“It’s not funny if *they’re* laughing”: Self-categorization, social influence, and responses to canned laughter[☆]

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Abstract

Pre-recorded, or “canned” laughter is often used to encourage audience laughter. Previous research suggests that hearing others laugh can influence an audience, although several variables moderate its effects. We examined an unexplored moderator, hypothesizing that canned laughter would influence listeners only if they believed the laughter came from fellow in-group members. We manipulated the presence or absence of canned laughter in a potentially humorous recording and participants’ beliefs about the in-group or out-group composition of the laughing audience. The results confirmed our hypothesis: participants laughed and smiled more, laughed longer, and rated humorous material more favorably when they heard in-group laughter rather than out-group laughter or no laughter at all.

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Introduction

Both laughter and smiling have long been known to be socially mediated, at least in part (e.g., Freud, 1905/1960; Fugel, 1954; Giles & Oxford, 1970; Hayworth, 1928). We laugh and smile when we hear others doing so (Provine, 1992), particularly friends (Smoski & Bachowski, 2003), and we smile more if we think that we and our friends are watching the same humorous material rather than different material (Fridlund, 1991). This

social mediation of laughter is the basis for influence attempts involving pre-recorded, or “canned” laughter (Cialdini, 1993; Fuller, 1977). Through the use of canned laughter, influencing agents attempt to capitalize on the social nature of laughter to produce audience laughter. In Cialdini’s terms, the laughter of others offers “social proof” (e.g., p. 94) that potentially humorous material is funny. According to Cialdini, people laugh in response to canned laughter because of automatic, non-thinking conformity—simply hearing others laugh leads us to laugh as well. Provine (1996) suggests that laughing in response to others’ laughter may have a biological basis, again suggesting its automatic nature.

Although research broadly supports the effectiveness of canned laughter, the consistency of its effects and reasons why it works remain unclear, if only because several variables can moderate the relationship between canned and audience laughter. For example, once canned laughter is recognized as artificial (so that it no longer offers

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real social proof), its effects on audiences are weakened (Lawson, Downing, & Cetola, 1998). In this paper, we consider one moderating variable that has not yet been studied, namely the in-group vs. out-group status of the laughing others. Given self-categorization theory's analysis of social influence (Turner, 1987, 1991; Turner & Oakes, 1989), we suggest that an out-group's laughter offers no social proof of funniness at all, and thus should have no effect on audience laughter (and other humor responses).

The effects of laughter by others

Most research on how the laughter of others affects people's own laughter (and other humor-responses) has used broadly similar methods. Participants are presented with a potentially humorous stimulus in the presence or absence of others' laughter. In most studies, the stimulus is an audiotope recording and the laughter is pre-recorded. Using these methods, some researchers have found higher levels of both overt laughter and humor ratings of the stimulus in response to laughter by others (Fuller & Sheehy-Skeffington, 1974; Martin & Gray, 1996; Smyth & Fuller, 1972); some researchers have found higher levels of overt laughter, but no differences in humor ratings (Chapman, 1973; Pistole & Shor, 1979); and at least one researcher has found higher humor ratings, but no overt laughter effect (Porterfield et al., 1988).¹ In two studies, the laughter of live confederates was used (Chapman & Chapman, 1974; Nosanchuk & Lightstone, 1974). Increases in overt laughter in response to hearing others laugh were found in both studies, but humor ratings increased in only one study.

Another kind of research involves the use of cartoons as humorous stimuli. Here, the results are even more variable. Cupchik and Leventhal (1974) found both increased laughter (and smiling) and higher humor ratings in response to pre-recorded laughter in one experiment. In another experiment, overt laughter increased, but humor ratings showed complex interactions among participant gender, trial block, cartoon quality, and self-observation (clearly not an automatic process). Donoghue, McCarrey, and Clément (1983) found no effects of pre-recorded laughter on overt laughter and humor ratings among isolated participants, but pre-recorded laughter did increase overt laughter in the presence of a laughing confederate. Finally, both Vidulich and Bayley (1966) and Brown et al. (1982) found increases in overt laughter in the presence of a mirthful confederate. However, no humor ratings effect was found in the latter study (humor ratings were not collected in the former study). In two other studies, movie footage containing

pre-recorded laughter was used. Increases in both overt laughter and ratings were found in one study (Leventhal & Mace, 1970). In the other study, humor ratings increased, but overt laughter was not measured (Gruner, 1993).

