

Effects of Interest Arousal on Compliance With a Request for Help

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Isen (1984) and Berkowitz (1987) noted the strong link between positive moods and positive thinking. Isen proposed that the well-established relation between positive moods and increased helping or compliance is attributable to the mediating effects of positive thinking. In the current study, the effect of interest—a type of positive thinking—on compliance was examined. Because of the strong link between positive moods and positive thinking, it was expected that inducing interest would increase compliance. College students sitting alone in a university library were approached and asked to complete an interesting task, an uninteresting task, or were not asked to do an initial task. All students were then asked to answer questions from a sociology survey. Students in the interesting task condition were willing to answer more questions than students in the other two conditions, in which compliance rates were equal. A second experiment was conducted to determine whether the task used in Experiment 1 increased compliance because it increased interest or because it induced guilt or lowered self-esteem (the task was a perceptual trick that most students got wrong even though it appeared very easy). Results showed that the interesting task created not only more interest, but also more guilt than the uninteresting task. Both interest and guilt contributed independently to compliance. Together, the two experiments showed that interest, like positive affect, can increase compliance.

Research has demonstrated numerous times that mood can affect helping behavior in response to an unrelated request or opportunity. To examine this relation between mood and helping, researchers have manipulated mood in a variety of ways, such as by giving participants false feedback on their performance on a test of creativity (Isen, 1970), having participants remember experiences that made them happy or sad (Rosenhan, Underwood, & Moore, 1974), giving respondents free stationery

(Isen, Clark, & Schwartz, 1976), and giving participants cookies or letting them find money (Isen & Levin, 1972). Helping behaviors have been operationalized in terms of donations, relaying misdirected phone calls, volunteering time to help with psychology experiments, and picking up materials dropped by experimental confederates, among others. The results of these experiments have consistently shown that boosting participants' mood increases their willingness to help. Putting participants into a good mood seems to open them up to new experiences and to make them "soft touches" for others who are trying to get help from them (Cunningham, Shaffer, Barkee, Wolff, & Kelley, 1990; Isen, 1984). A good mood is conducive to positive thoughts, which in turn may predispose individuals to positive behavior (Berkowitz, 1987; Isen, 1984; Isen, Shalke, Clarke, & Karp, 1978). Isen (1984) summarized this proposed affective-cognitive-behavioral link by noting that "people who feel good tend to have positive material more accessible in memory . . . and tend to act accordingly more friendly, open, and giving" (p. 197).

Although softening targets up for subsequent requests or unsolicited help by creating a positive *affective* state has been researched extensively by social psychologists, softening them up for subsequent help by creating a positive *cognitive* state has not received much empirical attention. Positive cognitive states consist of conditions such as interest or curiosity that occur in response to certain kinds of events. *Interest* can be defined as the "feeling of one whose attraction, concern, or curiosity is particularly engaged by something"; *curiosity* can be defined as the "desire to learn or know about anything" (Random House Dictionary). Thus, these terms are closely related; curiosity is one major factor that can create interest. Curiosity, and the interest it leads to, can be viewed as an inherently rewarding state that is opposite to the unpleasantness of boredom and monotony, and is related to the attractiveness of novelty and the seeking of mild stimulation and excitement (Kakar, 1976). Curiosity and interest can be aroused by a number of factors, such as incongruity, confusion, contradictions, surprisingness, and conceptual conflict (Berlyne, 1960). For example, in experimental research, Berlyne (1954) found that adding 48 questions to 72 statements about invertebrate animals in the experimental group increased participants' curiosity compared to that of the control group, which received only the statements. Further analysis revealed that questions that surprised the participants aroused more curiosity than questions that lacked this element of surprise. Once curiosity and interest in some event have been aroused, they provide motivation for thinking and behaving in response to that event or some other current event (Kakar, 1976). As Kakar noted, "what the libido is to sexuality, curiosity is to cognition" (p. 197).

