Social Comparison Theory and the Role of Informational and Normative Social Influences on Humor Responses

An Honors Thesis (HONRS 499)

by

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Running Head: SOCIAL COMPARISON THEORY IN HUMOR RESPONSES
Abstract

The effects on mirth responses (i.e. laughter, smiling) to and subjective ratings of humorous cartoons for female subjects in the presence of a silent or laughing confederate were investigated in terms of Social Comparison Theory (Festinger, 1954) versus an Information-processing explanation (Leventhal & Cupchik, 1976). Thirty-nine female undergraduate students were given false-feedback about their ability to judge cartoon quality and presented with either a laughing or silent confederate. The false-feedback was used to determine the effect of a companion's responsiveness relative to the individual's own level of confidence in ability to judge cartoon quality. Mirth responses and subjective ratings significantly increased in the presence of a laughing versus silent confederate, while only subjective ratings differed significantly as a function of level of confidence. Low-confidence subjects utilized the information provided by the confederate's laughter more as a source of information than did high-confidence subjects as subjective ratings were highest for low-confidence subjects. The confidence effect for subjective ratings and a lack of significant differences in mirth responses across confidence conditions was cited as support for a social comparison explanation. Implications for previous findings and future research were discussed.
While the old adage "If it ain't broke, don't fix it" typically applies best to machinery and its operation, many of the early theoretical studies in psychology continue to provide the best explanation for today's research phenomena. Although many of these original theories have undergone changes, revisions, and extensions, their basic original tenets often provide the conceptual framework in explaining current results. This research will attempt to take the basic foundations of Festinger's Social Comparison Theory (1954) with the distinctions of normative and informational sources of influence suggested by Deutsch and Gerard (1955) to explain the role of situational and individual factors in humor research.

Typical humor studies have consistently reported that mirth responses (smiling, laughter) to humorous materials are increased in the presence of a laughing confederate (Chapman, 1973, 1974; Gadfield, 1976; Osborne & Chapman, 1977; Young & Frye, 1966) relative to alone or unresponsive confederate conditions, and also when canned laughter is added to the humorous stimuli (Fuller, 1977; Nosanchuk & Lightstone, 1974; Smyth & Fuller, 1972). The relationship of this increased overt responsiveness and subsequent subjective ratings have been more equivocal. Several studies have reported rating increases in the presence of a laughing confederate (Chapman & Chapman, 1974; Chapman & Wright, 1976, Exp. 2; Rosenfeld, Giacalone, &
Tedeschi, 1983; Young & Frye, 1966), but only in a small room as opposed to a large room (Freeman & Perlman, 1976). Other studies have failed to find any significant increase in ratings when subjects were shown a laughing "model" prior to the humorous material (Brown, Brown, & Ramos, 1981), or when a confederate's laughter was matched to that of the subject (Osborne & Chapman, 1977). Studies employing canned laughter with the humor stimuli have reported increases in ratings in some studies (Fuller & Sheehy-Skeffington, 1974; Smyth & Fuller, 1974), whereas other studies have reported increases only in female subjects (Leventhal & Cupchik, 1974), or failed to find any increase in ratings for either sex (Donoghue, McCarrey, & Clement, 1983; Nosanchuk & Lightstone, 1974). While various explanations have been posited for these inconsistencies, each has failed to account for all the variance in the findings.

An information-processing model developed by Leventhal and Cupchik (1976) suggests that the confederate's laughter provides information about the quality of the humorous material, and a male subject will utilize this information in making a subjective rating, whereas female subjects incorporate their own increased overt responses and subjective feelings to form an evaluation. Although this model has successfully accounted for many of the previous inconsistent findings for mirth responses and subjective evaluations, the proposed gender difference in processing has not consistently been shown in other studies. Previous research by
these same authors has failed to produce an overall sex difference in rating changes, mirth, or liking of cartoons (Leventhal & Cupchik, 1975), although sex differences were reported in some conditions and were cited as support for the differential processing hypotheses for males and females. This current study suggests that the lack of consistent overall sex differences in this and other research (Freedman & Perlick, 1978, Gadfield, 1977) may hint suggest that the processing strategies are not different, but the normative and informational social influence value of canned laughter differs for each sex. The complex and sometimes unreliable effects of canned laughter have also been suggested by other humor researchers (Donoghue, McCarrey, & Clement, 1983; Fuller, 1977)

