Conditioning and extinction of conforming behavior¹

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Comparisons were made of the conformity conditioning of four experimental groups: conformers reinforced for conformity, conformers reinforced for nonconformity, independents reinforced for conformity, and independents reinforced for nonconformity. Both conforming and independent Ss were conditioned and extinguished to nonconformity by the reinforcement treatment, but neither was conditioned to greater conformity. It was concluded that further empirical description and analysis of social conformity in conditioning terms may be warranted.

One of the most persistent research problems of experimental social psychology has been the study of conformity—the operation of social pressures on an individual's judgment. While early theorists suggested that conformity was a trait or an aspect of a person's personality that was manifested in social situations, more recent analyses have conceived of conforming behavior as an instrumental response directed toward the attainment of functional goals (Walker & Heyns, 1962; Endler, 1966).

Several investigators have shown that the behavior of Ss in conforming experiments may be modified by feedback from the E. Particularly well known are the studies by Kelman (1950) and Mausner (1954) which demonstrated that conformity can be affected by prior differential reinforcement of S's behavior. More directly related to conformity conditioning are the studies by Endler (1965, 1966), which indicated that the acquisition of the conforming response can be manipulated by different schedules of feedback.

Thus, a beginning has been made toward the empirical description and analysis of conformity through conditioning principles. However, if the conforming act is to be described further in these terms, it should be demonstrated that the response can be conditioned, extinguished, and in general be manipulated like any other instrumental response. The purpose of this investigation was to systematically examine conformity conditioning and extinction through comparisons of four experimental groups: (1) high conformers reinforced for conformity, (2) high conformers reinforced for nonconformity, (3) independents

reinforced for conformity, and (4) independents reinforced for nonconformity.

SUBJECTS

From a sample of 40 male undergraduate students at the University of South Florida, 24 were selected (by criteria described in procedure) for the final experimental groups.

PROCEDURE

The experiment was divided into three phases. In the pretest phase, conformers and independents were selected on the basis of their performance in a standard conformity situation. In the acquisition phase, half of each S group was reinforced for conformity and half for nonconformity. The third phase consisted of posttest measures of conformity taken during extinction.

Conformity Assessment

Measurements of conforming behavior were made by means of a five-person Crutchfield apparatus (see Crutchfield, 1955). This apparatus functioned as a communications system among Ss in a simulated group, allowing the Ss to report their response choices on a series of judgment tasks. At the same time, it permitted E to introduce false information into the system, leading each S to believe that his four colleagues had reported judgments as indicated by a display of lights before him.

Judgment Task

The experimental task required judging which of the members of a pair of sequentially presented tones was longer in duration (cf. Olmstead & Blake, 1955; Sistrunk & McDavid, 1965). Twenty-five pairs of tones were recorded from a square-wave signal generator at 140 Hz. The durations of the tones ranged from 3 to 6 sec, with a discrepancy between tones within pairs of less than 0.1 sec. Included in the 25 trials were 5 filler trials (occurring irregularly within the series), in which reports made by the contrived majority were not unanimous, but split three to one in their judgments. The remaining 20 trials were critical conformity trials on which reports made by the contrived majority were unanimous. The judgmental task was empirically defined as indiscriminable in that the judgments made by pilot Ss selected to establish the level of task difficulty were completely unreliable in discriminating the longer member of the tone pairs throughout the entire series of 25 trials.

Pretest Phase

Immediately following the initial

instructions, Ss were presented with 25 judgmental trials, including 5 familiarization trials and then 15 critical conformity trials with 5 fillers interspersed. An S was classified as a conformer if he made a response that matched the contrived majority at least 70% of the time on the 15 critical trials in this phase. An S was classified as an independent if he made conforming responses less than 60% of the time. Since the study involved an attempt to change the behavior of contrasted groups of independents and conformers, only the more extreme of those Ss who met the basic criteria for conformity or independence were retained and assigned to one of the reinforcement conditions.

