Self-Regulation, Heuristics and Compliance:

A Deeper Insight in the Underlying Process of Sequential Request Techniques

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Is self-regulation a limited resource and can depleting this resource prompt a greater willingness to comply with a request, by relying on heuristics? Across two lab experiments, we examined this process, guided by a recent two-stage model which tends to give an explanation for the underlying process. In study 1, participants who had to answer cognitively demanding questions of a foot-in-the-door script, had less regulatory resources left and showed a greater willingness to comply with a target request. In experiment 2, more evidence was found for the two-stage model by replicating the results of experiment 1. Finally, participants in study 2 were motivated to use all of their regulatory resources on subsequent tasks. This induced motivation moderated the effect of depletion on the presented target requests, resulting in a greater willingness to comply.

Imagine yourself walking along the street. An unknown friendly person attracts your attention and asks you a simple question. You are in a good mood and answer this seemingly harmless question. Before you grasp what has just happened, you are in a social intercourse with this person and answer several questions you are being asked. Then the final question shows up, the person asks you to donate money to a charitable foundation and you don't know how to refuse. A few seconds later you walk away wondering what just happened....

In this article we take a closer look at the internal process that takes place when consumers are approached by a fundraiser or marketer who asks for a donation or poses another kind of request to you. We investigate how it is possible that people who intend not to give money or buy a product occasionally find themselves doing just that. In the first study we examine this phenomenon guided by the two-stage model (Fennis, Janssen, & Vohs, 2008), which tends to give an explanation for the underlying processes. The model suggests that the first step of a social influence technique induces a state of self-regulatory resource depletion or mindlessness. The second step, compliance with the target request, is caused by the heightened reliance on heuristics (e.g. consistency) through the temporary state of regulatory resource depletion. The final study is designed to extend evidence for the two-stage model and investigate the role of motivation in the underlying process of social influence techniques.

Research on social influence techniques had fascinated scholars for over forty years. Several techniques have been examined including the foot-in-the-door technique (Freedman & Fraser, 1966), the door-in-the-face technique (Cialdini et al, 1975), the low-ball technique (Burger & Petty, 1981) and more recently the disrupt-then-reframe technique (Barbara & Erik, 1999; Fennis, Das, & Pruyn, 2006). According to Cialdini and others (Cialdini, 1993; Cialdini, & Goldstein, 2004) all of these social influence techniques try to induce targets into a state of mindlessness. In this state of mindlessness targets are prone to employ simple heuristics that increase their willingness to comply with a target request. Examples of these heuristics are consistency (i.e., wanting to behave congruently with..), reciprocity (i.e., wanting to return a favor) and liking (Cialdini, 1993).

To understand this induced state of mindlessness caused by social influence techniques we have to take a step back and look closer at what "mindlessness" exactly is. To resist buying something from a salesman or marketer takes a form of self-regulation. This self-regulation is an important process in which people seek to exert control over their thoughts, their feelings and their impulses (I.e. not to drink at a party when you are the driver). Present research suggests that self-control relies on a limited resource, akin to energy or strength, which is used to alter thoughts, feelings and impulses (Baumeister, 1998; Vohs & Heatherton, 2000). This limited self-

regulatory resource can be seen as a muscle (Muraven, 2000) and just like a muscle every action of control uses energy from a limited resource resulting in impairment on consecutive acts of self-regulation. Hence, after depleting the self-regulatory resources this will induce a state of depletion similar to the predicted mindlessness in stage 1 of the two-stage model (Fennis et al., 2008) (fig. 1).

Stage 1. The compliance gaining technique used in this study to examine the two stage model is the foot-in-the-door technique (FITD) (Burger, 1999). The basic FITD procedure is deceptively simple. Participants are asked to perform a small request, with which virtually everyone agrees. At some later point, participants are presented with a larger request. This second request is typically called the target request because securing agreement to this request is the true purpose of the procedure. One of the first examples of this technique dates more than 2 decades ago. A team of psychologists telephoned housewives in Palo Alto, California and asked if the women would answer a few questions about the household products they used. Three days later, the psychologists called again. This time, they asked if they could send five or six men into the house to go through cupboards and storage places as part of a 2 hours enumeration of household products. The investigators found that these women were more than twice more likely to agree to the 2 hour request than a group of housewives asked only the target request. (Freedman & Fraser, 1966). Throughout the years several meta-analysis were conducted and concluded that the effect of the FITD technique occurs more often than would be expected by chance (Beaman et al., 1983; Dillard, Hunter, & Burgoon, 1984; Fern, Monroe, & Avila, 1986). Furthermore these meta-analyses revealed that effectiveness of a FITD technique depends on specific attributes of the initial request to which people are exposed (Burger, 1999). Specifically, the FITD tactic is most effective when the initial request is highly involving. A closer look at FITD studies suggests that these highly involving initial requests entail either (a) active self-presentation or (b) demanding cognitive operations, or both — processes that are known to elicit self-regulatory resource depletion (Schmeichel, Baumeister, & Vohs, 2003; Vohs, Baumeister, & Ciarocco, 2005). Hence, answering an initial request that is either highly involving and/or cognitively demanding will result in a temporary state of regulatory resource depletion or mindlessness as predicted by the first stage of the two stage model (fig. 1)

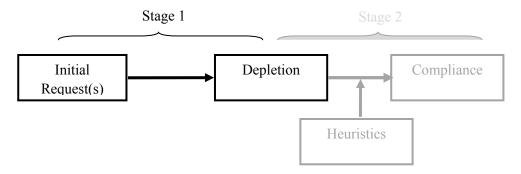


Figure 1. Stage 1 of the two-stage model. From "Acts of Benevolence: A Limited-Resource Account of Compliance with Charitable Requests" by Fennis et al. (2008). Adapted with permission

In study 1 we used a subtype of the FITD procedure called the 'continuing questions procedure' (Burger, 1999). This particular FITD procedure characteristic is the possibility to heightens impression management motives, which are known to deplete participants regulatory resources (Vohs et al., 2005). As is typical for this tactic, the initial questions sow the seed for compliance by being conceptually related to the target request (e.g., in the current study the initial questions pertained to an intention of improving education and the target request was whether people were willing to invest time and effort improving education).

The first stage of the FITD technique was manipulated by creating a high involvement initial request (i.e. Asking students about improving education) comprised by either cognitively demanding continuing questions (i.e. give counterarguments) or less cognitively demanding continuous questions (i.e. give arguments). Creating counterarguments to high involvement persuasive messages requires actively processing the message information, retrieving or generating new contradictory information, and applying it to the message content to refute it. (E.g. generation and application of contradictory information). All of these activities require the individual to engage in active control processes to defend the pre-existing attitude from attack (Wheeler, Brinol, & Hermann, 2007). This highly demanding active control tends to use energy from the limited self-regulatory resource inducing a state of mindlessness. In contrary, giving arguments in favor with the individuals opinion is known to use less active processing of the message information. The individual does not have regulate the pre-existing attitude or generate contradictory information, resulting in less needed energy from the self-regulatory resource.

As we stated earlier, the self-regulatory resource can be seen as a muscle. Following this metaphor, researchers found that we carefully manage this crucial resource (.i.e. a sprinter saves energy for the final sprint). According to the limited strength model (Baumeister, 1998) people who have already lost some of their resources will try to save the remaining energy for critical or high-priority need in the future. Although we want to preserve our remaining energy, indications were found that in certain conditions we can be persuaded not to preserve our energy but to use it on a second task. Several short-term antidotes to this preservation of regulatory resources have been documented, including cash incentives (Muraven & Slessareva, 2003), implementation intentions (Webb & Sheeran, 2003), humor (Tice, Baumeister, Shmueli, & Muraven, 2007) and motivation (Muraven, Shmueli, & Burkley, 2006). Nonetheless, research shows that these short term antidotes carry a cost. When we use the muscle, already in a state of depletion, the muscle will be much more depleted afterwards resulting in an increased drop of performance on subsequent tasks (Muraven et al., 2006). In our second study we will investigate the role of the short-term antidote of motivation within the two-stage model presented by

Fennis et al., 2008.

Stage 2. As we follow the guidelines of the two-stage model, the second stage of this model is the actual target request. The model predicts that the induced state of mindlessness in stage one of the model heightens the willingness to comply. This weakened resistance to persuasive messages is the fruit of the seed sowed by the initial request.

One explanation for this weakened resistance can be found in a study from Burkley (2008). In his research he showed that resistance to persuasion attempts requires active self-control and therefore depletes one's regulatory resource, particularly when the persuasive message is highly involving. As we stated earlier, any exertion of willpower or self-regulation in one task (initial request), as long as it is sufficiently demanding, should reduce any subsequent self-regulation on a second, seemingly unrelated task (target request) (Wheeler et al., 2007; Baumeister, Muraven, & Tice, 2000). Hence the more we deplete participants in the first stage of the model, the less self-regulatory energy is left to resist the target request.

A second explanation that we follow in this research is the increased reliance on heuristics through self-regulatory resource depletion. The fundamentals of this theory can be found in the two-system model of information processing, described in different ways and given different names, but is mostly referred to as dual-process theories (Chaiken & Trope, 1999; Stanovich & West, 2000). Decisions relying on system 1 processes correspond to intuition. They are quick and efficient and often rely on non-conscious processes including heuristics (Cialdini & Goldstein, 2004). They occur spontaneously and require low processing skills or self-control. Decisions relying on system 2 processes, on the other hand, correspond to what most people think of as intellectual reasoning. They are slow, rule-bases, controlled, skillful and they involve analytical reasoning and rational choice, which entails the need for self-control (Vohs & Faber, 2007). Hence, processing a target request thorough we need our self-regulatory resources. The two-stage model predicts that this resource is depleted in stage one, causing a state of mindlessness which stimulated the processing of the final request according to system 1 of the dual-process theory, following heuristics as predicted by stage 2 (fig. 2).

