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ABSTRACT

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The Effects of Laughter on Humor and Humor on Mood

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Paper presented at the Annual Meeting of the  
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## ABSTRACT

Two experiments were conducted examining the mood altering effects of humor and the moderating effect of laughter on both humor appreciation and mood. The mood of the subjects in the first experiment was manipulated to make them feel slightly elated or slightly depressed. They then listened to either comedy routines or an interview. The comedy lowered the levels depression significantly. In the second experiment, the mood of the subjects was not manipulated but the subjects who listened to the comedy were given instructions to laugh out loud or to suppress their laughter, or they were given no instructions at all. At the end of the experiment subjects who listened to comedy were significantly more elated, with the subjects in the "laugh" condition the most elated. Although instructions to laugh did not seem to add to the appreciation of the humor, suppression of laughter did result in a significantly lower humor rating.

## THE EFFECTS OF LAUGHTER ON HUMOR AND HUMOR ON MOOD

The use of humor to alleviate negative mood states is in many respects a cultural truism. Conventional wisdom, as well as our own experience, tells us that humor is associated with a state of elation. If that is so, then humor should be incompatible with depression. This thesis, that humor is able to reduce feelings of depression, has been advanced by many people; however, the opposite proposition, that a positive mood state must exist in order for humor to be perceived, has also been advanced.

For example, Freud (1960) stated, "A person who is dominated by a mood concerned with serious thoughts is not fitted to confirm the fact that a jest has succeeded..." (p.144). McComas (1923) built an entire theory around the necessity of being in a "light frame of mind" in order to experience humor. An early social psychologist, Emory Bogardus (1931), informed us that "if a person has worked long hours of tedious labor, if he suffered serious financial losses, if loved ones are dangerously ill, then it appears that the ordinary causes of laughter do not operate." He goes on to explain that "a vivacious person is more mirthful than a phlegmatic one. Mercurial persons laugh more than those in deep reflection" (p.70). More recently Daniel Berlyne (1972) has indicated that humor takes place within a context containing or preceded by discriminative cues which indicate that "what is happening, or is going to happen, should be taken as a joke." (p.56) In a clinical context Beck (1972) suggests that people

who are depressed exhibit a diminished response to humor. All of these propositions share the common assumption that we have to be in the proper "frame of mind" in order to appreciate humor. Other propositions have been advanced, however, which appear to be in direct contradiction to this assumption.

While many theorists advanced the idea that a person needs to be in a good mood in order to perceive and appreciate the humor in a situation, others postulated a different reason for the relationship. McDougall (1903, 1922) believed that laughter and a sense of humor were instincts that had survival value for the species. He saw humor evolving as an antidote for depression, a way of surviving the minor depressing and disagreeable events that may come our way. He believed that we actively seek out and welcome humor when we are depressed to protect us from the dangers of "excessive sympathy." He went so far as to say that "the perfectly happy man does not laugh, for he has no need for laughter" (1903, p.319). Although McDougall's approach may be a bit extreme, similar notions have been expressed by others.

Psychologist Harvey Mindess explains that one of the most important qualities of humor is "its ability to lift our spirits, to lighten our hearts, to inject vitality into a drab or gloomy mood" (Mindess & Mumford, 1980, p.313). Also Beck, in what appears to be a contradiction to his earlier suggestion that depressed persons have difficulty responding to humor, informs us that "humor often succeeds in distracting a patient from his feelings of sadness" (Beck, Rush, Shaw & Emery, 1979, p. 172.)

The common assumption being advanced here is that a positive "frame of mind" is not a necessary precursor to humor.

Furthermore, the assumption suggests that humor can actually serve as a catalyst toward a positive emotional state. While both of the preceding propositions relating mood to humor have been advanced in the literature, there is surprisingly little empirical support for either one.

