

Moods and compliance

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This study examined the impact of subjects' moods on their compliance with simple messages. It was predicted and found that recipients of messages: (1) complied more when in a happy mood than when in a neutral state, and (2) complied less when in an angry mood than when in a neutral state. These effects were observed both when high and low pressure messages were used. Possible boundary conditions for the observed effects are discussed.

The study described in this paper was designed to test the effects of subjects' moods on compliance with simple messages such as suggestions or orders. It was predicted that there would be (1) more compliance when message recipients were in a positive, happy mood than when in a neutral state and (2) less compliance when message recipients were in a negative, angry mood than when in a neutral state. Several bases exist for these predictions.

Why moods should influence compliance

One possible reason why moods might influence compliance with simple messages in the predicted manner is that moods may increase the accessibility of mood-congruent thoughts about the communicator or about the message itself. More specifically, upon listening to a simple message – either a suggestion or a demand – people ordinarily may have a variety of thoughts – some positive, some negative, some neutral – about both the communicator and his or her message. How compliant the recipient will be should be determined by the nature of these thoughts. By increasing the accessibility of mood-congruent information moods may influence this process (see Blaney, 1986; Clark & Isen, 1982; Isen, 1984; and Teasdale, 1983; for discussions of moods increasing the accessibility of mood-congruent information). This means that, when happy, message recipients may be more likely than usual to think positive thoughts about both the communicator (e.g. he or she seems smart, he or she seems motivated to help them) and the message (e.g. it seems reasonable). In contrast, when angry, message recipients may be more likely than usual to think negative thoughts about both the communicator (e.g. he or she seems manipulative) and his or her message (e.g. it is probably biased) than would otherwise be

the case. As a result, recipients' happiness may increase compliance and their anger may decrease compliance.*

In connection with this possibility, however, it should be noted that in some studies the evidence for moods increasing the accessibility of mood-congruent information is stronger and more consistent for positive rather than for negative moods (e.g. Clark & Waddell, 1983; Isen, Shalke, Clark & Karp, 1978; and see Isen, 1985). Thus, if this were the true basis for the predicted effects, and if anger is analogous to the types of negative moods that have been studied in the past, the effect might be stronger or easier to obtain for happy rather than for angry moods.

A second possibility is that happiness elicits a simple behavioural tendency to attend to or to agree with others while anger elicits a behavioural tendency to ignore or to disagree with others. Such direct effects of mood on compliance might be a result of numerous past experiences in which happiness increased compliance and anger decreased compliance through influencing the accessibility of mood-congruent information. Over time the behavioural tendency to agree when happy or to disagree when angry may become direct and automatic. Alternatively such tendencies might be innate.

A third possibility is that people use their moods as pieces of information (Schwarz & Clore, 1983) which, in turn, influence compliance. To be more precise, when assessing their reaction to a message, people may examine their current mood. If they are happy they may conclude that they have positive feelings about the message and be more likely to comply with it than usual. If they are angry they may conclude that they have negative feelings about the message and be less likely to comply with it than usual.

Limited goals of study and fit with prior research

While there are several possible rationales for our predictions, the purpose of the present study was not to examine these processes nor to determine which ones underlie effects of mood on compliance. Rather it was to establish clearly some effects of subjects' moods on their compliance with simple directive messages. We believe that this has not previously been done convincingly. Although the predictions of the present study can be seen as consistent with the results of some prior research on mood and compliance or persuasion (i.e. Dribben & Brabender, 1979; Galizio & Hendrick, 1972; Janis, Kaye & Kirschner, 1965; Razran, 1940), the results of these previous studies are subject to alternative explanations. In addition, none of the prior studies has dealt specifically with anger.