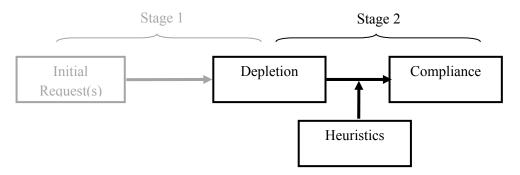


Figure 2. Stage 2 of the two-stage model. From "Acts of Benevolence: A Limited-Resource Account of Compliance with Charitable Requests" by Fennis et al. (2008). Adapted with permission

In sum, our approach is to find evidence for the two-stage model (Fennis et al., 2008) and offer an indepth view of the underlying process explaining why and how self-regulatory resource depletion is induced by a continuing question procedure, and how this temporary state of mindlessness can increase the willingness to comply. Furthermore we seek evidence for "motivation" as a temporary antidote against self-regulatory depletion resulting in a short-term improvement of self-control. Nevertheless, we predict that this temporarily antidote comes at a cost, resulting in much poorer self-control afterwards, and leading to an even greater willingness to comply by reliance on heuristics.

Present Research

The present investigation consisted of two studies designed to test our multipart hypothesis. In study 1 our main goal was to find evidence that supports the two-stage model, that accounts for the influence of sequential request techniques on compliance (Fennis et al., 2008). This model describes the effect of the induced state of mindlessness through the initial request phase of a sequential request technique. In the present studies, we took a closer look at this model and explored if the continuous questions of the initial request can add to the induced state of mindlessness. We used the continuing questions procedure, a subtype of the FITD technique (Burger, 1999) to induce a state of mindlessness. After the first question of the initial request (e.g., asking students to participate in the study), participants were randomly divided into two conditions, self-regulatory condition and the non self-regulatory condition. We expected the participants in the self-regulatory condition to have lost more of their self-regulatory resources followed by an induced state of mindlessness (hypothesis 1).

The second part of the two-stage model describes the heightened compliance on the target-request through reliance on heuristics caused by the temporarily state of resource depletion. (Hypothesis 2). This heightened willingness to comply results in easier persuasion on acts of benevolence such as freely donating time or effort without expecting something in return. In study 1 and 2 we measured this predicted increase on willingness to comply by presenting participants target requests asking to volunteer to help improve education.

The final goal of study 1 was to demonstrate full mediation of regulatory resource depletion induced by the initial stage of the FITD, gaining a heightened willingness to comply with the target request (hypothesis 3)

The second study was designed to replicate the results of study 1 (hypothesis 4) but was designed to expand our view to the role of motivation in the two-stage model (Fennis et al., 2008). Self-control is the

exertion of control over the self by the self. This overriding of desired behavior takes energy from a limited resource (Baumeister, 1994). This limited resource can be seen as a muscle (Muraven, 2000) and just like a muscle every action of control uses energy from a limited resource. More important in this comparison is the possibility of a muscle to replenish itself. One of the most powerful short-term antidotes of depletion is motivation. When motivated enough we are able to self-control although depleted. Nonetheless, this short term antidote carries a cost. When we use the muscle in a state of depletion the muscle will be much more depleted afterwards resulting in an increased drop of performance on subsequent tasks (Muraven, Shmueli, & Burkley, 2006)(hypothesis 5). We predicted that this heavily increased state of mindlessness caused by motivation is tend to moderate the reliance on heuristics, causing a heightened willingness to comply with a subsequent request.

Study 1

Study 1 provided an initial test of the two-stage model that accounts for the influence of sequential request techniques on compliance. We used the continuing questions procedure, a subtype of the FITD technique (Burger, 1999). This specific FITD technique can increases impression management, which in turn depletes the participant's self-control resources. (Vohs, Baumeister, & Ciarocco, 2005). Important of this procedure is that the initial request is bound to the target request. This was manipulated by asking students to participate in a study for "Improving education". This is the first part of initial request of the used FITD technique. After the first part participants were randomly divided into two conditions, self-regulatory condition and the non self-regulatory condition. In the self-regulatory condition we presented the participants 4 propositions about "improving education" that they had to counterargument with their own opinion. The participants in de non self-regulatory condition were also presented 4 propositions about "improving education", but were asked to argument the propositions in favor of their own opinion.

After completing the 4 propositions, participants engaged in two tests as a measure of depletion. The first test contained six demanding logic-reasoning questions comparable to questions from the CET test which has proven to be a useful manipulation check for depletion of self-regulatory resources (Schmeichel et al.,2003). The second test used as a check for depletion was the Stroop-task (Stroop, 1935). In the Stroop-task, participants saw words (e.g., "red", "blue", "green") on a computer screen, and they were to respond by indicating the font color of the word..

The second part of the two-stage model was investigated by presenting the participants two questions that were directly related to the initial request (improving education). Both questions persuaded the participant to

invest time and effort without expecting something in return. The participants in the self-control condition are predicted to have lost more of their self-regulatory resource and therefore score higher on our measure of compliance (hypothesis 2).

The final prediction of the first study was that the heightened willingness to comply (hypothesis 2) was mediated by self regulatory resource depletion (hypothesis 1), induced by the initial stage of the FITD technique (hypothesis 3).

Although prior research has shown that depletion manipulation does not have an impact on mood (Baumeister 1998; Muraven, Tice, & Baumeister 1998) we wanted to rule out this explanation a measured it before the target request with the brief measure of positive and negative, PANAS (Watson, Clark, & Tellegen, 1988).

Method

Design and participants. Fifty-four undergraduates volunteered to participate in exchange for a small payment of &2,50 (10 female, 43 male; $M_{\rm age} = 21.00$ years, SD = 3.00). The data from one participant was not used because of preliminary suspicions of the hypotheses of the study. The data from fifty-three participants were used in a single factor (type of continuing questions: Self-regulatory vs. Non self-regulatory), two cell between-subjects design.

Procedure. The experiment took place in a class-room at the University of Twente in the Netherlands. In this class-room 5 laptops were placed to host the experiment. All the laptops were equipped with mouse and keyboard. Two experimenters asked students walking around the university if they would be willing to participate in a study to improve education. The students were told that they would receive a payment of &2,50 and if they participated the results of the study could really help the education to get better. Participants who agreed to this first part of the initial request were taken to the class room where the experiment took place. Here a third experimenter guided the participant to a laptop and started up the experiment. Participants were randomly divided into the two conditions, self-regulatory condition and the non self-regulatory condition by the computer program. Half of the participants were asked to counter argue 4 propositions about improving education. Hence, these participants were asked to actively override their primary evaluative response to the issue, an act that requires self regulation (Wheeler et al., 2007). The participants in de non self-regulatory condition were also presented 4 propositions about "improving education", but were asked to argument the propositions in favor of

their own opinion. The participants in this condition should use less of their self-regulatory resources than the participants in the self-regulatory condition (hypothesis 1). This prediction was tested with two cognitively demanding tasks. Cognitive processes used to solve complex logic problems require active deliberation, sustained attention, and persistence, all of which may be construed as self-regulatory and central executive acts (Baddeley, 1986; Barkley, 1997).

The propositions of the second part of the initial request were designed to have a high level of involvement for the target group, students. (E.g. A state secretary has submitted a proposal to raise the tuition fee for students who have more than two years of study delay). Subsequently, participants were given two tasks. Answering six demanding logical-reasoning questions and completing the Stroop task (Stroop, 1935). The logical-reasoning test asked participants to choose from 4 possible answers in six questions presented in multiple-choice. To find the correct answers participants had to use the limited provided information to reason out witch answer was correct. The questions were designed to be cognitively demanding and use elaborate information processing. (E.g. In a certain month, Monday is the 21st of that month. Which day of the week was it on the 1st day of that month?). We used average time spend and errors made as a measure of self-regulatory resource depletion. Next, as a second measure of depletion, participants completed 32 trials from the Stroop task. On half of the 32 trials, the meaning of the word differed from its font color (e.g. the word blue appeared in red ink). This Stroop-task uses self-control resources because the participants had to exert self-control by overriding the tendency to read the word and respond instead according to the font color. Performance on the Stroop-task was operationalized as the number of errors made during the 32 trials (Gailliot, Schmeichel, & Baumeister, 2006). For an extended review of this test see the article presented by Macleod (MacLeod, 1991).

After completing both the logical-reasoning questions and completing the Stroop task participants were presented a mood scale, PANAS (Watson, Clark, & Tellegen, 1988). This control test for possible mood effects consists of 20 propositions related to mood (e.g. at this moment I feel scared). Participants responded on a 5-points scale (1 = not at all, 5 = very) how much the agreed with the proposition.

The final questions of the experiment contained the target request of the FITD technique. Participants were asked how much time they would be willing to spend to help improve the education on universities and how much e-mail messages they were willing to receive with new propositions about improving education on universities. These target requests were answered on a 5-point scale (1 = 0 hours, 5 = 5 hours or more; 1 = 0 e-mails, 5 = 5 e-mails or more) and were used as a dependent measure for compliance.

Participants then were told that the experiment was finished and debriefed by one of the experimenters.

The average time of completing the experiment was 25 minutes.

Results and discussion

Cognitive performance. As stated in hypothesis 1, we predicted to find impairment in cognitive performance with participants in the self-regulatory initial request condition as compared to participants the non self-regulatory initial request condition. We tested this expected decrease of cognitive performance with two dependent variables. On the first manipulation check, the logical-reasoning test, no significant effect was found of depletion on the number of correct answers on the logic-reasoning test, F(1.52) = .02, n.s.) or the average time spent on answering the six questions of this test, F(1.52) = .79, p > .05. Better results supporting hypothesis 1 were found on the Stroop task. The results showed us that when an initial request is followed by self-regulatory demanding continuing questions (self-regulatory condition) participants needed more time to complete the Stroop task (M = 1.49, SD = .25) compared to participants in the non self-regulatory condition (M = 1.36, SD = .19), F(1,52) = 4.29, p < .05. Furthermore, participants in the self-regulatory condition also made more errors completing the Stroop task (M = 1.46, SD = 2,23) then participants in the non self-regulatory condition (M = .32, SD = .67), F(1,52) = 4.29, p < .05. The number of times a respondent needed more than two seconds to answer a question of the Stroop task also dramatically increased, (M = 3.58, SD = 3.02) versus (M = 6.46, SD = 3.33), F(1,52) = 5.08, p < .05. These finding support the predicted self-regulatory resource depletion after stage 1 of the two-stage model.