Isen (Isen, 1984; Isen et al., 1978) has shown that positive moods tend to activate positive thoughts, and has posited that positive moods serve as cues that make positive material in memory accessible, which in turn influences a person's decision-making and eventual helping behavior. Both Isen et al. (1978) and Berkowitz (1987) noted, however, that this positive affect-cognition-behavior causal se-

quence remains to be empirically established. Nevertheless, Isen (1984) and Berkowitz (1978) noted that pleasant moods and pleasant thoughts are closely linked, wherein people who feel good think alike regardless of the origin of their mood, and wherein it is apparently difficult to arouse a positive mood without also stimulating positive thoughts, and vice versa. This close linkage between positive moods and positive cognitions suggests that, just as positive moods are likely to enhance compliance and helping behavior, so are positive cognitions likely to do so. An effect of positive cognitions on compliance or helping may occur by saving a step in the positive affect-cognition-behavior sequence, or may occur because positive cognitions enhance positive affect, which in turn increases compliance or helping behavior. Regardless of the exact nature of this relation, positive cognitions seem likely to play a facilitative role in producing greater compliance or helping.

The above line of reasoning suggests that curiosity and interest, which both constitute a positive cognitive state, would be expected to increase compliance. It was the purpose of the current research to investigate the relation between the degree of interest aroused in individuals and their subsequent willingness to provide help. An experiment was conducted in which participants' interest was manipulated to determine the effects on their compliance with a subsequent request for assistance. It was hypothesized that increased interest would result in increased compliance.

EXPERIMENT 1

Method

Subjects. Subjects were 60 college students (38 men and 22 women) who were studying alone in a university library at a Northeastern university.

Materials. Interest was manipulated by using a seemingly easy perceptual task that in reality fools most individuals initially. The task consisted of a sentence typed in capital letters that was enclosed in a rectangle and positioned in the center of an 8½-in. × 11-in. sheet of white paper. The sentence read as follows:

FINISHED FILES ARE THE RE-
SULT OF YEARS OF SCIENTIF-
IC STUDY COMBINED WITH THE
EXPERIENCE OF MANY YEARS.

This deceptively difficult perceptual task involves simply counting the number of times the letter *F* occurs. Individuals doing this task for the first time often count three occurrences. The correct answer is six. Individuals frequently miss the three

*F*s that occur in the word *of*, which occurs three times, and these individuals frequently react to this oversight with surprise, curiosity, and interest.

To validate the difficulty of this task and the interest that it tends to elicit, a pilot study was performed on 18 students in an undergraduate psychology course who were attending the same university as the participants in the experiment. During class time, participants were given a copy of the stimulus sentence enclosed in a rectangle. Below the rectangle were two tasks for students to carry out, which were counterbalanced across participants. One task asked students to count the number of times the letter *F* occurred, and the other asked them to count the number of times the letter *R* occurred—no perceptual problem exists for this latter task, whose correct answer is five. Students were orally instructed to go through the sentence one time each for each task and then to write their answer in the space provided next to each task. Afterwards, they were told by the experimenter what the correct answers were and they were told that most people do not succeed initially in finding all six *F*s because the *F* in the word *of* sounds like a *V*. Finally, students were asked to indicate next to each task how interesting they found it to be on a 5-point scale where 1 indicated *not at all* and 5 indicated *very*.

Results were that 16 out of 18 participants (89%) got the wrong answer for the F-Task, whereas all 18 participants got the correct answer for the R-Task. This result demonstrated the difficulty of the F-Task and the ease of the R-Task. The interest ratings differed as expected between the two tasks, $t(17) = 5.36, p < .0001$ one-tailed, effect size $r = .79$. Participants found the F-Task to be more interesting ($M = 4.11, SD = 1.08$) than the R-Task ($M = 2.39, SD = 1.09$). The results from the pilot study showed that the F-Task is tricky and does create interest, whereas the R-Task is easy and uneventful and does not arouse much interest.

Design and procedure. The experiment, conducted early in 1994, used a one-way between-participants factorial design with three levels of the independent variable, which was the type of task for students to perform: the F-Task, the R-Task, or a no-task control. The dependent measure was the participants' compliance with a subsequent request to be described below. The F-Task versus R-Task conditions permitted an examination of the increase in compliance resulting from the increase in task interest. The purpose of adding the no-task control condition was to determine whether a foot-in-the-door (FITD) effect (Freedman & Fraser, 1966) would occur, given that two sequential requests were being made in the two experimental conditions. The control versus the R-Task conditions were appropriate for assessing an FITD effect.