As this brief review suggests, the laughter of others can affect our own laughter and other humor responses. However, there are clearly several moderating variables, some of which are better understood than others. One moderator that has received little theoretical or empirical attention is simply *who* is generating the laughter that is heard. Typically, researchers have made conformity (e.g., Brown, Dixon, & Hudson, 1982; Chapman, 1973; Fuller & Sheehy-Skeffington, 1974; Smyth & Fuller, 1972) or social facilitation (e.g., Chapman, 1976; Chapman & Chapman, 1974; Donoghue et al., 1983) analyses of the psychological processes underlying the effects of canned laughter, or have not considered psychological processes at all (e.g., Vidulich & Bayley, 1966). If the process is (assumed to be) automatic, for cognitive miser (Cialdini, 1993), biological (Provine, 1996), or even psychodynamic (Freud, 1905/1960) reasons, then there is no need to consider who is generating the laughter that is heard. Any influence of laughing others is assumed to occur regardless of who they are. However, research on social influence and persuasion suggests that this assumption may be wrong, because the *source* of influence is often an important determinant of its success (e.g., Petty & Cacioppo, 1981; Turner, 1991).²

A self-categorization analysis of social influence

Self-categorization theory provides an explanation for social influence that emphasizes the social identities of the sources and target of influence (Turner, 1987, 1991; Turner & Oakes, 1989). The theory has been applied to intragroup processes, intergroup relations, and the self (Turner, 1985; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). It assumes that group processes are made possible through the categorization of self as a group member—psychologically interchangeable with others. Self-categorizations vary in their levels of inclusiveness. Given contextual constraints (comparative and normative fit; Oakes, 1987) and the motives and goals of perceivers (readiness), people can categorize themselves broadly, as human beings, or narrowly, as unique individuals, or at intermediate levels of inclusiveness, as group members. These latter self-categorizations make possible all group processes, including social influence (Turner, 1991; Turner & Oakes, 1989).

¹ Lawson et al. (1998, Experiment 1) found a humor ratings effect, but did not measure overt laughter.

² Smoski and Bachorowski (2003) observed differences in laughter when people heard laughter from friends vs. strangers. They did not, however, compare laughter rates to a baseline condition in which no laughter was heard.

Social influence, in self-categorization theory, is an outcome of shared group membership. Such membership provides people with a common frame of reference for understanding the world, and, *inter alia*, determines the relative veracity of a communication (Haslam & Turner, 1992; Turner, 1991). As a result, it is in-group members, not out-group members, who exert social influence (see Reynolds & Platow, 2003, for the distinction between in-group influence and out-group power).

Evidence for in-group social influence has been found in many studies (e.g., Grace & David, 2001; Levine, Casidy, Brazier, & Reicher, 2002; Mackie, 1986; McGarty, Haslam, Hutchinson, & Turner, 1994; Oldmeadow, Platow, Foddy, & Anderson, 2003; Turner, Wetherell, & Hogg, 1989). For example, Abrams, Wetherell, Cochrane, Hogg, and Turner (1990) replicated and extended the classic social influence effects observed by Sherif (1936) and Asch (1956). Norm formation in the Sherif paradigm, for example, occurred primarily when people were members of the same, rather than different, groups. Other research has shown that shared group membership is not simply a peripheral or heuristic persuasion cue (see Chaiken, 1987; Petty & Cacioppo, 1981) to which people thoughtlessly conform. Instead, its effects involve systematic, central-route, cognitive processing of in-group communications (Mackie, Worth, & Asuncion, 1990; Platow, Mills, & Morrison, 2000).

Self-categorization and the effects of canned laughter

The self-categorization analysis of social influence is clearly relevant to the effects of social laughter. Insofar as the laughter of others offers social proof that something is funny, hearing that laughter should strengthen people's own laughter (and other humor responses) only when others are viewed as in-group members. Overt laughter and other humor responses should be relatively weak, however, in response to out-group laughter. And if in-group laughter provides people with information about potentially humorous material, then overt laughter and other humor responses should also be stronger in response to in-group laughter than to no laughter at all. Accordingly, we hypothesize that:

Levels of overt laughter will be higher, and ratings of potentially humorous material will be more favorable, in response to in-group laughter than to either out-group laughter or to no laughter from an in-group or out-group audience.