Consider the Razran (1940) and Dribben & Brabender (1979) studies first. Razran (1940) asked subjects to evaluate a series of sociopolitical slogans. The slogans were then divided into two sets and over several subsequent sessions subjects were exposed to one set while eating free lunches and the other while inhaling unpleasant odours. Subsequent ratings showed that the evaluations of slogans associated with lunch improved while those associated with unpleasant smells deteriorated. Dribben & Brabender (1979) selected

* It might be asked why, if mood increases the accessibility of mood-congruent information, the resultant positive (or negative) thoughts should not be about oneself rather than about the communicator or the message, a possibility which could lead to different predictions. If, for instance, positive moods increased feelings of confidence in one's own opinions, positive moods might decrease compliance. However, we believe that simple, directive persuasive attempts such as those used in the present study ordinarily draw the subject's attention towards that attempt and away from the self. Thus it is likely to be thoughts about the communicator and message that are most influential.

subjects who were initially strongly in favour of motorcycle helmets being worn by all cyclists. Then these subjects read statements designed to induce elated or neutral moods (Velten, 1968). Finally, subjects heard either a pro- or anti-helmet message and the experimenters assessed agreement with a statement advocating that all cyclists should wear helmets. Among subjects exposed to the anti-helmet message, those in positive moods expressed more negative attitudes (i.e. complied more with the message) than those in neutral moods.

While the Dribben & Brabender (1979) results, as well as the Razran (1940) study, are *consistent* with the idea that message recipients' moods – at least positive moods – influence compliance, the results of both studies may be attributable to the operation of demand characteristics and/or to experimenter bias. In neither study was any attempt made to disguise the fact that mood was being manipulated nor was any attempt made to disguise the fact that exposure to the slogans or persuasive attempts were connected with those mood manipulations. In addition, in neither study were the experimenters kept unaware of the manipulations. Finally, because no statistics were presented in connection with the Razran (1940) study we cannot safely exclude the possibility that his results were due to chance.

Next consider studies conducted by Janis *et al.* (1965) and Galizio & Hendrick (1972). Janis *et al.* (1965) reported two studies in which more agreement with messages was obtained when subjects ate free food (which may have improved their moods) while listening to the messages than when they listened to messages in the absence of free food. Galizio & Hendrick (1972) conducted a study in which subjects who listened to the lyrics of songs (either spoken or sung) accompanied by guitar music both showed more positive emotional arousal and were more persuaded by those lyrics than subjects who heard the same lyrics (either spoken or sung) in the absence of guitar music. Like the Razran and the Dribben & Brabender results these results are also *consistent* with the idea of happiness increasing compliance. However, they too are subject to alternative explanations.

Specifically, the results obtained by Janis *et al.* (1965) and Galizio & Hendrick (1972) can be attributed to distraction rather than to mood. In both studies the manipulations (i.e. food or guitar music) that might have led to increases in positive moods were presented simultaneously with fairly involved persuasive communications. Thus, the manipulations could have distracted the subjects and prevented counter-arguing (Osterhouse & Brock, 1970) making it difficult to attribute those results to the effects of mood on compliance. [Galizio & Hendrick (1972) do present a reasonable argument against this explanation saying that their topics were ones towards which subjects probably felt positively or at least neutrally and thus their subjects were unlikely to counter-argue. Thus this explanation may not be as likely in their case as in the case of the Janis *et al.* (1965) study.]

In addition, Galizio & Hendrick's results might be attributed to guitar music increasing the amount of attention subjects paid to the lyrics or to the possibility that, following the message, recall of the guitar music may have served as a cue to the lyrics making them easier to recall. We should also note that in the Dribben & Brabender (1979), Galizio & Hendrick (1972) and Janis *et al.* (1965) studies, fairly complex messages were used. Thus, even if the alternative explanations raised in connection with these studies were incorrect, it still would not be clear whether mood had an impact through affecting how subjects processed the actual arguments involved in those messages

(cf. Worth & Mackie, 1987) or whether it influenced simple compliance with a message. The latter is the central focus of the present research. Finally, we would note that in none of the prior studies was the effect of anger *per se* on compliance (as opposed to the effect of some other negative emotion) clearly assessed.

In contrast to some of the prior work, in our study we attempted to avoid demand and experimenter bias by: (a) disguising the mood manipulation and presenting it in a separate context from that in which the message was presented, and (b) keeping the communicator who attempted to elicit compliance from subjects unaware of mood conditions. In addition, our manipulations of happiness and of anger occurred prior to the delivery of the message and very simple, short messages, devoid of specific arguments but rather involving only a straightforward suggestion or order were used. We felt these procedural techniques would make alternative explanations in terms of the mood manipulation being distracting or in terms of it increasing the amount of attention paid to the message unlikely. We felt they would also make it possible to conclude that any effects we observed were due to the effects of mood on compliance rather than the effects of mood on subjects' processing of complex messages.

