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Janssen, L.; Fennis, B.M.; Pruyn, A.Th.H.

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Forewarned is forearmed: Conserving self-control strength to resist social influence

Loes Janssen [a,*], Bob M. Fennis [b], Ad Th.H. Pruyn [c]

[a] Tilburg University, The Netherlands
[b] University of Groningen, The Netherlands
[c] University of Twente, The Netherlands

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ABSTRACT

Recent research has shown that resisting persuasion involves active self-regulation. Resisting an influence attempt consumes self-regulatory resources, and in a state of self-regulatory resource depletion, people become more susceptible to (unwanted) influence attempts. However, the present studies show that a forewarning of an impending influence attempt prompts depleted individuals to conserve what is left of their regulatory resources and thus promotes self-regulatory efficiency. As a result, when these individuals are subsequently confronted with a persuasive request, they comply less (Experiments 1 and 3), and generate more counterarguments (Experiment 2) than their depleted counterparts who were not forewarned and thus did not conserve their resources, and they are as able as non-depleted participants to resist persuasion.

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How often have you complied with the request of a salesperson or a fundraiser when you had no initial intention to do so? Probably more often than you would like to admit. Resisting an influence attempt can be surprisingly difficult, since we are simply not always aware of the persuasive intent of a request or message, or we otherwise lack the ability or the motivation to resist a persuasive appeal (e.g., Briñol & Petty, 2005). As recent research has shown, resisting persuasion is frequently a costly process that involves active self-regulation. Resisting an influence attempt consumes self-regulatory resources, with the inevitable consequence that when these resources are low, one's attempts at resistance are more likely to fail (Burkley, 2008; Fennis, Janssen, & Vohs, 2009; Janssen, Fennis, Pruyn, & Vohs, 2008; Wheeler, Briñol, & Hermann, 2007). Hence, resisting (unwanted) influence is more successful when self-regulatory resources are high, rather than low, but the present research demonstrates that all is not lost for those in a state of self-regulatory resource depletion. Under certain conditions, depleted individuals can successfully conserve what resources they have left to be put into action when encountering an unwanted persuasive attack. In the present research we will argue that forewarning people of an impending influence attempt may serve to promote self-regulatory efficiency and thus prompt depleted individuals to conserve what is left of their regulatory resources. As a result, when these individuals

are subsequently confronted with a request, they will comply less than their depleted counterparts who were not forewarned and did not conserve their resources, and they will be as able as non-depleted participants to resist the influence attempt.

According to the limited-resource model of self-control (Baumeister, Muraven, & Tice, 1998; Muraven, Tice, & Baumeister, 1998; Vohs & Heatherton, 2000; for a review, see Baumeister, Vohs, and Tice, 2007), any act of deliberate and regulated response by the self, such as overriding impulses, active choice and controlled (as opposed to automatic) processing, draws on a limited intrapsychic resource. Akin to strength or energy, this resource becomes depleted with use, and is recovered slowly. Many studies have shown that self-control ability suffers after previous exertion of willpower or self-control (e.g., Baumeister et al., 1998; Muraven et al., 1998; Schmeichel, Vohs, & Baumeister, 2003). In a state of self-regulatory resource depletion, the self resorts to more passive and low-effort courses of action (e.g., Baumeister et al., 1998), thereby increasing vulnerability to untoward impulses, habit, and automatic processes (Baumeister, Muraven, & Tice, 2000; Baumeister & Vohs, 2007; Vohs, Baumeister, & Ciarocco, 2005).

Recently, research started to test the notion that resisting persuasion is an activity which also draws on limited regulatory resources, and it showed that a state of self-regulatory resource depletion weakens resistance to temptations and (unwanted) influence attempts (Baumeister, 2002; Vohs & Faber, 2007). In a study by Wheeler et al. (2007), participants previously depleted of their self-control resources by an unrelated task showed less resistance to a counterattitudinal persuasive message; they reported more acquiescent attitudes and generated fewer counterarguments than their non-depleted counterparts, especially when message arguments were weak. In line with dual-process frameworks

* Corresponding author. Department of Social Psychology, Faculty of Social and Behavioural Sciences, Tilburg University, P.O. Box 90153, 5000 LE Tilburg, The Netherlands. Fax: +31 13 466 2067.
E-mail address: L.Janssen@uvt.nl (L. Janssen).

(Chaiken & Trope, 1999), depletion of self-control resources appeared to inhibit the generation of counterarguments because it hindered processing of message-relevant information, as evidenced by reduced sensitivity to argument quality. Similar to Wheeler et al. (2007), Burkley (2008) showed that persuasion by a counterattitudinal message increased after an act of self-control, and more resistance toward a persuasive message diminished the amount of self-control resources available to use on a subsequent unrelated self-control task.

Another demonstration of the role of self-regulatory resources in resisting and yielding to social influence was presented by Fennis et al. (2009) and Janssen et al. (2008). They forwarded self-regulatory resource depletion as an important underlying factor mediating the effectiveness of social influence techniques, such as a foot-in-the-door (FITD), door-in-the-face (DITF), or low-ball technique (Burger & Petty, 1981; Cialdini et al., 1975; Freedman & Fraser, 1966). The authors argued that a specific feature of such techniques promotes self-regulatory resource depletion, which paves the way for consumer compliance. More specifically, all these techniques are made up of a sequence of requests, starting with an initial request or series of initial requests (that can either be small, as in the FITD, large, as in the DITF, or particularly attractive, as in the low-ball procedure), and culminating in a target request for which compliance is sought. They showed that actively responding to the initial request of this sequence depleted self-control resources. The resulting state of weak self-control ability increased compliance with a subsequent (charitable) target request, such as freely donating time, effort, or money. Importantly, depleted participants were not susceptible to influence by default, but rather because they relied more on compliance-promoting heuristics that were present in the persuasion context, such as authority, reciprocity, or likeability (cf. Cialdini's principles of influence, 1993).

In sum, and in line with dual-process models of persuasion (e.g., Petty & Wegener, 1999), a state of self-regulatory resource depletion reduces systematic or central-route processing, and enhances the weight on heuristic processing in consumer judgment and decision making. This renders it more difficult to resist (unwanted) influence attempts, an activity which evidently requires systematic processing to engage in issue-relevant thinking and to argue against the persuasive communication. A key means to encourage more system-atic processing and thereby increase the odds of resistance to persuasion could be to increase people's awareness of an upcoming influence attempt in advance. Multiple studies have suggested that forewarning people of an upcoming persuasive communication motivates them to counterargue the message in order to reassert their attitudinal freedom, and thereby increase resistance to persua-sion (e.g., Allyn & Festinger, 1961; Brock, 1967; Chen, Reardon, Rea, & Moore, 1992; Freedman & Sears, 1965; Hass & Grady, 1975; Kiesler & Kiesler, 1964; Petty & Cacioppo, 1977; see Wood & Quinn, 2003 for a review). For instance, in an experiment by Petty and Cacioppo (1977), forewarning undergraduate students of the content of an upcoming discrepant communication (a tape recording by their faculty committee, recommending that university seniors be required to pass a comprehensive exam in their major prior to graduation) stimulated anticipatory counterargumentation, and resulted in less persuasion.

