



Individual differences in susceptibility to mindlessness

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ABSTRACT

Whereas a variety of research has investigated how individual differences moderate attitude change (persuasion) processes, there is a relative dearth of research investigating how such individual differences moderate behavior change (compliance) processes. The current research assessed the extent to which two well-studied personality traits predicted susceptibility to the mindlessness technique (Langer, Blank, & Chanowitz, 1978). After completing need for cognition and self-monitoring scales, participants were asked to make photocopies for the experimenter. At the copy machine, a confederate asked to cut in line, providing no reason, a real reason, or a placebo reason. Results replicated those of Langer et al. (1978): The placebo reason elicited as much compliance as the real reason. Need for cognition did not moderate compliance, and participants high in self-monitoring were less likely to comply across conditions. In addition, participants who refused the request took significantly longer to respond than participants who complied. Our research therefore provides insight into a largely neglected field of study: How and when individual differences moderate behavior change processes.

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1. Introduction

For decades, psychologists have investigated social influence – the methods we use to alter a target's attitudes or behavior. Social influence is comprised of two types of influence: persuasion (attitude change) and compliance (behavior change). Although numerous studies have examined both sides of social influence (Albarracín, Johnson, & Zanna, 2005; Cialdini, 2001), the impact of individual differences has been examined primarily in the context of persuasion, not compliance.

Commonalities between persuasion and compliance suggest some similarities in the ways in which individual differences might moderate social influence. For example, many persuasion and compliance tactics exploit our tendency to use simple decision rules, or heuristics, when responding to influence attempts. In the persuasion domain, individual differences in need for cognition, the tendency to enjoy and take part in cognitive processing, predict susceptibility to heuristic-based persuasive messages (see Cacioppo, Petty, Feinstein, and Jarvis (1996) for a review). In the compliance domain, one might expect the same moderation, but to our knowledge, this has never been tested.

Persuasion and compliance also differ in a number of important ways. For example, persuasion is internal, whereas compliance is external. That is, whereas persuasion may take place without others knowing, compliance involves a change in overt behavior that

can typically be directly observed by others. Thus, compliance, but not persuasion, might be impacted by individual differences in susceptibility to social pressures to conform. More generally, an examination of individual differences in compliance can offer insight into the similarities and differences between persuasion and compliance as well as providing evidence regarding which individuals might be particularly vulnerable to a particular compliance tactic. To this end, the present study examines individual differences in susceptibility to a heuristic-based compliance technique first identified in Langer, Blank, and Chanowitz's (1978) well-known copy machine study.

In Langer et al.'s (1978) studies, a confederate approached a participant preparing to use a photocopier. This confederate then requested to “cut in front” of the participant by using one of three appeals. Some participants were offered an appeal with no reason: “May I use the Xerox machine?” Other participants were offered an appeal with a substantive reason: “May I use the Xerox machine, because I'm in a rush?” The remainder of the participants were offered an appeal with a placebo reason: “May I use the Xerox machine, because I have to make copies?” (p. 637). When the confederate asked for a small request (five copies), real and placebo reasons produced equivalent levels of compliance (94% and 93% respectively). According to Langer et al. (1978), the placebo reason was effective due to mindless conformity – when a request included the word “because,” participants assumed that a good reason would follow.

Although Langer et al.'s (1978) study demonstrated how potent the “because” heuristic can be, not everyone complied with the

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placebic reason. This suggests that individual differences might moderate responses to the “because” heuristic. The present experiment investigated two potential moderators: need for cognition and self-monitoring.¹

Need for cognition represents an individual’s proclivity to engage in and enjoy effortful cognitive processes (Cacioppo & Petty, 1982). In persuasion contexts, need for cognition has been shown to, among other processes, moderate responses to peripheral-based persuasive techniques. Specifically, people high in need for cognition are more likely than people low in need for cognition to process persuasive messages through the central route, whereas people low in need for cognition are more likely than people high in need for cognition to process persuasive messages through the peripheral route. As a result, people low in need for cognition tend to be more responsive to persuasive techniques that rely on peripheral cues than are people high in need for cognition (see Cacioppo et al. (1996), for an extensive review).