Two types of messages

In addition to attempting to establish clearly the effects of both positive and negative moods on compliance with simple messages, we also wished to explore the generalizability of such effects. To this end we investigated the effects of mood on compliance with both high and low pressure messages (i.e. with both suggestions and orders).

We predicted that moods ought to influence compliance with both high and low pressure messages. Moreover, we thought it possible that mood might interact with message type in interesting ways. Specifically, in accord with reactance theory (Brehm, 1966; Brehm & Brehm, 1981), when subjects are in a neutral or negative mood, we suspected that low pressure messages might be more effective than high pressure messages because they would be less likely to threaten subjects' feelings of freedom. However, it seemed possible that these effects would be eliminated or even reversed if message recipients were in a positive mood. To understand why the effects might be eliminated, consider two of the rationales for the hypothesis that mood would influence compliance presented above. If the accessibility rationale applies, then one would expect subjects in positive moods to have primarily positive cognitions about the communicator and the message available. These may predominate over any thoughts that the communicator was threatening their freedom, even in the case of high pressure messages, thereby preventing reactance. Alternatively, if the idea that moods serve as pieces of information applies, then one would expect that, when subjects in positive moods consider whether the other is being manipulative and controlling, they should conclude that he or she is not. Otherwise, they would not be feeling so good. This too could prevent reactance.

These two rationales can explain why reactance effects might be eliminated when message recipients are in a positive mood, but why might they be reversed? Once reactance is eliminated, high pressure techniques may become more effective than low pressure techniques because they make what the communicator wants the subject to do and how important that is to the communicator clearer than would otherwise be the case.

This reasoning led to two additional hypotheses, namely, that an interaction between mood and message type should occur such that: (3) when subjects were happy high pressure messages would be as effective as, or more effective than, low pressure messages, and (4) when subjects were in neutral or angry moods, low pressure messages would be more effective than high pressure messages.

Method

Under the guise of a study on reactions to creative stories, subjects read a story designed to elicit (1) an angry mood, (2) elicit a happy mood, or (3) not to alter their mood. Then under the guise of a separate study on consumer preferences, they were shown packages of two types of products (pens and notepads) and asked to express their preference between them. Presumably as compensation for their help, each subject was told he or she would be sent five packages of these products following the study. The subject could divide these choices between the two alternatives in whatever manner desired. Prior to letting the subject actually choose the products, the experimenter either (1) suggested that the pens were a better choice (low pressure conditions), (2) stated that the subject should definitely select only the pens (high pressure conditions), or (3) delivered no message (control condition). The dependent measure consisted of how many packages of the targeted item, pens, the subject actually chose (from 0 to 5).

Stimulus materials

Mood stories. Stories were used to induce a happy, angry or no particular mood among subjects. Two of the stories, those used to induce happy and neutral moods, had been developed for use in a prior study (Erber, 1985). Both described a series of events that happened to a young female art student. The happy story described the student in ways designed to elicit sympathy and liking for her. Then it described a number of fortunate events culminating in the student receiving a scholarship to study art. The story designed to elicit no particular mood described a number of events – some positive, some negative and some neutral – that happened to an art student during the course of applying for college and her first year there. In addition, a third, anger-inducing story was written expressly for the present study. Like the happy story it began by describing an art student in ways designed to elicit sympathy and liking for her. Then it described a series of unfair events resulting in someone else receiving an art scholarship that should have gone to this student. Our manipulation check provided evidence, to be described below, for the effectiveness of all three manipulations.

Products. The products between which our subjects were asked to make choices were selected on the basis of pre-tests. Our goal was to choose two products of equal attractiveness.

During the first stage of pre-testing 24 subjects (12 males, 12 females) were shown packages of 11 different office supply products (e.g. felt-tip pens, plastic clips, envelopes). They were asked to choose 11 total packages of these products on the basis of how attractive these items were to them personally. They could choose 11 packages of the same product if they wished, one of each product, or divide their choices in any manner desired. Two of the products (packages of two ball point pens and packages of two gummed Post-it pads) were selected approximately equally often. Pens were selected an average of 1.50 times per subject and pads an average of 1.46 times per subject ($t = 0.01$, d.f. = 23, n.s.).