We may assume that a forewarning of an influence attempt can be an effective means to increase resistance, because it encourages biased, systematic scrutiny of the persuasive message as evidenced by increased counterargumentation. But what if the motivation to counterargue is present, but the *ability* to engage in counter-argumentation is lacking because of previous depletion of regulatory resources? We argue that in these conditions, forewarning motivates people to conserve their remaining resources, and mobilize them in the service of this counterargumentation. This presupposes that a depleted state does not reflect a complete exhaustion of resources but merely a temporary or relative deficit, a notion that was recently

supported by Muraven, Shmueli, and Burkley (2006). They suggested that individuals are motivated (at either a conscious or an uncon-scious level) and able to conserve their regulatory energy when the benefits of using the resource in the future apparently outweigh the benefits of using it right now. Their studies showed that expecting to exert self-control in the future motivated participants who exerted self-control in the past (and were thus depleted of their regulatory resources) to conserve their remaining self-control strength for this future task. These participants performed worse on an intervening measure of self-control than participants who were either not depleted, or not expecting future self-control. Moreover, when performance on this future task was actually measured, participants who were initially depleted but conserved resources performed as well as non-depleted participants. In contrast, initially depleted participants not expecting to exert self-control in the future performed worse than participants in the other conditions.

The present research

In sum, previous research has shown that a state of self-regulatory resource depletion weakens resistance to (unwanted) influence attempts, and studies have shown that individuals low in self-control strength are able to conserve what is left of their resources for future use. Extending these two lines of research, the present research argues that forewarning people of persuasion may foster self-regulatory efficiency by motivating them to conserve self-control strength to resist the upcoming influence attempt. We expect that a forewarning of an influence attempt prompts individuals to conserve what is left of their resources, but mainly when there is a clear rationale for doing so, i.e., when they previously suffered a loss of self-control resources. Since self-regulatory resource depletion has been found to have an acquiescing effect on compliance with a request (Fennis et al., 2009; Janssen et al., 2008), a motivation to conserve resources would be especially beneficial to those low in self-control strength. As compared with others who are less depleted, they should try to avoid expending more strength so that they can build up their resistance. By contrast, we do not expect forewarning to promote self-regulatory efficiency when people's resources have not previously been depleted by an act of self-control; since one would have enough resources left for resisting a future influence attempt, there should be no direct need for conservation. As a result of this (seemingly unconscious) process of conserving strength, we expect depleted participants who were forewarned of an influence attempt to comply less with a subsequent persuasive request than their depleted counterparts who were not forewarned and thus did not conserve their resources. Moreover, we expect them to be as able as non-depleted participants to resist the influence attempt.

As such, the present research contributes to the literature in four key ways. First, it shows that self-regulatory efficiency may play an important role in resisting social influence. Second, it provides insight into the self-regulatory dynamics underlying "classic" effects of forewarning on persuasion. Third, by linking up self-control resources with dual process models of persuasion, the present research underscores the self-regulatory mechanisms driving systematic or central information processing in response to persuasion attempts. Fourth, it extends previous work on resistance and persuasion by showing that the effects of forewarning of persuasive intent are not only a function of the recipients' motivation, but also of their *ability* to withstand an unwanted upcoming influence attempt.

We conducted three experiments to test our hypotheses. In a first study we tested the effect of depletion and forewarning of an influence attempt on compliance with a persuasive request. We expected that a forewarning would decrease the amount of compliance with the request, but mainly among previously depleted individuals. In a second and third study we aimed to demonstrate that the process underlying this effect is one of conservation of remaining

self-control resources. We assumed that people forewarned of an influence attempt would be motivated to conserve self-control strength for this future persuasive encounter, reflected in reduced performance on an intermediate self-control task, but mainly when some of their resource had previously been depleted. In line with Muraven et al. (2006), we expected that conserving resources would eventually be beneficial. When subsequently confronted with a request, depleted participants who saved their resources should be just as able as non-depleted participants to resist this influence attempt, generating more arguments against it (Experiment 2) and showing less compliance (Experiment 3) than depleted participants that were not forewarned and therefore did not conserve their resources.

Experiment 1

Participants and design

One hundred and thirteen undergraduate students (92 female, 21 male; $M_{age} = 21.27$ years, $SD = 2.82$) participated in exchange for partial course credit. The study used a 2 (self-regulatory resource depletion condition: depletion vs. no depletion) × 2 (forewarning: forewarning of an influence attempt vs. no forewarning) between-subjects factorial design.

Procedure

On arrival at the laboratory, participants were seated in individual cubicles fitted with a desktop computer, which presented all the instructions. Participants were randomly assigned to one of the four conditions, and informed that the experiment consisted of several different, unrelated tasks.

Self-regulatory resource depletion

We induced a state of self-regulatory resource depletion with a self-control task adopted from Muraven et al. (2006). All participants were shown a paragraph of typed, dense text (contents were copied from a highly advanced statistics book), and were instructed to retype the paragraph as quickly as possible in a textbox below. In contrast to participants in the no depletion condition, who were simply instructed to retype the entire text, participants in the depletion condition had to retype the paragraph without using the letter "e" and the space bar. Applying such a rule has been shown to require self-control, because one has to actively override the natural inclination to type every letter (Muraven et al., 2006).

Next, serving as a manipulation check for the depletion-inducing typing task, we assessed participants' self-control efforts: on 9-point scales (1 = not at all; 9 = very much), participants indicated to what extent they found the task difficult and effortful, how much they needed to control themselves during the task, and how much energy they spent on suppressing automatic responses during the task. To be able to rule out a possible effect of the typing task on participants' emotions, we also asked them to indicate how much they enjoyed the task.

Forewarning

Half of the participants read a message on their computer screen, forewarning them about an upcoming influence attempt. The message stated: "We would like to call to your attention that after you have finished this study, a representative of the student project 'Campus Clean' will drop by to present you with some information about their activities. They are actively seeking volunteers for the new academic year, and would like to persuade you to donate a few hours of your time to participate in their project." The other half of the participants did not receive any forewarning. All participants subsequently performed a filler-task, to ascertain that the forewarning would not be directly followed by our compliance measure.

Dependent measure

Compliance

All conditions were presented with the charitable cause for which participants' compliance was sought. Participants were informed about the goals and activities of the "Campus Clean" student volunteering project. Note that participants in the forewarning condition had already been made aware of the existence of this project, but for participants in the no forewarning condition the project was introduced at this stage. All participants were presented with the following information: "We would like to inform you about the activities of the 'Campus Clean' project, which started this academic year. A group of students of this university has taken the initiative to get together after lectures and examinations to collect trash, like food-wrappers, soda cans and bottles, left behind in the main lecture halls of the campus buildings. This way, all lecture areas will stay fresh and tidy during lecture hours, which will also be in your own personal interest."

