

## Cognitive load causes people to react ineffectively to others' norm transgressions

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### Abstract

We examined whether cognitive resources are necessary to react effectively to norm transgressions of others. In Study 1, we showed that a polite verbal expression of disapproval was the most effective form of social control because perpetrators were least likely to engage in the same norm transgression again in the future. In Study 2, we manipulated cognitive load and asked participants how they would react when witnessing different uncivil behaviors. Compared to participants in the cognitive load condition, participants in the control condition were more likely to use effective forms of social control and less likely to use ineffective forms of social control. The findings are integrated with recent theorizing about normative pressures and people's reactions to deviance.

In recent years, there has been a flurry of research on people's reactions to others' norm transgressions (Brauer & Chaurand, 2010; Chekroun & Nugier, 2005; Marques, Abrams, Paez, & Hogg, 2001; for a review, see Chekroun, 2008). The goal of this research has been to understand how social entities discourage deviance and promote prosocial behaviors.

Some of the work has been done on small face-to-face groups. Schachter (1951), for example, showed that individuals first try to convince deviant in-group members to change their position and then, if this attempt fails, ignore them and try to exclude them from the group. He also showed that rejection of deviants is stronger in highly cohesive groups (also see Dedrick, 1978; Kiesler, Kiesler, & Pallak, 1967).

Other work has examined people's reactions to uncivil or immoral behavior in public settings with the goal of understanding how larger groups and societies deal with deviance. Chaurand and Brauer (2008) demonstrated that three factors are primary determinants of bystanders' tendency to intervene and to communicate their opposition to the "perpetrator" of an uncivil behavior: the feeling of responsibility, the perceived legitimacy of intervention, and the extent to which bystanders experience hostile emotions (also see Brauer & Chekroun, 2005; Chekroun & Brauer, 2002). The term *social control* is generally used to describe all types of disapproval

reactions by which a bystander communicates to the perpetrator of a norm transgression that his or her action is not acceptable (Gibbs, 1981). The current paper deals with the effectiveness of social control in public settings. In the studies reported here, we examine the conditions that cause bystanders to react in a way that is likely to produce the desired change in the perpetrator of an uncivil behavior.

The goal of social control in public settings is generally to communicate to perpetrators of uncivil behaviors that their behaviors are counternormative (i.e., deviant) and to get them to modify their behavior (Meier, 1982). In other words, the objective is to influence the perpetrators so that they do not engage in the same undesirable behavior in the future. Very little is known, however, about whether and how this goal is attained. As mentioned previously, the term *social control* encompasses a wide variety of disapproval reactions, from an angry look to a personal insult. There is virtually no research about which forms of social control are most effective with regard to the change that they produce (however, see Nugier, Niedenthal, Brauer, & Chekroun, 2007). Also, little is known about the conditions under which these different forms of social control are used. The goal of the present paper is to fill this gap in the literature. In Study 1, we identified several effective and ineffective communication strategies. In Study 2, we showed that

people are more likely to use ineffective communication strategies when they are cognitively busy.

Nugier et al. (2007) examined the consequences of different forms of social control. Participants were asked to imagine that they tossed a Kleenex® on the side of a path in a public park after having held the Kleenex® in their hands for some time. They were further asked to imagine that another person walked up to them, informed them that there was a trashcan on the next corner, and encouraged them to throw away their Kleenex®. The authors manipulated the pleasantness of the bystander's social control reaction. In one condition, the bystander talked in a pleasant manner and used indicators of politeness ("Excuse me," "Please"). In the other condition, the bystander was described as talking in an unpleasant manner, and his comment did not contain indicators of politeness. The results showed that pleasant social control led to less intense, angry emotions in participants than did unpleasant social control. The effect of pleasantness of social control on the intensity of the moral emotions was positive, but somewhat surprisingly nonsignificant.

Although Nugier et al.'s (2007) research provides important insight, it does not directly answer the question as to which forms of social control are most effective. First, we do not know if the experience of angry emotions after being the target of social control is related to reproduction of the same uncivil behavior in the future. One might suggest that perpetrators who feel intense, angry emotions are less likely to modify their behavior in the future than are perpetrators who feel less angry, but this relationship remains to be demonstrated empirically. Second, Nugier and her colleagues only examined two specific forms of social control: a pleasant comment and an unpleasant comment. Could it be that other forms of social control (e.g., an angry look) have an even greater deteriorating effect in the future? In Study 1, we used a wider range of control reactions and examined their influence on different kinds of emotions and on future uncivil behavior.