During the second stage of pre-testing, 10 additional subjects (six males, four females) were shown just these two products and were asked to select five packages dividing their choices however they wished. This was done to ensure that the two products remained equally attractive when taken out of the context of the nine other products. Again selections of the pens and pads were about equally frequent. The pens constituted an average of 2.4 selections per subject while the pads constituted an average of 2.6 of their selections ($t = 0.37$, d.f. = 9, n.s.). Thus, packages of pens and pads became our stimulus objects.

Subjects

Eighty-nine subjects, 51 males and 38 females, participated in partial fulfilment of a course requirement. Each was randomly assigned to one of nine conditions created by crossing recipient mood with message type: angry/low pressure; angry/high pressure; angry/no message; neutral/low pressure; neutral/high pressure;

neutral/no message; happy/low pressure; happy/high pressure; and happy/no message. Three additional students were included in the study (making a total of 92 students run) but later expressed suspicion regarding the procedures. They were not counted as subjects and their data not included in any of the analyses.

Procedure

Each subject was tested individually. Upon entering the experiment room the subject was greeted by a first experimenter and told that the session would include two short unrelated experiments. She explained that since both studies were quite short, just 10 minutes each, they could not be approved separately by the 'experimental committee'. However, by combining them into one session they could be offered for one credit. This experimenter then said she was with the marketing department in the business school and was required to do an internship with a business firm, the Anderson Office Supply Company. The internship involved conducting marketing research relevant to that firm. This company had several products designed for use in the university community. The experimenter was gathering reactions to these products. In exchange for giving his or her reaction, the subject would receive some of the products free of charge.

At this point the second experimenter, who was present in the room, interrupted and asked if she could conduct her experiment first since she had an important phone call to make. With some reluctance, the first experimenter agreed and said she would just wait in the room next door. The reason for having the first experimenter introduce the study on marketing prior to the second experimenter introducing her study which included the mood manipulation was that finding out that they were going to get a free gift might itself have put subjects into a good mood. If we waited until after the mood manipulations to give this information to subjects we feared that it might undo the effects of the neutral or negative mood manipulations. Thus, we gave information to subjects prior to those manipulations. We believed that the subsequent mood manipulations would be effective despite all subjects perhaps starting out in slightly positive moods.

The second experimenter then told the subject she was interested in reactions to creative stories. The subject was to read a story and then to answer some questions about it. The experimenter picked up a story which was lying face down in a stack and handed it to the subject. It was either the angry, happy or neutral story. The stories had been placed in the stack in random order earlier by a third party. This allowed the first experimenter to remain unaware of the subject's mood condition. After reading the study the subject answered four questions about it – how much they enjoyed it, how well written it was, whether it made them feel happy and whether it made them feel angry. The first two questions were included to maintain the plausibility of the cover study. The latter questions served as checks on the mood manipulations and were answered on five-point scales from 1 (no) to 5 (yes). After the subject answered these questions, the second experimenter announced that her study was over. She went next door and knocked at the first experimenter's door to tell her she had finished.

The first experimenter, who was unaware of the subject's mood condition, joined the subject in the original room. She explained that she was asking subjects to express their preferences between two products, pens and pads, and she laid the sample packages on a table. As a thank-you for participating in the study, she said, the subject would be able to choose five packages of these products which would then be sent to him or her.

The subject could choose five packages of the same product or any combination of the two products. At this point the subject was given a form on which to indicate his or her choices, and in those conditions where the subject was to receive a message, the first experimenter delivered the message before giving the subject a chance to fill out the form. In the *low pressure* condition the subject was told, 'The pens seem the best to me. You may want to consider choosing them'. In the *high pressure* condition the subject was told, 'The pens are the best. You should definitely choose only them'.* Subjects in the control condition received no message. Immediately after receiving the message the subject filled out the product preference form. The number of packages of pens selected could range from zero to five and served as our dependent measure.