The project information was followed by the actual request. Participants were asked whether they would be willing to act as a volunteer for "Campus Clean." Specifically, they were asked to indicate how much time they would be willing to spend clearing up their lecture halls during a full academic year. They could respond to this request on a scale ranging from 0 to 240 min in 15-min intervals. The amount of time participants indicated to volunteer served as our measure of compliance (cf. Fennis et al., 2009; Kardes, Fennis, Hirt, Tormala, & Bullington, 2007). Afterwards, participants were fully debriefed and thanked.

Results and discussion

Manipulation check

t-Tests showed that participants in the depletion condition who were asked to retype the paragraph without using the letter "e" and the space bar, considered this task more difficult ($M = 5.35, SD = 2.19$, $t(111) = 4.16, p < .001$), and effortful ($M = 5.85, SD = 1.93, t(111) = 2.41, p < .05$), than participants in the no depletion condition who simply retyped the entire text ($M = 3.66, SD = 2.13$; $M = 4.95, SD = 2.06$, respectively). In addition, participants in the depletion condition indicated that they had to put more effort into controlling themselves during the task ($M = 5.80, SD = 2.11, t(111) = 2.64, p < .05$) and suppressing automatic responses ($M = 5.98, SD = 2.44, t(111) = 5.67, p < .001$) than participants in the no depletion control condition ($M = 4.76, SD = 2.09; M = 3.59, SD = 2.05$, respectively). Hence, our manipulation of self-regulatory resource depletion proved successful. Moreover, the task did not induce unwanted mood effects, as applying a more complex rule did not affect enjoyment of the task compared to a simpler task ($t < 1$). Thus, it is unlikely that participants in the self-regulatory resource depletion condition would respond differently to the subsequent request for compliance because it affected their emotions.

Compliance

Overall, 62.8% of participants agreed to act as a volunteer in response to the request. An ANOVA was conducted on participants' amount of compliance with the request, as a function of self-regulatory resource depletion condition (depletion vs. no depletion) and forewarning (forewarning of an influence attempt vs. no forewarning).

The ANOVA showed a main effect of both factors. In accordance with the findings of Fennis et al. (2009), participants who were

depleted of their regulatory resources were willing to volunteer for a larger amount of time ($M = 58.91$, $SD = 66.45$) than participants in the no depletion condition ($M = 39.83$, $SD = 52.16$), $F(1,109) = 5.22$, $p < .05$, $d = .32$. Furthermore, participants forewarned about the upcoming influence attempt of a "Campus Clean" representative showed more resistance: they complied far less with the request to volunteer for this project ($M = 28.28$, $SD = 38.15$) than participants not forewarned ($M = 73.56$, $SD = 71.25$), $F(1,109) = 21.39$, $p < .001$, $d = .79$.

Of main importance for our hypothesis, the analysis also showed the predicted interaction between self-regulatory resource depletion and forewarning, $F(2,109) = 5.87$, $p < .05$, $\eta^2 = .04$. Additional simple main effects analyses showed that forewarning of an influence attempt increased resistance to compliance among depleted individuals. As shown in Table 1, when depleted, forewarned participants complied far less with the request to voluntarily clear up their lecture halls as compared to their unforewarned counterparts, $F(1,109) = 24.02$, $p < .001$, $d = 1.22$. Among non-depleted participants, however, the effect of forewarning did not reach significance, $F(1,109) = 2.51$, *ns*. These results extend previous research in showing that although a temporary lapse in self-regulatory resources makes one more susceptible to compliance with a request (Fennis et al., 2009; Janssen et al., 2008), forewarning of the influence attempt counteracts this effect and results in increased resistance.

In sum, Experiment 1 showed that forewarning of an influence attempt increases resistance for initially depleted individuals, up to the level of non-depleted individuals. A second study was performed to uncover the assumed underlying psychological process by showing that it is indeed a matter of conserving self-control strength that drives this effect. Therefore, Experiment 2 included a validated measure of self-regulatory resource depletion, to test the notion that forewarning directly affects self-regulatory resources, which can be used to ward off unwanted influence. We expected initially depleted participants who were forewarned to show more reduced performance than all other participants on this intermediate self-control measure; since they have already suffered a loss of self-control, they should be most concerned with conserving their remaining self-control resources for the upcoming influence attempt.

In line with attitude change research (e.g., Petty & Cacioppo, 1977), we assumed that forewarning people of an impending influence attempt would increase resistance to persuasion, because it encourages more systematic processing of message-relevant information and stimulates the generation of counterarguments. The previous study focused on the outcome of this presumed process, which was resistance to influence as measured by the amount of (non)compliance with a persuasive request. Therefore, instead of using compliance as an outcome-measure, in Experiment 2 we directly addressed the process of counterargumentation as an indicator of resistance to influence. More specifically, we tested whether people who were initially depleted, but conserved their resources due to a forewarning, would generate more arguments in opposition to a persuasive request than depleted individuals who did not receive a forewarning. Since there would be no direct need to conserve resources when one has not previously performed an act of self-control, we did not expect this effect of forewarning among non-depleted participants.

Table 1
Average number of minutes participants volunteered as a function of resource depletion and forewarning.

	Forewarning		No forewarning	
	M	SD	M	SD
Depletion	27.58ₐ	37.57	99.38_b	74.12
No depletion	29.00ₐ	39.38	51.43ₐ	61.70

Note. Means that do not share subscripts differ at $p < .05$.

In addition, to generalize the results beyond the specific research settings employed in the previous study, we used alternate means of inducing a state of self-regulatory resource depletion and forewarning people of an impending influence attempt.

Experiment 2

Participants and design

Seventy-nine undergraduate students (57 female, 22 male; $M_{age} = 19.76$ years, $SD = 2.79$) participated in exchange for partial course credit. The study used a 2 (self-regulatory resource depletion condition: depletion vs. no depletion) × 2 (forewarning: forewarning of an influence attempt vs. no forewarning) between-subjects factorial design.

Procedure

On arrival at the laboratory, participants were seated in individual cubicles fitted with a desktop computer, which presented all the instructions. Participants were randomly assigned to one of the four conditions, and informed that the experiment consisted of several different, unrelated tasks.

Self-regulatory resource depletion

To induce a state of self-regulatory resource depletion, we had participants control their speech (cf. Muraven & Slessareva, 2003). All participants were instructed to improvise a 3-min story about themselves, using a voice recorder which was placed in their cubicle to record their speech. The computer indicated when to start and when 3 min had passed. Participants in the no depletion control condition were allowed to speak freely, while participants in the depletion condition were not allowed to use the filler "Um" and the word "I." We assumed that applying such a rule would require self-control, because one has to actively override the natural inclination to use the filler "Um" in (improvised) spoken language, and the word "I" in an autobiographical story.

Forewarning

All participants then read on their computer screen that the next task would be measuring "mental speed." Additionally, only participants in the forewarning condition were informed about an upcoming influence attempt: "We would like to call to your attention that after this test the experimenter would like to give you some information about the 'Orphans and Vulnerable Children (OVC) Sponsorship Program' that a colleague of hers works for. She is actively looking for new sponsors willing to financially contribute to this project."