What predictions can be made about the effectiveness of different forms of social control? We are not aware of any research examining people's reactions to uncivil behaviors, but the literature on intimate relationships and organizational behavior is quite informative. Overall, Fletcher, Simpson, and Sibley (2009) examined the communication strategies that individuals use when their goal is to produce desired changes in a relationship partner. They classified the communication strategies into four categories: Positive-direct strategies (verbally confronting the problem, explaining reasons, persuasion attempts), negative-direct (coercion, derogating and blaming the partner, rigidly demanding change), positive-indirect (minimizing the problem, validating the partner), and negative-indirect (psychological withdrawal, nonverbal reactions). The authors showed that positive-direct strategies were by far the most effective to

change the behavior of the relationship partner 12 months later (for similar findings, see Oriña, Wood, & Simpson, 2002). In research on interpersonal relationships at the workplace (including hierarchical relationships), it has also been found that a direct, polite confrontation of the problem by clearly explaining the concerns is the most effective way to modify the behavior of a coworker or a subordinate (Bennett & Robinson, 2003; Porath & Pearson, 2009; Sackett & DeVore, 2001). Based on this research, we predict that positive-direct forms of social control (e.g., a polite comment) will be most effective in getting the perpetrator to no longer engage in the uncivil behavior in the future.

A related question concerns the process that is responsible for the change if it were to occur. In intimate and labor relationships, it is reasonable to assume that individuals are motivated to maintain a positive relationship and to address the relationship partner's concern. This is not the case in a public setting, because the bystander and the perpetrator have no relationship and will probably never interact again in the future. Perpetrators will be motivated to change their future behaviors only if they are convinced that they behaved inappropriately. Moral emotions (e.g., embarrassment, shame, guilt) are likely to play a crucial role. The function of moral emotions is precisely to heighten an individual's feelings of responsibility for his or her actions; and, as a consequence, the experience of moral emotions should be associated with a decreased likelihood of repeating the same behavior in the future (Niedenthal, Krauth-Gruber, & Ric, 2006). Not surprisingly, social groups use shaming rituals to get group members to behave more in line with group norms (Scheff, 1988).

One might argue that positive forms of social control focus perpetrators' attention on their own behavior and evoke moral emotions. A polite verbal comment is an acceptable message leading to appropriate moral emotions. Negative forms of social control, however, are likely to focus perpetrators' attention on the bystander's behavior ("Why is this person treating me in such a hostile manner?"). Instead of considering what they did wrong, perpetrators think about the bystander's inappropriate reaction, and experience moral emotions to a lesser extent. Thus, we predict that the effect of the type of social control on future behavior modification will be mediated by the extent to which participants experience moral emotions after being the target of social control.

The goal of our first study is to examine the hypotheses outlined previously. We presented participants with descriptions of uncivil behaviors and different kinds of social control reactions. Participants made judgments about the social control reactions, reported different kinds of emotions, and predicted future behavior. The goal of Study 2 is to examine the conditions under which individuals are most likely to use effective and ineffective forms of social control. Specifically, we tested the hypothesis that increased cognitive load will

cause individuals to use ineffective forms more often and to use effective forms of social control less often.

## Study 1

We started our investigation by examining whether the way in which a bystander expresses his or her disapproval to the perpetrator of an uncivil behavior influences the extent to which the perpetrator perceives the bystander's reaction as legitimate, the extent to which he or she experiences moral and hostile emotions, and the extent to which the reaction causes the perpetrator to no longer engage in the uncivil behavior in the future. In order to establish the generalizability of our results, we created two versions of the questionnaire; one in which participants were asked to imagine themselves in the role of the perpetrator, and one in which they had the role of an observer whose goal was to estimate the perpetrator's likely perceptions and emotions. We adopted this experimental procedure because in previous studies, some participants found it hard to imagine themselves in the role of the perpetrator because they were convinced that they would never engage in the uncivil behavior described in the situation. We had no particular predictions regarding differences between the perpetrator and the observer conditions.

## Method

### Participants

Study 1 participants were 62 first-year psychology students (58 women, 4 men) who participated in the study in exchange for partial course credit. The participants were randomly assigned to one of two conditions: the "observer condition" or the "perpetrator condition."

### Procedure

Participants were asked to complete a questionnaire that contained the description of five situations in which an uncivil behavior occurred. The uncivil behaviors were as follows: (a) a person parking on the sidewalk obliging another person who has a heavy shopping bag to walk on the road; (b) a person spitting on the sidewalk, right in front of another person walking toward him/her; (c) a person cutting in line at the supermarket; (d) two persons destroying a trashcan in a public park; and (e) a person persistently trying to pick up a person of the opposite sex in public transportation. Each situation was described in a short vignette, accompanied by a picture. For example, the vignette for one of the situations in the observer condition read:

The scene takes place in a supermarket. The people stand in line at the cash registers. There are a lot of people, and the lines are long. At one point, an adult

man cuts in line in front of other customers, taking advantage of the fact that a young mother was temporarily distracted by her two young children. A person in the line next to it notices the scene.

Participants were asked to imagine that the person in the next line had one of four reactions:

1. S/he throws the man an angry look.
2. S/he makes a loud audible sigh, loud enough for the man to hear.
3. S/he makes a polite verbal comment to the man.
4. S/he tells the man aggressively that he can't do that.