After allowing the subject to make his or her choices the first experimenter probed the subject for suspicion about the experiment to that point. Then she debriefed the subject. As noted above three of the 92 persons originally tested expressed suspicions about whether the company actually existed, about whether the studies were related and/or about whether the message was intended as a persuasive attempt. One was in the neutral/no-message condition, one in the angry/high pressure condition and one in the happy/high pressure condition. They were not counted as subjects and their data were not included in any analyses.

* These messages were modelled after ones used by Regan & Brehm (1972) and Wicklund & Brehm (1968) who successfully produced reactance effects.

Results

Manipulation checks

After reading the story appropriate for their assigned mood condition, and before being exposed to the persuasive message, subjects had rated both how happy the story they read made them feel and how angry it made them feel on five-point scales. The mean ratings on these scales are given in Table 1. As can be seen, they fell in the predicted pattern.

Table 1. Mean happiness and anger felt following the stories

	Story type		
	Angry	Neutral	Happy
Reported happiness	2.03	3.00 ^a	3.80
Reported anger	4.03	1.65 ^a	1.40

^a $n = 29$; in all other cases $n = 30$.

One-way analyses of variance revealed that the stories had a significant impact on happiness ratings ($F = 27.37$, d.f. = 2, 86, $P < 0.001$) as well as on anger ratings ($F = 70.64$, d.f. = 2, 86, $P < 0.001$). Planned comparisons revealed that, as expected, subjects who read the happy story reported feeling happier than those who read the neutral story ($F = 11.00$, d.f. = 1, 86, $P < 0.001$), and that subjects who read the angry story reported feeling angrier than those who read the neutral story ($F = 97.22$, d.f. = 1, 86, $P < 0.001$).

Compliance

The results on our dependent measure, number of target items selected, are depicted in Fig. 1. As can be seen, these results fell in the predicted pattern. A 3 (mood: happy, angry, neutral) \times 3 (message: high pressure, low pressure, no message) analysis of variance was conducted on the measure of how many target items were selected. This analysis revealed no significant effect of message type ($F = 0.52$, d.f. = 2, 80, n.s.), a significant effect of mood ($F = 23.35$, d.f. = 2, 80, $P < 0.001$), and a significant interaction between mood and message type ($F = 8.79$, d.f. = 4, 80, $P < 0.001$).

The overall analysis was followed by planned comparisons to test our specific hypotheses. To test the first hypothesis that positive moods would increase compliance, scores in the happy/low pressure and happy/high pressure conditions were combined and compared with scores in the neutral/high pressure and neutral/low pressure conditions combined. Happiness did increase compliance ($F = 27.49$, d.f. = 1, 80, $P < 0.001$). To test the second hypothesis that angry moods would decrease compliance, scores in the angry/low pressure condition and angry/high pressure condition were combined and compared with scores in the neutral/high pressure and neutral/low pressure conditions combined. The comparison was significant ($F = 13.13$, d.f. = 1, 80, $P < 0.001$). To demonstrate that these effects were due to the *combination* of the moods and the message rather than to the moods alone, scores in the happy/no-message condition were compared with scores in the