Dependent measures

Conservation of self-regulatory resources

To measure whether participants would conserve their self-control resources when forewarned about an upcoming influence attempt, we asked them to perform another self-control task, which was introduced as measuring "mental speed." All participants were asked to solve 32 trials of a cognitive test, which entailed indicating whether a mathematical equation was true or false (e.g., $100/10 = 25$), or whether a picture and a word that were shown as a pair had the same denotation (e.g., they saw the word "clock" together with a picture of a cow). After every trial they had to indicate as quickly as possible whether it was true or false, but randomly the word "reverse" appeared on screen, which meant that they had to reverse their answer (true became false and vice versa). We expected that it would be harder for participants low in self-control, or conserving resources, to override the initial dominant response to

provide the correct answer on the reversed trials, resulting in larger response-latencies.

Counterargumentation

Next, all participants were provided with information about the "Orphans and Vulnerable Children (OVC) Sponsorship Program," which is an existing charity program that financially supports educational facilities for children in Cameroon (http://www.navti-foundation.org/orphanvol-children.htm). All participants were asked what arguments they could list against financially supporting this program, no matter whether they would personally like to donate money to this charity or not. Afterwards, all participants were debriefed and thanked.

Results and discussion

Conservation of self-regulatory resources

An ANOVA was conducted on participants' mean response-time on the 32 trials of the cognitive test, as a function of self-regulatory resource depletion condition (depletion vs. no depletion) and forewarning (forewarning of an influence attempt vs. no forewarning). Incorrect responses were recoded as missing. The ANOVA showed a main effect of both factors. In accordance with previous depletion research (e.g., Muraven & Slessareva, 2003), participants who had to control their speech took significantly longer to complete the cognitive test ($M = 3.36$, $SD = .68$) than participants who were allowed to speak freely ($M = 3.13$, $SD = .55$), indicating that they were more depleted than participants in the control-condition, $F(1,75) = 5.22$, $p < .05$, $d = .37$. Furthermore, participants forewarned about the upcoming influence attempt also responded slower to the trials of the cognitive test ($M = 3.37$, $SD = .68$) as compared to participants who were not forewarned ($M = 3.12$, $SD = .54$), $F(1,75) = 6.06$, $p < .05$, $d = .41$.

Most important, the analysis also showed the predicted interaction effect between self-regulatory resource depletion and forewarning, $F(1,75) = 5.79$, $p < .05$, $\eta^2 = .07$. Please note that we expected depleted participants who were forewarned of an upcoming influence attempt to maximally conserve their remaining self-control resources as compared to participants in the other conditions, who were either not forewarned or not initially depleted. Therefore, we expected depleted and forewarned participants to show the poorest performance on the cognitive test, since they would be most concerned with conserving their remaining resources to resist the upcoming influence attempt. Hence, we predicted a significant contrast between the depletion-forewarning condition and the remaining (three) conditions that were not expected to differ significantly from each other. To test this hypothesis, we used a planned contrasts procedure outlined by Bobko (1986) for testing ordinal interactions. This procedure states that two interaction contrasts should be performed. The first contrast tests the equality of the conditions whose means are assumed to be equivalent, using a one-way analysis of variance. The second contrast tests whether the average of these conditions significantly differs from the one condition that is assumed to perform differently, using a planned comparison *t*-test (see Bobko (1986) for a more extended discussion). For the first contrast, we included the depletion-no forewarning, no depletion-forewarning, and no depletion-no forewarning conditions in the one-way analysis of variance. As expected, this analysis showed the three means to be statistically equivalent, $F < 1$, *ns*. Hence, these three groups performed similarly on the cognitive test, indicating that there was no differential tendency to conserve self-regulatory resources. The second contrast tested whether depleted participants anticipating an influence attempt performed worse on the cognitive test than the average of participants in the other three conditions, using a planned comparison t-test. This analysis confirmed our prediction that depleted and forewarned participants conserved their self-control strength to a higher extent than participants in

any of the other conditions, as evidenced by a slower average response-time, $t(75) = 21.11$, $p < .001$. As shown in Table 2, inspection of the means corroborated this result: a series of simple contrast analyses, with the 'depletion-forewarning condition' as the referent category, confirmed that participants in this condition indeed performed worse on the cognitive test: on average they responded slower than participants in the depletion-no forewarning condition ($t(75) = 3.27$, $p < .01$, $d = 1.05$), the no depletion-forewarning condition ($t(75) = 3.17$, $p < .01$, $d = .98$), and the no depletion-no forewarning condition ($t(75) = 3.12$, $p < .01$, $d = 1.02$).

Counterargumentation

An ANOVA was conducted on the number of arguments that participants generated against donating money to the OVC charity program, as a function of self-regulatory resource depletion condition (depletion vs. no depletion) and forewarning (forewarning of an influence attempt vs. no forewarning). This analysis showed no main effects of self-regulatory resource depletion ($F = 1.31$, *ns*) and forewarning ($F < 1$, *ns*), but did show the expected interaction effect between these two factors, $F(1,75) = 6.49$, $p < .05$, $\eta^2 = .08$. Additional simple main effects analyses showed that forewarning of an influence attempt increased resistance among depleted individuals, $F(1,75) = 5.44$, $p < .01$, $d = .72$. As shown in Table 3, when depleted, forewarned participants appeared to generate more counterarguments as compared to their unforewarned counterparts. For non-depleted participants the effect of forewarning did not reach significance, $F = 1.47$, *ns*. In accordance with the results of Experiment 1, forewarning of an impending influence attempt increased resistance for initially depleted individuals; they generated even more counterarguments than participants that were not initially depleted.

This second study replicates and extends the findings of Experiment 1, by directly addressing the process of counterargumentation as an indicator of resistance to influence. Moreover, this study provided a first test of the assumed underlying psychological process that drives the effect of forewarning among depleted individuals. In line with our key hypothesis, we found that when self-regulatory energy is low, a forewarning of an influence attempt motivates people to conserve their remaining resources for future resistance. Consequently, these individuals perform worse than participants in all other conditions on an intervening measure of self-control (cf. Muraven et al., 2006).

According to our assumptions, conserving self-control strength drives the effect of forewarning on people's ability to resist an influence attempt. We expect forewarning to promote self-regulatory efficiency among people whose resources have been previously depleted, enabling them to offer as much resistance as people not initially depleted. As a first step to test whether conservation of self-control strength drives the effect of forewarning on counterargumentation for depleted individuals, we examined the pattern of correlations between the independent variable (forewarning), the assumed underlying construct (conservation of self-control resources, measured as performance on the cognitive test) and the dependent variable (number of counterarguments participants generated against a persuasive request). This correlation

Table 2
Average response-time on the cognitive test as a function of resource depletion and forewarning.

	Forewarning		No forewarning	
	M	SD	M	SD
Depletion	3.76_b	.69	3.11_a	.54
No depletion	3.14_a	.57	3.13_a	.54

Note. Means that do not share subscripts differ at $p < .01$.

