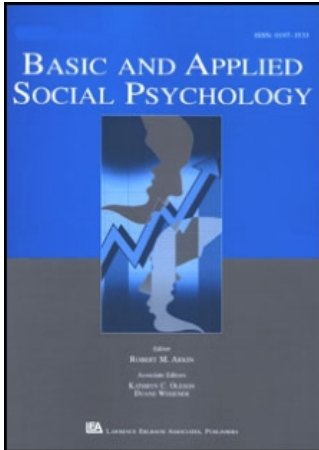


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Social Impact Theory: A Field Test of Source Strength, Source Immediacy and Number of Targets

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In light of the recent controversy regarding Social Impact Theory (Jackson, 1986; Mullen, 1985, 1986), a test of certain crucial features of the theory was undertaken. High-strength and high-immediacy sources were found to exert more impact than low-strength and low-immediacy sources respectively, thus supporting Social Impact Theory. Additional tenets of the theory concerning number of targets were also supported. However, more complex predictions of Social Impact Theory concerning the multiplicative effects of source, immediacy, and number of targets were not confirmed.

Social Impact Theory (Latané, 1981; Latané & Nida, 1980) continues to generate research (Jackson & Latané, 1981a, 1981b) and controversy (Jackson, 1986; Mullen, 1985, 1986). The theory proposes that the social impact (e.g., changes in behavior or opinions) experienced by a target is a direct function of strength (i.e., social status or power), immediacy (i.e., physical or psychological distance), and number of sources. The stronger the sources (Hass, 1981; Jackson & Latané, 1981b), the more immediate they are to the target (Basset & Latané, 1976; Knowles, 1980), and the larger their number (Gerard, Wilhelmy, & Conolley, 1968; Milgram, Bickman, & Berkowitz, 1969) the more impact the target will experience. The first source will exert a large impact, but each additional source will only marginally increase impact.

Social Impact Theory further postulates that influence is an inverse function of strength, immediacy, and number of targets. The stronger the targets are (Jackson & Latané, 1981a), the more immediate they are to one another (Latané & Darley, 1970), and the greater their number (Freeman, Walker, Borden, & Latané, 1975; Latané & Darley, 1970), the less impact the targets will experience. The first target will experience a large impact, and each additional target will only marginally decrease impact.

Social Impact Theory recently generated controversy. Mullen (1985) conducted a meta-analysis focusing on two central postulates of Social Impact Theory, source strength and source immediacy. In his meta-analysis, Mullen (1985; see also Jackson, 1986) broke down the studies into two categories: studies measuring self-reported tension and studies measuring behavior. Mullen found strong support for source strength and source immediacy only in studies measuring self-reported tension. Mullen (1985) concluded that the effects of source strength and source immediacy "are rather weak and inconsistent and may very well be the result of methodological artifact (i.e., demand characteristics)" (p. 1465).

One reason for the weak support of source strength and source immediacy in Mullen's meta-analysis of studies employing behavioral measures may be the absence of adequate meta-analytic power. Availability and inclusion of more studies may alter the results of a meta-analysis. In this case, additional studies employing behavioral rather than self-reported measures of source strength and source immediacy are needed. The present study used behavioral measures of source strength and source immediacy in a naturalistic environment in an effort to readdress the issue empirically. If Mullen's conclusion is correct, no strong experimental support for social impact theory should be found.

Another goal of the study was to test an additional aspect of Social Impact Theory, that is, number of targets. The study examined the effects of number of targets in the context of source strength and source immediacy. Social Impact Theory predicts that impact will be inversely related to the number of targets, with one stipulation: Additional targets will lead to a marginal decrease of impact.

METHOD

Overview

The study took place in the Aquatic Bird House exhibit room in the Bronx Zoo. An experimenter dressed either as a zoo keeper or in casual attire asked zoo visitors either in an authoritative or mild manner not to lean on the railing of an exhibit. The recipients of the messages were in groups of

varying sizes. The visitors' responses to the source's message were measured four times: before the intervention, immediately after the message with the experimenter still present, after the experimenter left, and in an adjacent room in the absence of the experimenter.

Procedure

Two hundred twenty-four unsuspecting visitors of the Bronx Zoo entered the bird's exhibit room on 3 hot summer days. The main experimental room, the Tropical Lagoon Room, is an oblong (15.5 × 7.5 m) space, where a wide variety of brightly colored and highly interesting birds are located. The unusual aspect of the structure of the Tropical Lagoon Room is that the birds are not located in cages, but in a nature-simulated environment, with no glass separating them from the visitors. The only partition between the birds and the visitors is a short (88 cm high) rail, adding to the interest in the display. This interest was demonstrated by the visitors' almost perfectly consistent behavioral pattern of stopping and leaning on, or over, the railing.