Although the first proposition (that an elated mood is necessary for, or at least enhances, the experience of humor) may be interesting from a theoretical viewpoint; the second proposition affords us with more practical implications, the most direct of which concerns an ethical issue: the reversal of experimentally induced negative mood states. Frost and Green (1982) raise the issue of the need for effective debriefing in research which involves the induction of elated and depressed moods. Much of this type of research involves the use of the Velton Mood Induction Procedure (VMIP) (Velton, 1968) which consists of self-referant statements of either a positive (elated) or negative (depressed) nature. Frost and Green (1982) demonstrated that an experimentally induced depressed mood state was still evident following a 10-minute waiting period. That is, the negative state persists for some time after its induction. One of the questions addressed in the two present experiments concerns the effectiveness of humor in reducing these residual negative effects of the VMIP. If the previous assumptions are correct in the proposition that depression can be alleviated through the use of humor, then humor should prove to be an

effective tool in a debriefing process in mood induction experiments. An additional intention of the present experiments was to test the assumption that an elated mood would enhance the appreciation of humor, or, conversely, that a depressed mood would detract from humor appreciation.

Another purpose of the second experiment was to examine the impact of forced and suppressed laughter on both humor appreciation and mood. It was hypothesized that forced laughter would increase humor appreciation and laughter suppression would decrease humor appreciation. It was further hypothesized that forced laughter would enhance the effect of humor in alleviating mild states of depression.

### EXPERIMENT 1

#### Method

Twenty-eight students from an introductory psychology class at a small midwestern liberal arts college participated in the experiment for class credit. The subjects were seated individually in experimental cubicles. The Velten Mood Induction Procedure (VMIP) (Velten, 1968) was used to place the participants into either a mildly elated or mildly depressed mood. The subjects were asked to read aloud the VMIP statements, which were projected onto the wall of the cubicle. The statements were changed at 15-second intervals and became progressively more positive or more negative. The Personal Feeling Scale (PFS) (Frost, Graf, & Becker, 1979) was then administered as a manipulation check. The participants then listened to an audio tape of material that had been previously pre-tested for interest

and/or humor which consisted of either an interesting, but non-humorous, interview with Russel Baker or a series of four comedy routines by Bill Cosby, George Carlin, and Steve Martin. Each tape lasted approximately 11 minutes. The subjects in the humor condition rated each of the comedy routines on a seven-point humor scale. The subjects in the control condition used a similarly constructed interest scale to rate the interview. When the tape ended, the subjects filled out the "today" form of the Multiple Adjective Affect Checklist (MAACL) (Zukerman & Lubin, 1965).

After the subjects completed the MAACL, they were asked a number of questions regarding their present and prior moods to insure that no residual negative affect persisted. The purpose of the experiment was then explained.

### Results

The basic design lends itself to a 2(mood) X 2(Humor vs. Interview) ANOVA. Analysis of the scores on the Personal Feeling Scale (PFS) which were gathered immediately after administration of the VMIP indicated that the manipulation was successful. The elated subjects had a mean PFS score of 2.67 compared to a mean score of 7.01 for the depressed subjects [ $F(1,24) = 166.54$ ,  $p < .001$ ]. Analysis of the scores on the depression scale of the MAACL which were gathered at the end of the session indicated the presence of a main effect for both the induced mood [ $F(1,24) = 13.05$ ,  $p < .001$ ] and the humor/interview condition [ $F(1,24) = 15.09$ ,  $p < .001$ ]. A comparison of the mood conditions using the Tukey Test indicated that the depression induction subjects ( $M =$

19.5) reported significantly ( $p < .01$ ) more depressed mood than the elation induction subjects ( $M = 11.9$ ). Thus, it appears that the residual effects of the mood induction remained even after being exposed to 11 minutes of non-depressing material.

A comparison of the humor/interview conditions indicated that the subjects who listened to the comedy ( $M = 11.6$ ) reported significantly ( $p < .01$ ) less of a depressed mood than did the subjects who listened to the interview ( $M = 19.8$ ). The biggest impact appears to have been with the depression induction subjects as is indicated in Table 1. A comparison of group means

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 Insert Table 1 about here  
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using Tukey's Test revealed that the depression induction subjects who listened to the interview reported significantly more depression than did either the depression induction subjects who listened to comedy or the elation induction who listened to the interview or the comedy ( $p < .01$ ). Thus, it appears that listening to comedy routines is an effective mechanism for the reduction of experimentally induced depression.