Table 3
Average number of counterarguments generated as a function of resource depletion and forewarning.

	Forewarning		No forewarning	
	M	SD	M	SD
Depletion	2.86$_a$	1.35	2.09$_b$	.68
No depletion	2.04$_a$	.88	2.40$_a$	1.00

Note. Means in the same row that do not share subscripts differ at $p<.01$.

analysis revealed that forewarning significantly correlated with performance on the cognitive test $(r(36)=.473, p<.01)$, but the latter construct did not significantly correlate with counterargumentation $(r(36)=.142, ns)$. Thus, this pattern of correlations suggests that while the current measure of conservation of self-control resources was sensitive to our manipulation of forewarning, it did not qualify as a mediator. Hence, we did not proceed to test for formal mediation in the present study.

The type of task we used to assess the process of conservation seems to have served primarily as a manipulation check of the effect of forewarning, rather than as a driver of the effect on counterargumentation. This may be attributable to the specific nature of the task, which possibly interfered with how the conservation process leads to the effect on our dependent measure (cf. Spencer, Zanna, & Fong, 2005). More specifically, participants had to perform a cognitive test, for which they not only had to indicate 32 times in quick succession whether an equation was true or false, but also had to occasionally override this primary response when the word "reverse" appeared on screen, thus maximally taxing their self-control capacities. Therefore, in a third study, we used a less taxing self-control task that would not only be sensitive to the effect of forewarning, but also qualify as a mediator and assess conservation as an underlying process.

In addition to the use of a different task to measure conservation of self-control resources, Experiment 3 replicates the procedure of our first study, to attest to the robustness of our findings. Furthermore, we wanted to rule out the alternative explanation that receiving any preliminary information about an upcoming encounter, rather than an explicit forewarning, accounts for the previous findings. Therefore we added a second control condition to our forewarning manipulation (that was similar to the one used in Experiment 1), in which participants were given the same preliminary information about the "Campus Clean" student project as participants in the forewarning condition, but without forewarning them of the upcoming request to volunteer for the project. We expected the results of this condition to parallel the findings of participants who were not given any preliminary information or forewarning. In sum, those low in self-control should be only motivated to conserve resources when anticipating being exposed to influence, since self-control resources are required to resist the upcoming persuasive appeal. Providing them with information about the topic of influence should not be enough to generate the effects. In line with the findings of the previous experiments, and as a direct result of conservation of resources, a forewarning of an impending influence attempt should increase resistance to comply among depleted individuals.

Experiment 3

Participants and design

One hundred and seventeen undergraduate students (86 female, 31 male; $M_{age} = 19.77$ years, $SD = 1.72$) participated in exchange for partial course credit. Four participants were excluded from the

analyses of this study, for they did not follow task-instructions correctly. The study used a 2 (self-regulatory resource depletion condition: depletion vs. no depletion) × 3 (forewarning: forewarning of an influence attempt vs. no forewarning-preliminary information vs. no forewarning-control) between-subjects factorial design.

Procedure

On arrival at the laboratory, participants were seated in individual cubicles fitted with a desktop computer, which presented all the instructions. Participants were randomly assigned to one of the six conditions, and informed that the experiment consisted of several different, unrelated tasks. For the most part, the procedure parallels that of Experiment 1.

Self-regulatory resource depletion

We induced a state of self-regulatory resource depletion using the self-control task from Experiment 1. Participants retyped a paragraph as quickly as possible, yet those in the self-regulatory resource depletion condition were instructed to retype the paragraph without using the letter "e" and the space bar.

Forewarning

Next, participants read a message on their computer screen, informing them about the upcoming parts of the study. All participants read that the next task would be to solve a series of mathematical progressions. In the no forewarning-control condition the message ended here. Paralleling Experiment 1, participants in the forewarning condition were additionally informed about an upcoming encounter with a representative of the "Campus Clean" student project, as were participants in the no forewarning-preliminary information condition: "We would like to call to your attention that after you are done with this study, a representative of the student project 'Campus Clean' will drop by to present you with some information about their activities." Only for participants in the forewarning condition, this message contained a forewarning, which was the same as in Experiment 1: "They are actively seeking volunteers for the new academic year, and would like to persuade you to donate a few hours of your time to participate in their project."

Dependent measures

Conservation of self-regulatory resources

After reading one of the three messages explained above, participants were asked to solve three moderately difficult mathematical progressions to measure whether they would conserve their self-control resources when forewarned about an upcoming influence attempt. A sample item includes: "Which number logically comes next in this string of numbers: 1–2–3–5–8–…" (The correct answer is 13; each succeeding number is the sum of the previous two numbers). Previous research has shown that performance on this type of advanced cognitive processing is susceptible to impairment due to prior resource depletion (Schmeichel et al., 2003). The number of correctly solved progressions served as our measure of self-control performance.

Compliance

Similar to Experiment 1, the amount of time participants were prepared to voluntarily clear up their lecture halls for the 'Campus Clean' student project (measured in 15 min. intervals) served as our measure of compliance. Afterwards, participants were debriefed and thanked.

Results and discussion

Conservation of self-regulatory resources

An ANOVA was conducted on participants' performance on the mathematical progressions, as a function of self-regulatory resource depletion condition (depletion vs. no depletion) and forewarning (forewarning of an influence attempt vs. no forewarning-preliminary information vs. no forewarning-control). This analysis showed a marginally significant main effect of depletion and a significant main effect of forewarning. As expected, and in accordance with previous depletion research (e.g., Baumeister et al., 1998; Muraven et al., 2006), participants who performed the rule version of the e-task provided fewer correct answers to the mathematical progressions ($M = 1.87$, $SD = .83$), and were thus more depleted as compared to participants in the no depletion condition, who did not have to apply complex rules ($M = 2.14$, $SD = .75$), $F(1,107) = 3.11$, $p = .081$, $d = .34$. There was a significant effect on math-performance for the three different forewarning conditions, $F(2,107) = 5.71$, $p < .01$, $\eta^2 = .09$. Post-hoc LSD comparisons indicated that participants who were forewarned of an influence attempt performed worse on the mathematical progressions ($M = 1.70$, $SD = .79$) as compared to participants who only received preliminary information about the "Campus Clean" project ($M = 2.11$, $SD = .76$, $p < .05$, $d = .53$) and participants who did not receive a forewarning or preliminary information ($M = 2.24$, $SD = .75$, $p < .01$, $d = .70$). The no forewarning-preliminary information and no forewarning-control conditions did not differ in logical math performance, $p = .48$, ns.