Given need for cognition’s demonstrated ability to moderate responses to heuristics in a persuasive context, it seems plausible that need for cognition would also moderate responses to heuristics in a compliance context. With respect to the “because” heuristic, we predicted that those individuals who are high in need for cognition would be more likely to “see through” the placebic reason and deny the request. Alternatively, individuals high in need for cognition might see through the placebic reason but still comply due to the awkwardness of refusing. If this occurred, we predicted that they would take longer to respond.

Another individual difference that might impact responses to the “because” heuristic is self-monitoring. Self-monitoring represents the extent to which a person will observe and control his or her own expressed behavior and self-presentation in accordance with perceived social norms (Snyder, 1974). This is a potentially important variable in this context because high self-monitors are generally more likely to acquiesce to requests in order to appear more agreeable and likeable (Snyder & Gangestad, 1986). We predicted that participants who were higher in self-monitoring would be more likely to acquiesce to the request, regardless of which reason was given.

The current study investigated the “because” heuristic in a context similar to Langer et al.’s (1978) study. In our study, as in Langer et al.’s (1978), participants who were about to make copies at a photocopier were asked to give up their position in line to a confederate who provided no reason, a real reason, or a placebic reason. However, our study extends the previous methodology by assessing the extent to which personality influences participants’ responses.

2. Method

2.1. Participants

Participants consisted of 163 students at Northern Illinois University drawn from introduction to psychology classes. Participants received partial credit towards a course requirement. Thirty-one participants were excluded from the analyses due to problems outside the laboratory (e.g., copy machine already being in use, copy machine broken, participant got lost for 20 min trying to find the copy machine, etc.) and an additional three were excluded because they indicated suspicion during debriefing. The final sample consisted of 63 men and 63 women as well as three

people who did not indicate their gender. Of the 129 participants, 52.7% were Caucasian, 27.1% were African American, 6.2% were Hispanic, 7.8% were Asian and 6.1% did not specify a race. The mean age of participants was 19.07 years ($SD = 1.78$). The participants were randomly assigned to one of the three types of requests (no reason, placebic reason, or real reason). There were 41 participants in the no reason group, 43 in the placebic reason group and 45 in the real reason group. The three groups did not differ in terms of gender, age, need for cognition, or self-monitoring (all $ps > .10$).

3. Procedure

Each participant took part in the experiment alone. Upon entering the laboratory, participants were informed that they were participating in a study on personality and computer use. Participants completed a packet of surveys which included the 10-item Personality Measure (Gosling, Rentfrow, & Swann, 2003), the 18-item need for cognition scale (Cacioppo, Petty, & Kao, 1984), the 13-item self-monitoring scale (Lennox & Wolfe, 1984), demographics, and filler items regarding their use of computers. Once participants completed the scales, the experimenter entered the room, collected the packet, and informed the participant that the participation receipt could not be located. The experimenter asked the participant to go to a photocopier located one floor above the lab and make ten copies for the experimenter, five copies of the receipt page and five copies of the informed consent page. The experimenter then gave the participant directions to the copy machine and a copy card to make copies. Upon arrival at the copy machine, the participant was solicited by the confederate. The request came in one of three forms:

1. Request Only: “Do you mind if I use the copy machine before you?”
2. Placebic Reason: “Do you mind if I use the copy machine before you, because I need to make copies?”
3. Real Reason: “Do you mind if I use the copy machine before you, because I’m in a rush?”

At the end of each request, the following phrase was added to ensure that the participant understood the size of the request, “I have fifteen pages.” (Langer et al.’s (1978), small request consisted of five pages. We increased this to 15 pages due to advances in copy machine technology that have sped up the per-page copy rate.) A pause was given between the request and the added piece of information to ensure that a “because” was not implied. As soon as the confederate finished the request, he or she started a hidden stopwatch. Once the participant provided his or her response, the confederate stopped the stopwatch. The primary dependent variables were compliance with the request and time taken to respond.²

4. Results

The 18 need for cognition items (each scored on a 1–9 scale) were summed to produce a need for cognition score with a possible range of 18–162, an actual range of 51–150, a mean of 99.62, and a standard deviation of 19.89 (means and standard deviations were not reported by Cacioppo et al. (1984)). The reliability of the need for cognition scale in the present sample was good ($\alpha = .88$), comparable to the reliability reported by Cacioppo et al. ($\alpha = .90$).