These four social control reactions were chosen for two reasons. First, they have been widely used in previous research (Brauer & Chaurand, 2010; Chekroun & Nugier, 2005), and the literature suggests that these reactions are commonly used when bystanders want to express their disapproval to the perpetrator of an uncivil behavior in a public setting. Second, these reactions fit in Overall et al.'s (2009) classification of communication strategies in intimate relationships. A polite comment is a positive-direct strategy, an aggressive comment is a negative-direct strategy, and an angry look and a loud audible sigh are both negative-indirect strategies. Overall et al. also mentioned positive-indirect strategies—minimizing the problem, validating the partner—but these strategies cannot be used in a public setting with a person with whom one will not interact in the future.

In order to verify if the forms of social control we used in our questionnaire do indeed fit Overall et al.'s (2009) classification of communication strategies, we conducted a pilot study. We recruited 31 participants who did not take part in the main experiment and gave them a description of the four communication strategies identified by Overall et al. We then asked the participants to associate each form of social control with one of the four strategies. The results show that 100% of the participants correctly identified the angry look as a negative-indirect strategy, 87% considered the loud audible sigh a negative-indirect strategy (13% thought it was negative-direct strategy), 97% thought that the polite verbal comment was a positive-direct strategy, and 100% correctly identified the aggressive comment as a negative-direct communication strategy.

Participants made four judgments for each reaction: (a) the extent to which they thought the man would mostly experience embarrassment and shame; (b) the extent to which they thought the man would mostly feel anger and hostility toward the person; (c) the extent to which they thought it was legitimate for the person in the next line to have the reaction under consideration; and (d) the extent to which they thought that the person's reaction would cause the man to no longer cut in line in the future. Participants responded on 9-point Likert-type scales ranging from 1 (*not at all*) to 9 (*very much*). Given that there were four different reactions and that

there were four judgments for each reaction, participants made 16 judgments per situation.

In the perpetrator condition, participants were asked to imagine that they were themselves engaging in the uncivil behavior. Comparable to the observer condition, they then indicated the extent to which they would experience moral and hostile emotions if another person expressed his or her disapproval in one of four ways. They also judged the legitimacy of the other person's reaction and the likelihood that they would engage in the same uncivil behavior in the future.

Participants were run in groups of 3 to 10 individuals. After they completed the questionnaire, the participants were thanked and debriefed.

## Results and discussion

For each of the 16 judgments, the internal consistency across the five situations was quite high (mean  $\alpha = .80$ ; only 1 of the 16 alphas failed to reach the conventional .70 limit,  $\alpha = .60$ ). We thus decided to average participants' ratings across the five situations. We then ran four analyses, one for each type of judgment as the dependent variable: moral emotions, future behavior, hostile emotions, and legitimacy. Each analysis was a unifactorial ANOVA with type of reaction as a within-subject factor (angry look, loud sigh, polite comment, or aggressive comment).