Mood. To make sure that no differences in self-reported mood state emerged as a result of the self-regulatory resource depletion and whether a possible difference in mood states influenced subsequent cognitive performance we used the mood measure PANAS (Watson, Clark, & Tellegen, 1988). This mood test yields separate scores of positive (PA) and negative affect (NA). We performed an F test and found no significant differences on the PA, F(1,52) = 2.42, p = n.s., or NA, F(1,52) = .79, p = n.s.. Thus, participants in the self-regulation condition who depleted their resources where quite similar in reported mood state compared to the participants in de non self-regulation condition.

Compliance. To test the second stage of the model (hypothesis 2), participants were presented with two target requests which persuaded the participant to invest time and effort without expecting something in return. The first target request (TR1), asked participants how much time they were willing to volunteer to help improve education on universities. Mention that this target request is totally in line with our initial request. Participants

who were depleted of their regulatory resources were overall willing to spend more time voluntarily helping to improve education (M = 1.33, SD = .64), as compared to participants whose resources were not depleted (M = 1.04, SD = .19), F(1,52) = 5.56, p < .05 (TR1). The second target request (TR2) asked participants how many emails they were willing to receive to help improve education. Although the mean of the self-regulation condition was higher (M = 2.59, SD = 1.45) then the mean of the non self-regulation condition (M = 2.29, SD = 2.08) this result was not found to be significant (TR2), F(1,52) = .18, p = n.s.

Mediation. To complete the predictions of the two-stage model a mediation analysis of the two separate stages of the model was performed. The objective of this analysis was to find evidence whether self-regulatory resource depletion mediates the impact of a sequential request social influence technique on compliance with a volunteering request (hypothesis 3). The mediation analysis was performed and guided by the suggestions of Baron and Kenny (Baron & Kenny, 1986). These authors claim that demonstrating mediation requires estimating a series of regression models that first regress the mediator on the independent variable; then second regress the dependent variable on the independent variable; then third regress the dependent variable both on the independent variable and on the mediator. Full mediation is demonstrated when the independent variable significantly affects the mediator in equation 1, the independent variable significantly affects the dependent variable in equation 3 while the impact of the independent variable is rendered non-significant.

The results of these analyses supported our predictions. First, the type of initial request (regulatory vs. non-regulatory) significantly predicted self-regulatory resource depletion as indexed by performance on the Stroop task ($\beta = .34$, t = 2.57, p < .05). The means showed that participants who responded to an initial request that was comprised of cognitively demanding questions made more errors on the Stroop task (M = 1.46, SD = 2.23) than did participants who responded to an initial request that was comprised of undemanding questions (M = .32, SD = .67).

As the second step, type of continuous questions significantly affected compliance rates on target request 1, (β = .32, t = 2.36, p < .05). In line with predictions, participants exposed to a sequential request technique that included a cognitively demanding initial request were more willing to freely invest time on improving education on universities. (M = 1.33, SD = .63) than were participants in the undemanding initial request condition (M = 1.03, SD = 0.19).

As the third step to find support for hypothesis 3, the regression analysis with type of influence attempt and self-regulatory resource depletion (i.e., Stroop performance, centered) as predictors and compliance as the

criterion showed that self-regulatory resource depletion significantly predicted compliance rates (β = .29, t = 2.71, p < .05).

The results follow the prediction of the two-stage model investigated in this first study. It does not only showed that when an initial request is followed by self-regulatory demanding questions, subsequent performance on cognitively demanding task suffers. It also showed that this induced state of mindlessness heightens the willingness to comply with an target request. Finally this study has also shown full mediation of the initial request, through regulatory resource depletion, on compliance. Please note that compliance as the product of self-regulatory resource depletion occurred because the sequential request technique has embedded in it a heuristic principle: in this experiment, we employed a FITD technique consisting of continuing questions. The heuristic principle pointing to compliance in this case was the principle of consistency — that is, the propensity to behave congruently across situations.

Study 2

The purpose of Study 2 was to provide conceptual replications of the findings of study 1 (hypothesis 4), while implanting the role of motivation. According to the limited strength model (Baumeister, 1998) and the conceptualization of this model as a muscle (Muraven, 2000), the energy needed to self-control can get depleted which impairs cognitive performance. Because of the crucial but limited nature of self-control strength, people must be selective in their management of these resources. For this reason people who have already lost some of their resources will try to save some of this energy for critical or high-priority need in the future. A recent study by Muraven et al. (2006), suggests that after initial resource depletion (stage 1), people will try to save energy and perform worse on subsequent tasks requiring self-regulatory resources (stage 2) (Muraven et al., 2006). In the same study indications were found that when motivation is high enough, participants can be persuaded not to preserve their energy but to use it on a second task. But as we stated earlier, this temporary replenishment comes at a cost. When we use the muscle in a state of depletion the muscle will be exhausted and totally depleted afterwards, resulting in an increased drop of performance on subsequent tasks (hypothesis 5).

We tested this hypothesis (5) by introducing a second depletion task with a manipulation for motivation. Participants would just like in study 1 comply with an initial request (helping to improve education on universities) comprised with a series of depleting or non-depleting continuous questions. After this first manipulation of depletion participants were separated in motivation versus non-motivation.

The depletion task was a newly designed test developed to be an alternative for the Stroop color word

task (Stroop, 1935). This mental speed task (MST) requires logical reasoning and thoughtful reading comprehension found to use regulatory resources (Schmeichel et al., 2003). This task, used as a depletion manipulation can when proven helpful be used in future research as a measure of resource depletion.

The final goal of this second study was to investigate if motivation has an moderating effect on the second stage of the two-stage model that accounts for the influence of sequential request techniques on compliance(Hypothesis 6) (Fennis et al., 2008). To measure this final hypothesis, participants were asked for their compliance on three different target requests. We predicted that the rate of compliance induced by regulatory resource depletion will be moderated by manipulating motivation. All three final requests were again in line with the initial request to follow the guidelines from the continuing questions procedure (Burger, 1999)

Although in study 1 no mood effect was found we again checked it in study 2. The brief mood inspection scale PANAS (Watson, Clark, & Tellegen, 1988) was used to rule out the possibility that mood differences could account partly for the predicted compliance on the target requests.

Method

Participants. Nighty-nine students volunteered to participate in the research program (31 female, 68 male; $M_{\rm age} = 22.00$ years, SD = 3.00). After removing outliers and a few corrupt data files from the data we used seventy-six participants in a 2 (type of continuing questions: Self-regulatory vs. Non self-regulatory) x 2 (motivation-activation: motivation vs. no-motivation) between-subjects factorial design.

Procedure. In study 1 we used a classroom at the University of Twente to perform the experiment. The experiments were run on 5 different laptop computers. To make sure that slight differences in mouse and keyboard setup could not interfere with our data, in this experiment we used a computer room equipped with 10 identical computer setups. Two confederates walked around and asked students if they were willing to participate in a study to improve education on universities. Participants who agreed to this first part of the initial request were taken to the computer room where the experiment took place. Here a third experimenter guided the participant to a computer and started up the experiment. Participants were randomly divided into the four conditions by the computer program. Following the setup of study 1, all participants were asked to argument (non self-regulatory condition) or counterargument (regulatory condition) 4 propositions about improving education on universities as a second part of the initial request. The propositions we used are the exact copy of the propositions of study 1 to be able to replicate the data of this study. Hence, all propositions were designed to have a high level of involvement for the student target group. (E.g. A state secretary has submitted a proposal to

raise the tuition fee for students who have more than two years of study delay).

Subsequently, participants in the motivation condition were shown a message that the best results on the following task would be rewarded with an Apple I-Pod© Touch with a store value of \$300 us Dollar. The message also stated that the best result should be a combination of speed and accuracy. The goal of this message was to induce a motivation to use self-control resources instead of conserving them for future need. Participants in the no-motivation condition were prompted a message telling them that the Apple I-Pod© Touch would be randomly awarded to one of the participants, and neither speed nor accuracy on any of the tests influenced the selection.

Next, all participants performed 32 trials of the "Mental Speed Task" (MST). In this test participants had to answer each question with correct or incorrect. The questions varied from simple mathematical equations (1..3..5..7..?..11, ?=9), mathematical problems (16 x 3 = ?, ?=48) and visual equations (image of a dog with the word animal). To increase logical reasoning and the level of needed self control, 18 of the trials were made incongruent. This means that on 18 of the 32 trials the word "inverse" appeared on the screen of the participant. When this word appeared participants had to oppose their answer. Thus, when the question had to be answered with 'correct', participants had to inverse this answer and click 'incorrect'. This regulation of impulses is tend to use regulatory resources (Baumeister, 1998).

Next, as a measure of self-control resource depletion, participants completed 32 trials from the Stroop task (Stroop, 1935). Prior to this test, participants in the motivation condition were explicitly told that the forthcoming exercises did not influence the winning of the I-Pod© Touch to ensure that no influence of motivation would confound results of this test. The Stroop task contained, as in study 1, 32 trials of words of colors and participants had to click the ink color of the word. The Stroop task has proven to be a good measure of regulatory resource depletion in the first study.

After completing the Stroop task all participants commenced the brief mood inspection scale PANAS (Watson, Clark, & Tellegen, 1988) as a manipulation check for possible mood effects.

