	11.00	3.20	6.95	3.45	29.88**
3. Rated creativity for the brick uses	2.97	1.64	2.26	1.31	4.72*
4. Rated flexibility for the brick uses	4.51	1.42	3.55	1.32	10.08**
5. Helpfulness	4.08	3.01	0.62	1.40	44.98**
6. Negative affect	1.99	0.91	1.73	0.78	1.89
7. Desire for revenge	1.74	1.28	2.54	1.75	4.69*

[a] $n = 82$ (40, neutral condition; 42, rudeness exposure condition).
* $p < .05$
** $p < .01$

TABLE 5
Means, Standard Deviations, and Correlations among Study 3 Variables[a]

Variables	Mean	s.d.	1	2	3	4	5	6	7
1. Manipulated rudeness	0.49	0.50							
2. Number of anagrams solved	5.32	2.32	−.31						
3. Number of uses produced for a brick	9.52	3.79	−.29	.43					
4. Rated creativity for the brick uses	3.26	1.21	−.21	.04	.34	(.89)			
5. Rated flexibility for the brick uses	3.81	1.24	−.21	.06	.37	.64	(.88)		
6. Negative affect	1.49	0.52	−.08	−.09	−.16	−.08	−.05	(.84)	
7. Memory-recall	12.15	2.63	−.35	.41	.52	.22	.33	−.12	

[a] $n = 98$. Reliabilities are on the diagonal in parentheses. Correlations above .20 are significant at $p < .05$. Correlations greater than .28 are significant at $p < .01$.

test, we found that a desire for revenge did not significantly mediate the relationship between exposure to rudeness and performance (anagram performance, $Z = 1.08$, n.s.; brick performance, $Z = -1.24$, n.s.; brick creativity, $Z = -1.19$, n.s.; and brick flexibility, $Z = 0.43$, n.s.). Thus, Hypothesis 2b was not supported.

STUDY 3

This study was specifically designed to test Hypothesis 2c, which states that rudeness disrupts cognitive processes such as memory-recall.

Participants and Procedures

Participants. Students enrolled in a required management course at a large southeastern university were asked to participate in a laboratory study aimed at investigating the personality correlates of task performance. Participation was voluntary, and those who participated received extra course credit. Participants were 98 undergraduates whose age ranged from 18 to 32 years, with a median 20 years. Of the sample, 54 percent were male, and 67 percent were white.

Procedures. Participants attended the experimental session in groups of five or six. At the beginning of the study, the experimenter told the students that they would participate in two short studies and that the purpose of the first study was to create an inventory of "college life events" to be used in future studies exploring how students respond to different situations in college. The students were told that they would elaborate and extend college life scenarios that students in a previous study had identified and briefly described. In adopting this scenario-extending manipulation, which has been used in previous studies to induce both positive and negative affect (Bless, Clore, Schwartz, Golisano, Rabe, & Wolk, 1996), we assumed that even imagining a situation in which a perpetrator was rude would lead to reduction in the cognitive resources devoted to a task.

The students were also told that the purpose of the second study was to investigate the link between personality and performance on several cog-

nitive tasks. At the beginning of the session, participants received a list of 15 "paired-associate" words (e.g., "tall-bone," "plan-leaf") and were given five minutes to memorize them. They were specifically instructed that at the end of the experimental session they would be given one of the words from a pair and would be asked to recall the other word. After five minutes, the experimenter randomly gave each participant a printed paragraph four to six lines long about one of four scenarios. Two of these portrayed the rude behavior situations described in Studies 1 and 2. These scenarios were validated in Studies 1 and 2 as involving rudeness that influenced task performance and helpfulness. The other two scenarios described the neutral situations (control conditions) in these studies. The participants were asked to imagine that the incident described in their paragraph had happened to them, and each participant had ten minutes to write a short story elaborating on what exactly had happened. Following this exercise, they were asked to answer several questions about the incident. After these questions had been answered, the experimenter explained that they had completed the first part of the study and would now begin the second part, the personality-performance study. Participants were given a short personality questionnaire consisting mainly of mood items, followed by the anagram and brick tasks described in the previous studies. When they had completed these tasks, they were given a list that included one of each of the paired-associate words and were asked to recall the other word. At the end of this task, they were debriefed, thanked, and released.