Social Comparison Theory (Festinger, 1954), while enjoying a revitalization in research interest (Goethals, 1986), has rarely been cited in studies on social influences of humor. Rosenfeld, Giacalone, and Tedeschi (1983) cite social comparison as a tenable explanation for the increased subjective ratings in the presence of a laughing confederate by suggesting that subjects inferred their own attitudes toward the cartoons by observing the reactions of the confederate, but then suggest a weakening of social comparison theory because of a lack of decrease in ratings in unresponsive-confederate groups. This current study suggests that defining the constructs of mirth (laughter, smiling, etc.) and
subjective evaluations of humorous material in terms of normative and informational sources of influence (Deutsch & Gerard, 1955), along with defining the individual and situational factors that increase subjects to seek social comparison information (Festinger, 1954) will provide a better framework for understanding previous humor research. Future uses of the coaction paradigm utilized in humor research to the study of private and public conformity will also be discussed.

Social comparison theory (Festinger, 1954) basically posits that in the absence of objective criteria to evaluate our opinions and abilities, there is a drive to seek information from comparison to others. Deutsch and Gerard (1955) defined normative social influence as "influence to conform to the positive expectations of others", and informational social influence as "an influence to accept information obtained from another as evidence about reality". The subjective ratings utilized in humor studies are suggested as representing the individuals cognitive appraisal of the stimulus (Levanthal & Cupchik, 1974), and are considered attitudinal in nature, while overt mirth responses are suggested as social tools that serve impression management functions (Rosenfeld et. al., 1983), and are phenomenologically different to "humorous laughter" as described by Giles and Oxford (1970). Although these distinction do not differ markedly from those suggested by Leventhal and his
associates, the rooting of these definitions to social comparison theory will help to explain the process by which a confederate's laughter is utilized by the subject.

Research evidence (Schachter & Singer, 1962; Schachter & Wheeler, 1962) has shown that overt responses involved in emotion are readily influenced by situational variables and influences (normative influence), while attitudinal or cognitive responses (i.e. subjective ratings) are more closely tied to past experience with the stimulus object or similar objects (Levanthal & Cupchik, 1974). Deutsch and Gerard (1955) assert a similar argument in presenting evidence that overt responses are more susceptible to normative influence, while attitudinal measures are influenced more by informational social influence.

The framework of social comparison theory (Festinger, 1955), when combined with the normative and informational distinctions in humor research suggests that a subject's overt responses are increased from the normative influence of a laughing confederate (or canned laughter), and this laughter then provides information as to the confederate's (or canned laughter audience's) perception of the humor quality of the material. Previous research in group polarization (for review see Isenberg, 1986) has suggested that individuals are constantly processing information about how others are presenting themselves, and adjusting our behaviors and opinions accordingly. It is suggested that there exists a tendency
to present ourselves and our opinions in a more favorable light than another. This logic would suggest that a subject increases his humor rating based on the perceived rating of the confederate as evidence by his responsiveness. Previous inconsistencies in rating increases could be explained as failures to provide sufficient informational social influence, and the sex differences Leventhal and Cupchik (1975) report may reflect the perceived informational value of canned laughter for male subjects. It is concluded in this study that any manipulation that increases either the drive to socially compare, or the perceived accuracy of the informational influence will increase subjective ratings for female subjects in the presence of a laughing confederate. Social comparison theory would predict that female subjects are equally as likely to compare information provided by a confederate's laughter (as opposed to their own overt responses) and utilize this information in making a subjective rating. This proposed lack of sex difference in utilizing a companion laughter is in direct contrast to the Information-processing model.

Deutsch & Gerard (1955, Hyp. VI) posit that the more uncertain an individual is about one's correctness of judgement, the more susceptible he or she will be to social influences. It is reasonable to suggest that judging the quality of humorous materials often has a quality of uncertainty by it's subjective nature. Any manipulation of a subject's perceived level of ability to judge cartoon quality will then increase both the drive to compare and
the perceived accuracy of the confederate's laughter as providing valid information as to the quality of the cartoon. Thus, it is predicted subjects who perceive they are lower in ability to judge cartoon quality will utilize the information of a confederate's laughter more, and ratings of cartoon quality will be highest for subjects low in confidence in the presence on a laughing confederate. The level of confidence for each subject was manipulated by administering a ficticious "sense-of-humor" scale and then providing the subject with false-feedback about her ability to judge cartoon quality.