Students who were sitting alone in the university library were approached by a female experimenter. Just before approaching them, she pulled out at random a 3-in. × 5-in. card from her pocket that had written on it either "Control," "R," or

“F.” This determined the condition for each participant. A total of 60 cards were prepared, 20 for each condition. The stack of cards was thoroughly shuffled to further ensure random assignment. In the two experimental conditions, the experimenter then went up to the students and asked them if they would be willing to do a simple task, showing them the stimulus paper. All students agreed to participate. She then asked them to count the number of *F*s or the number of *R*s, depending on the condition, by going through the sentence once. After they gave their answers in a few moments, she asked them if they were sure, at which point all respondents counted again. At this point she told them whether their answer was correct and, if not, what the correct answer was. She also explained to respondents in the F-Task condition that most people err in their initial count because the *F* in the word *of* sounds like a *V*.

At this point in the two experimental conditions and in the control condition, the experimenter said to the participants:

I'm from the sociology department, and we're conducting a survey of social opinions. Although the survey is 80 questions long, you don't have to answer all the questions. How many questions would you be willing to answer for me?

This request was based on the request used in a compliance study conducted by Cunningham (1979). Respondents' answer to this question constituted the measure of compliance in this study. When participants responded, she debriefed them and thanked them for their participation. She also recorded at this time on the 3-in. × 5-in. card that she had previously drawn for each participant the number of questions that the participant was willing to answer, as well as the participant's sex.

Results

Sixteen of the 20 respondents (80%) in the F-Task condition erred in their count of the number of *F*s, whereas all participants in the R-Task condition counted correctly the number of *R*s. A test of proportions showed that this difference was highly significant, $Z = 5.16, p < .001$ two-tailed. Thus, the F-Task proved to be challenging, whereas the R-Task proved to be routine.

It was hypothesized that participants performing the interesting task would be more open toward complying with the subsequent request than participants who performed the mundane task. To test this hypothesis, and to examine whether an FITD effect had occurred, an analysis of variance (ANOVA) was performed on the compliance data. An initial 2 (sex: Man or Woman) × 3 (task: F, R, or Control) between-participants ANOVA revealed no main effect or interaction involving sex

of participants. Therefore, the data were collapsed across this factor, and the analysis was redone using the single factor of task type. This analysis yielded a highly significant difference among the means in the three conditions, $F(2, 57) = 16.80, p < .001$. A Tukey post-hoc test revealed that the F-Task produced more compliance ($M = 27.00$) than either the R-Task ($M = 15.65$) or the no-task control condition ($M = 14.75$). The means in these latter two conditions did not differ, although they were in the direction of an FITD effect with a small effect size, $r = .09$. Thus, the experimental hypothesis was supported, but an FITD effect did not occur.

Discussion

Results of the experiment showed that the F-Task elicited more subsequent help from participants than did the R-Task. These results thus provide support for the hypothesis that increasing interest will increase compliance. On the other hand, no evidence was obtained for an FITD effect. Participants in the R-Task condition, who were exposed to two sequential requests, showed no more compliance in response to the critical request than did participants in the control condition, who were exposed only to the critical request. This finding is not surprising, though, in view of the fact that the task itself was not directly relevant to the subsequent request (Freedman & Fraser, 1966), and in view of the fact that the effect size for FITD studies taken as a whole ($r = .20$) is only small to moderate (Dillard, 1991), and is not so different from the effect size obtained in this experiment.

Although the results of the current experiment suggest that increased interest led to increased compliance, several alternative explanations could account for these results. One possibility is that when participants *incorrectly counted the number of Fs*, they may have felt a sense of guilt for this failure on such a seemingly easy task. Another possibility is that participants' self-esteem may have been lowered by this failure. Both guilt and lowered self-esteem have been shown to increase helping (Carlsmith & Gross, 1969; Cunningham, Steinberg, & Grev, 1980; McMillen & Austen, 1971) and therefore may have contributed to the effect observed in the current experiment. Still another possibility is that compliance was mediated by participants' feelings about their performance, in which an unsuccessful performance led to a negative reaction, which in turn increased compliance as a means of self-affirmation (Steele, 1988). All of these possibilities seem less likely to account for the differences in compliance than differential interest, however, because all participants in the F-Task condition were told that most people have difficulty with the task, which would be expected to prevent or reduce the occurrence of these other reactions. Nevertheless, to rule out these alternative explanations, a replication experiment was conducted, in which manipulation checks were made to assess

the relative contributions of interest, guilt, self-esteem, and feelings about performance in terms of mediating subsequent compliance.

EXPERIMENT 2

This experiment focused on the R-Task and F-Task conditions only, and provided participants with a questionnaire in order to assess the various factors that were relevant to examining alternative explanations for their subsequent compliance.