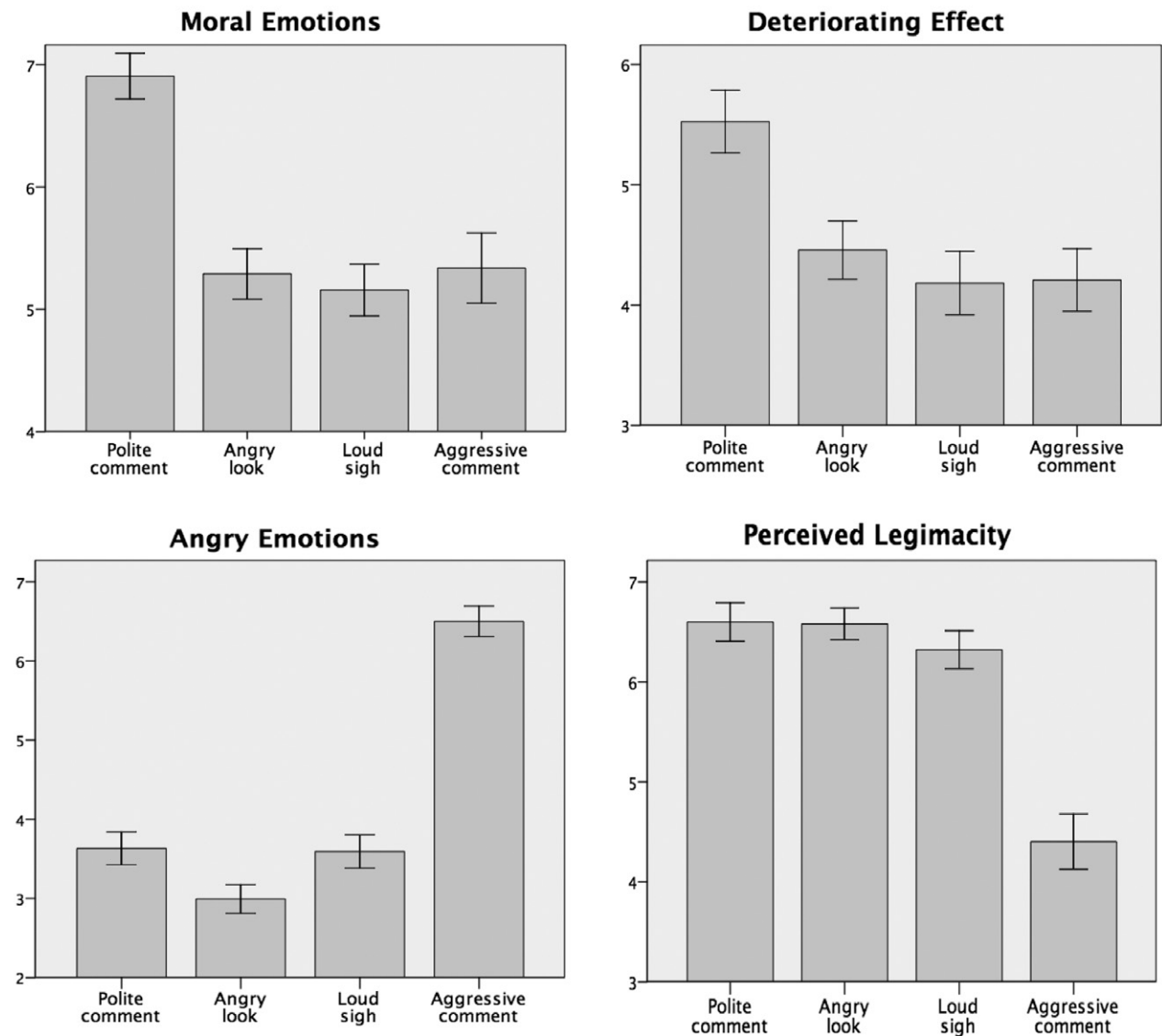
The analyses confirmed our hypothesis. There was a main effect of type of reaction on moral emotions,  $F(3, 183) = 39.96, p < .001$ . Post hoc analyses reveal that participants indicated more intense moral emotions after a polite comment than after any other form of social control,  $F(1, 61) = 134.70, p < .0001$  (see Figure 1, top left panel). There was also a main effect of type of reaction on future behavior,  $F(3, 183) = 26.47, p < .001$ . The post hoc analyses show that participants thought that a polite comment would be more effective than other forms of social control in preventing a recurrence of the same uncivil behavior in the future,  $F(1, 61) = 79.49, p < .0001$  (see Figure 1, top right panel). The analyses also reveal a main effect on hostile emotions,  $F(3, 183) = 155.45, p < .0001$ . The aggressive comment created more hostile emotions than did other forms of social control,  $F(1, 61) = 267.91, p < .0001$  (see Figure 1, bottom left panel). Finally, there was a main effect of type of reaction on legitimacy,  $F(3, 183) = 61.23, p < .001$ . This main effect was a result of the fact that the aggressive comment was seen as less legitimate than the other three disapproval reactions,  $F(1, 61) = 103.19, p < .0001$  (see Figure 1, bottom right panel).

It turns out that some of the effects reported here are moderated by experimental condition. Although all participants reported more intense moral emotions after a polite comment than after the other forms of social control, this difference was more pronounced in the observer condition than in the perpetrator condition,  $F(1, 60) = 8.72, p < .005$ . When

the experimental conditions were analyzed separately, the polite comment versus other forms of social control difference was significant both in the perpetrator condition,  $F(1, 31) = 54.72, p < .001$ ; and in the observer condition,  $F(1, 29) = 97.95, p < .001$ . A similar pattern of results was found for judgments about future behavior. There was a general tendency to see the polite comment as having a greater deteriorating effect than other forms of social control, but this tendency was stronger when participants were in the observer role than when they imagined themselves being the perpetrator of the uncivil behavior,  $F(1, 60) = 5.80, p < .02$ . The specific contrast—polite comment versus other forms of social control—was significant both in the perpetrator condition,  $F(1, 31) = 24.55, p < .001$ ; and in the observer condition,  $F(1, 29) = 67.42, p < .001$ . The effects of type of reaction on hostile emotions and on perceived legitimacy were not moderated by experimental condition ( $ps > .26$ ). In summary, although some of the effects were moderated by whether participants were asked to be observers or perpetrators, the effects differed only in magnitude and were significant in both conditions. In Abelson's (1995) terms, the interaction was quantitative, not qualitative.