Manipulation. Rudeness was manipulated by asking participants to write short stories elaborating and extending a scenario that described a rude incident. They were specifically instructed to imagine that this rude incident had happened to them. This manipulation was designed to specifically test the effect of "just thinking" about rudeness. In contrast, participants in the control condition were instructed to imagine that one of the neutral/control scenarios had happened to them and to write a story elaborating and extending it.

Measures of Endogenous Variables

Task performance. As in Studies 1 and 2, we assessed task performance as the number of anagrams correctly solved and the number of uses for a brick generated in five minutes.

Creativity. The uses for a brick that participants produced 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. Aggregation over raters was appropriate (ICC[1] = .73, ICC[2] = .89).

Flexibility. The uses for a brick participants produced were rated for flexibility on the same scale used in Studies 1 and 2 by the same graduate assistants who rated creativity. Interrater reliability again justified aggregation (ICC[1] = .70; ICC[2] = .88).

Memory-recall. The paired-associate word task described above is commonly used by cognitive psychologists to test disruption of memory, attention, and other cognitive processes (i.e., working memory capacity) (see Ashcraft, 1989; Eysenck & Keane, 2003). For example, the paired-associate task is used to test for retroactive interference, whereby events occurring after the memorization interfere with the recall of the information learned.

Negative affect. As in Study 1, participants' negative affect was measured with the negative affect subscale of the PANAS (Watson et al., 1988; $\alpha = .84$).

STUDY 3 RESULTS

Because there were no significant differences between the two neutral scenarios with regard to any of the dependent variables, these conditions were combined. The same was true with regard to the two rude behavior scenarios, and therefore these two were also combined. To determine whether our rudeness manipulation created the intended experimental conditions, we conducted an ANOVA with the rudeness manipulation as the independent variable. For the dependent variable, participants indicated their agreement (1, "strongly disagree," to 7, "strongly agree") with two statements: "The person in the scenario was offensive" and "The person in this scenario intended to offend me." We combined these two items into a scale ($\alpha = .84$). A comparison of the means showed stronger agreement among participants in the rudeness condition ($\bar{x} = 4.44$, s.d. = 1.71) than among control group participants ($\bar{x} = 2.34$, s.d. = 1.65), and differences in means were significant ($F[1, 97] = 38.09$, $p < .01$). Thus, the results confirmed the expected manipulation effect.

We tested our hypothesis that rudeness would affect performance using a MANOVA for the four dependent variables, controlling for negative affect. The overall model representing the influence of rudeness on the four dependent variables was significant (multivariate $F[4, 89] = 4.24$. $p < .01$, $\eta^2 = .16$). Table 6 presents the results of the MANOVA comparing the performance indicators of participants in the experimental and control conditions.

TABLE 6
Task Performance as a Function of Exposure to Rudeness in Study 3[a]

Variables	Control Condition		Rudeness Condition		
	Mean	s.d.	Mean	s.d.	*F*
1. Number of anagrams solved	5.96	2.06	4.47	2.28	11.00**
2. Number of uses produce for a brick	10.49	3.75	8.36	3.37	8.36**
3. Rated creativity for the brick uses	3.52	1.26	3.01	1.12	4.33*
4. Rated flexibility for the brick uses	4.07	1.25	3.55	1.19	4.25*
5. Negative affect	1.53	0.57	1.45	0.47	0.60
6. Memory-recall	13.06	2.56	11.02	2.37	13.79**

[a] $n = 94$ (47, neutral condition; 47, exposure to rudeness condition).
* $p < .05$
** $p < .01$

Thinking about encountering rude behavior affected participants' performance: Those in the rudeness condition did not perform as well as the controls on the anagrams assignment, produced fewer uses for a brick, and were rated as less creative and less flexible on their brick uses. Thus, Hypothesis 1 was supported. As can be seen in Table 6, a one-way ANOVA revealed that those in the rudeness condition also performed significantly more poorly on the memory-recall task than those in the control condition. In contrast, as in Study 2, the results of a one-way ANOVA showed the rudeness manipulation was not related to participants' negative affect. Thus, here again we did not test the mediation effect of negative affect on the relationship between rudeness and performance.