Most important, the analysis also showed the predicted interaction effect between self-regulatory resource depletion and forewarning, $F(2,107) = 4.44$, $p < .05$, $\eta^2 = .07$. Similar to Experiment 2, we expected depleted participants who were forewarned of an upcoming influence attempt to maximally conserve their remaining self-control resources as compared to participants in the other conditions, who were either not forewarned or not initially depleted. Therefore, we expected depleted and forewarned participants to show the poorest performance on the mathematical progressions, since they would be most concerned with conserving their remaining resources to resist the upcoming influence attempt. Hence, we predicted a significant contrast between the depletion-forewarning condition and the remaining (five) conditions that were not expected to differ significantly from each other. Following the procedure outlined by Bobko (1986), the first contrast tested the equality of the conditions whose means are assumed to be equivalent, using a one-way analysis of variance. As expected, this analysis showed the means of the depletion-no forewarning-preliminary information, depletion-no forewarning-control, no depletion-forewarning, no depletion-no forewarning-preliminary information, and no depletion-no forewarning-control conditions to be statistically equivalent, $F(4,92) < 1$, ns. Hence, these five groups performed similarly on the self-control math task, indicating that there was no differential tendency to conserve self-regulatory resources. The second contrast tested whether depleted participants anticipating an upcoming influence attempt performed worse on the logical math test than the average of participants in the other five conditions, using a planned comparison *t*-test. This analysis confirmed our prediction that depleted and forewarned participants conserved their self-control strength to a higher extent than participants in any of the other conditions, $t(107) = 4.39$, $p < .001$. Furthermore, as shown in Table 4, a series of simple contrast analyses, with the "depletion-forewarning condition" as the referent category, confirmed that participants in this condition indeed performed worse on the mathematical progressions than participants in the depletion-no forewarning-preliminary information condition ($t(107) = -2.38$, $p < .05$, $d = .82$), the depletion-no forewarning-control condition ($t(107) = -4.34$, $p < .001$, $d = 1.52$), the no depletion-forewarning condition ($t(107) = -3.00$, $p < .01$, $d = .98$),

Table 4
Average number of correctly solved mathematical progressions as a function of resource depletion and forewarning.

	Forewarning		Preliminary information		No forewarning	
	M	SD	M	SD	M	SD
Depletion	1.35$_b$	.67	1.94$_a$	.77	2.39$_a$	.70
No depletion	2.05$_a$	.76	2.26$_a$	.73	2.10$_a$	.79

Note. Means that do not share subscripts differ at $p < .05$.

the no depletion-no forewarning-preliminary information condition ($t(107) = -3.87$, $p < .001$, $d = 1.30$), and the no depletion-no forewarning-control condition ($t(107) = -3.22$, $p < .01$, $d = 1.02$). Hence, these results also confirm that for depleted participants, it is the forewarning, rather than receiving preliminary information per se that affects their management of remaining self-regulatory resources.

Compliance

Overall, 59.3% of participants agreed to act as a volunteer in response to the request. An ANOVA was conducted on participants' amount of compliance, as a function of self-regulatory resource depletion condition (depletion vs. no depletion) and forewarning (forewarning of an influence attempt vs. no forewarning-preliminary information vs. no forewarning-control). This analysis showed a marginally significant main effect of forewarning, $F(2,107) = 2.85$, $p = .062$, $\eta^2 = .05$. Post-hoc LSD comparisons indicated that participants forewarned of an influence attempt complied less with the request to clear up their lecture-halls ($M = 32.63$, $SD = 54.76$) than participants in the no forewarning-control condition ($M = 61.97$, $SD = 60.42$, $p < .05$, $d = .51$). The other two comparisons were not significant; participants who were not forewarned and received preliminary information ($M = 41.57$, $SD = 53.73$) were neither statistically different from forewarned participants, $p = .49$, ns, nor from unforewarned-control participants, $p = .12$, ns. No main effect of self-regulatory resource depletion condition was found, $F < 1$, ns.

Of main importance for our hypothesis, the ANOVA showed the expected interaction effect between self-regulatory resource depletion condition and forewarning, which was marginally significant, $F(2,107) = 2.48$, $p = .089$, $\eta^2 = .04$. In line with the results of the previous two experiments, additional simple main effects analyses showed that forewarning of an influence attempt increased resistance to compliance among depleted individuals, $F(2,107) = 4.60$, $p < .05$. As shown in Table 5, when depleted, forewarned participants complied far less with the request to voluntarily clear up their lecture halls as compared to their unforewarned counterparts ($p < .01$, $d = .99$), and unforewarned participants who received preliminary information, $p = .072$, $d = .72$. For the two depleted groups that did not receive a forewarning, receiving preliminary information did not have an effect on compliance, $p = .30$, ns. Similar to the results of the previous

Table 5
Average number of minutes participants volunteered as a function of resource depletion and forewarning.

	Forewarning		Preliminary information		No forewarning	
	M	SD	M	SD	M	SD
Depletion	16.50$_a$	22.25	50.63$_b$	62.90	70.83$_b$	74.17
No depletion	48.75$_a$	71.50	33.95$_a$	44.96	54.00$_a$	45.24

Note. Means in the same row that do not share subscripts differ at $p < .05$.

experiments, for non-depleted participants the effect of forewarning did not reach significance, $F < 1$.

Mediation analysis

Among people who were depleted of their self-regulatory resources, we expected that conserving resources on the self-control math task would drive the effect of forewarning on compliance. Indeed, depleted participants' performance on this task highly correlated with our compliance-measure, $r(54) = .376$, $p < .05$. As expected, for non-depleted participants there was no significant relation between these variables, $r(59) = -.245$, *ns*. To formally test whether for depleted individuals the effect of forewarning on compliance was mediated by self-regulatory effort, we followed bootstrapping procedures of Preacher and Hayes (2004), computing a confidence interval around the indirect effect (i.e., the path through the mediator). If zero falls outside this interval, mediation will be present. To compute this confidence interval, we used the SPSS (Statistical Package for the Social Sciences) macros that Preacher and Hayes (2004) provide for this procedure. Forewarning was the independent variable, which for the purpose of this analysis was recoded from three to two levels: since the results of the no forewarning-preliminary information condition paralleled those of the no forewarning-control condition, these conditions were taken together. Compliance was the dependent variable, and performance on the self-control math task (centered) was the mediator. Results of this procedure revealed a 95% confidence interval ranging from $-.162$ to -15.853. The fact that zero fell outside this interval indicates a mediation effect that is significant at $p < .05$.

Together, the results of Experiment 3 replicate and extend the findings of the previous two studies. In line with our key hypothesis, we found that when self-regulatory energy is low, a forewarning of an influence attempt motivates people to conserve their remaining resources for future resistance. Consequently, these individuals perform worse than participants in all other conditions on an intervening measure of self-control (cf. Muraven et al., 2006). Moreover, this study shows that this process of conservation drives the effect of forewarning on resistance to persuasion. As a direct result of conservation of resources, initially depleted participants complied less with a persuasive request than their depleted and unforewarned counterparts, at a similar level as non-depleted individuals.

Our results also support the notion that conservation of self-regulatory energy is not the product of merely receiving preliminary information about an upcoming encounter; only when this information is accompanied by a forewarning of this encounter entailing an influence attempt, are people concerned with conserving strength to be able to offer resistance. Furthermore, the beneficial effect of conservation creates an inevitable contrast with depleted individuals who did not anticipate exerting self-control in the future. More specifically, depleted participants who were not forewarned of an impending influence attempt resisted less than all other participants (who were either not depleted, or depleted but had conserved resources), presumably because they spent all their strength on the initial two tasks, leaving them with the lowest amount of resources of all six groups to resist the subsequent request for compliance (cf. Muraven et al., 2006).