Analysis of the humor ratings indicated that there was no difference between elated and depressed subjects in their reported degree of humor appreciation, suggesting that mild states of elation or depression do not impact on humor appreciation.

### Discussion

The indication that a difference in reported mood

between depression induction subjects and elation induction subjects persisted even after being exposed to 11 minutes of non-depressing material lends support to the Frost and Green (1982) argument that investigators using the VMIP should be wary of residual negative moods that may last beyond the duration of the experiment and should take steps to to remove those negative effects. The results indicating that subjects who listened to comedy material reported lower feelings of depression than those who listened to non-humorous material, especially those who were in the induced negative state, supports the use of comedy as an effective strategy for removing the negative effects of the VMIP that otherwise would have persisted.

The present results indicate that there were no apparent differences in reported humor appreciation between depression induction subjects and elation induction subjects. Thus, the hypothesis that prior mood would affect the appreciation of humor was not supported. Although this finding is contrary to intuitive feelings as well as the theoretical formulations of Freud (1960), Bogardus (1931), Beck (1972) and others mentioned previously, it does not appear to be an isolated incident. Recent research by Cetola (1980) and Scogin and Merbaum (1983) which directly tested the hypothesis that a depressed mood would detract from humor appreciation also failed to find support for the contention.

## EXPERIMENT 2

Because many people (including a number of the subjects in the first experiment) respond to humor with laughter, a second experiment was designed to investigate the effect of forced and suppressed laughter on both humor appreciation and mood. Past research on the impact of laughter on humor appreciation has yielded mixed results (e.g., Young & Frye, 1966; Leventhal & Mace, 1970). However, since the subjects in those studies participated in groups, the laughter may have been a response to the social situation rather than to the humor. In this experiment subjects participated individually.

Also, we were interested in whether forced or suppressed laughter would enhance or diminish, respectively, the depression reduction properties of humor demonstrated in Experiment 1. Additionally, we were interested in the effect of humor on naturally occurring, rather than artificially induced moods.

### Method

Eighty students from an introductory psychology class at a small midwestern liberal arts college participated in the experiment for class credit. Each participant's mood was measured twice: once using the PFS immediately upon entering the room, and once again using the "today" form of the MAACL at the end of the session. Two separate checklists were used to avoid any retest effect. The correlation between the PFS and the MAACL yields a Cronbach alpha of 0.97 (R. O. Frost, personal communication, March, 1982.)

The subjects were randomly assigned to listen to a

non-comedy control tape or to a comedy tape, both of which were used in Experiment 1. The subjects who listened to the comedy tape were assigned to one of three groups: (1) instructed to laugh out loud at the comedy, (2) instructed to suppress their laughter, or (3) not given any instructions. The subjects, who were seated alone in the room, were given instructions pertinent to the condition to which they were assigned. The experimenter started the tape then left the room. The subjects rated the tapes for humor or interest using a seven-point scale. When the tape ended, the MAACL was administered. The experimenter then asked the subjects several questions regarding their present and prior moods and then explained the experiment.

### Results

Based on the score on the PFS, the subjects in the three humor conditions were divided into three groups, elated ( $M = 2.5$ ), neutral ( $M = 3.8$ ) and mildly depressed ( $M = 5.2$ ). Reported humor ratings for the first comedy routine were analyzed using a 3 (prior mood) X 3 (laugh instructions) ANOVA which yielded a significant main effect for laughter instruction [ $F(2, 51) = 5.22, p < .01$ ]. Subjects in the laughter suppression condition rated the comedy to be less humorous ( $M = 3.75$ ) than did either the forced laughter condition subjects ( $M = 4.80$ ) or the subjects who were given no instructions ( $M = 4.80$ ). No significant effect for prior mood was obtained, nor was there a significant interaction.