This self-categorization analysis shares some features, of course, with other group-based analyses of humor (La Fave, 1972; La Fave, Haddad, & Maesen, 1976; Martineau, 1972; Terrion & Ashforth, 2002). Such analyses typically focus on the *content* of the humorous material, such as out-group disparagement (e.g., Barron, 1950; Draitser, 1994), and people's responses to that content

(Bourhis, Gadfield, Giles, & Tajfel, 1977; Wolff, Smith, & Murray, 1934). People typically respond favorably to out-group disparaging humor, possibly because it clarifies group boundaries and justifies current intergroup biases (Bourhis et al.). This reaction, however, involves a very different psychological process than the one we have been discussing. In our research, different levels of overt laughter and other humor responses were expected to occur for humorous material *with identical, group-irrelevant content*. That is because we focused on in-group social influence (Turner, 1991), not positive intergroup differentiation (Tajfel & Turner, 1986), although both processes can occur and may interact.

To test our hypothesis, we asked participants to listen to identical audiotapes of a comedian telling jokes. All that differed between conditions was: (a) the presence or absence of others' laughter and (b) participants' beliefs about the in-group or out-group composition of the audience to whom the jokes were told.

Method

Participants and design

Thirty-three male and 27 female undergraduate students at La Trobe University (median age = 20 years) were recruited from various departments around campus for the experiment. Everyone was entered into a AUD\$50 lottery in exchange for their participation. Each participant was randomly assigned to one cell of a 2 (in-group/out-group recorded audience) $\times$ 2 (presence/absence of recorded laughter) between-participants factorial design. The in-group was the participants' university, and the out-group was an Australian political party with which previous research suggested university participants do not identify (the One Nation Party; Haslam, Oakes, Reynolds, & Mein, 1999).

Materials

Audiotape recordings

Five separate audiotapes were used as stimuli. The first tape, used in all conditions, served as part of the cover-story. It also allowed us to obtain baseline measures of happiness and anxiousness,³ and other ratings that later served as covariates in our analyses. On that tape, a woman read a 400-word passage (taken from Anderson, 1994, pp. 1–2) on Baroque music. This passage was chosen because of its neutral content with respect to humor.

³ We used participants' baseline happiness ratings as a covariate in all of our analyses (see Ruch, 1993). We used baseline subjective anxiousness ratings as a covariate because some aspects of our procedure (e.g., the two-way mirror) might have disturbed some participants.

The other four audiotapes corresponded to the four conditions of our experimental design. On all of the tapes, a man recited a stand-up comedy routine (approximately 5.75 min). The jokes in that routine were taken from free internet sites, and modified to remove sexual, sexist, and racist content. On two of the tapes, recorded laughter (from the experimenters) was included at the end of each joke. This laughter was dubbed twice to increase the apparent size of the audience. Two of the tapes, one with laughter and one without, were labeled “La Trobe University.” The other two were labeled “One Nation Party.”

Participant questionnaires

Two questionnaires were used. The first questionnaire, given to participants after they heard the first (“standardization”) audiotope, contained the following items: “How anxious do you feel?” (1 = not at all anxious; 7 = extremely anxious), “How happy do you feel?” (1 = not happy at all; 7 = extremely happy), “How humorous was the material presented?” (1 = not humorous at all; 7 = extremely humorous), “How entertaining was the material presented?” (1 = not entertaining at all; 7 = extremely entertaining), and “How boring was the material presented?” (1 = not boring at all; 7 = extremely boring). The second questionnaire, given to participants after they heard a second, humorous, audiotope, contained the items that measured the humorous, entertaining, and boring nature of the material, as well as: “What potential for success do you think the comedian has?” (1 = no potential at all; 7 = extremely high potential).