To test whether a disruption in cognitive processes (i.e., memory-recall) mediated the rudeness-performance relationship, we again used the bootstrapping approach to the Sobel test for mediation. Table 7 shows that when we regressed the four task performance measures on rudeness, all of the coefficients were significant. Similarly, regressing the memory-recall (i.e., paired-associate recall) measure on rudeness produced a significant coefficient ($b = -1.85$, $p < .01$). When the measure of memory-recall was entered into the regression, all of the task performance coefficients dropped to an insignificant level. In contrast, in three of the four regressions, the coefficient of memory-recall remained significant, and only in the case of creativity was the memory-recall coefficient insignificant. Indeed, the Sobel test indicated that memory-recall significantly mediated the relationship between rudeness and task performance for anagram performance, brick performance, and flexibility, supporting Hypothesis 2c.

DISCUSSION

Taken together, our three studies investigating the objective consequences of both direct and indirect experiences of rudeness lead us to conclude that rudeness is harmful to task performance. More specifically, even one-time incidents of rudeness (quite different from Tepper's [2000] and Zellars et

TABLE 7
Results of Hierarchical Regression Analysis, Study 3[a]

Variables	Anagrams Task		Brick Task		Creativity		Flexibility	
	b	s.e.	*b*	s.e.	*b*	s.e.	*b*	s.e.
Direct and total effects								
Rudeness manipulation	−1.44**	.44	−2.20**	.74	−0.51*	.25	−0.52*	.04*
Rudeness controlling for memory-recall	−0.88	.45	−0.95	.18	−0.37	.26	−0.26	.26
Memory-recall controlling for rudeness	0.30**	.09	0.68**	.13	0.07	.05	0.14**	.05
Indirect effect								
Rudeness through memory-recall	−0.58*	.26	1.27**	.43	−0.13	.10	−0.26	.13
Sobel test (*Z*)	−2.50*		−2.96**		−1.34		−2.18*	

[a] Tabled values are unstandardized regression coefficients.
* $p < .05$
** $p < .01$

al.'s [2002] sustained abusive supervision, which reduced OCBs) not only reduce helpfulness, but also affect people's *objective* cognitive functioning and creativity. Our studies showed that an act of rudeness on the part of an authority figure (the experimenter in Study 1) and by a third party (the confederate in Study 2) affected participants' task performance, creativity, flexibility, and helpfulness. We also found that just imagining a rude incident reduced routine as well as creative and flexible performance. In Study 1, the rudeness was not directed toward the participants in particular and was subtle enough that they could have brushed it off easily. In Study 2, the rudeness was directed toward the participants, but it was seemingly unrelated to the experimental session. And in Study 3, participants merely imagined the rudeness. Thus, our operationalizations of rudeness were quite conservative. The robust effects that we found in these studies are all the more impressive in showing that even one-time incidents of exposure to rudeness may have serious consequences for objective performance on cognitive tasks (see Prentice & Miller, 1992).

Other studies on rude behaviors have also shown that they have harmful consequences, but these studies have generally relied on survey and self-report data. Survey data, however, have several notable limitations. For example, self-report questions require introspection, which has long been known to be a problematic method of investigation (see Isen & Hastorf, 1982). Similarly, self-report questions may interfere with the ecological validity of a study. Moreover, they are sensitive to researcher effects, and individuals answering the questions can sometimes guess the purpose of a study and answer accordingly (see Isen & Erez, 2007). These issues do not negate the value of survey studies on rudeness, but they do suggest that results from these studies would benefit from cross-validation with objective behavioral measures. Thus, from a methodological perspective, our studies confirmed that rudeness has serious consequences. From a practical perspective, these results show that even if individuals in a workplace report that rudeness is "not a problem" (as they may, for example, in organizations where it is acceptable behavior), rudeness may still have detrimental consequences. That is, even if people do not report the toll that rudeness is taking on them, are not intentionally "getting even," and are not even aware that rudeness affects them, they may still exhibit cognitive losses.