Meta-analysis

In order to determine the overall robustness of the interaction effect of self-regulatory resource depletion and forewarning on resistance to persuasion, we conducted a fixed-effects meta-analysis across our three studies (cf. Rosenthal, 1991). Counterargumentation-scores in Experiment 2 were recoded, and all dependent measures (compliance in Experiments 1 and 3, and counterargumentation in Experiment 2) were standardized. Self-regulatory resource depletion

(depletion vs. no depletion) and forewarning (forewarning of an influence attempt vs. no forewarning[1]) were the predictors. As expected, whereas for non-depleted participants the effect of forewarning did not reach significance ($z = .33$, *ns*), for depleted participants the overall positive effect of forewarning on resistance to persuasion was highly significant ($z = 5.77$, $p < .001$).

General discussion

Although previous research has shown that a state of self-regulatory resource depletion makes people more susceptible to influence (e.g., Fennis et al., 2009; Wheeler et al., 2007), the present research demonstrates that, under certain conditions, depleted individuals can successfully conserve their resources to be put into action when subsequently confronted with an influence attempt. Three studies showed that forewarning of an impending influence attempt increases resistance to persuasion among depleted individuals: anticipation of a persuasive request decreases their amount of compliance and increases the number of arguments they generate against it. A meta-analysis across our three studies underscores the robustness of this interaction effect. Moreover, the present studies provide support for the assumed underlying psychological process: forewarning directly affects self-regulatory resources in that it appears to motivate depleted individuals to conserve their remaining self-control strength to ward off the subsequent influence attempt. The present research provides essential evidence that conserving self-control strength indeed drives the effect of forewarning on resistance to persuasion. The results of Experiment 2 were inconclusive with regard to a relation between conserving strength and people's ability to resist persuasion, which could be attributable to the type of task that was used to measure the process of conservation, possibly interfering with how this process leads to the effect on our dependent measure (cf. Spencer et al., 2005). Therefore, in Experiment 3 we used a less demanding self-control task, that would not only be sensitive to the effect of forewarning, but also be able to assess conservation as an underlying process. Indeed, this experiment showed performance on this task to function as a mediating variable, supporting our claim that conserving self-control resources drives the effect of forewarning on resistance. As expected, this was only the case among initially depleted individuals, since they should try to avoid expending more strength, to build up their resistance.

The results of Experiment 3 also support the notion that conservation of self-regulatory energy is not the product of merely receiving preliminary information about an upcoming encounter. Only when this information is accompanied by a forewarning that this encounter has a persuasive intent, are people concerned with conserving their self-control resources to be able to resist the upcoming persuasive appeal. This corresponds with the findings of Muraven et al. (2006), which show that the motivation to conserve was not affected by merely anticipating a forthcoming task but by the fact that this future task required exerting self-control.

In line with the work of Muraven et al. (2006), the present research shows that having exerted self-control in the past and expecting to exert self-control in the near future motivates and enables people to conserve their self-regulatory strength. When it comes to this future task, conservation of resources cancels out the detrimental effect of initial depletion, creating an inevitable contrast with depleted individuals who did not anticipate exerting self-control in the future. In the present studies depleted individuals who conserved resources due to a forewarning were more resistant to

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[1] Since the results of the no forewarning-preliminary information condition paralleled the findings of the no forewarning-control condition in Experiment 3, this condition was categorized as 'no forewarning' condition in this meta-analysis.

persuasion than depleted individuals who were not prompted to be efficient in their use of self-control energy. Indeed, additional contrast analyses on the dependent measure of compliance in Experiments 1 and 3 confirm that depleted participants who were not forewarned of an impending influence attempt complied more and thus resisted less than the average of all other participants (who were either not depleted, or depleted but having conserved resources).[2] Moreover, contrast analyses confirmed that participants, who were initially depleted but conserved their resources due to a forewarning, were as much resistant to influence as participants who were not initially depleted.[3] In Experiment 2 we assessed the process of resistance to persuasion more directly: instead of measuring the amount of (non) compliance we asked participants to counterargue a persuasive request. In line with the results of Experiments 1 and 3, this study showed that forewarning of an influence attempt increased resistance to persuasion among depleted individuals; anticipating a persuasive request motivated depleted individuals to conserve self-regulatory resources, and stimulated the generation of counterarguments. Interestingly, the pattern of results of Experiment 2 also suggests that for non-depleted participants the effect of forewarning on counterargumentation reverses, with forewarned participants producing fewer counterarguments than unforewarned participants. However, we should note that this difference is spurious as the contrast failed to reach significance. Nevertheless, future research might address this issue in more detail.

Corroborating previous research (e.g., Muraven & Slessareva, 2003; Muraven et al., 2006), the current research shows that external motivators can encourage individuals to overcome depletion by carefully allocating their remaining self-control strength, which raises questions about the limited nature of self-control. In line with Muraven et al. (2006), the present findings suggest that a decline in self-control performance after a previous act of self-regulation may reflect either a lack of ability (as in the "classic" ego-depletion studies, e.g., Baumeister et al., 1998), or a lack of motivation in that people become less *willing* to invest the required resources to succeed at self-control, simply because it is deemed too costly and because they are more concerned with conserving strength for future self-control purposes. In this respect, it is important to note that in the present studies a forewarning only affected self-control performance of depleted individuals. If one's resources had not previously been depleted, there was no direct need for conservation, since one would have enough resources for resisting a future influence attempt. As Muraven et al. (2006) already remarked, non-depleted people likely need a very good reason to conserve, as they are less sensitive to future demands than depleted individuals. Maybe if we used a more powerful forewarning (such as the expectation to be the target of influence of a highly professional influence agent), non-depleted participants might also have conserved strength.

Future research could profitably explore the boundary conditions for the conservation effect to occur. When people are not at all concerned about the fact that they will be the subject of persuasion in the nearby future (because they rather want to be convinced), or consider it more important to perform well on the intermediate self-control task, will a forewarning then still motivate them to conserve their self-control resources when these are low? Apart from our studies (where people were generally more concerned with resisting persuasion than performing well on the intermediate self-control tasks), it is plausible that an effect of forewarning will decrease when people's motivation to resist persuasion is less strong, or when a strong incentive is given to perform well on the intervening self-control task. The process of conservation is likely to differ across different situations, tasks and individuals. People high in reactance possibly show the conservation effect more strongly, and even after a more subtle manipulation of forewarning. These people will be more strongly motivated to offer resistance to the upcoming persuasion attempt, and providing them with preliminary information about an upcoming interaction with a person that has the potential to be an influence agent, could be enough for them to trip off their 'schemer schema' (Friestad & Wright, 1994) and put their motivational drive to resist persuasion into action. Similarly, when people are unsure of whether they want to resist or not, another motivational drive could get the upper hand, and people will put their resources into the service of another goal, like performing well on the intermediate self-control task. Other individual differences that could influence this conservation process and affect the outcome of resistance are an individual's preference for counterarguing and bolstering when confronted with persuasion (e.g., the Bolster-Counterargue Scale, Briñol, Rucker, Tormala, & Petty, 2004), or people's beliefs regarding their own vulnerability to persuasion (e.g., the Resistance to Persuasion Scale, Briñol et al., 2004). Moreover, when there is no opportunity for (depleted) people to mobilize or actively conserve what is left of their self-control resources (e.g., when a forewarning of an influence attempt is immediately followed by a request for compliance), we do not expect forewarning to have an effect.