Four other questions on the second questionnaire served as manipulation checks: “How much do you identify with La Trobe University students?” (1 = very little; 7 = a lot); “How much do you identify with One Nation party supporters?” (1 = very little; 7 = a lot); “Was there any laughing on the audiotope from the audience?” (yes/no); and “Who was the audience that the comedian was performing for on the audio presentation?” (La Trobe University students/Melbourne University students/One Nation party supporters/Liberal National party supporters/Australian Labor party supporters). Finally, participants were asked to record their sex and age.

Experimenter coding sheets

Trained observers sitting in an adjacent room used special coding sheets to code overt laughter and smiling by participants. A smile was defined as an up-turning of the outer corners of the mouth. A laugh was defined as bodily movements, especially of the head and shoulders, and clearly audible sound (cf. Vidulich & Bayley, 1966). A baby monitor was placed under the participants’ table (where it could not be seen) to amplify participants’ audible responses and thereby facilitate the coding.

Procedure

Each student participated individually. Upon arrival at the laboratory, participants were seated at a desk with an audiotope player and headphones, facing a two-way mirror. They were told that the “objective of the project [was] to understand people’s responses to and judgments of audio presentations,” and that the “procedure entail[ed]...listening to a series of audiotapes and making informed statements about them through written responses to questionnaires and rating scales.”

The first audiotope was described as a pilot recording of an audition for a new radio journalist. Participants were asked to put on their headphones and press “play” on the audiotope player when the experimenter left the room. They were told that the experimenter would wait outside the door and that they should ring a bell (also on the desk) when the audiotope was finished. When the bell rang, the experimenter returned to the room to administer the first questionnaire. Participants rang the bell again when they finished that questionnaire.

The experimenter then re-entered the room to play the second audiotope. This time, participants were told that they would be listening to a live recording of a stand-up comedian. Participants in the in-group condition were told that the recording was made with a La Trobe University student audience. Participants in the out-group condition were told that the recording was made with a One Nation Party audience. One of the four experimental audiotapes was then placed in the tape player, with the label clearly showing. Participants listened to the tape (using their headphones) after the experimenter left the room.

Four observers were in an adjacent observation room on the other side of a two-way mirror. These observers were completely blind to the experimental conditions because: (a) they were out of the room when the first experimenter described the audience on the audiotope to the participants, and (b) participants listened to the recording using headphones, so the observers could not hear whether or not there was any recorded laughter. Two of the observers independently recorded the frequency of smiling and laughing. The other two observers used stop-watches to record independently the total amount of time spent laughing.

When participants rang the bell to indicate that the second tape was done, the experimenter re-entered the room and administered the second questionnaire. After they completed that questionnaire, the participants were fully debriefed about the experiment. No one seemed suspicious about our procedures or could guess our research hypothesis. Following ethical rules regarding the use of deception, we also gave participants the opportunity to withdraw their data. Everyone allowed us to retain their data.

Results

Preliminary analyses of gender revealed no significant effects, so gender was not included as a factor in the final analyses.

Manipulation checks

All participants correctly indicated the presence or absence of laughter, and everyone correctly identified the audience. A 2 (in-group/out-group recorded audience) × 2 (presence/absence of recorded laughter) × 2 (participants' level of identification with the in-group vs. out-group) mixed analysis of variance (ANOVA) was conducted on participants' ratings of their in-group and out-group identification. The last factor varied within participants. The only significant effect was a main effect for level of identification, $F(1, 56) = 156.37, p < .001$. Participants identified much more with La Trobe University students ($M = 4.15$) than with One Nation Party supporters ($M = 1.42$), although identification with the in-group was moderate.

Correlations among the dependent variables

Table 1 shows that our dependent variables were all significantly correlated with each other. Although this suggests the use of statistical techniques that combine dependent variables (e.g., MANOVA), each variable was analyzed separately, because previous research in this area has often found differences between overt laughter and other humor responses. Indeed, research by Gavan-ski (1986) suggests that overt laughter and questionnaire ratings of humorous material may represent emotional and cognitive responses (respectively), and thus should be considered separately.