Acquisition Phase

Subsequent to the pretest phase, S was given further recorded instructions that a green light would illuminate on his console after each accurate response during his feedback phase. S's attention was also directed to a red light on his panel that signaled the start and termination of his feedback phase. The reinforcement procedure, then, permitted individual feedback for each S on each trial in the acquisition phase when he made a CR (conforming or nonconforming, depending on the treatment). The criterion employed to define and limit the acquisition phase specified that the S must complete 10 reinforced responses within 25 trials. Thus, the reinforcement treatments were defined in terms of a constant number of reinforced responses, with a variable number of trials depending upon the number of lights required for each S to meet the criterion.

Extinction Phase

The extinction phase began for each S individually when he met the criterion for termination of the acquisition phase. With the removal of the reinforcement contingencies, these 25 extinction trials were identical to the conformity trials of the pretest phase.

RESULTS AND DISCUSSION

The percentages of conforming responses were calculated for the treatment groups in each of the three phases of the experiment. For each phase, the conformity score was obtained from the ratio of the number of conformity responses to the number of critical trials.

The data were submitted to an analysis of variance with conforming tendency of the Ss and reinforcement treatments operating as between-Ss variables and with treatment phases as a within-Ss variable. Duncan's new multiple-range tests (Edwards, 1960) were employed for multiple comparisons among means. The .01 confidence level was used as the criterion for statistical significance in all cases.

All three main effects were statistically

Fig. 1. Conformity of the experimental groups. CRC = conformers reinforced for conformity, CRN = conformers reinforced for nonconformity, IRC = independents reinforced for conformity, IRN = independents reinforced for nonconformity.

significant. These results indicated overall that the Ss selected in the pretest as conformers and independents were indeed empirically different, that the reinforcement treatments for conforming and nonconforming responses did produce behavioral differences, and that the behavior varied significantly across the experimental phases. The significant Phases by Treatments interaction further clarified the main effects.

The conforming behavior of the experimental groups across phases is displayed as Fig. 1. Notice first the contrasted behavior of the groups in conformity pretest. On these indiscriminable tasks, 50% conformity would be expected by chance. With peer feedback, the mean conformity for the conformers was 81%, while the mean for the independent group was 56%. This dramatic effect that knowledge of the judgments of peers had on some Ss but not on other Ss is, of course, the well known conformity phenomenon.

Were conformers and independents conditioned by means of a stimulus light to increase and decrease their conforming behavior? First, examine in Fig. 1 the data

for the conformers who were reinforced for conformity (CRC). There were no differences in the behavior of this group across all three phases. The reinforcement procedure had no effect on their behavior. Their behavior under these circumstances was apparently determined by the behavior of their peers, and they were impervious to the feedback from the E. On the other hand, notice the second group of conformers who were reinforced for nonconformity, the response opposite their original tendency (CRN). They quickly conditioned to less than chance conformity (44%) and then extinguished on this response after the removal of the reinforcing stimulus until they were not significantly different in conformity in the last phase from the other group of conformers. Thus, conformers were conditioned and extinguished by E to nonconformity, but not to increased conformity.

Consider the behavior of the independent persons. One group was reinforced for increased nonconformity, their original tendency in this setting (IRN). Upon reinforcement, this group conditioned to less conformity and, in extinction, their response level returned to be not significantly different from the extinction-phase behavior of the other independent group. The second group of independents was reinforced for conformity (IRC). It appears from Fig. 1 that there might have been an effect here, but there were no significant differences among the scores of this group across the experimental phases. In other words, this group was not significantly affected by the feedback from E. Thus, independents were conditioned and extinguished by E to nonconformity, but not to conformity.

The amenability to conditioning of the conforming behavior of the conformers and independents may be compared. The treatment of reinforcement for conformity did not significantly modify the behavior of the Ss, while the treatment of reinforcement for nonconformity was very effective. There were two external sources of information for the Ss during the course of the experiment. The first and continual information was the knowledge of the apparent judgments of the peers. The second

source of information or reinforcement was the feedback light from E. The results showed that some Ss were affected by the initial information from peers (conformers) and others were not (independents). Subsequently, when the information from E was in the same direction as that of the peers, toward conformity, there was no additional effect. However, when the information from E was opposite that of the peers, there was a significant effect on both conformers and independents.

In summary, this study described the acquisition and extinction of conforming behavior and displayed comparisons of the conditioning of conformers and independents. The results indicated that social conformity may be amenable to analysis in terms of conditioning principles and that further research may be warranted.

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NOTE

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