Finally, participants were shown three different target requests in line with the preliminary initial request. Again, like in study 1, participants were asked how much time they would be willing to spend to help improving the general education on universities and how much e-mail messages they were willing to receive with new propositions about improving education. An extra target request was added with the question how many e-mails participants were willing to receive with information about improving education on their own university. These target request could be answered on a 5-point scale (1 = 0 hours, 5 = 5 hours or more), (1 = 0 hours, 5 = 5 hours or more), (1 = 0 hours, 5 = 5 hours or more)

e-mails, 5 = 5 e-mails or more) and are used as a dependent measure for compliance.

Participants then were told that the experiment was finished and debriefed by one of the experimenters.

The average time needed to complete the experiment was 30 minutes.

Results and discussion

Depletion. As stated in hypothesis 4 we tried to extend the found evidence of the two-stage model (Fennis et al., 2008) by replicating the data of study 1. On the first dependent measure of depletion, the mental speed task (MST), no significant effect of depletion was found on the number of errors, F(1,75) = .45, p = n.s. or total time spent, F(1,75) = 2.58, p = n.s. In study 1 there was also no evidence of depletion found on the first manipulation check. A possible explanation for this lack of results can be found in the conservation hypothesis (Muraven et al., 2006). This theory suggests that people try to save some off their energy for future needs. Following this hypothesis, when participants used the "saved" energy on the MST the results on the Stroop task should impair. Supporting this prediction, participants requested to counterargument the continuing questions (self-regulation condition) made more errors completing the Stroop task (M = 1.03, SD = 2.18) compared to participants who had to argument the continuing questions (M = .54, SD = .73), F(1,75) = 4.15, p < .05. No effect of depletion was found on time spend completing the Stroop task, F(1,75) = .30, p = n.s..

Motivation. When motivated enough, people are willing to use their preserved regulatory resources resulting in a temporary replenishment. According to research of Baumeister (2007) this temporary replenishment comes at a cost resulting in poorer cognitive performance afterwards. We tested this suggestion in hypothesis 5. We predicted that participants in the motivation condition would perform significantly worse on the cognitively demanding Stroop task. To test this prediction we performed a regression analysis on made errors, F(1,75) = .38, p = n.s. and average time spend completing the 32 trials of the Stroop task, F(1,75) = 1.10, p = n.s. No significant differences were found between the motivation and no-motivation condition. A possible explanation for this lack of results can again be found in the conservation hypothesis (Muraven et al., 2006). In spite of the induced motivation to use all regulatory resources, participants could have saved some of the resources to anticipate to future needs.

Compliance. To replicate the findings of study 1 supporting the second stage of the two-stage model we measured the willingness to comply on three target requests. The first target request (TR1), asked participants how much time they were willing to volunteer to help improve education. Mention that this target request is again totally in line with our initial request. Participants in the self-regulation condition were overall willing to

spend more time voluntarily helping to improve education (M=1.46, SD=1.26) as compared to participants in the non self-regulation condition (M=1.05, SD=.22), (TR1), F(1,75)=3.96, p<.05. The second target request (TR2) asked participants how many e-mails they were willing to receive with a proposition about improving education. Although the mean of the self-regulation condition was higher (M=2.43, SD=1.27) then the mean of the non self-regulation condition (M=1.92, SD=1.47) these result were again just like the results of study 1 not found significant (TR2), F(1,75)=1.62, p=n.s. The final and third target request (TR3) asked participants how many e-mails participants were willing to receive with information about improving education on their own university. Again, participants in the self-control condition scored significantly higher on the 5 point scale, measuring compliance (M=2.43, SD=1.42), then participants in the non self-control condition (M=1.62, SD=1.04) F(1,75)=8.21, p<0.05 (TR3). These findings fortify the findings of study 1 and the prediction that reliance on heuristics is greater when regulatory resources are depleted resulting in an increased willingness to comply.

Moderation. Our final goal of the second study was to find support for hypothesis 6. We predicted that the influence of the induced state of mindlessness, initiated by the first stage of the FITD technique, on the level of compliance on the target requests, would be moderated by motivation. To test this hypothesis we conducted a ANOVA with depletion (A), motivation (C) and A*C as predictors of the 3 target requests (B). Supporting our hypothesis we found a significant higher rate of compliance when motivation was activated (M = 1.42, SD = 1.24) then when motivation was absent (M = 1.08, SD = .27) resulting in a significant moderation from motivation on compliance at target request 1 (TR1), F(1,75) = 4.45, p < .05. On target request 3 a similar result was found, motivation repeatedly increased the rate of compliance (M = 2.37, SD = 1.50) over no-motivation (M = 1.66, SD = .97) resulting in a significant moderation of compliance on target request 3 (TR3), F(1,75) = 11.72, P < .000. No evidence of motivation as moderating variable was found on target request 2 (TR2), F(1,75) = .2.43, P = n.s.. Although no direct effect of motivation was found on cognitive performance, it moderated the reliance on heuristics induced by regulatory resource depletion.

General discussion

Self-regulation refers to the self's ability to manage its own responses and processes. This ability appears to be essential when the self has to make difficult choices, manipulate thoughts and logic reasoning. The present research tested a two-stage model that's describes and explains the role of self-regulatory resource depletion in the effectiveness of sequential request scripts that are used by professional fundraisers and social

marketers to elicit compliance on a target request. The model holds that these social influence strategies are comprised of a series of requests that trigger one underlying process: self-regulatory resource depletion. The two-stage model posits that responding to an involving initial request reduces the supply of self-regulatory resources within the target. A reduced supply of regulatory resources, in turn, fosters compliance with the target request — but not by default. Rather, it is posed to do so through an overreliance on salient heuristics that facilitate compliance as an efficient behavioral response. Hence, responding in an effortful way to an initial request induces self-regulatory resource depletion, which subsequently encourages heuristic decision-making. In dyadic influence settings aimed at fostering giving, the product of this decision making process is donating money, time, or effort.

The findings of the first study support the doctrines outlined in this model. Based on earlier studies (Burger, 1999) we predicted that self-regulatory resource depletion would be particularly salient when responses to the initial request required cognitively demanding answers, which is known to deplete self-regulatory resources. We found that participants who had to counter argue against their own opinion (cognitively demanding initial request), showed a greater impairment of self-regulatory resource depletion on the Stroop task than participants who had to argument according to their opinion (less cognitively demanding initial request). Moreover, the model predicted that participants who answered the continuing questions using counterarguments (cognitively demanding), were more willing to comply with the target request by reliance on heuristics (Cialdini & Goldstein, 2004). This prediction was clearly found on the target request presented to the participants. On both target requests participants in the depletion-condition showed a greater willingness to comply than participants in the non-depletion-condition. As a final goal of the first study we found full mediation of regulatory resource depletion induced by the initial stage of the FITD, gaining a heightened willingness to comply with the target request. (If the initial request did not impair self-regulatory resources, no increase of willingness to comply was found). This final goal broadens the possible implications of this model by presenting evidence of the two-stages of the model working together.

The second study revealed more evidence for the two-stage model by replicating the data from study 1. Again an impairment of self-regulatory resources was found from participants answering a series of cognitively demanding continuing questions. Participants in this condition made more errors completing the Stroop task, known to be a validated measure of depletion (Stroop, 1935). Furthermore, an increased willingness to comply with a target request was found on 2 of the 3 target requests for participants in the depletion condition. Finally, we followed suggestions from other researchers that motivation can play an important role in self-regulatory

resources (Tice et al., 2007; Muraven et al., 2006). We manipulated motivation by telling participants that the best result would win an Apple I-Pod, as compared to telling participants in the control condition that the Apple I-Pod would be randomly distributed. We predicted that motivation would act as a temporarily antidote to regulatory resource depletion, but this replenishment of resources would result in much poorer self-control afterwards. Direct evidence of poorer self-control was not found on the Stroop task, but we assume this can be explained by the conservation hypothesis (Muraven et al., 2006). This theory suggests that when a participant assumes another test will follow that will need regulatory resources, he will save some of his energy for this test. Although no direct evidence of poorer self-control through induced motivation was found, motivation did act as a moderator for compliance on 2 of the 3 target requests. Following the conservation theory it is tempting to assume that participants saved some of their self-regulatory energy for the Stroop task (explaining why we did not find impairment on cognitive performance) but this last act of replenishment resulted in a total state of self-regulatory resource depletion, explaining the moderating effect of motivation on compliance.

In sum our findings have provided a deeper insight in the actual underlying process of sequential request techniques. In two studies we showed how easily participants can get depleted by asking them a few questions, and that this induced state of mindlessness heightens the willingness to comply. But not just the depletion is responsible for these acts of willingness. The combination of activating heuristics by an initial request compromised by cognitively demanding continuous questions induced a state of mindlessness. As we showed in study 2, motivation can increase the compliance rate when used as a depletion manipulation.

Otherwise it can be seen as light in the tunnel of persuasion. Hence, when motivated enough you can resist the offer from the salesman by temporarily replenishing your self-regulatory resources.

Alternative Explanations

The present results correspond well with predictions arising from the two-stage model, suggesting that a sequential request induces a state of mindlessness which increases the reliance on heuristics resulting in a heightened compliance with a subsequent target request. However, it is useful to consider these results from other perspectives and to address potential alternate explanations.

In the first study 5 laptops were used to host the experiment. As already noted these laptops were all of a different brand and used different input equipment (e.g. mouse and keyboard). Some of the findings of study 1, (e.g. reaction times) were possibly confounded by this procedure. This explanation for the found results is less plausible given that the same effect was found in study 2 where we used 10 identical computer setups.

Another potential limitation of our findings is raised in a study by Fennis et al. (2008). This study mentions that the target request followed the initial request after a few minutes, which leaves open the question of what would occur with a larger delay between initial and target request. They mention that we could expect the time delay to act as a buffer against the "hangover-effect" produced by the depleting initial request. However, this need not necessarily result in reduced compliance with the target request, as studies by Freedman and Fraser (1966) and others (Pliner, Hart, Kohl, & Saari, 1974) have shown. In all likelihood, however, compliance in these conditions would be the product of mindfulness governed by more controlled self-regulation processes, rather than depletion-induced mindlessness. The role of self-regulation in mindful compliance constitutes a promising venue for future research. In line with the notions tested in the present work, we would hypothesize that mindful compliance (or resourceful compliance) becomes likely when the influence script includes strong, compelling issue-relevant information, rather than the decisional heuristics featured in the present experiments.