The correlations among the dependent variables within each condition varied (but note that there were only 15 participants per condition). As might be expected, the amount of time spent laughing was strongly correlated with total amount of laughter in all conditions ($r_s > .81, p_s < .01$). The only other consistent pattern was that the total amount of smiling was correlated with ratings of the recording and ratings of the comedian, but only in the two recorded laughter condi-

tions ($r_s > .50, p_s < .05$). Hearing in-group or out-group laughter apparently aligns emotional and cognitive responses to humorous material. As we will see in a moment, however, only in-group laughter enhances these responses.

Observer indices

Smiling/smiling and laughing

To assess the reliability with which smiling and laughing were coded, intraclass correlations were calculated (using a two-way mixed effect model with absolute agreement; Nichols, 1998). The intraclass correlation for smiling was .96 ($p < .001$). The intraclass correlation for laughter with smiling was .99 ($p < .001$). There was no laughter without smiling. Given their apparently high reliability, the coders' ratings for each participant were averaged. A 2 (in-group/out-group recorded audience) × 2 (presence/absence of recorded laughter) × 2 (smiling/smiling and laughing) mixed analysis of covariance (ANCOVA) was calculated on the mean frequencies of smiling, and smiling and laughing. The last factor in this analysis varied within participants. Although the two levels of this last factor are quite similar, given that people did smile without laughing, we wanted to test whether these two behaviors varied as a function of our manipulated variables. Baseline subjective happiness and anxiousness ratings served as the covariates.

This analysis revealed a significant main effect for type of audience, $F(1, 54) = 7.81, p < .01$. Participants smiled and laughed more when the audience contained in-group ($M = 3.24$) rather than out-group ($M = 1.62$) members. A significant interaction was also found between type of audience and smiling vs. smiling and laughing, $F(1, 54) = 4.25, p < .05$. When the audience contained in-group members, participants were more likely to laugh and smile ($M = 4.03$), rather than just smile ($M = 2.46$). In contrast, when the audience contained out-group members, the levels of smiling and laughing ($M = 1.76$) and simply laughing ($M = 1.47$) were about the same.

A significant interaction was also found between type of audience and laughter, $F(1, 54) = 6.20, p < .05$. Table 2 presents the means and some pairwise con-

Table 1
Correlations among the dependent variables

Dependent variable	1	2	3	4	5
1. Smiling	—	.63	.54	.49	.53
2. Smiling + laughing		—	.85	.50	.51
3. Recorded time laughing			—	.43	.48
4. Mean ratings on “humorous,” “entertaining,” and “boring” (reverse scored) items				—	.71
5. Ratings on “potential for success” item					—

Note. All correlations are significant at $p < .01$.

Table 2
Adjusted means (and Standard Errors) for each experimental cell

Type of dependent variable	Dependent variable	Experimental cell			
		In-group laughter	In-group no laughter	Out-group laughter	Out-group no laughter
Observer indices	Mean of smiling and smiling + laughing	4.49a (0.58)	2.00b (0.58)	1.42b (0.58)	1.81b (0.58)
	Recorded time laughing	3.92a (0.76)	0.90b (0.75)	0.94b (0.75)	0.79b (0.75)
Participant subjective ratings	Mean ratings on “humorous,” “entertaining,” and “boring” (reverse scored) items	4.71a (0.33)	3.79b (0.31)	3.42b (0.31)	3.80b (0.31)
	Mean ratings on “potential for success” item	4.13a (0.33)	2.62b (0.33)	2.12b (0.33)	2.34b (0.33)

Note. In all analyses, baseline subjective anxiousness and happiness served as covariates. In the analysis of the mean ratings on the humorous, entertaining, and boring (reverse scored) items, the mean initial ratings on these scales also served as a covariate. Means with different subscripts differ from each other at $p < .05$.

trasts. The comparison of the in-group laughter cell to all the other cells was directional (one-tailed) for this and all later analyses.⁴ The comparison of the out-group laughter cell to the two non-laughter cells, and the comparison between the two non-laughter cells, were non-directional. Consistent with our hypothesis, levels of smiling and laughing were significantly higher in the in-group audience laughter cell than in all of the other cells. There were no significant differences among the other cells.

All other main effects and interactions, including the effects of the two covariates were non-significant in this analysis.