¹ The present experiment also investigated the “Big Five” personality traits. Unfortunately, the measure we used (The Ten Item Personality Measure; Gosling, Rentfrow, & Swann, 2003) provided low reliabilities (Cronbach’s alphas for the five subscales were .57, .06, .48, .65, and .40), and as such, we dropped these measures from our analyses.

² It should be noted that, although the experimenter was not blind to the experimental condition, he or she was not on hand when the confederate made the request. As such, the experimenter’s knowledge is unlikely to have impacted the participants’ behavior.

The 13 self-monitoring items (each scored on a 0–5 scale) were summed to produce a self-monitoring score with a possible range of 0–78, an actual range of 30–59, a mean of 44.62, and a standard deviation of 5.85. The mean reported by Lennox and Wolfe (1984) was 42.0. The reliability of the self-monitoring scale in the present sample was slightly below the .70 level typically sought ($\alpha = .68$), as were the reliabilities of the self-presentation and sensitivity subscales ($\alpha = .64$, $\alpha = .63$, respectively; reliability information was not reported by Lennox and Wolfe (1984)). The seven-item self-presentation subscale and the six-item sensitivity subscale yielded means of 24.31 and 20.31 and standard deviations of 3.88 and 3.53, respectively. The corresponding means reported by Lennox and Wolfe were 21.3 and 20.7.

Consistent with the results of Langer et al. (1978), acquiescence levels differed as a function of request type, $\chi^2(2, N = 129) = 13.30$, $p = .001$, with the request only producing lower compliance (61%) than the placebo reason (88%) and the real reason (89%; see Table 1). Individual chi-squared tests showed that there was a significant difference between the request only and the placebo reason groups, $\chi^2(1, N = 84) = 8.40$, $p = .004$, and the request only and real reason groups, $\chi^2(1, N = 86) = 9.06$, $p = .003$. There was no significant difference between the real reason and placebo reason groups, $\chi^2(1, N = 88) = .01$, $p = .94$.

With respect to need for cognition, we predicted that high need for cognition would result in either greater rejection of the placebo request or equivalent compliance with the placebo request but with a longer delay in responding to the request. The first part of this hypothesis was tested with a two-step logistic regression. In Step 1, compliance was logistically regressed on condition and need for cognition. (In this logistic regression and in the regressions and logistic regressions that follow, condition was dummy coded, the continuous independent variable was mean-centered, and interaction terms were created by multiplying the dummy codes by the continuous independent variable.) Consistent with the χ^2 results, condition was a significant predictor, $\text{Wald}(2) = 11.63$, $p = .003$. Need for cognition was not a significant predictor, $b = .01$, $se_b = .01$, $\text{Wald}(1) = .20$, $p = .658$ (bs represent unstandardized coefficients). In Step 2, the Compliance \times Need for Cognition interaction was entered. The interaction was non-significant, $\text{Wald}(2) = .83$, $p = .659$. A supplemental analysis logistically regressed compliance on need for cognition in the placebo reason condition. Once again, need for cognition was not a significant predictor, $b = -.01$, $se_b = .02$, $\text{Wald}(1) = .32$, $p = .57$.

The second part of our hypothesis was tested with a three-step regression with time as the dependent variable. In Step 1, time was regressed on condition, yielding a significant effect of condition on response time, $F(2, 125) = 4.02$, $p = .02$ (the effects of condition on response time are discussed more fully below). In Step 2, need for cognition was entered, yielding a non-significant R^2 -change of .00, $F(1, 124) < 1$. In Step 3, the Condition \times Need for Cognition interaction was entered, also yielding a non-significant R^2 -change of .00, $F(1, 122) < 1$. A supplemental analysis regressed response time on need for cognition in the placebo reason condition. Need for cognition was not a significant predictor, $b = .00$, $se_b = .020$, $t(1) < 1$. For these analyses, the assumptions of regression were tested and met (Cohen, Cohen, West, & Aiken, 2003). During assumption testing, one outlier was identified, but removal of this outlier does not substantively change these results (see also Footnote 3).