Our studies also extend previous research by providing insight into *why* individual task performance, creativity, and flexibility may suffer following exposure to rudeness. Although the vast majority of research on aggression focuses on how a desire to retaliate explains individuals' responses to antisocial behavior (e.g., Aquino et al., 2001; Bies & Tripp, 2005; Skarlicki & Folger, 1997), the desire to strike back cannot explain some of our results. In Study 2, a person apparently unrelated to the experiment (a stranger whom participants encountered on the way to the study) was rude to participants. Though participants had no reason to harm the experimenter or to retaliate against him, their task performance seemed to suffer. Using a design with such a third-party perpetrator shows that desire for retaliation cannot solely explain the strong effect of rudeness on cognitive performance. Indeed, the desire to strike back was not a successful mediator in our study. Our studies' results also did not support the other process that some researchers have suggested—mediation by negative affect of the relationship between a negative event such as rudeness and performance (see Weiss & Cropanzano, 1996). In fact, in Studies 2 and 3 the rudeness manipulation was not even related to participants' reported negative affect. The null results that we found with desire to strike back and negative affect as mediators could be due to the fact that we measured these variables with self-report measures. Thus, the absence of significant findings for the mediators could be an example of the poor correspondence between what people show (a reduction in performance) and what they think they know or feel (Bandura, 1971). However, it could also indicate that other processes may be more prominent in explaining the relationship between rudeness and performance.

In Study 3, we found that cognitive processes such as memory-recall are important explanatory variables for the consequences of rudeness. This variable, which has not been considered in previous research, seems to be a new explanation for how and why rudeness is detrimental to performance. Although it is not clear from our study what kind of interference to working memory rudeness presents, it is clear that some disruption occurred. It is likely that after experiencing rude behavior, people engage in thought processes to try to make sense of the event. Whether they are considering responses, trying to "explain away" the rude behavior, or just ruminating about it, it is clear that these processes take cognitive resources from a task at hand. Future research might investigate what kind of interference to cognitive processes rudeness presents. Does rudeness create a "bottleneck" in processing information? Does ruminating about rudeness proactively interfere with other thoughts or with their coordination? Researchers may want to

consider these and other questions in an effort to understand the powerful influence of rudeness on the mind.

Finally, extending previous research, our findings allow us to conclude that rudeness has a spillover effect. In our studies, rudeness influenced not only helpfulness to the perpetrator (Study 1) but also to the experimenter, who did not do any harm to participants (Study 2). The conclusion that rude behavior may not be contained within the perpetrator-target dyad and that it affects helping behaviors is theoretically and practically significant because it implies that rude behavior can harm innocent bystanders. However, more research is needed to support this conclusion. Researchers should consider the spillover effects of employee-to-employee rudeness on customers, suppliers, and other stakeholders, as discussed by Pearson and Porath (2004). Like other research findings, our finding also raises more questions than it answers. For example, do witnesses of rudeness also decrease their task performance, creativity, flexibility, and helpfulness? Research might also consider the longer-term effects of rudeness, since our studies focused on relatively short-term effects. We do not know the extent to which these effects would last.

Limitations and Future Research Needs

Despite the multiple converging operations we used in our three studies, this research is not without limitations. For example, our findings may have limited generalizability to organizations. We conducted this research with college students, who differ in some significant ways from employees; for example, they do not receive salaries for good performance. This may not be a critical limitation, in view of accumulating evidence supporting the generalizability of research findings obtained in contrived settings over many psychological domains (Anderson, Lindsay, & Bushman, 1999; Locke, 1986). Nevertheless, our findings should be replicated in an organizational setting.

Second, although randomized assignment to the experimental treatment conditions makes it highly unlikely that differences in people's cognitive ability or in task complexity can explain our findings regarding cognitive disruption, future research could control for these variables. The randomized design of our studies also makes it unlikely that any of the personality traits measured to assist with the cover story for Study 1 and Study 2 could be related to the manipulations. Indeed, none of the personality measures were significantly related to the rudeness manipulation or to any of the dependent variables.

Another limitation of our study is that we considered a small number of potentially mediating processes (negative affect, a desire to strike back, and disruption to cognitive processes), and negative affect and desire to strike back were measured using self-reports. Assessing other processes (e.g., sense-making) could have led to increased insight. However, given the number of tasks participants needed to complete in the laboratory session, we needed to balance comprehensiveness with complexity. Therefore, we assessed what we believed to be the most relevant processes. However, future research should investigate other processes that could explain the influence of rudeness on performance, preferably with behavioral measures.

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