Recorded time laughing

The intraclass correlation for the amount of time spent laughing, as measured by the two observers, was .99 ($p < .001$). An average of their measurements was thus calculated for each participant and analyzed in a 2 (in-group/out-group recorded audience) $\times$ 2 (presence/absence of recorded laughter) ANCOVA, again with baseline subjective happiness and anxiousness as covariates.

This analysis revealed a significant main effect for recorded laughter, $F(1,54) = 4.37$, $p < .05$. Participants laughed longer when they heard others laugh ($M = 2.43$) than when they did not ($M = 0.85$). A significant main effect for type of audience was also found, $F(1,54) = 4.24$, $p < .05$. Participants laughed longer when the audience contained in-group ($M = 2.41$) rather than out-group members ($M = 0.86$). Finally, the interaction between these variables was marginally significant, $F(1,54) = 3.66$, $p = .06$. As Table 2 shows, participants laughed more (nearly four times as much) when they heard an in-group audience laugh than they did in any other cell. Again, there were no significant differences

among the three other cells.⁵ These results are consistent with our hypothesis.

No significant effects of the covariates were found in this analysis.

Participants' ratings

Ratings of the audiotapes

Ratings of the audiotape recording on the humorous, boring (reversed scored), and entertaining items were averaged for each participant ($\alpha = .83$), and analyzed using a 2×2 ANCOVA. Participants' baseline happiness and anxiousness ratings, and their mean ratings on the same three items after hearing the initial audiotape ($\alpha = .62$) served as covariates. We used the latter covariate to control for any a priori differences in responses to the items (e.g., a proclivity to say everything is entertaining).

There was no main effect for recorded laughter. The main effect for type of audience was marginally significant, $F(1,53) = 3.94$, $p = .05$. Participants rated the audiotapes more favorably when the audience contained in-group ($M = 4.25$) rather than out-group ($M = 3.61$) members. This effect was qualified, however, by a significant interaction between the two independent variables, $F(1,53) = 4.06$, $p < .05$. This interaction was consistent with our hypothesis. As Table 2 shows, participants rated the audiotape more favorably in the in-group laughter cell than in all the other cells, and there were no significant differences among those other cells.

None of the covariates in this analysis had significant effects.

Ratings of the comedian

Finally, a 2×2 ANCOVA was conducted on participants' ratings of the comedian's potential for success,

⁴ All but one of the contrasts between the in-group laughter cell and the other three cells remained significant ($p < .05$) even with a more conservative two-tailed test. For that contrast, we found $p = .05$.

⁵ Consistent with other theoretical accounts (Cialdini, 1993; Provine, 1996), mean laughter time when hearing out-group laughter was higher than when hearing no laughter at all. We thus conducted directional tests comparing the out-group laughter cell to each of the no laughter cells. Neither contrast was significant.

with baseline happiness and anxiousness as covariates. A significant main effect for type of audience indicated that participants rated the comedian more favorably when he performed for an in-group audience ($M = 3.37$) than for an out-group audience ($M = 2.23$), $F(1, 54) = 12.13$, $p < .01$. A marginally significant main effect for laughter ($F(1, 54) = 3.76$, $p < .06$) indicated that participants rated the comedian more favorably when they heard audience laughter ($M = 3.12$) than when they did not ($M = 2.48$). However, these two main effects were again qualified by a significant interaction, $F(1, 54) = 6.92$, $p < .05$. As Table 2 shows, participants' ratings of the comedian were more favorable in the in-group laughter cell than in all the other cells. There were no significant differences between the out-group laughter cell and the two no-laughter cells.

As in the other analyses, none of the covariates had significant effects.

Discussion

We began this paper by observing that laughter and smiling are social phenomena, and that the laughter of others can influence people's own experience of humor. We also observed that several variables can moderate this effect, and that one such variable that should be considered is the source of the laughter that is heard. A self-categorization analysis of social influence was used to explain why this variable is important, and to clarify the psychological process by which others' laughter might be influential. Our analysis focused on people's beliefs about the social-categorical relationship between themselves and those they have heard laughing. On the basis of that analysis, we hypothesized that canned laughter produces laughter and favorable evaluations when it seems to come from fellow in-group members. The results of our experiment were consistent with our hypothesis. Participants' overt smiling and laughter, as well as their ratings of humorous material, were greater only in response to hearing in-group laughter. Hearing out-group laughter did not increase overall mirth relative to when canned laughter was absent altogether.