Table 1
Compliance in Langer et al. (1978) and the current study.

Study	Request only (%)	Placebic reason (%)	Real reason (%)
Langer et al. (1978)	60	93	94
Current study	61	88	89

With respect to self-monitoring, we predicted that high self-monitoring would result in greater compliance across conditions. This hypothesis was tested with a two-step logistic regression. In Step 1, compliance was logistically regressed on condition and self-monitoring. Consistent with the χ^2 results, condition was a significant predictor, $\text{Wald}(2) = 11.49$, $p = .003$. Self-monitoring was also a significant predictor, $b = -.10$, $se_b = .04$, $\text{Wald}(1) = 5.14$, $p = .02$, but contrary to predictions, participants higher in self-monitoring were less likely to comply. In Step 2, the Compliance \times Self-Monitoring interaction was entered. The interaction was non-significant, $\text{Wald}(2) = .18$, $p = .91$. In addition, the subscales of Self-Presentation and Sensitivity were examined via logistic regression to determine their effects on overall compliance. Self-Presentation was a significant predictor, $b = -.18$, $se_b = .07$, $\text{Wald}(1) = 5.88$, $p = .02$, but Sensitivity was not, $b = -.08$, $se_b = .07$, $\text{Wald}(1) = 1.48$, $p = .22$.

While no specific predictions were made regarding time, participants who refused the request took significantly longer to render their answer ($M = 4.20$ seconds, $SD = 3.00$) than did participants who accepted the request ($M = 1.61$, $SD = 1.38$), $t(27.74) = 4.29$, $p < .001$, $d = 1.11$. The same pattern emerged within each condition, although the comparison was non-significant for the placebo reason condition: request only (refused: $M = 4.32$, $SD = 2.14$, accepted: $M = 1.82$, $SD = 1.61$), $t(39) = 4.26$, $p < .001$, $d = 1.32$, placebo reasons (refused: $M = 5.59$, $SD = 5.59$, accepted: $M = 1.70$, $SD = 1.52$), $t(4.08) = 1.55$, $p = .20^3$, $d = .95$, real reason (refused: $M = 2.42$, $SD = 1.14$, accepted: $M = 1.40$, $SD = 1.06$), $t(43) = 2.03$, $p = .05$, $d = .93$. Thus, the longer participants took to respond, the more likely they were to decline the request.

5. Discussion

Although numerous studies have investigated compliance techniques (c.f., Cialdini, 2001), few have examined individual differences in response to these techniques. The present experiment examined the effects of individual differences on responses to a request employing the “because” heuristic, most famously demonstrated in Langer et al.’s (1978) copy machine study. Our results replicated the basic findings of Langer et al. (1978): Participants complied with a request to cut in line at a copy machine as readily when the word “because” was followed by a placebo reason (“because I need to make copies”) as when it was followed by a real reason (“because I’m in a rush”). More importantly, our data provide evidence regarding the impact of two individual difference constructs: need for cognition and self-monitoring.

Need for cognition has been shown to be an important moderator of heuristic-based persuasive techniques (Cacioppo et al., 1996): Those high in need for cognition tend to reject heuristic-based persuasive messages, whereas those low in need for cognition tend to accept such messages. In our study, need for cognition did not moderate responses to the heuristic-based compliance technique we tested: Participants at all levels of need for cognition responded positively to a request in which “because” was followed by a placebo reason. We had also considered the possibility that people high in need for cognition would “see through” the placebo reason but would comply anyway to avoid the awkwardness of refusal. In this case, we expected that such participants would take longer to respond. This prediction was also not supported: Need for cognition was unrelated to response time.