We examined whether the effect of type of reaction on future behavior was mediated by moral emotions. We followed the procedure suggested by Judd, Kenny, and McClelland (2001) to test for mediation in within-subject designs. We calculated three scores for each participant: (a) one future behavior difference score by subtracting the average of the three ineffective reactions from the effective reaction ( $Y_2 - Y_1$ ); (b) one moral emotions difference score by subtracting the average of the three ineffective reactions from the effective reaction ( $X_2 - X_1$ ); and (c) one moral emotions average score by computing the mean of the effective reaction and the average of the three ineffective reactions ( $(X_2 + X_1)/2$ ). We then tested the four conditions that are the basis of every mediation test. Two one-sample  $t$  tests reveal that both the future behavior difference score and the moral emotions difference score were reliably different from 0:  $t(61) = 8.92, p < .0001$ ; and  $t(61) = 11.61, p < .0001$ . These results are identical to the post hoc analyses reported previously (also see Figure 1). The first  $t$  test examines the first condition of mediation: It shows that there is an effect of the independent variable (type of reaction) on the dependent variable (future behavior). The second  $t$  test examines the second condition of mediation: The significant result reveals that there is an effect of the independent variable (type of reaction) on the mediator (moral emotions).

We then regressed the future behavior difference score on the moral emotions difference score and the moral emotions average score. This analysis yielded a significant effect of the moral emotions difference score ( $\beta = .50$ ),  $t(59) = 4.36, p < .001$ . This effect demonstrates that the third condition of mediation is satisfied because the mediator (moral emotions)



**Figure 1** Participants' emotions in reaction to and judgments about the four different forms of social control: Study 1.

affects the dependent variable (future behavior) over and above the effects of the independent variable (type of reaction). The regression analysis also reveals a nonsignificant intercept,  $t(59) = 0.12$ , *ns*. This result examines the fourth condition of mediation and suggests that the effect of the independent variable (type of reaction) on the dependent variable (future behavior) disappears when one statistically controls for the mediator (moral emotions). Finally, the effect of the moral emotions average score was nonsignificant ( $\beta = .11$ ),  $t(59) = 0.96$ , *ns*, suggesting the absence of moderation of the effect of type of reaction by moral emotions.

Taken together, these results provide convincing evidence for the idea that a polite comment is the most effective form of social control because it creates the most intense moral emo-

tions (embarrassment and shame), and it has the greatest deteriorating effect in the future. At the same time, a polite comment generates relatively few hostile emotions and is considered quite legitimate. It should be noted that these conclusions are based on self-reports and thus must be interpreted with caution. Although we found the same pattern of results in the observer condition and in the perpetrator condition, we do not know for certain if a polite comment will positively affect actual future behaviors.

## Study 2

The results of Study 1 suggest that among different forms of social control, a direct positive strategy (i.e., a polite

comment) has the greatest potential of having a beneficial influence on the perpetrator's future behavior. In Study 2, we examine the impact of cognitive load on bystanders' reactions. More specifically, we studied whether individuals who are cognitively busy react differently to uncivil behaviors than do individuals who have more cognitive resources available. It is important to study cognitive load because many bystanders in public settings have reduced cognitive resources, especially in urban settings. Research has demonstrated that city dwellers frequently experience urban stress (Moser, 1988), visual and auditory overload (Mousavi, Low, & Sweller, 1995), fear of insecurity (Coupland, 2007), and fear of aggression (Vasquez, 2009). It is thus highly relevant to understand how cognitive load influences people's reactions to uncivil behaviors.

A variety of predictions can be made regarding the influence of cognitive load on social control reactions. One possibility is that people are generally less tolerant of norm transgressions when they are cognitively busy (for indirect evidence supporting this claim, see De Cremer & Sedikides, 2005). When individuals are cognitively busy, they may interpret the uncivil behavior as more counternormative—thus requiring intervention—than when they are not under cognitive load. This reasoning would lead to the prediction that all forms of social control increase when bystanders are under cognitive load.

Another possibility is that bystanders notice the uncivil behaviors less when they have reduced cognitive resources. For example, Muller, Atzeni, and Butera (2004) showed that people notice peripheral stimuli less when their cognitive resources are diminished. One might thus predict that there is a reduction of all forms of social control under cognitive load. A related possibility—leading to the same prediction—is that bystanders notice the uncivil behaviors to the same extent, but have less strong emotional reactions to them when under cognitive load. Research by Kron, Schul, Cohen, and Hassin (2010) has suggested that concurrent cognitive load diminishes the intensity of experienced emotions. Chaurand and Brauer (2008) showed that the experience of hostile emotions when witnessing an uncivil behavior is positively related to the likelihood of intervention. In light of these findings, one might predict that the addition of cognitive load decreases all forms of social control.