Our confidence in these results is enhanced by the fact that an identical pattern of responses occurred on several dependent variables. This pattern occurred on measures of the amount of laughing and of smiling, and in participants' ratings of humorous content. It even occurred on ratings of the comedian himself—in-group laughter led participants to believe not only that the material was more humorous and entertaining and less boring, but also that the comedian had better career prospects. Finally, statistical control over individual differences in a priori happiness and anxiety, as well as possible response biases in the use of specific rating scales, reassured us that our pattern of results was not caused by other factors.

One unpredicted finding emerged in the correlations between smiling and ratings of the humorous material. Apparently, hearing any laughter had the effect of aligning participants' cognitions (ratings) and emotions (smiling; see Gavanski, 1986). As our manipulation checks revealed, all of the participants who heard laughter on the audiotapes were aware that it occurred. That awareness may have made salient, *to a greater degree than when no laughter was heard*, the participants' own emotional responses, cognitive responses, or both. This heightened response salience could have then activated a self-consistency motive (e.g., Festinger, 1957; see Baumeister, 1998 for a review). This suggests a potential avenue for future research.

In our view, the laughter of our participants, in response to an audience's laughter, was not an automatic, thoughtless process (Cialdini, 1993; Provine, 1996; cf. Freud, 1905/1960). Instead, our results suggest that people actively attend to who is laughing, and laugh a lot themselves only when they have heard fellow in-group members laughing. Of course, future research may benefit by varying the nature of the in-group and the out-group. We used a very strong out-group, in the form of a political party. As other researchers have observed (Ellemers, Spears, & Doosje, 1999), the *content* of social categories (including the norms and values associated with them), the levels of *commitment* that people feel toward those categories, and the *context* in which behavior occurs, are all likely to interact, producing complex patterns of behavior. Varying content, commitment, and context might help to identify moderators of the simple effects that we observed.

Earlier, we noted an important theoretical difference between our research and the work of Cialdini (1993) and Provine (1996). Nevertheless, our analysis dovetails with some aspects of theirs. Cialdini observed, for example, that similarity to the influencing agent is one of many factors producing social influence. Our claim that social proof comes primarily (if not solely) from similar (in-group) others is thus consistent with Cialdini's analysis. However, self-categorization theory suggests that shared group membership is a necessary precursor for social influence, whereas Cialdini suggests that similarity is sufficient but not necessary. Likewise, Provine (p. 41) observed that most "naturally occurring laughter" occurs in contexts where there is an "in-group feeling." Here, Provine hints that it is in-group rather than out-group laughter that makes people think something is funny. Silence in response to out-group laughter is thus consistent with this analysis, but it does bring into question Provine's other proposed generic neural "feature detectors" and their role in social laughter (p. 44).

In light of the similarities and differences between Cialdini's (1993) analysis, Provine's (1996) analysis, and the self-categorization analysis (Turner, 1991), another avenue for future research might be to revert

to the traditional paradigm in canned laughter research, and observe behavior when the group membership of whatever audience is laughing is not explicitly mentioned. But in such research, our analysis suggests the importance of including measures of perceived similarity of self to the audience. Self-categorization theory predicts that perceived similarity would be greater among participants who laugh than among those who do not. Such a finding would be consistent with Cialdini's analysis and some aspects of Provine's analysis.

Overall, the results of our experiment were consistent with the basic notion that in-group members are the people who provide us with meaningful information about our social world (Turner, 1991). We found that it was in-group laughter that informed participants about the humorous nature of the material they heard, and about the quality of the comedian who delivered it. Thus, as we mentioned earlier, humor that disparages out-groups can clarify group boundaries and justify current intergroup biases (Bourhis et al., 1977; La Fave, 1972; Martineau, 1972), but what seems humorous (or not) depends on the sensibilities of our fellow in-group members (see Crandall, Eshleman, & O'Brien, 2002). In this way, humor not only serves important group functions, such as the development of social identity and group cohesion (Terrior & Ashforth, 2002), but can also be the outcome of group processes (such as social influence) in itself.

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