More broadly, future research may explore boundary conditions to the present two-stage model. A possible extension to the two-stage model is to widen the view to what kind of self-regulatory tasks can be used to induce a state of mindlessness. A current working paper (Dewitte, Bruyneel, & Geyskens, 2006) suggest that self-regulation performance can improve during tasks that are typically used as resource depletion tasks and that typical depletion effects only occur when the nature of the response conflicts in the two subsequent tasks is different. When the subsequent task is similar to the first they found evidence that self-control improves. The explanation for this prediction is that a difficult cognitively demanding task results in a temporarily more focused approach, increasing task performance (Botvinick, Braver, Barch, Carter, & Cohen, 2006). This hypothesis contradicts our findings and method, regarding that the power of the two-stage model can be found in the consistency of the initial request with the target request.

The second stage of the two-stage model predicts that participants who are in an induced state of mindlessness often rely on non-conscious processes including heuristics (Cialdini & Goldstein, 2004). This can be seen as the first system of decision making of the dual-process theories (Chaiken & Trope, 1999). An alternative explanation maybe can be found in the reflective–Impulsive model (RIM) (Strack, Werth, & Deutsch, 2005). According to the RIM, behavior is the joint outcome of an impulsive system and a reflective system of information processing. The impulse system generates quick and spontaneous behavioral tendencies through the process of spreading activation in an associative network. The reflective system in contrast serves regulatory and representational goals that complement the functions of the impulsive system. The reflective system is

responsible for generating explicit judgments and decisions and for executive functions such as overcoming habit or putting together action plans in new situations. In our view this model can be used within the two-stage model (Fennis, Janssen, & Vohs, 2008), considered that compliance to a target request is a joint function of impulsive and reflective consideration, mediated by ego-depletion. To measure this in future research a measure of "impulsiveness" can be included after the target requests.

One last alternative explanation is that individual difference in self-regulatory resources exists among people. Individual differences in the effects of depletion is based on the assumption that since self-regulation is used to restrain particular behaviors, depletion will mainly affect people who chronically strive to restrain that particular behavior. As a striking example, some people (dieters) who constantly seek to control and restrain their eating should find themselves eating more when depleted. In contrast, other people comfortably and freely eat whatever they want, and so depletion should not affect their eating. Several studies have found that restrained eaters (dieters) ate more after engaging in a self-regulation exercise, whereas nondieters ate the same amount whether depleted or not (Kahan, Polivy, & Herman, 2003; Vohs & Heatherton 2000). Following this pattern to our present research differences in ego-depletion could have been caused by prior differences in self-control strength. Considering that we conducted two different studies on two different locations with randomized participants and found the same results make this explanation for our study less plausible.

Concluding remarks

The ability to alter one's responses to a compliance request had fascinated marketers and social psychologists for years. In this research we tried to give an insight in the underlying process of a commonly used technique, the foot-in-the-door technique, trough a recently developed two-stage model (Fennis et al., 2008). The key postulate of this model is the increased reliance on heuristics by wearing down self-regulatory resources that would otherwise be put toward resistance. The activation of heuristics can be found in the initial request, a simple question that you can hardly refuse. After answering this question your self-regulatory resources will impair by answering a few cognitively demanding continuing questions. Here the second stage of the model takes over. A target request is presented to you, and without you self-regulatory resources, you respond using simple decision rules called heuristics. In the first study evidence was found for this model including full mediation of self-regulatory resource depletion on the act of compliance. To expand the generalization of the two-stage model, in study two we replicated the data of study 1 and explored the role of motivation in the process. The results were in line with study 1, and motivation appeared to be a possible moderator of compliance through regulatory resource depletion. Although the complete puzzle of ego-depletion and compliance is far from solved, the next time you walk along the street and a marketer asks you a seemingly harmless and simple question, you know better!

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Bijlagen

Vragenlijst en schalen onderzoek 1

	je goed leest wat er wordt gevraagd!
	Succes!
	Doorgaan
De respoi	ndent wordt gevraagd zijn respondentnummer in te vullen
1	
V g	oor het onderzoek begint vragen we je om de volgende gegevens in te vullen, deze egevens zullen verder anoniem blijven en niet worden doorgespeeld aan derden:
V g	egevens zullen verder anoniem blijven en niet worden doorgespeeld aan derden:
V g	oor het onderzoek begint vragen we je om de volgende gegevens in te vullen, deze egevens zullen verder anoniem blijven en niet worden doorgespeeld aan derden: Respondentnummer: •12
V g	egevens zullen verder anoniem blijven en niet worden doorgespeeld aan derden:
V g	egevens zullen verder anoniem blijven en niet worden doorgespeeld aan derden:
V g	egevens zullen verder anoniem blijven en niet worden doorgespeeld aan derden:
V g	egevens zullen verder anoniem blijven en niet worden doorgespeeld aan derden:
V g	egevens zullen verder anoniem blijven en niet worden doorgespeeld aan derden:
V g	egevens zullen verder anoniem blijven en niet worden doorgespeeld aan derden:

De respondent wordt gevraagd zijn voornaam in te vullen. Met deze naam wordt hij gedurende het onderzoek aangesproken.

Voor het onderzoek begint vragen we je om de volgende gegevens in te vullen, deze gegevens zullen verder anoniem blijven en niet worden doorgespeeld aan derden:

Voornaam: →Jeroen

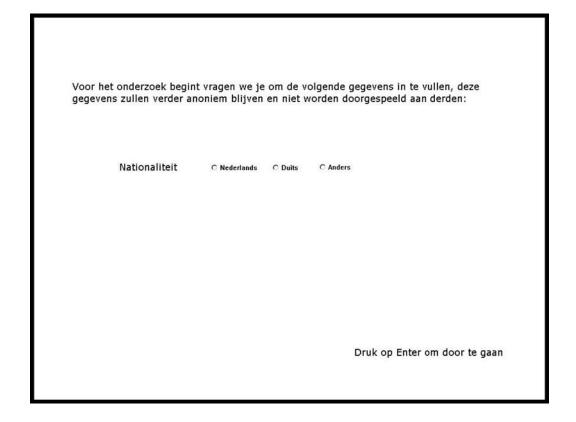
Druk op Enter om door te gaan

De respondent wordt gevraagd zijn leeftijd in te vullen en wordt er op gewezen dat zijn gegevens anoniem worden behandeld.

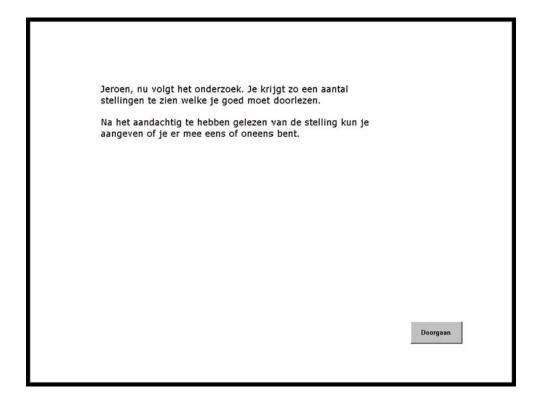
Voor het onderzoek begint vragen we je om de volgende gegevens in te vuilen, deze gegevens zullen verder anoniem blijven en niet worden doorgespeeld aan derden: Leeftijd: ▶25 De respondent wordt gevraagd zijn geslacht in te vullen.



De respondent wordt gevraagd zijn nationaliteit in te vullen.



De respondent wordt verteld dat er stellingen aankomen die hij me eens/oneens moet beantwoorden. Op deze plaats wordt de conditie waarin de respondent zich bevindt random toegewezen.



Stelling 1



Beargumenteren stelling 1 in de non-depletie conditie. De respondent heeft aangegeven dat hij het **eens** is met de stelling en wordt gevraagd 3 argumenten te geven waarom hij het **eens** is met de stelling.



Beargumenteren stelling 1 in de depletie conditie. De respondent heeft aangegeven dat hij het **oneens** is met de stelling en wordt gevraagd 3 argumenten te geven waarom hij het **eens** is met de stelling. Het geven van argumenten in strijd met de eigen mening van de respondent moet zorg dragen voor de depletie van de respondent

Jeroe	en, je hebt zojuist a	aangegeven dat je	e het oneens bent	met
	nderstaande stellin om je het juist eer			nenten
per wee wil ook minimaa	recent onderzoek i k aan hun studie be voor studenten van il 30 uur per week i worden door verpli	esteden. Een polit hoger onderwijs aan colleges word	ieke partij vindt di een norm aanstell It besteed. Dit zou	t te weinig en en zodat er bewerkstelligd
				<u>*</u>
Vul hieronder	je argument in en druk op Ente	er voor het volgende argumer	nt	
		Doorgaan		
	1	Dunigaan		

De staatssecret	aris van onderwijs h	eeft een voorstel ingediend on	n studenten die
langer dan 2 ja te laten betaler	ar vertraging oplope	n bij hun studie, drie keer zov I zou voorkomen moeten word	eel collegegeld
Geef hieronde	r aan of je het eens l	pent met de staatssecratris:	
	C Eens 2	C Oncens 2	

Stelling 3

Wanneer alleen de noodzakelijke uitgaven zoals collegegeld, kamer, boeken en voeding worden meegerekend, is de gemiddelde wo-student per maand 575 euro kwijt (Nibud 2007). Kleding, verzekeringen, lidmaatschappen en uitgaan komen er dan nog bij. De huidige studiefinanciering bedraagt 235 euro waardoor studenten vaak genoodzaakt zijn te lenen. Minister van financiën heeft een voorstel ingediend om de basisbeurs met 165 euro te verhogen zodat studenten meer tijd kunnen besteden aan hun studie. Geef hieronder aan of je het eens of oneens bent de minister van financiën:

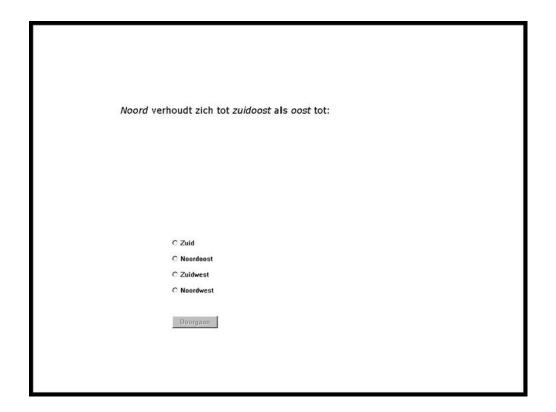


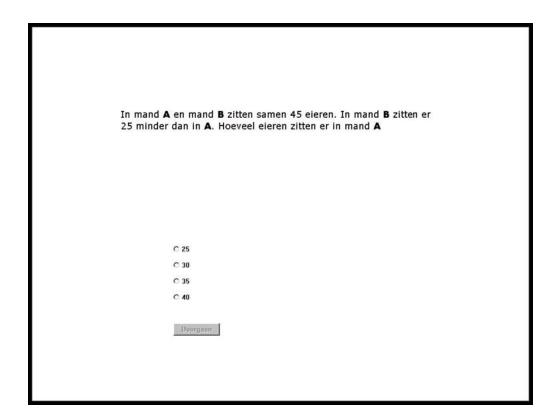
Respondent wordt verteld dat er een aantal korte testen zullen volgen om de huidige staat van het onderwijs te meten. Deze testen zijn de manipulatie checks voor depletie. De eerste check zijn 6 inzichtsvragen welke door de respondent beantwoord moeten worden.



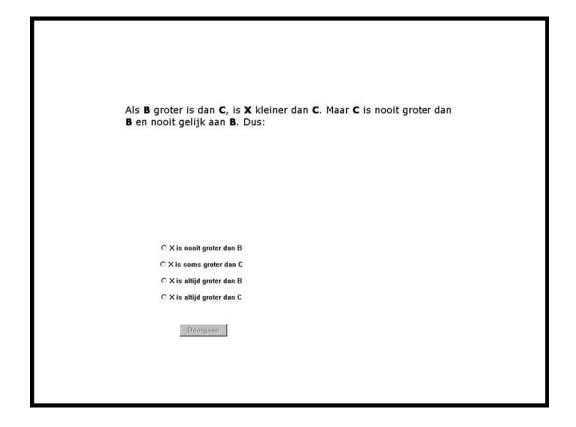
In enige maand is maandag de 21e van de maand. Welke dag van de week was het op de eerste dag van de maand?
2000
C Zaterdag
O Zondag
C Maandag
○ Dinsdag
Doorgann

Inzichtsvraag 2, juiste antwoord is "zuidwest"



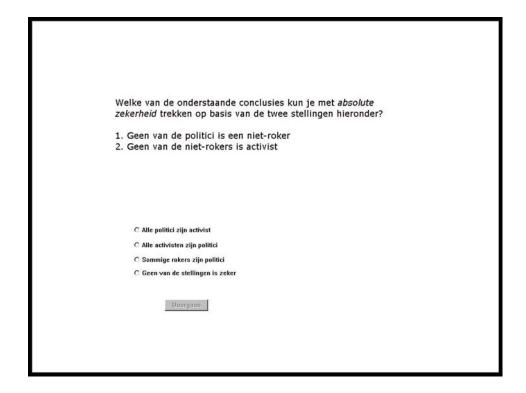


Inzichtsvraag 4, juiste antwoord is "X is nooit groter dan B"



Welke van de onderstaande conclusies kun je met absolute zekerheid trekken op basis van de twee stellingen hieronder?
 Alleen rode auto's rijden op diesel Alle zwarte auto's hebben een turbo
C Sommige zwarte auto's rijden op diesel
C Rode auto's hebben geen turbo
C Alle rode auto's hebben turbo
C Geen stelling is zeker
Deorgaan

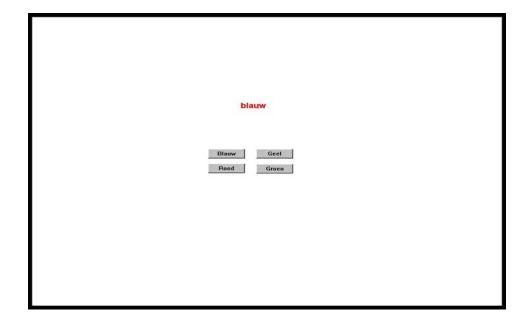
Inzichtsvraag 6, juiste antwoord is "geen stelling is zeker"



De 2^e manipulatie check voor depletie is de stroop task. In deze taak krijgt de respondent een geschreven kleur in beeld, welke ook weer in een kleur (blauw, rood, geel of groen) geschreven kan zijn. De respondent moet z.s.m aangeven in welke kleur het woord geschreven is.



Voorbeeld stroop, totale stroop bestond uit 32 items waarvan 8 congruent (kleur woord gelijk aan geschreven kleur) en 24 incongruent (kleur woord afwijkend van geschreven woord)



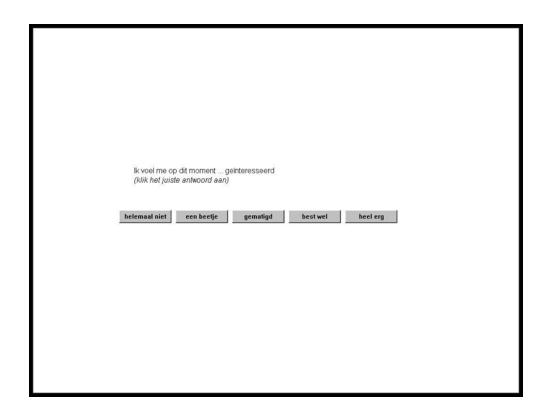
Nu volgt voor de respondent de PANAS, wat een check is voor emotie. De respondent krijgt 20 vragen welke hij moet beantwoorden op een 5 punts schaal van "helemaal niet tot heel erg"

Jeroen, de volgende vragen gaan over gevoelens en emoties. Je krijgt
zometeen verschillende zinnen te zien die gevoelens en emoties
beschrijven. Geef bij elke zin aan in hoeverre het beschrijft hoe jij je nu, op
dit moment voelt. Dit doe je door met de muis te klikken op het cijfer dat je
gevoel het beste weergeeft.

Het gaat dus niet over je gevoelens en emoties in het algemeen maar over
je gevoelens en emoties op dit moment.

<druk op een willekeurige toets om door te gaan>

Voorbeeld PANAS.



Verder bestond de PANAS uit de volgende vragen:

Ik voel me op dit moment...... Geïnteresseerd

1 helemaal niet 2 een beetje 3 gematigd 4 best wel 5 heel erg

Ik voel me op dit moment...... Ontdaan

1 helemaal niet 2 een beetje 3 gematigd 4 best wel 5 heel erg

Ik voel me op dit moment...... Opgewonden

1 helemaal niet 2 een beetje 3 gematigd 4 best wel 5 heel erg

Ik voel me op dit moment...... Overstuur

1 helemaal niet 2 een beetje 3 gematigd 4 best wel 5 heel erg

Ik voel me op dit moment...... Sterk

1 helemaal niet 2 een beetje 3 gematigd 4 best wel 5 heel erg

Ik voel me op dit moment...... Schuldig

1 helemaal niet 2 een beetje 3 gematigd 4 best wel 5 heel erg

Ik voel me op dit moment...... Angstig

1 helemaal niet 2 een beetje 3 gematigd 4 best wel 5 heel erg

Ik voel me op dit moment...... Vijandig

1 helemaal niet 2 een beetje 3 gematigd 4 best wel 5 heel erg

Ik voel me op dit moment...... Enthousiast

1 helemaal niet 2 een beetje 3 gematigd 4 best wel 5 heel erg

Ik voel me op dit moment...... Trots

1 helemaal niet 2 een beetje 3 gematigd 4 best wel 5 heel erg

Ik voel me op dit moment...... Geïrriteerd

1 helemaal niet 2 een beetje 3 gematigd 4 best wel 5 heel erg

Ik voel me op dit moment...... Alert

1 helemaal niet 2 een beetje 3 gematigd 4 best wel 5 heel erg

Ik voel me op dit moment...... Beschaamd

1 helemaal niet 2 een beetje 3 gematigd 4 best wel 5 heel erg

Ik voel me op dit moment...... Geïnspireerd

1 helemaal niet 2 een beetje 3 gematigd 4 best wel 5 heel erg

Ik voel me op dit moment...... Zenuwachtig

1 helemaal niet 2 een beetje 3 gematigd 4 best wel 5 heel erg

Ik voel me op dit moment...... Vastbesloten

1 helemaal niet 2 een beetje 3 gematigd 4 best wel 5 heel erg

Ik voel me op dit moment...... Oplettend

1 helemaal niet 2 een beetje 3 gematigd 4 best wel 5 heel erg

Ik voel me op dit moment...... Nerveus

1 helemaal niet 2 een beetje 3 gematigd 4 best wel 5 heel erg

Ik voel me op dit moment...... Actief

1 helemaal niet 2 een beetje 3 gematigd 4 best wel 5 heel erg

Ik voel me op dit moment...... Bang

1 helemaal niet 2 een beetje 3 gematigd 4 best wel 5 heel erg

Vervolgens krijg de respondent 2 vragen welke de target request zijn. De respondent wordt gevraagd hoeveel uur hij bereidt is om de studie vereniging "beter onderwijs" te helpen (0 uur - 5 uur of meer), en hoe vaak hij bereidt is om e-mail te ontvangen (0 keer - 5 keer of meer)

Jeroen bedankt dat je wou meewerken aan het onderzoek voor de studenten vereniging "beter onderwijs". Met jou antwoorden heb je niet alleen ons maar ook andere studenten enorm geholpen.