A final possibility, which we considered most likely at the outset of the research, is that cognitive load differently influences various forms of social control reactions. In the domain of intimate relationships, there is abundant evidence that effective communication strategies require more cognitive resources than do ineffective communication strategies. Aronson (2007) argued that many of us have been socialized to use ineffective communication strategies when solving interpersonal problems, and thus must consciously monitor our reactions and make an effort to replace ineffective strate-

gies with effective strategies (also see Tannen, 1987). Baumeister, Schmeichel, and Vohs (2007) suggested that self-control is needed when discussing delicate, sensitive issues because one must avoid saying anything that might give offense or be misinterpreted. The need for cognitive resources to use effective communication strategies may be especially true with uncivil behaviors that generally elicit a variety of negative emotions in bystanders (Chaurand & Brauer, 2008). This reasoning would lead to the prediction that cognitive load increases bystanders' use of ineffective forms of social control and decreases their use of effective social control.

In Study 2, participants read descriptions of uncivil behaviors and were asked about how they would feel and how they would react if they were bystanders in the situation. Half of the participants were cognitively busy while making the ratings; the other half were not cognitively busy. We predicted that participants in the cognitive load condition would react less often with a polite comment and would react more often with an angry look, an audible sigh, or an aggressive comment than would participants in the control condition.

## Method

### Participants

Study 2 participants were 80 first-year psychology students who participated in the study in exchange for partial course credit. As a result of a misunderstanding, gender was not recorded. However, based on the experimenter's recollection and considering the similarity of the recruitment procedure, one can assume that the gender distribution in Study 2 was similar to that of Study 1 (i.e., approximately 90% women). The participants were randomly assigned to one of two conditions: control or cognitive load.

### Procedure

Participants were asked to complete a questionnaire that contained the description of five situations in which an uncivil behavior occurred. The uncivil behaviors were the same as in Study 1, and each situation was described with a short vignette and a picture. Participants were instructed to imagine being a bystander and observing another person engaging in an uncivil behavior. For example, the vignette for one of the situations read:

You are in a supermarket and you are standing in line at the cash registers. There are a lot of people, and the lines are long. At one point, you see that in the line next to yours, an adult man cuts in line in front of other customers, taking advantage of the fact that a young mother was temporarily distracted by her two young children.

Participants were asked about how they would feel and how they would react in each of the five situations. First, participants indicated the extent to which they would feel the 10 emotions of fear, frustration, sadness, surprise, indifference, disdain, indignation, anger, disgust, and amusement. Participants then indicated the likelihood with which they would adopt a variety of reactions. The possible reactions included the four reactions from Study 1 (angry look, loud audible sigh, polite comment, or aggressive comment), but in order to be consistent with prior work, we also included two additional reactions: *doing nothing* and *personal insult*. Responses were rated on a 9-point scale ranging from 1 (*not at all*) to 9 (*very much so*).

Participants in the cognitive load condition were asked to memorize a six-digit number before each situation (they had 30 s to do so) and to reproduce this number after they had responded to all the questions about this situation. They had to memorize a different six-digit number for each of the five situations. Participants in the control condition did not have to memorize any numbers. This procedure was adopted from Bargh and Tota (1988).

## Results and discussion

We averaged participants' emotion ratings across the five situations (mean  $\alpha = .65$ ). Based on prior work pointing toward the central role of hostile emotions in people's reaction to uncivil behaviors, we also created a composite score of frustration, disdain, and anger (mean  $\alpha = .69$ ). The means indicate that participants in the cognitive load condition generally experienced more intense hostile emotions ( $M = 5.20$ ,  $SD = 1.23$ ) than did participants in the control condition ( $M = 4.62$ ,  $SD = 1.31$ ),  $t(78) = 2.05$ ,  $p < .05$ . None of the other emotions varied significantly as a function of condition, but there was a general tendency for the means of all negative emotions to be higher in the cognitive load condition than in the control condition.

Participants' reactions were also averaged across the five situations (mean  $\alpha = .67$ ). The mean ratings as a function of cognitive load are reported in Table 1. The means clearly show that ineffective forms of social control increased with cognitive load, whereas the likelihood of occurrence of the

only effective form of social control (the polite comment) decreased with cognitive load. Given our hypotheses, we followed Abelson and Prentice's (1997) advice and created a specific within-subject contrast that opposed the effective form of social control (the polite comment) against the three ineffective forms of social control (-3, 1, 1, 1). We then tested whether the contrast varied as a function of experimental condition. This was indeed the case,  $F(1, 78) = 4.49$ ,  $p < .04$ . When under cognitive load, people were more likely to use ineffective forms and less likely to use effective forms of social control. Neither of the two other possible reactions we included in the study—doing nothing or personal insult—was affected by the experimental manipulation ( $ps > .27$ ).

We also examined the relationship between hostile emotions and overt reactions. For these analyses, we computed a composite score by averaging across the three ineffective forms of social control. Hostile emotions were significantly correlated with ineffective forms of social control,  $r(78) = .55$ ,  $p < .001$ ; but only marginally correlated with effective forms of social control,  $r(78) = .22$ ,  $p = .051$  (see Figure 2). A mixed linear model with form of social control (effective vs. ineffective) as within-subject independent variable and intensity of hostile emotions as between-subjects continuous independent variable yielded a reliable interaction,  $F(1, 78) = 4.24$ ,  $p < .05$ , indicating that the relationship between hostile emotions and ineffective social control is stronger than the relationship between hostile emotions and effective social control.