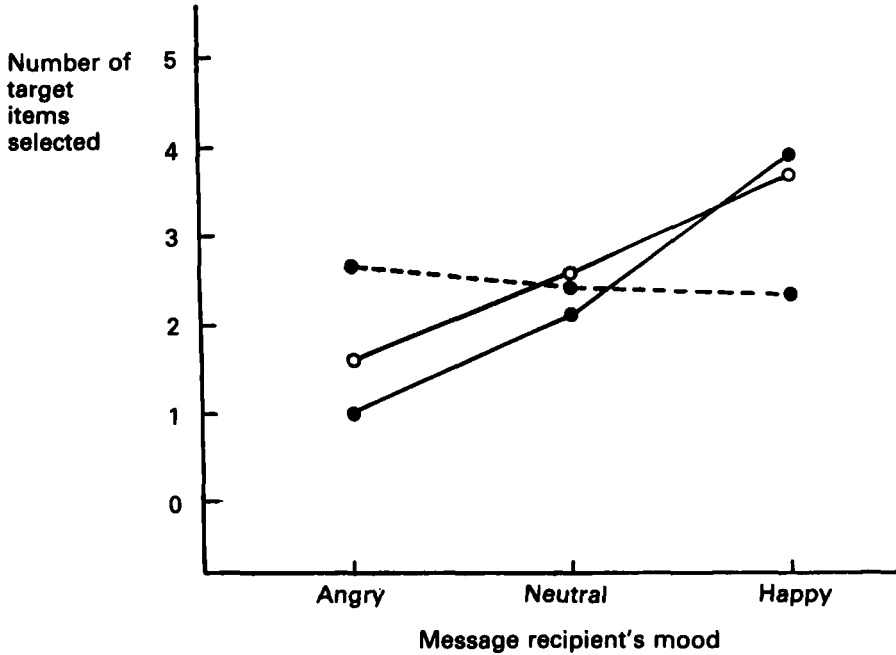


Figure 1. Mean number of target items selected as a function of message type and message recipient's mood. ●—●, high pressure; ○—○, low pressure; ●---●, no message (control).

neutral/no-message condition and scores in the angry/no-message condition were compared with scores in the neutral/no-message condition. As expected, neither comparison approached significance ($F = 0.07$, d.f. = 1, 80, n.s. and $F = 0.26$, d.f. = 1, 80, n.s., respectively).

To determine the effectiveness of messages in general (relative to no attempt at all) when message recipients were in positive, neutral or negative moods, scores in the happy/low pressure and happy/high pressure conditions were combined and compared with scores in the happy/no-message condition. Also, scores in the angry/low pressure and angry/high pressure conditions were combined and compared with scores in the angry/no-message condition. Both comparisons were significant ($F = 26.75$, d.f. = 1, 80, $P < 0.001$ and $F = 14.53$, d.f. = 1, 80, $P < 0.001$, respectively). This indicates that messages received when the recipients were happy were effective while messages received when the recipients were angry actually produced a 'boomerang' effect. In other words, subjects in the angry condition moved away from the advocated position. In addition, to examine the effectiveness of our messages in the absence of any mood, scores in the neutral/low pressure and neutral/high pressure conditions were combined and compared with scores in the neutral/no-message condition. This comparison did not approach significance ($F = 0.07$, d.f. = 1, 80, n.s.). Thus there is no evidence of an effect of the messages in the absence of manipulations of recipients' moods.

Finally, three planned comparisons were carried out to compare compliance in the high pressure v. low pressure conditions when subjects were in happy, neutral and angry moods. None yielded a significant effect. Thus, no support for our prediction of an interaction between mood and specific message type was obtained.

Discussion

The results clearly supported our first two hypotheses. More compliance took place among subjects in the happy mood condition than among subjects in the neutral mood condition. Less compliance took place among subjects in the angry mood condition than among subjects in the neutral mood condition. As argued earlier, these effects may be due to mood increasing the accessibility of mood-congruent thoughts about the communicator and/or about the message itself, they may be due to happiness resulting in a general response tendency to agree with others and anger resulting in a general response tendency to disagree with others, or they may be due to people using their mood as a piece of information about their own reaction to the communicator and her message.

In our introduction we pointed out that some literature suggests that, if the accessibility idea were correct, the effect might be greater for subjects in positive rather than negative states. In fact, the observed effects of positive and negative moods were symmetrical, a pattern which might be considered more consistent with one of our other interpretations. We hasten to point out, however, that because symmetry of effects is undoubtedly very dependent on the exact operationalizations of mood and because these operationalizations have varied widely across studies, no firm conclusions regarding underlying processes should be drawn from the present results. Identifying which of these processes actually underlies our observed effect will have to await further research. We would also note that the moods our stories generated may have had both cognitive and somatic components (see Rholes, Riskind & Lane, 1987, for a discussion of these components). At this point we cannot be sure whether our observed effects were generated by a cognitive component, by a somatic component or were due to the operation of both components.

Our results actually tell us more than simply that the more positive a message recipient's mood, the more compliance will take place. By comparing compliance in the mood conditions with compliance in the conditions in which no message was delivered, we can conclude that our manipulation of happiness not only increased compliance but was, in fact, necessary in the present study in order to get any compliance. In addition, our manipulation of anger not only decreased compliance, but, in fact, resulted in significant changes in the subjects' behaviour in a direction *opposite* to that advocated by the experimenter's message. We believe our results to be the first demonstration of a 'boomerang' effect of a negative mood on compliance. This effect might be due to subjects, regardless of message type, experiencing increased reactance (Brehm, 1966) as a result of their negative states. Alternatively, it may have been due to subjects simply being more prone to dislike the communicator or to evaluate the quality of her message negatively when angry, perhaps as a result of one of the processes discussed earlier in the paper.