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 Insert Table 2 about here  
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For the analysis of the reported mood of the subjects based on the depression scale of the MAACL, the results from the subjects who listened to the interview were added to the design resulting in a 3 (prior mood) X 4 (laughter instructions / interview) ANOVA. A significant main effect for both prior mood [ $F(2, 68) = 11.39, p < .001$ ] and laughter instruction/interview [ $F(3, 68) = 5.93, p < .001$ ]. Again, no interaction was found. As expected, the original mood of the subjects persisted throughout the course of the experiment yielding mean MAACL scores of 8.7 for the elated group, 11.4 for the neutral group and 15.2 for the mildly depressed group. Comparisons of the groups using the Tukey Test indicated that the subjects in the mildly depressed conditioned exhibited higher post-experiment depression scores than subjects in either of the other two conditions ( $p < .05$ ). The elated and neutral did not differ significantly.

Examination of the impact of laughter instructions indicates that forced laughter resulted in a mean reported depression score of 8.2 compared to 12.2 for suppressed laughter, 12.3 for no instructions, and 14.9 for the interview group. A comparison of means using the Tukey Test revealed that the forced laughter condition differed significantly ( $p < .05$ ) from the other comedy groups and the interview group. No significant differences existed, however, between the other two comedy conditions and the interview condition.

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 Insert Table 3 about here  
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## Discussion

The lack of a difference between the interview condition and the no instruction comedy condition may be due to the differential effect of comedy on depressed vs. elated subjects. In Experiment 1 the "depressed" subjects began the experiment with a mean PFS score of 7.0 on a ten-point scale. In Experiment 2 the "mildly depressed" subjects had a mean PFS score of 5.2, indicating that the subjects were not really feeling in a depressed mood. This difference may indicate that humor may be able to reduce feelings of depression, but not add significantly to feelings of elation. However, although humor itself does not appear to increase feelings of elation, laughter does seem to add to those feelings.

Subjects who were instructed to laugh out loud, reported feeling more elated at the end of the session than did the subjects in the other humor conditions or the interview condition, but they did not rate the comedy routines as being any funnier than did the subjects who were given no instructions. However, those subjects who consciously suppressed their laughter did rate the humor as being less funny, perhaps because not laughing in the presence of humor is contrary to common experience. By actively suppressing laughter, the subjects may have removed an element from the total humor experience. Then, when asked to rate the humorous material, they may have actually rated the total humor experience rather than just the material. Part of that experience was missing, hence a lower humor rating.

Although instructions to suppress laughter seemed to reduce

humor appreciation, they did not lower the resultant mood of the subjects. However, forced laughter seemed to have an additive effect on feelings of elation. The difference may lie in the manner in which people process information when asked to rate their feelings as compared to the manner in which they rate behavioral situations.

Considering the results of the two reported experiments taken together, it appears that humor would be a good mechanism to use in the reduction of experimentally induced feelings of depression. The addition of instructions to laugh out loud may add to that effect resulting in a more efficient debriefing process. Future research may reveal why laughter suppression seems to affect humor appreciation but not mood, and why forced laughter affects mood and not humor appreciation.

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TABLE 1  
 FINAL MOOD CHECK (MAACL)  
 BY MOOD AND LAUGHTER CONDITION

	MOOD		
	ELATED	DEPRESSED	
COMEDY	9.6	13.7	11.6
INTERVIEW	14.3	25.3	19.8
	11.9	19.5	

TABLE 2  
HUMOR RATINGS OF FIRST JOKE  
BY LAUGHTER CONDITION

AVERAGE  
HUMOR RATING

FORCED LAUGHTER	4.80
NO INSTRUCTIONS	4.80
LAUGHTER SUPPRESSION	3.75

TABLE 3  
FINAL MOOD CHECK (MAACL)  
BY LAUGHTER/INTERVIEW CONDITION

AVERAGE  
MAACL SCORE

FORCED LAUGHTER	8.2
NO INSTRUCTIONS	12.3
LAUGHTER SUPPRESSION	12.2
INTERVIEW	14.9