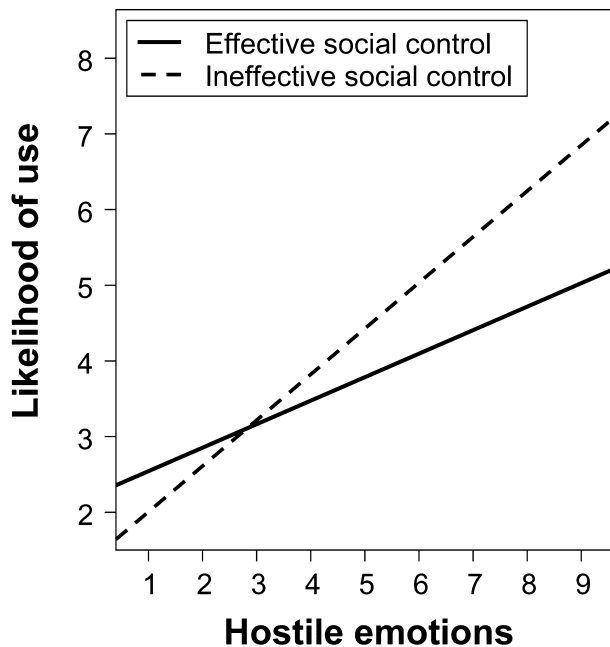
## General discussion

The purpose of this research was to explore the effectiveness of different social control reactions and to examine the influence of cognitive load on the use of effective and ineffective forms of social control. The results, based on self-reports, show that bystanders experience more hostile emotions, are more likely to use ineffective forms of social control, and are less likely to use effective forms of social control when under cognitive load.

Why do people use ineffective strategies when cognitively busy? One possible explanation comes from the work of

**Table 1** Participants' Self-Reported Reactions as a Function of Experimental Condition: Study 2

Condition	Effective social control		Ineffective social control							
	Polite comment		Angry look		Loud sigh		Aggressive comment		Average	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Cognitive load	3.63	1.86	6.25	1.70	4.85	1.83	2.57	1.36	4.55	1.27
Control	3.91	1.96	5.72	1.79	4.32	2.34	2.28	1.42	4.11	1.55
Difference	-0.28		0.53		0.53		0.29		0.44	



**Figure 2** Relationship between hostile emotions and effective and ineffective forms of social control: Study 2.

Overall et al. (2009), who showed that effective strategies tend to elicit a more negative immediate reaction, despite the fact that they are effective in the long run. In their study, couples were asked to discuss aspects of one another that they desired to change or improve. Participants reported their immediate reactions to their partner's communications and provided ratings of their own behavior and their partner's behavior in the 12 months following the discussion. The results showed that the immediate reactions to positive–direct strategies were quite negative, but these strategies produced the most change in the desired direction in the long run. So it may be that deep down, we are aware of the fact that indirect strategies are less effective, but when we are cognitively busy, we stay away from direct strategies because we do not have the cognitive and psychological resources to deal with negative immediate reactions that generally follow direct strategies. Applied to people's reactions to uncivil behaviors, this reasoning suggests that bystanders abstain from making a polite comment to the perpetrator when they are under cognitive load because they fear that they are not able to deal with the negative immediate reaction that frequently follows positive–direct communication strategies.

Another possibility is that the uncivil behavior itself is interpreted more negatively when people are under cognitive load. Uncivil behaviors occur both because of the perpetrator's personality and because of situational influences. For example, someone may try to pass others in line at the supermarket because he or she has little respect for others (a per-

sonality characteristic) and because he or she is pressed for time (a situational influence). When bystanders are not under cognitive load, they may be able to take the situational influences into account. They might wonder, for example, whether the person passing in line has an unattended sleeping child in the car or a sick family member at home. As a result, they make an attribution that is only slightly negative, and use a positive–direct communication strategy. When bystanders are under cognitive load, they don't have the cognitive resources to take the situational influences into account. They make a very negative attribution about the uncivil behavior and the perpetrator's personality, and they use an ineffective, negative communication strategy.

A final possible reason for why we tend to overuse negative strategies under cognitive load may be specifically related to emotions. Previous research has shown that the experience of hostile emotions plays a crucial role in the expression of disapproval reaction. Research by Chaurand and Brauer (2008), for example, suggests that a minimum amount of hostile emotions is necessary for social control to occur. Expressing one's disapproval about an uncivil behavior may lead to a negative interaction with the perpetrator, and people are willing to take the risk of having a negative interaction only if they feel sufficiently angered or annoyed by the uncivil behavior. Study 2 showed that bystanders experienced more hostile emotions when they were cognitively busy. It appears, then, that too few hostile emotions cause people to ignore the uncivil behavior, whereas too intense hostile emotions may cause them to adopt ineffective forms of social control. Only an intermediate amount of hostile emotions causes them to address themselves to the perpetrator with a polite comment, which has been shown to be the most effective form of social control.