While in this position, visitors were approached by the experimenter who instructed the visitors not to lean on the rails, and then walked out of the room. After leaving the Lagoon Room, most visitors passed through the Shore Birds Room, of similar structure to the Tropical Lagoon Room.

Standing discreetly in a corner of the Tropical Lagoon Room and apparently reading information about the birds from a glass case, a second experimenter, blind to the hypotheses of the study, observed the visitors' rail touching behavior through the reflection of the glass case for the first three times of measurement. When the visitors passed through the Shore Birds Room, he observed their behavior through a grating in the door. This role was actually played by two different experimenters.

A message was given by the first experimenter to every group of visitors in which at least one member of the group was leaning on the rails. Subjects were not tested in three cases: (a) when a group included more than six people, because of the difficulties in being heard by and recording the responses of all the members; (b) when two or more separate groups were in the room simultaneously; and (c) when no one in the group leaned on the rail (approximately 5% of the time).

Of the 224 subjects, 153 were adults, 55 were at least medium-size children, and the remaining 16 were small children. The data from the 16 small children were excluded, because they were not tall enough to lean on or over the rails. A rule prevents children under 16 from entering the zoo, unless accompanied by adults; thus, no group consisted exclusively of children. These 224 subjects composed 64 groups.

Independent Variables

Source strength. Source strength was communicated to subjects in past research by the experimenter's clothing and type of message. In a series of social loafing studies, for example, Jackson and Latané (1982) manipulated source strength by having the experimenter dressed in either formal or informal attire, and by having the experimenter emit either a high-strength message (e.g., "You must shout as loud as you can") or a low-strength message (e.g., "We would like you to shout as loud as you can, but we do not have the authority to ask you to do this").

Likewise, in this research, we covaried the two sets (i.e., clothing and type of message) as a conceptual replication of the main two manipulations of source strength found in the social impact literature. With regard to clothing, in the high-strength condition the experimenter wore a zoo keeper's uniform, complete with an official patch on the shirt; in the low-strength condition, he wore a T-shirt, shorts, and sandals. With regard to type of message, the experimenter used one of two phrasings: a high-strength message, "Excuse me, don't lean on the rails," or a low-strength message, "Excuse me, I would like to ask you not to lean on the rails." The tone of the messages was kept constant.

Source immediacy. The rail leaning behavior of the patrons was measured four times: before they were given the message (baseline measurement), immediately after the experimenter's message (high immediacy), after he left (moderate immediacy), and in the Shore Birds Room (low immediacy). In the last three cases, the change in the percentage of the group that leaned from the baseline was recorded. Unfortunately, the fourth measurement was obtained for only 61% of the visitors, since a substantial number did not move on to the Shore Birds Room after the Tropical Lagoon Room.

Number of targets. Zoo patrons were approached in their naturally occurring group size, which ranged from one to six persons. Care was taken to insure that all patrons in the room were together, that is, composing a group of friends or family members.

Experimental Design

The study involved a 2 (Strength of Message: high-strength message, low-strength message) \times 2 (Strength of Authority: high-strength authority, low-strength authority) \times 3 (Group Size: 1-2 members, 3-4 members, 5-6 members) \times 3 (Time of Measurement: immediately, after the experimenter left, and in the Shore Birds Room) mixed-subjects factorial design. Strength

of Message, Strength of Authority, and Group Size were between-subjects factors; Time of Measurement was a within-subjects factor.

The group was the unit of analysis. The major dependent variable was the percentage of the group that leaned, after hearing the message, subtracted from the percentage who leaned before the message (baseline). This change in percentage of leaning is a measure of how much people are influenced by the message, and the larger this change is, the more they were affected.

RESULTS

Surprisingly, even though the messages were out of the ordinary, none of the visitors asked the experimenter for his reason. Most visitors apologized, and some adults transmitted the message to small children. A number of visitors, however, commented on the experimenter's message, after he left.

Main Effects

Source strength. The zoo keeper was complied with more (58% above baseline) than the nonuniformed person (35% above baseline), $F(1, 52) = 14.68, p < .001$. Further, people complied with the experimenter's high-strength message more (57% higher compliance than baseline) than his low-strength message (38% higher compliance than baseline), $F(1, 52) = 7.42, p < .009$. These results attest to the social power of the high-strength source, thus lending support to Social Impact Theory.

Source immediacy. An analysis conducted on the 39 groups that were measured in the Shore Birds Room revealed that the level of compliance fell as the source became less immediate. Sixty-one percent complied immediately, 46% after the experimenter left, and 7% in the Shore Birds Room, $F(2, 54) = 43.40, p < .001$. People became less and less willing to comply as distance (and time) from the experimenter increased. In fact, in the Shore Birds Room, the 7% higher rate of compliance than baseline is not statistically different than baseline responding, $t(38) = .17, p = ns$. That is, by the time they reached the next display room, patrons were back to their baseline levels of behavior, no longer complying with the experimenter. This finding was consistent with Social Impact Theory.