In general, it becomes increasingly clear that self-regulation involves a constant (unconscious) trade-off between multiple self-control demands and the ability and the motivation to self-regulate are strongly related. Self-regulatory efficiency is an important means to deal with the limited nature of our self-control resources. People are likely to tone down their efforts when their resources or needs are low, or future demands require a replenishment of supplies. Conserving our resources and putting them into action when it most benefits us, is an activity that is in line with our goal-directed human nature. For future research, it would be fruitful to try to differentiate and explore the interplay of these processes, as to enlighten the inner workings of self-control further.

Another point that deserves attention is that the present research may convey the impression that, in general, people are not very willing to volunteer helping others, and rather resist these types of requests. In line with this assumption, the present studies, as well as our previous research (Fennis et al., 2009; Janssen et al., 2008) have shown that people comply more with (charitable) requests when their self-control resources have been lowered (provided that the persuasion context provides them with a heuristic that points to compliance as the most efficient behavioral outcome), which indicates that the default mode is to have your defenses up, which can be worn down by depletion. In this respect, we think it is important to note that it is often not so much what influence agents advocate, but the fact that we realize that we are targets of influence that makes these requests unwanted and makes us want to protect our personal freedom. It is therefore not unlikely that people have an intrinsic motivation to help others, but they are rather not being pushed into it.

With respect to the forewarning literature, the present research has shown that a forewarning of influence is not only an effective tool for increasing resistance to persuasion in the domain of attitude

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[2] We performed a planned comparison t-test on the dependent measure of compliance in Experiment 1, weighting the depletion-no forewarning condition +3, and the depletion-forewarning, the no depletion-forewarning, and the no depletion-no forewarning each -1. This analysis supported our prediction, $t(109) = 5.11$, $p < .001$. For Experiment 3, we weighted the depletion-no forewarning-preliminary information and the depletion-no forewarning-control conditions each +2, and the depletion-forewarning, the no depletion-forewarning, no depletion-no forewarning-preliminary information, and no depletion-no forewarning-control conditions each -1. This analysis also supported our prediction, $t(107) = 1.95$, $p = .053$.

[3] We tested the equality of the three conditions of Experiment 1 whose means are assumed to be equal (depletion-forewarning, no depletion-forewarning, no depletion-no forewarning) using a one-way ANOVA, which indeed showed the means to be statistically equivalent, $F(2,88) = 2.33$, *ns*. We also tested the equality of the four conditions of Experiment 3 whose means are assumed to be equal (depletion-forewarning, no depletion-forewarning, no depletion-no forewarning-preliminary information, and no depletion-no forewarning-control). Again, a one-way ANOVA showed the means to be statistically equivalent, $F(3,78) = 2.34$, *ns*.

change, but also in the domain of behavioral change processes. Participants complied significantly less with a persuasive request when they were warned about the upcoming influence attempt in advance. In line with attitude change research (e.g., Petty & Cacioppo, 1977), Experiment 2 shows that forewarning people of an impending influence attempt encourages more systematic processing and stimulates the generation of counterarguments. Importantly, the present studies now provide insight in the self-regulatory dynamics underlying these effects of forewarning on persuasion. To resist persuasion, people need self-control strength to counterargue a persuasive request or message, and when these resources are not optimal, a forewarning promotes self-regulatory efficiency and prompts those low in self-control strength to conserve their remaining resources. Thus, a forewarning of persuasion is especially beneficial to those low in self-control strength, so that they can build up their resistance. In that respect, our studies are the first to show that the effect of forewarning is not just a matter of increasing the motivation to resist persuasion; the effect of forewarning depends on the amount of regulatory resources a person has available, given that it is more pronounced when people's resources are diminished. Eventually, there will be no difference in the extent of resistance between people who were depleted but conserved resources, and people who had their resources available from the beginning. Whether these processes can be consciously controlled, or whether the process of conserving resources for subsequent counterargumentation and resistance to persuasion operates mainly beyond our conscious awareness, still remains to be tested.

The present studies underscore previous research which has shown that resistance to persuasion is an effortful activity which depends on one's self-regulatory capacities. People need self-control resources to actively resist a persuasion attempt, to be able to scrutinize a message or request and argue against the persuasive communication. Being low in self-control strength weakens our defense, and when one is not prompted to do something about it, as in conserving and mobilizing remaining strength, one's attempts at resistance are more likely to fail. Gathering knowledge on and insight into resistance processes is relevant to a host of influence contexts, yet the issue is probably most germane to the field of marketing and consumer behavior. In contrast to such non-profit domains as health promotion or risk communication, where influence attempts are sometimes welcomed by the message recipient, commercial influence is typically met with a less accepting, more skeptical response. Indeed in the marketing sphere, unsolicited influence appears to be the rule rather than the exception. People are frequently being harassed by telemarketers after a day of hard work, sales representatives and fundraisers approach shoppers with unwanted offers, and television programming is frequently interrupted by unwanted advertising messages. It seems that the quantity of persuasive messages and requests we encounter is growing by the day, and often it is not even what these want to persuade us about, but it is the fact that we are targets of influence even in the privacy of our homes that makes it unwanted and makes us want to protect our personal freedom. Fortunately, the present results have shown that a temporary lapse in self-control ability does not necessarily result in involuntary acquiescence to the wishes of these influence professionals. To the extent that depleted individuals anticipate upcoming influence attempts, they remain able to resist unsolicited persuasion.

Although the forewarning itself may or may not accompany an influence attempt in commercial consumer settings, advanced *awareness* of the upcoming persuasion attempt may well be a default mode for people when they enter marketing spheres such as shopping malls or commercial websites. In addition to forewarnings being explicitly present, it seems likely that they are often self-generated, based on people's previous experiences with commercial settings: in a shopping mall the sales representatives can be spotted miles away, practically every television viewer will be aware of the interruptions by persuasive messages, and magazine ads are often explicitly labeled as "advertisement" to distinguish them from the journalistic content. Indeed, work on the persuasion knowledge model (Friestad & Wright, 1994) supports the notion that consumers are typically prone to infer the (self-serving) motives of marketers and advertisers. People are becoming increasingly aware of the numerous commercial traps they can fall into, and this knowledge could function as a source of self-generated forewarnings. Hence, we should be comforted by the present results which imply that we are still proficient in defending ourselves, despite a general increase in susceptibility to influence. Even in these instances we will not always end up subscribing to a cause we do not fully support, or end up with products and services that we do not want or need.

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