One interesting result of the present studies is that participants in the cognitive load condition experienced more intense hostile emotions than did participants in the control condition. The result seems to contradict earlier work by Kron et al. (2010), who showed that people experience less intense emotions when under cognitive load. The difference between our results and those of Kron et al. is probably because of the difference in experimental procedures. In Kron et al.'s studies, participants viewed a series of valenced pictures while being under cognitive load or not. In our Study 2, the cognitive load was introduced before the presentation of the emotion-eliciting stimulus (i.e., memorize a six-digit number), whereas in Kron et al.'s work, the load manipulation occurred at the same time (i.e., a recognition task that had to be performed while viewing the pictures). In our study, participants were in some way part of the situation that was described to them and on which they had to act (e.g., they were also standing in line, they had to walk around the car that was parked on the sidewalk); whereas in Kron et al., participants were quite passive while being exposed to the



emotion-eliciting stimuli. Additional research is necessary to determine the conditions under which cognitive load leads to increased or decreased experience of emotions.

There are a few limitations of the present studies that could be improved upon in future research. First, both studies relied on a scenario methodology in that participants were asked to imagine social situations and to predict how they would react in these situations. Predicted reactions may differ from reactions that occur in real-life situations when one observes another person engaging in a behavior that deviates from the norms. Brauer and Chekroun (2005) found a correlation of .84 between people's predicted and actual reactions to uncivil behaviors. It would nevertheless be interesting to confirm the present results with a series of field studies in which a confederate of the experimenter performs the uncivil behaviors in the street and bystanders' natural reactions are measured by unobtrusive observers. It is also true that the use of hypothetical scenarios does not allow for a test of some predictions laid out in the introduction of Study 2. For example, it is unlikely that participants would fail to notice an uncivil behavior that they have been asked to imagine.

Second, cognitive load was induced before conscious experience of emotion in Study 2. Kron et al.'s (2010) mere resources hypothesis makes no prediction about cases in which load is induced before emotional elicitation. It would be interesting to examine whether cognitive load will result in attenuation of hostile emotions and to different social control reactions when cognitive load is induced parallel to the presentation of the uncivil behavior.

Third, we cannot be sure whether the conclusions from our predominantly female sample can be generalized to the general population, and our results must be interpreted with caution. In order to examine whether men and women differ in the type of social control reactions they use predominantly, we reanalyzed data from earlier studies (e.g., Brauer & Chekroun, 2005). No gender differences were found. It is not the case that women use more indirect or more direct positive strategies than do men, at least not in the French samples that we used in our earlier work. Fourth, the within-subject design we used in both studies may have artificially inflated differences between different types of social control reactions.

It should be noted, however, that the methodology we employed also had a number of positive features. The scenario method allowed us to examine a variety of uncivil behaviors, some of which would have been difficult to enact in a field study. We used easily imaginable scenarios. It is thus quite likely that participants' reports about their emotions and likely reactions are quite accurate. Finally, our experimental procedure allowed us to introduce cognitive load in a controlled manner, using a manipulation that has been shown to be effective in prior research (Bargh & Chartrand, 2000).

One may wonder how cognitive load affects another form of reactions to undesirable behavior; namely, civil courage. *Civil courage* is the tendency to help a victim when the costs of helping are high (e.g., intervening when a group of skinheads aggress a foreigner; see Greitemeyer, Fischer, Kastenmüller, & Frey, 2006). Both civil courage and social control may lead to negative consequences, so the concepts are similar. Although we have not examined the effects of cognitive load on civil courage, we would nevertheless expect the effects to be quite similar. Cognitive load may cause a bystander to react ineffectively (e.g., aggressively confront the perpetrator or perpetrators, thereby leading to an escalation of the situation), whereas the availability of cognitive resources might help the bystander to react effectively (e.g., mobilize help from others, speak to the perpetrator from a distance). In a series of studies, Moïsuc and Brauer (2011) showed that those who are most likely to exert social control are also the ones who are most likely to intervene in a situation that requires civil courage.

The present research yields several important results. It shows that there are effective and ineffective forms of social control. A polite verbal comment, for example, elicits strong moral emotions and has a deteriorating effect in the future. What forms of social control bystanders use depends in part on the extent to which they are cognitively busy while witnessing the uncivil behavior. Increased cognitive load leads to decreased use of effective social control and increased use of ineffective social control. Thus, our findings demonstrate that in environments and situations that create cognitive overload, people tend to deal with deviants in a rather ineffective way.

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