Om het onderwijs nog verder te verbeteren zoekt de studenten vereniging "beter onderwijs" vrijwilligers die ons willen helpen dit doel te verwezelijken. Hoeveel uur zou je bereid zijn om onze vereniging dit jaar te helpen?

CO CO CO CO CO CO CO UNIT OF STUDENT OF

Einde Onderzoek!

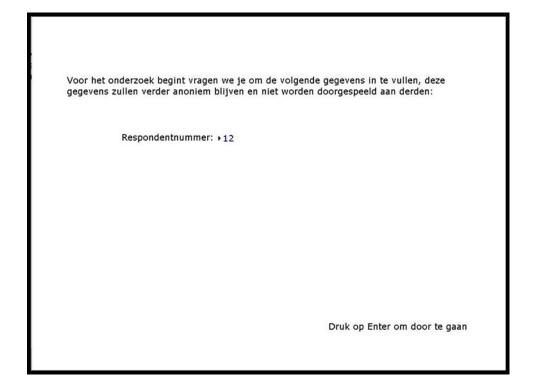
De respondent wordt op de hooget gebracht van het einde van het onderzoek.

Vragenlijst en schalen onderzoek 2

De respondent wordt welkom geheten en erop gewezen dat hij zorgvuldig moet lezen.



De respondent wordt gevraagd zijn respondentnummer in te vullen wat hij van de onderzoeker heeft gekregen.



De respondent wordt gevraagd zijn voornaam in te vullen. Met deze naam wordt hij gedurende het onderzoek aangesproken.

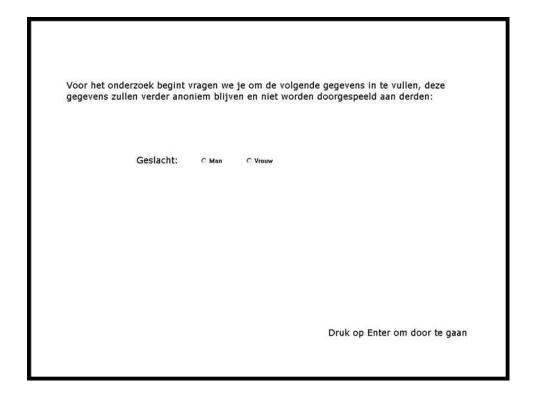
Voor het onderzoek begint vragen we je om de volgende gegevens in te vullen, deze gegevens zullen verder anoniem blijven en niet worden doorgespeeld aan derden: Voornaam: →Jeroen

De respondent wordt gevraagd zijn leeftijd in te vullen en wordt er op gewezen dat zijn gegevens anoniem behandeld worden.

Voor het onderzoek begint vragen we je om de volgende gegevens in te vullen, deze gegevens zullen verder anoniem blijven en niet worden doorgespeeld aan derden:

Leeftijd: •25

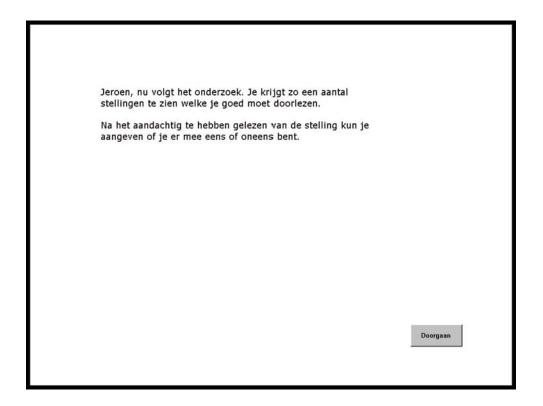
De respondent wordt gevraagd zijn geslacht in te vullen.



De respondent wordt gevraagd zijn nationaliteit in te vullen.



De respondent wordt verteld dat er stellingen aankomen die hij me eens/oneens moet beantwoorden. Op deze plaats wordt de conditie waarin de respondent zich bevindt random toegewezen.



Stelling 1



Beargumenteren stelling 1 in de non-depletie conditie (Conditie 1&3). De respondent heeft aangegeven dat hij het **eens** is met de stelling en wordt gevraagd 3 argumenten te geven waarom hij het **eens** is met de stelling.

Jeroen, i	e hebt zoiuist aangegeven o	dat je het eens bent met de
ondersta	ande stelling. Geef hieronde ie het eens bent met de ste	er 3 krachtige argumenten
per week aa wil ook voor minimaal 30	n hun studie besteden. Een studenten van hoger onder	at studenten ongeveer 15 tot 20 ut politieke partij vindt dit te weinig e rwijs een norm aanstellen zodat er wordt besteed. Dit zou bewerkstelli en meer werk colleges."
Vul hieronder je ar	gument in en druk op Enter voor het volgende	argument
•		
	Doorgaan	

Beargumenteren stelling 1 in de depletie conditie (Conditie 2&4). De respondent heeft aangegeven dat hij het oneens is met de stelling en wordt gevraagd 3 argumenten te geven waarom hij het eens is met de stelling. Het geven van argumenten in strijd met de eigen mening van de respondent moet zorg dragen voor de depletie van de respondent

Jeroen, je	e hebt zojuist aangeg	jeven dat je het on	eens bent met
	staande stelling. Gee je het juist eens met		
waaromj	e net juist cens met	de stelling zou kui	men zijii.
	ent onderzoek is gebl		
	n hun studie besteder studenten van hoger		
minimaal 30	uur per week aan co	lleges wordt bestee	d. Dit zou bewerkste
moeten word	den door verplichte c	olleges en meer wel	rk colleges.
		N	
Vul hieronder je argu	ument in en druk op Enter voor het	volgende argument	
•1			
		2	
		Doorgaan	

Stelling 2			
langer dan te laten bet	2 jaar vertraging oploper	eft een voorstel ingediend on 1 bij hun studie, drie keer zov 20u voorkomen moeten word idie doen.	eel collegegeld
Geef hiero	nder aan of je het eens b	ent met de staatssecratris:	
	C Eens 2	C Oncens 2	
			_
			Doorgaan

Stelling 3

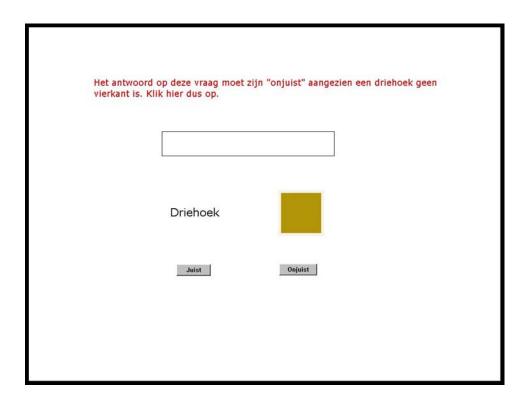




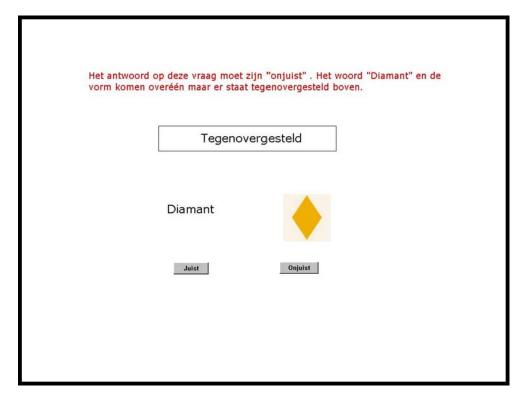
Respondent wordt verteld dat er een test volgt die bepaalt hoe snel de student informatie kan verwerken. Bij de motivatie condities (Conditie 1&2) wordt de tekst in het rood getoont om extra motivatie op te wekken. Bij condities 3&4 is deze text dus niet zichtbaar. Deze test is de eerste manipulatie check voor depletie.

De volgende test is bedoeld om vast te stellen hoe snel je informatie kan verwerken, en welke beslissingen je maakt op basis van de beschikbare informatie. De test bestaat uit woorden en afbeeldingen die paren vormen of uit simpele wiskundige vergelijkingen. Als de afbeelding en het woord bij elkaar passen klik dan op "Juist", dit geldt ook voor de wiskundige vergelijkingen. Echter wanneer het woord "tegenovergesteld" verschijnt moet je je antwoord omkeren.
Let op! De Apple I-Pod wordt verloot onder degene die deze test het beste maken!
Er volgen nu 4 voorbeeld opgaven.
Doorgaan

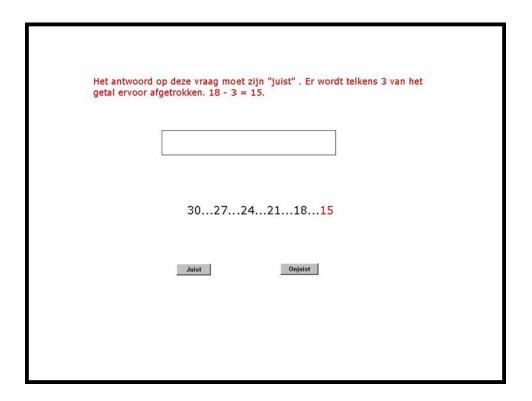
Voorbeeld vraag 1. Er zijn 4 voorbeeld vragen om er zeker van te zijn dat de respondent begrijpt wat hij moet doen.