Method

Participants. Participants were 40 students (20 men and 20 women) at the same university as in Experiment 1, sitting alone in the same library. Their mean age was 23.4 ($SD = 5.16$), with a range from 18 to 43 years old.

Materials. The same perceptual task that was used in Experiment 1 was also used in this experiment. In addition, a questionnaire consisting of six items was used to assess participants' reactions after having done the F-Task or R-Task. The first item assessed interest and read "Overall, this task was," followed by a 7-point scale with answers ranging from 1 (*uninteresting*) to 7 (*interesting*). The second item assessed feelings about task performance and read "Your feelings about how you did on this task were," followed by answers on a 7-point scale ranging from 1 (*negative*) to 7 (*positive*). The third item assessed self-esteem and read "Your feelings about yourself and your self-worth after doing this task were," and was followed by answers on a 7-point scale ranging from 1 (*worsened*) to 7 (*improved*), with the middle scale value *unchanged*. The fourth item assessed guilt and read "Did your performance on this task make you feel guilty in any way?" followed by answers on a 7-point scale ranging from 1 (*not at all*) to 7 (*very much*). The fifth and sixth items measured participants' sex and age.

Design and procedure. The experiment, which was conducted early in 1995, was identical to Experiment 1, with several exceptions. First, only two conditions were used, the R-Task and F-Task conditions. Second, an even number of men and women were used for each of the tasks. The design was thus a 2 (task: R or F) \times 2 (sex: Man or Woman) between-participants factorial. A female experimenter had two stacks of 3-in. \times 5-in. cards, one for men participants and the other for women participants. Each stack had 10 cards with "R" written on them and 10 cards with "F" written on them. When she found a participant sitting alone in the library, she randomly selected a card from the sex-appropriate stack to determine which task to give participants.

One additional difference between this experiment and the first one was that after the participants were finished counting the number of Rs or Fs, the experimenter gave them the questionnaire described earlier to fill out. After participants filled out the questionnaire, the experiment proceeded exactly as in Experiment 1. The experimenter stated that she was from the sociology department and was doing a survey of social opinions with 80 questions, and then asked participants how many questions they would be willing to answer, which constituted the measure of compliance. After their responses, she debriefed and thanked them.

Results

Manipulation checks. Eighteen of the 20 participants in the F-Task condition erred in counting the number of Fs, whereas only 2 of 20 participants in the R-Task condition erred. A test of proportions revealed that this difference was highly significant, $Z = 5.06$, $p < .001$ two-tailed, showing that the F-Task was more challenging. A series of 2 (Task: R or F) \times 2 (Sex: man or woman) ANOVAs were conducted on the four measures from the questionnaire to assess whether interest, feelings about performance, self-esteem, or guilt differed in the different conditions. For all analyses, no main effects for sex or interactions involving sex emerged. Therefore, the data were collapsed across this factor, and the analyses were redone using the single factor of task type. Participants in the F-Task condition ($M = 6.50$) found their task more interesting than participants in the R-Task condition ($M = 4.35$), $F(1, 38) = 18.78$, $p < .001$, effect size $r = .58$. Participants in the F-Task condition ($M = 2.05$) also felt somewhat more guilty than participants in the R-Task condition ($M = 1.25$), $F(1, 38) = 4.01$, $p = .052$, effect size $r = .31$. No differences between participants in the F-Task and R-Task conditions emerged for how they felt about their performance on the task ($M_s = 4.55$ vs. 4.95), $F(1, 38) = .45$, or for feelings of self-worth ($M_s = 4.50$ vs. 4.25), $F(1, 38) = .32$. Thus, these manipulation checks showed that the F-Task was more difficult and created more interest than the R-Task, as expected. In addition, however, the F-Task also created more guilt.

Compliance. A 2×2 ANOVA revealed no main effect or interaction involving sex. Therefore, the data were collapsed across this factor and were reanalyzed. Results were that participants were willing to answer more questions on social issues in the F-Task ($M = 46.25$) than R-Task ($M = 25.75$) conditions, $F(1, 38) = 14.98$, $p < .001$, effect size $r = .53$. This finding replicated the result in Experiment 1.

Relation between compliance and the potential mediators. According to the hypothesis of the current study, the F-Task increased compliance because it increased interest. But alternative explanations suggest that increased compliance may have resulted from increased guilt, lowered self-esteem, or more negative

feelings about performance as a consequence of doing poorly on the F-Task compared to the R-Task. To examine the mediational roles of these factors, first the correlations between compliance and the other factors were computed. Both interest, $r(38) = .48$, $p = .002$ two-tailed, and guilt, $r(38) = .42$, $p = .006$ two-tailed, were positively correlated with compliance. On the other hand, self-worth, $r(38) = .02$, and feelings about their performance, $r(38) = .02$, were unrelated to compliance.