The information-processing model would predict that subjective ratings for female subjects would increase in low-confidence conditions only to the extent that overt responsiveness of the subject increased. As no evidence exists to suggest that confidence in one's ability to judge cartoon quality will mediate overt responses, and previous research has shown overt expressiveness and ratings are often only moderately linked for female subjects (Freedman & Perlick, 1979), the current social comparison model would predict no significant difference in mirth responses as a function of confidence in ability. If no significant differences in overt responses occur for female subjects, but subjective ratings are increased in lower confidence conditions, it is suggested this current explanation will show that female subjects utilize the information provided
by the confederate in the same way as male subjects. This critical measure will provide an appropriate test of a social comparison explanation and the information-processing model in explaining previous humor research.

Other general predictions include that a laughing confederate will augment overall overt responses and private ratings, and silent confederates will suppress laughter and ratings. Previous research by the authors (Deckers and Morris, unpublished) has shown a "basement" effect for subjective ratings with silent confederates compared to control subjects, thus no confidence effect on ratings in the silent confederate condition is expected to reach significance.

Method

Subjects and Design

Thirty-nine female introductory psychology students at Ball State University participated in the study to fulfill a class requirement. Subjects were randomly placed in 2x2 between-subjects design with Laughing or Silent confederate as one factor, and High or Low Confidence as the second factor.

Measurement of Mirth

Facial responses were rated by video tape by two independent judges blind to the experimental condition. The ratings by these judges were averaged for the final mirth scores. The video tapes contained only the subject as the confederate was not filmed.
Score were rated on a 4-point scale: 0= no visible reaction, 1= partial smile, no teeth visible, 2= moderate smile, teeth visible, slight chuckle, 3= full smile, mouth clearly open, laughter.

Confidence Manipulation

A fictitious 25 question "Crowne Sense of Humor" scale was developed utilizing seven questions from Snyder's (1974) Self-monitoring scale, six questions from Fenigstein, Scheier, and Buss's (1975) Self-consciousness scale, and seven questions from the Marlowe-Crowne Social Desirability scale (Crowne & Marlowe, 1960). The final five questions were created by the authors. A final score sheet given to subjects was designed to show five components of humor and a combined score. Questions were chosen from actual measuring instruments, and the score sheet designed with five factors and a combined total to increase the face validity of the measure to the subjects.

Subject's in the high-confidence condition were given a score sheet showing a total score of 86.9%, with a comment noting "above average"; low-confidence subjects received a score of 38.9%, and the comment of "slightly below average". Care was taken to ensure the subject and confederate were unable to see each other's scores.

Cartoons

Twelve cartoon slides (6 Far Side, 4 Hermann, 2 Dennis the Menace) were selected prior to the study from a sample of 144
slides by 12 freshman (6 male and 6 female) students in a Ball State University dormitory. The cartoons used were those selected as extremely funny by at least 10 of the 12 judges. Freshman were used in the rating procedure because of the expected experimental population. One cartoon slide served as a test slide in all conditions, while the order of the other cartoons was varied in four sets across all conditions to avoid any possible order effects.

Self-report Questionnaire

A five question self-report measure was used after the cartoon slides using a 10-point scale (0-9) to measure a subject's perception of: 1) How the other subject's responsiveness effected your ratings (not all -- very much), 2) How confident were you in ability to judge cartoon quality (not at all -- very confident), 3) How you think other subject's rated the cartoons relative to you (much less funny-- much more funny), 4) How accurate you felt the sense-of-humor scale was (not at all accurate-- very accurate), 5) How much you liked the other subject (not at all liked-- liked very much).

Procedure

Subject's and the confederate were greeted in the hallway, and invited into a 7 X 12 room with a two-way mirror in the front of the room. The two-way mirror was only partially visible as the projection screen in the front of the room covered all but approximately 4 in. along the bottom of the screen. Two student
desks were placed side-by-side with the subject always asked to sit in the chair closet to the door. A third desk was placed behind the center of the two subject chairs with a slide projector facing toward the front screen. A "Crowne Sense-of Humor" scale, a 10-point (0-9) computer data sheet, and an informed consent form were on each subject's desktop.