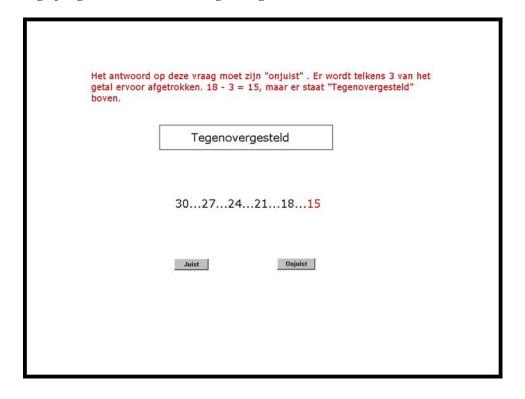
Voorbeeld vraag 2. Deze voorbeeldvraag laat de respondent kennismaken met "tegenovergesteld". Wanneer de respondent dit ziet moet hij zijn antwoord omkeren.



Voorbeeld vraag 3. Deze voorbeeldvraag laat de respondent kennismaken met de simpele wiskundige vergelijkingen.



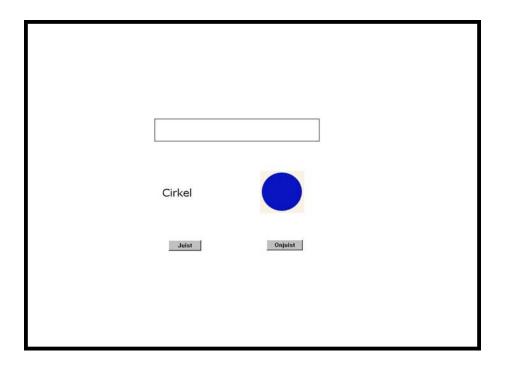
Voorbeeld vraag 3. Deze voorbeeldvraag laat de respondent kennismaken met de simpele wiskundige vergelijkingen in combinatie met "tegenovergesteld"



Nu begint de echte test. De respondent wordt erop gewezen dat zowel snelheid als accuraarheid van belang zijn, en wanneer dingen onduidelijk zijn ze dit aan de experimentleider moeten vragen.



Er volgen nu 32 vragen waar de respondent moet kiezen tussen "juist" en "onjuist". Wanneer er "tegenovergesteld" boven staat moet de respondent zijn antwoord omdraaien. Het antwoord op deze vraag is dus "Juist" (16 items zijn incongruent en 16 items zijn congruent)



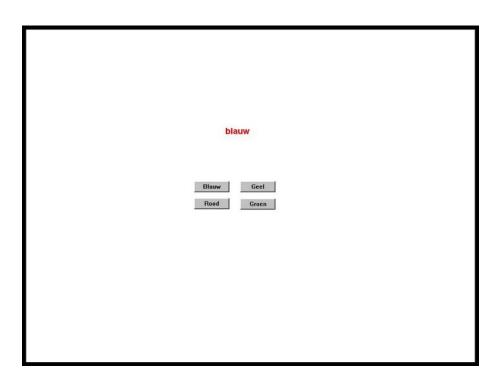
Deze vraag moet dus met "onjuist" worden beantwoord. Het antwoord op de vraag is inderdaad 16 maar er staat "tegenovergesteld" boven.

Tegenovergesteld	
4 x 4 = 16	
Juist Onjuist	

De 2^e manipulatie check voor depletie is de stroop task. In deze taak krijgt de respondent een geschreven kleur in beeld, welke ook weer in een kleur (blauw, rood, geel of groen) geschreven kan zijn. De respondent moet z.s.m aangeven in welke kleur het woord geschreven is.

Jeroen zometeen verschijnt steeds een woord in beeld: het woord 'blauw', 'rood', 'geel' of
'groen'. De kleur waarin het woord is weergegeven kan eveneens blauw, rood, geel of
groen zijn. Het is de bedoeling dat je zo snel mogelijk aangeeft in welke <u>kleur</u> het woord is <u>weergegeve</u> n.
Zie je het woord blauw dan klik je op blauw, maar zie je het woord blauw dan klik je op rood.
Klik op 'Doorgaan' om met deze taak te beginnen.
Doorgaan

Voorbeeld stroop, totale stroop bestond uit 32 items waarvan 8 congruent (kleur woord gelijk aan geschreven kleur) en 24 incongruent (kleur woord afwijkend van geschreven woord)

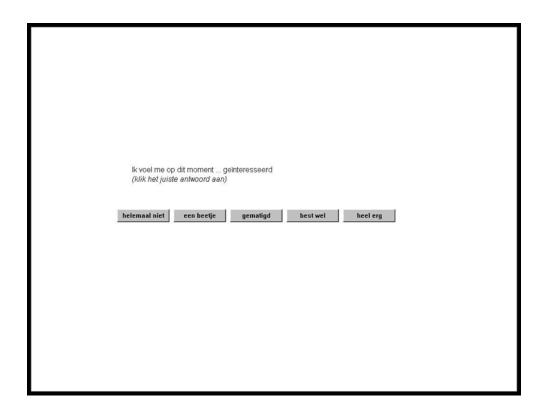


Nu volgt voor de respondent de PANAS, wat een check is voor emotie. De respondent krijgt 20 vragen welke hij moet beantwoorden op een 5 punts schaal van "helemaal niet tot heel erg"

Jeroen, de volgende vragen gaan over gevoelens en emoties. Je krijgt
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beschrijven. Geef bij elke zin aan in hoeverre het beschrijft hoe jij je nu, op
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gevoel het beste weergeeft.

Het gaat dus niet over je gevoelens en emoties in het algemeen maar over
je gevoelens en emoties op dit moment.

<druk op een willekeurige toets om door te gaan>



Verder bestond de PANAS uit de volgende vragen:

Ik voel me op dit moment...... Geïnteresseerd

1 helemaal niet 2 een beetje 3 gematigd 4 best wel 5 heel erg

Ik voel me op dit moment...... Ontdaan

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Ik voel me op dit moment...... Opgewonden

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Ik voel me op dit moment...... Schuldig

1 helemaal niet 2 een beetje 3 gematigd 4 best wel 5 heel erg

Ik voel me op dit moment...... Angstig

1 helemaal niet 2 een beetje 3 gematigd 4 best wel 5 heel erg Ik voel me op dit moment...... Vijandig 1 helemaal niet 2 een beetje 3 gematigd 4 best wel 5 heel erg Ik voel me op dit moment...... Enthousiast 1 helemaal niet 2 een beetje 3 gematigd 4 best wel 5 heel erg Ik voel me op dit moment...... Trots 1 helemaal niet 2 een beetje 3 gematigd 4 best wel 5 heel erg Ik voel me op dit moment...... Geïrriteerd 1 helemaal niet 2 een beetje 3 gematigd 4 best wel 5 heel erg Ik voel me op dit moment...... Alert 1 helemaal niet 2 een beetje 3 gematigd 4 best wel 5 heel erg Ik voel me op dit moment...... Beschaamd 1 helemaal niet 2 een beetje 3 gematigd 4 best wel 5 heel erg Ik voel me op dit moment...... Geïnspireerd 1 helemaal niet 2 een beetje 3 gematigd 4 best wel 5 heel erg Ik voel me op dit moment...... Zenuwachtig 1 helemaal niet 2 een beetje 3 gematigd 4 best wel 5 heel erg Ik voel me op dit moment...... Vastbesloten 1 helemaal niet 2 een beetje 3 gematigd 4 best wel 5 heel erg Ik voel me op dit moment...... Oplettend 1 helemaal niet 2 een beetje 3 gematigd 4 best wel 5 heel erg Ik voel me op dit moment...... Nerveus 1 helemaal niet 2 een beetje 3 gematigd 4 best wel 5 heel erg Ik voel me op dit moment...... Actief

1 helemaal niet 2 een beetje 3 gematigd 4 best wel 5 heel erg

1 helemaal niet 2 een beetje 3 gematigd 4 best wel 5 heel erg

Ik voel me op dit moment...... Bang

54

Nu volgen de "target requests" Dit zijn 3 vragen die om de medewerking van de respondent vragen. Het eerste en onderstaande target request is expliciet gericht op het helpen van de vereniging. De respondent heeft hier dus zelf weinig aan.

Het tweede en onderstaande target request is zowel gericht op het helpen van de vereniging als van de respondent. De respondent heeft hier dus zelf iets aan maar doet het ook voor de vereniging.

jeroen bedankt dat je wou meewerken aan het onderzoek voor de studenten vereniging "beter onderwijs". Met jou antwoorden heb je niet alleen ons maar ook andere studenten enorm geholpen.

Jou mening telt voor ons! Hoe vaak zouden we je via de e-mail mogen benaderen voor jou mening over een actuele stelling?

Cnul Céén Ctwee Cdrie Cvier Cvijt keer of meer

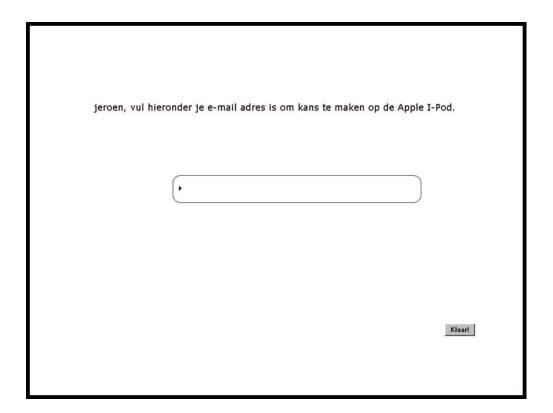
Het derde en onderstaande target request is expliciet gericht op het helpen van de de respondent zelf. De respondent heeft aan deze target request dus zelf het meeste van alle drie.

jeroen bedankt dat je wou meewerken aan het onderzoek voor de studenten vereniging "beter onderwijs". Met jou antwoorden heb je niet alleen ons maar ook andere studenten enorm geholpen.

Help Jezelf door op de hoogte te blijven van actuele zaken over het onderwijs die direct betrekking hebben op jou! Hoe vaak per jaar wil je hierover een e-mail ontvangen?

C 0x C 1x C 2x C 3x C 4x C 5x of meer

De respondent wordt nu gevraagd zijn of haar e-mail adres in te vullen om kans te maken op de I-Pod.



De respondent wordt verteld dat het onderzoek ten einde is.