While the effect of our anger manipulation was clear, we would like to add a note of caution to its interpretation. Even though the results of our manipulation check support our belief that our anger manipulation caused subjects to feel more angry, we cannot be sure that this manipulation did not also increase feelings of sadness. Consequently, while the observed 'boomerang' effect does appear to be due to the presence of a negative mood, probably anger, the possibility of sadness producing or contributing to the effect remains.

Moods, message type and compliance

The results do not offer much support for our predictions regarding how moods might interact with message type. In line with past studies, we had expected that when subjects were in no particular mood or in negative moods low pressure messages would be more effective than high pressure messages. This should occur, we thought, because low pressure messages should be less likely than orders to elicit reactance. We predicted this effect would disappear when subjects were in positive moods. While slight tendencies for that type of interaction did occur, the observed trends provide insufficient grounds for drawing any conclusions.

Given that we failed to produce a reactance effect even in the neutral mood conditions, it seems that our manipulation of message type was quite weak. Although we did model our high and low pressure techniques on successful manipulations used by Regan & Brehm (1972) and by Wicklund & Brehm (1968), perhaps our experimenter simply did not seem as threatening in the high pressure conditions as did the communicators in prior research. In any case, because we failed to find reactance effects in our neutral conditions, we are reluctant to abandon our hypotheses regarding how mood and message types (*if* they were to be effectively manipulated) might interact.

Possible boundary conditions

Possible boundary conditions for the observed effects of the happiness and anger manipulations on compliance ought to be mentioned. First, as pointed out above, the results from the neutral mood condition reveal that we used rather weak messages. In the absence of positive or negative recipient moods, neither the high nor the low pressure messages had an impact. It is possible that, when stronger messages are used, moods may not have the same effects as observed in the present study. Second, our subjects had very little besides their mood to go on in deciding whether to follow the advice of the communicator. The messages were very simple. No arguments were made about why the communicator thought the subjects ought to select the pens. Moreover, the pens and the pads had been explicitly selected to be as equal in attractiveness as possible. In situations in which subjects have more of a basis for making a decision the effects of temporary moods on compliance may be diminished. Third, the content of our messages (*i.e.* that subjects should choose the pens) was not positive or negative in itself. When the content of messages matches or mismatches the tone of message recipients' moods, other effects might be observed. For instance, Weiss & Fine (1956) found that when subjects were exposed to derogatory, insulting comments they showed an increased tendency to agree with an article advocating treating delinquents punitively (relative to a pre-test), while subjects exposed to complimentary ego-enhancing comments did not show this effect. On the other hand subjects exposed to the complimentary comments subsequently did show an increased tendency to agree with an article advocating leniency in evaluating the actions of US allies towards China (relative to a pre-test) while subjects exposed to the derogatory, insulting statements did not show such a tendency.

Finally, as noted previously we believe our subjects focused their attention on the communicator and her message. In situations in which subjects are self-focused, the effects of mood on compliance might be quite different. For example, when subjects are self-focused, positive moods might make them feel more confident in their own abilities

and perhaps more powerful (cf. Forest, Clark, Mills & Isen, 1979; Isen & Simmonds, 1978). Consequently, under such circumstances subjects in positive moods may be especially *unlikely* to comply with someone else's order or suggestion.

To summarize, the results clearly supported our hypotheses that our manipulation of happiness would enhance compliance and that our manipulation of anger would reduce compliance. We also demonstrated that recipients' happiness may actually be necessary for some messages aimed at eliciting compliance to be successful and that anger actually may cause subjects' views to move away from positions being advocated. Further work is necessary to elucidate the processes that underlie the observed effects as well as to identify boundary conditions for these effects.