Next, a multiple regression analysis was performed, regressing compliance on interest and guilt to determine the unique contributions of each in predicting compliance. The regression model was significant, $F(2, 37) = 10.00$, $p < .001$, the predictors accounted for 35.08% of the compliance variance, and the regression weights for both predictors were significant at the .05 level. The standardized regression weights for interest and guilt were .42 and .35, respectively. The unique variance that interest accounted for in the compliance responses over and above that accounted for by guilt was 17.05%, and the unique variance that guilt accounted for over and above that accounted for by interest was 11.96%.

In short, both interest and guilt were differentially affected by task type, and each was uniquely related to compliance, with interest showing a somewhat greater relation.

GENERAL DISCUSSION

The two experiments support the hypothesis that increased interest can result in increased compliance. In each experiment, participants who were asked to count the number of *F*s in a paragraph provided to them had great difficulty with this seemingly easy, but actually tricky, task. On the other hand, participants who were asked to count the number of *R*s in the same paragraph had no difficulty. The manipulation check in Experiment 2 demonstrated that these differences between the F-Task and R-Task affected how interesting participants found these tasks to be. The F-Task created more interest than the R-Task, and participants subsequently complied to a greater degree after counting the *F*s.

The mediational role of interest was examined more closely in Experiment 2 to determine whether this factor, or some other factors (i.e., feelings about performance, self-esteem, and guilt), were responsible for the increase in compliance. Correlational and regression analyses clarified this issue by showing that interest played a role above and beyond these other potential mediating factors in terms of mediating compliance. These analyses, however, showed that guilt played a role as well. The alternative explanation that guilt may have mediated the observed effects of the experimental manipulation thus received support. Importantly, both interest and guilt played independent roles in mediating compliance; that is, the failure to succeed on the perceptually tricky task created both interest and guilt, and each of these reactions contributed to increased compliance. Moreover, the role that interest

played was somewhat greater than that played by guilt. Thus, the hypothesis of this study that increased interest can increase compliance received additional support from Experiment 2.

The measure of compliance in the current research concerned the number of survey questions that students indicated they would be willing to answer rather than the number of questions that they actually did answer. This measure thus may have been a better indicator of intention to comply rather than compliance *per se*. Nevertheless, intentions to comply or to help are likely to be predictive of actual compliance. For example, in Cunningham's (1979) research, which used the same measure for compliance in Study 1 that was used in the current experiments, the intention to help as a function of sunshine in Study 1 paralleled actual helping in Study 2. Another point of interest in the two experiments reported here is the difference in compliance rates. In the first experiment, the compliance rates for the F-Task and R-Task conditions ($M_s = 27$ vs. 15.56) were considerably smaller than the corresponding rates in the second experiment ($M_s = 46.98$ vs. 25.75). This difference may have occurred because of an FITD effect in Experiment 2. In this experiment, students were first given a counting task, and then given a brief questionnaire to fill out. As discussed previously, the counting task alone may not have significantly increased compliance in the first experiment because of the dissimilarity of the initial and subsequent requests. However, as Freedman and Fraser (1966) reported, request similarity enhances compliance. In the second experiment, filling out the brief questionnaire after the counting task may have been similar enough to the subsequent request to answer items from a sociology survey that students' compliance responses were affected by an FITD effect. Unfortunately, the lack of a control condition in the second experiment precludes reaching a conclusion on this issue.

What can be concluded, then, is that the results of these experiments show that the simple task of having individuals engage in an apparently easy, but actually deceptive and therefore surprising task, can increase compliance substantially to a subsequent critical request. As Experiment 1 indicated, this increase is not attributable to the two-step nature of this task—that is, FITD. Rather, as Experiment 2 showed, this increase is attributable to the surprisingness of the task and the consequent interest and openness to further activity that it generates. The increase is also attributable to a sense of guilt that failing on the task creates. The precise manner in which interest affected compliance in the current experiments (e.g., via a positive affect–cognition–behavior sequence or a positive cognition–affect–behavior sequence) remains to be established. Future research could address this issue, although, as Berkowitz (1987) commented, its resolution is difficult.

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