After reading and signing the consent forms, subjects were asked to fill out the sense-of-humor scale. Upon completion, the experimenter collected the scales presumably to score them. The experimenter asked the subjects to listen to the instructions until he could finish scoring the scales and the instructional tape was then played through two front speakers in the room. The tape stated the present research was to determine the role of expressiveness in individuals both skilled and unskilled in judging cartoon quality, and subjects were asked to rate the cartoons for humorous content for future use in other studies. A scoring variation was also explained that allowed subject's to fill in the circle that best represents the humorous content level, and an "X" on any other rating that reflected a possible score for cartoons which did not fit best in a specific scale value.¹

Following the instructional tape the experimenter returned with the humor scale results sheets and asked if there were any

¹ This variation failed as only two subjects utilized this scoring variation. We had suspected that in low-confidence conditions subjects would be aware of their search for information, and could report less certainty in decisions through this variation.
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questions concerning the study or the scoring system. A test cartoon was then displayed to ensure the scoring instructions were clear, and the experimenter asked the confederate if he would advance the slide after each cartoon had been viewed before leaving the room. The experimenter returned to the adjacent observation room and started the videotape.

Upon completion of the last cartoon, the experimenter returned and collected the computer data sheets, and asked the subject and confederate to fill out the self-report questionnaire. Following completion of the questionnaire, subjects were debriefed on the lack of validity in the sense-of-humor scale and questioned for any correct suspicions about the study.

Results

Overt responses and humor ratings

A two-way analysis of variance showed that a laughing confederate significantly increased overt responses as compared to a silent confederate (F(1,35) = 47.39, p < .001), but the level of confidence failed to effect the subject's overt behavior (F(1,35) = .22, n.s.). A t-test between means (see Table 1) revealed no significant differences in overt responses between low or high levels of confidence for subjects with a laughing confederate.

2 Confederate's were trained to begin laughter only after they had actually read the cartoon and understood it's meaning, and the rating was to occur after approximately three seconds of laughter or silence depending on condition. The total duration from viewing to rating was approximately nine seconds. Confederate were informed prior to the arrival of the subject as to the condition that would be utilized.
(t=.44, 18df, n.s.). This finding is consistent with predictions of the social comparison model proposed in this study.

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Insert Table 1 about here

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The main effect for laughing versus silent confederate condition was also significant for subjective ratings (F (1,35) = 39.85, p<.001), but once again not for the confidence manipulation (F (1,35)=.05, n.s). The interaction (see figure 1) of a laughing/silent confederate and level of confidence did reach a moderate level of significance (F (1,35) = 3.687, p=.068). A t-test indicated that as predicted a laughing confederate increased humor ratings significantly more for low-confidence subjects than for high-confidence subjects at a level that approached significance (t= 1.70, df=18,p=.106), while a silent confederate actually suppressed humor ratings in low-confidence subjects as compared to high-confidence subjects, although not significantly (t= 1.11, 17 df, p=.282). This suppression of ratings, while not predicted, did suggest a silent confederate provided additional information about cartoon quality by his lack of mirth responses, and this information was utilized more by subjects who were less confident in judging a cartoon's quality (see Figure 1).

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Insert Figure 1 about here

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Self-report measures

Two-way analysis of variance was also computed on the self-report questionnaire responses and the significant findings are reported. Perceived accuracy in the sense-of-humor scale was significantly higher for subjects with a laughing confederate ($F(1,35) = 13.36, p<.001$), and a main effect for level of confidence in ability ($F(1,35) = 5.853, p<.02$). However, the meaningful result was the moderately significant interaction of confederate response and level of confidence ($F(1,35) = 2.573, p<.097$) as only the low-confidence/silent confederate conditions differed significantly ($t=3.64, p<.05$) from the others. Although perceived accuracy in the sense-of-humor scale differed across conditions, reported individual confidence in ability to judge cartoon quality produced no main effects for either condition, but the interaction approached significance ($F(1,35) = 7.434, p=.087$). Subjects in low-confidence/silent confederate conditions reported greater confidence in ability than either high-confidence/silent confederate or low-confidence/laughing confederate conditions, although not significantly. The results from the accuracy and confidence responses suggest that subjects told they are below average in ability with a silent confederate attended less to the confidence manipulation.

A main effect for confederate responsiveness on "perceived other subject's ratings" was significant ($F(1,35) = 9.80, p=.004$)
as subject's perceived a laughing confederate rated the cartoon as funnier than did the subject. Neither the confidence manipulation nor the interaction was significant. This finding reinforces the belief that a confederate's behavior provides informational social influence about the quality of the cartoon.