Number of targets. The larger the size of the group of the visitors, the less the degree of compliance. Specifically, 60% of visitors complied in groups of one or two members, 49% in groups of three or four members, and only 14% in five or six member groups, $F(2, 52) = 9.45, p < .001$. It

is clear that the impact of the source's message upon the visitors was an *inverse function of their group size*. Again, this finding was consistent with Social Impact Theory.

Interactions

Social Impact Theory not only predicts the main effects, but also predicts disordinal interactions between all combinations of these effects. For example, according to Social Impact Theory, the effect of source immediacy on compliance should be larger when the source strength is high than when the source strength is low. None of these interactions, however, were evident, failing to support these predictions.

DISCUSSION

This study assessed the effects of source strength and immediacy in a field setting by gathering behavioral measures. The study obtained partial support for Social Impact Theory. Strong sources were more influential than weak sources. And the more immediate the sources were, the more influential they were. Even when behavior, rather than self-reported tension, was measured, Social Impact Theory held reasonably well.

However, although evidence was drawn in support of Social Impact Theory over Mullen's criticism, the more complex predictions of the theory involving the two-way interactions between source strength, source immediacy, and number of targets were not supported.

Searching for underlying processes. As Jackson (1986) pointed out, Social Impact Theory is able to predict responses to social stimuli, but does not specify underlying processes. Specification of underlying processes needs to be accomplished by other theories. In the context of this study, the effects of source strength and immediacy remain to be explained. We maintain that subjects obeyed the high-strength source more than the low-strength source because they regarded his authority as legitimate (Raven & French, 1958). In fact, after the experimenter left, 40% of the visitors talked with curiosity to each other regarding the message in the low-authority condition, compared to only 6% in the high-authority condition, $F(1, 52) = 18.64, p < .001$. This suggests that people were wondering about the legitimacy of the power of the low-strength source.

The results of source immediacy can be explained in at least three ways. First, it is possible that visitors felt less socially pressed to comply as the probability of being evaluated by the source diminished (cf. Carver & Scheier, 1981). Second, visitors' compliance was only momentary, because

they did not feel personally committed to either a high-strength or a low-strength message (Kiesler, 1971). And third, as time passed, the source's message may have become less vivid, and thus less accessible in subjects' memory (Higgins & King, 1981).

An additional goal of the study was to test postulates of Social Impact Theory regarding number of targets. Compliance decreased as the number of targets increased, thus supporting Social Impact Theory. Either because they were less affected by the source's message or because they felt more hidden from the source's surveillance (Williams, Harkin, & Latané, 1981), members of large groups, for the most part, did not comply with the source.

Social Impact Theory versus reactance theory. The finding that the high-strength source elicited more compliance than the low-strength source is in direct contrast with the theory of psychological reactance. Reactance theory (J. W. Brehm, 1966; S. S. Brehm & J. W. Brehm, 1981) maintains that when freedom of choice is threatened, restricted, or eliminated, people will experience an uncomfortable motivational state (i.e., reactance), which drives them to engage in behaviors that restore freedom. Reactance theory would predict that, because high-strength messages allow for less freedom in responding, compliance with them will be lower than compliance with low-strength messages, and because high-authority figures restrict freedom to a greater extent than low-authority figures, compliance in the former case would also be lower.

Reactance studies have been reported in the literature that find less compliance with high-strength messages and high-strength referents than low-strength messages and low-strength referents, respectively. In a study by Pennebaker and Sanders (1976), signs were placed in toilet stalls in restrooms asking people not to write on the walls. Half of the signs were worded as an order (high-strength message), and half as a request (low-strength message). Half of the signs were attributed to a high-authority source, and half to a low-authority source. It was found that most people wrote on the walls in the order condition rather than the request condition, and in the high- rather than the low-authority condition. Pennebaker and Sanders interpreted these results by arguing that orders and high authority figures are more apt to arouse reactance than requests and low authority figures, respectively. Similarly, Reich and Robertson (1979) found that high-strength messages elicited less compliance than low-strength messages.

There were at least two crucial differences between this study and Pennebaker and Sanders' and Reich and Robertson's studies, which may account for the different results. First, the situational context in this study was highly structured and demanding of rather ritualized or scripted behaviors (e.g., entering the room, spending a little time watching the birds without harming them, and exiting the room); this highly structured and

inflexible context may have discouraged reactance responses. On the contrary, the situational context in both Pennebaker and Sander's and Reich and Robertson's studies allowed for greater behavioral flexibility, which may have elevated the magnitude of reactance. Second, subjects in this study were under the experimenter's surveillance for a limited time, and even after his departure they may have worried about his possible return. The experimenter's presence may have acted as a deterrent to any non-compliance or reactance tendencies. In contrast, no experimenter was physically present in either Pennebaker and Sander's or Reich and Robertson's studies.

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