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References

- Blaney, P. H. (1986). Affect and memory: A review. *Psychological Bulletin*, 99, 229–246.
- Brehm, J. W. (1966). *A Theory of Psychological Reactance*. New York: Academic Press.
- Brehm, S. S. & Brehm, J. W. (1981). *Psychological Reactance: A Theory of Freedom and Control*. New York: Academic Press.
- Clark, M. S. & Isen, A. M. (1982). Towards understanding the relationship between feeling states and social behavior. In A. Hastorf & A. M. Isen (Eds), *Cognitive Social Psychology*, pp. 73–108. New York: Elsevier/North-Holland.
- Clark, M. S. & Waddell, B. A. (1983). Effects of moods on thoughts about helping, attraction and information acquisition. *Social Psychology Quarterly*, 46, 31–35.
- Dribben, E. & Brabender, V. (1979). The effect of mood inducement upon audience receptiveness. *The Journal of Social Psychology*, 107, 135–136.
- Erber, R. (1985). Choosing among multiple categories: The effects of moods on category accessibility, inference and interpersonal affect. Unpublished dissertation, Carnegie-Mellon University.
- Forest, D., Clark, M. S., Mills, J. & Isen, A. M. (1979). Helping as a function of feeling state and nature of the helping behavior. *Motivation and Emotion*, 3, 161–169.
- Galizio, M. & Hendrick, C. (1972). Effect of musical accompaniment on attitude: The guitar as a prop for persuasion. *Journal of Applied Social Psychology*, 2, 350–359.
- Isen, A. M. (1985). Asymmetry of happiness and sadness in effects on memory in normal college students: Comments on Hasher, Rose, Zacks, Sanft and Doren. *Journal of Experimental Psychology: General*, 114, 388–391.
- Isen, A. M. (1984). Toward understanding the role of affect in cognition. In R. S. Wyer & T. K. Srull (Eds), *Handbook of Social Cognition*, vol. 3, pp. 179–236. Hillsdale, NJ: Erlbaum.
- Isen, A. M., Shalke, T., Clark, M. & Karp, L. (1978). Affect, accessibility of material in memory and behavior: A cognitive loop? *Journal of Personality and Social Psychology*, 36, 1–12.
- Isen, A. M. & Simmonds, S. F. (1978). The effect of feeling good on a helping task that is incompatible with good mood. *Social Psychology*, 41, 346–349.
- Janis, I. L., Kaye, D. & Kirschner, P. (1965). Facilitating effects of 'eating while reading' on responsiveness to persuasive communications. *Journal of Personality and Social Psychology*, 11, 181–186.
- Osterhouse, R. A. & Brock, T. C. (1970). Distraction increases yielding to propaganda by inhibiting counterarguing. *Journal of Personality and Social Psychology*, 15, 344–358.
- Razran, G. H. S. (1940). Conditioned response changes in rating and appraising sociopolitical slogans. *Psychological Bulletin*, 37, 481.

- Regan, J. W. & Brehm, J. W. (1972). Compliance in buying as a function of inducements that threaten freedom. In L. Bickman & T. Henchey (Eds), *Beyond the Laboratory: Field Research in Social Psychology*. New York: McGraw-Hill.
- Rholes, W. S., Riskind, J. H. & Lane, J. W. (1987). Emotional states and memory biases: Effects of cognitive priming and mood. *Journal of Personality and Social Psychology*, 52, 91-99.
- Schwarz, N. & Clore, G. L. (1983). Mood, misattribution, and judgments of well-being: Informative and directive functions of affective states. *Journal of Personality and Social Psychology*, 45, 513-523.
- Teasdale, J. D. (1983). Affect and accessibility. *Philosophical Transactions of the Royal Society of London, Series B*, 302, 403-412.
- Velten, E. (1968). A laboratory task for induction of mood states. *Behaviour Research and Therapy*, 6, 473-482.
- Weiss, W. & Fine, B. J. (1956). The effect of induced aggressiveness on opinion change. *Journal of Abnormal and Social Psychology*, 53, 109-114.
- Wicklund, R. A. & Brehm, J. W. (1968). Attitude change as a function of felt competence and threat to attitudinal freedom. *Journal of Experimental Social Psychology*, 4, 64-75.
- Worth, L. T. & Mackie, D. M. (1987). Cognitive mediation of positive affect in persuasion. *Social Cognition*, 5, 76-94.