The perceived effect of the "other subject's responses" also produced main effect for confederate responsiveness ($F (1,35) = 13.867, p < .001$), but no significant interaction or confidence effect was found. A similar effect was found for confederate likability as laughing condeferates were liked more than silent confederates at a level approaching significance ($F (1,35) = 3.315, p = .08$), whereas confidence level nor the interaction were significant. It seems that subjects are aware that they are being affected by the confederate's laughter and enjoy a laughing confederate more than an unresponsive companion.

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Insert Table 2 about here

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Discussion

The results of this study follow the general findings of previous humor research that a laughing confederate will increase a subject's overt responsiveness. Support for the social comparison prediction that a female subject will utilize social comparison information in a similar fashion to male subjects was
found as ratings were increased in the presence of laughing confederate, and that scores were highest when subjects were less confident in their own ability to accurately evaluate the cartoon quality. No significant differences were found in the overt responses as a function of confidence, suggesting that female subjects use a confederate's laughter as a source of information in forming a rating as opposed to their own expressiveness as suggested by Cupchik and Leventhal (1974). The findings support the assertion that the previous sex differences reported by Cupchik and Leventhal (1974) may have been mediated by the perceived informational value of canned laughter for male subjects or the strength of the canned laughter audience as a social comparison target.

The findings that a laughing confederate is perceived as rating the cartoons as funnier also supports the position that a laughing confederate provides comparison information about the quality of the cartoon. In the absence of objective means to evaluate the stimulus, such as in rating cartoon slides, female subjects seek social comparison information from the behavior of a confederate more than from their own behaviors. The findings that a laughing confederate is liked more and has a greater effect on a subject are also consistent with social comparison theory.

Nosanchuk and Lightstone (1974) have argued that humor research paradigms provide a more appropriate paradigm to test
real-world social influences on behavior than Asch (1958) type studies because humor studies are typically in a less intrusive manner, and provide a test of both public and private conformity through ratings of mirth (laughter and smiling) and subjective evaluations of funniness respectively. A recent study (Porterfield, Mayer, Dougherty, Kredich, Kronberg, Marsee, & Okazaki, 1988) reported differences in informational influence of canned laughter as a function of private self-consciousness, while I question the use of canned laughter, these results reinforce the assumption that humor research paradigms can effectively be used in studying personality variables that affect public and private conformity. Future humor research with other personality constructs such as Snyder's self-monitoring (1974), Rotter's locus of control (1967), or similar individual differences could ultimately help explain how our own behaviors and social comparison to the behavior of others influence our attitudes and opinions.
References


expressions on responses to humorous stimuli. Unpublished manuscript.


Table 1

Mean Scores of Funniness Ratings and Overt Responses as a Function of Level of Confidence and Confederate Responsiveness

<table>
<thead>
<tr>
<th>Condition</th>
<th>High Confidence</th>
<th>Low Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Funniness Ratings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confederate Laughs</td>
<td>74.36</td>
<td>82.22</td>
</tr>
<tr>
<td>Confederate Silent</td>
<td>57.00</td>
<td>50.11</td>
</tr>
<tr>
<td>Mean Overt Responses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confederate Laughs</td>
<td>1.81</td>
<td>1.88</td>
</tr>
<tr>
<td>Confederate Silent</td>
<td>.80</td>
<td>.87</td>
</tr>
</tbody>
</table>
Figure Caption

Figure 1. Mean funniness ratings as a function of condition.
Table 2
Means of Self-report Measures as a Function of Experimental Condition

<table>
<thead>
<tr>
<th>Measure</th>
<th>Hi Confidence / Laughing Conf.</th>
<th>Low Confidence / Laughing Conf.</th>
<th>Hi Confidence / Silent Conf.</th>
<th>Low Confidence / Silent Conf.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Accuracy</td>
<td>7.00</td>
<td>6.56</td>
<td>5.90</td>
<td>3.78</td>
</tr>
<tr>
<td>Judging Confidence</td>
<td>7.36</td>
<td>6.33</td>
<td>6.50</td>
<td>7.22</td>
</tr>
<tr>
<td>Confederate Rating</td>
<td>5.80</td>
<td>6.44</td>
<td>4.40</td>
<td>4.00</td>
</tr>
<tr>
<td>Confederate Effect</td>
<td>3.36</td>
<td>2.55</td>
<td>1.50</td>
<td>.444</td>
</tr>
<tr>
<td>Confederate Liking</td>
<td>6.72</td>
<td>5.88</td>
<td>4.90</td>
<td>5.44</td>
</tr>
</tbody>
</table>