Why would need for cognition – such an important, well-documented moderator in the persuasion domain – prove ineffective as

³ One participant in the placebo reason condition took an unusually long time to refuse (over 15 s). With this outlier removed, the Levene’s test for unequal variances is non-significant, $F = 0.29$, $p = .59$, and the comparison becomes marginal, $t(40) = 1.84$, $p = .07$, $d = .73$.

a moderator in the compliance domain? We see three possibilities. First, for people to process systematically, they must have the motivation and ability to do so. High need for cognition provides the motivation to process systematically. But perhaps certain compliance situations (such as a request that demands a quick response) reduce the target's ability to process systematically. In this case, the target will process heuristically regardless of his or her level of need for cognition. Second, given the small size of the request, perhaps even those high in need for cognition lacked the motivation necessary to process systematically. Third, it is, of course, possible that the result was due to a Type II error, in which case need for cognition does moderate responses to the "because" heuristic, but our study failed to detect this effect. It is worth noting, however, that need for cognition displayed good reliability in the present study ($\alpha = .88$). Thus, although need for cognition moderates heuristic-based persuasive techniques, the present study offers at least preliminary evidence that it may not moderate heuristic-based compliance techniques – an important potential boundary condition for need for cognition.

Self-monitoring predicted compliance across all conditions, but contrary to predictions, participants higher in self-monitoring were less likely to acquiesce to the request. It is notable that the self-presentation subscale of self-monitoring was found to be a significant predictor of compliance, whereas the sensitivity subscale was not. This implies that it is the need to present oneself in the best light, and not the sensitivity to the feelings of others, that played a significant role in how self-monitoring predicted compliance. This suggests one possible explanation: Faced with the dilemma of two simultaneous requests (one from the experimenter, one from the confederate), participants high in self-monitoring might have been particularly motivated to comply with the request from the higher-status requestor to whom the participant may have felt beholden (i.e., the experimenter).

We also found a relationship between compliance rates and time taken to respond. The results indicated that the longer a participant spent thinking about the request, the more likely he or she was to decline the request. One possible reason for this finding was that across all conditions, participants who did not comply with the request were using that extra time taken to determine how best to refuse the confederate. In many compliance situations, saying "yes" does not require elaboration, whereas saying "no" requires a reason.

5.1. Directions for future research

As with most studies, it would be useful to replicate and extend the present results in future experiments. In particular, because of the difficulty of reaching confident conclusions from non-significant results, it would be particularly beneficial to retest the possible moderating effect of need for cognition. There are several ways in which this might be done. One way might be to employ a method in which participants are confronted with both a heuristic-based compliance request (such as the one used herein) and a heuristic-based persuasive message. To the extent that need for cognition moderated attitude change but not behavior change, the null effect we found would be supported. Another way might be to employ another compliance technique in which participants have more time (and thus more ability) to decline a request. Such a finding would suggest that need for cognition only moderates behavior change techniques for which people have the ability to carefully consider the request.

In addition, future studies could attempt to replicate the unexpected self-monitoring result as well as examine additional compliance techniques and additional individual differences, ideally

with a sufficiently reliable version of the Big Five. In both of these cases, it might be beneficial to seek a compliance technique with a baseline level of compliance closer to 50%. Indeed, the placebo reason produced high levels of compliance in Langer et al. (1978) and in the present study (93% and 88%, respectively). These high levels of compliance therefore leave limited room for moderation (although the significant effect for self-monitoring suggests that even these high levels of compliance can be impacted by individual differences). Future studies could also investigate the intriguing finding that participants took longer to decline than to accept the request, potentially by examining the content of participants' acceptances and refusals. Greater complexity and length of the refusals than acceptances would imply the need for longer preparation time. Lastly, as with most studies using student samples, the range of variables such as the age of participants was limited (cf. Sears, 1986). Future studies could benefit from including participants with a greater range of ages.

6. Conclusion

A rich body of research has shown how a variety of individual differences moderate processes of attitude change. Indeed, the literature is clear that need for cognition, need to evaluate, need for affect, and others moderate such attitude change processes (e.g., Cacioppo et al., 1996; Huskinson & Haddock, 2004). The literature is surprisingly quiet, however, on how individual differences might moderate processes of *behavioral* change that take place independently of persuasion. Our research provides evidence into this phenomenon by assessing the relations between two well-studied personality variables and one of social psychology's most well-known compliance studies. Consequently, we hope that our research sheds light on this phenomenon and, perhaps more importantly, spurs future research into what appears to be a neglected but important field of study: how individual differences moderate processes of behavior change.

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