Familiarity vs novelty in desire to own long-play recordings¹

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Ratings of and paired comparisons among long-play recordings (LPs) showed a very slight tendency (statistically significant for a few Ss on a few measures) to prefer LPs judged only a few times to those LPs which were seen on each replication of the experiment.

Does increased contact with a stimulus lead to an increase in liking for that stimulus, as Homans' (1950) hypothesis of the positive effects of interaction on liking suggests, or to a decrease, as the principle of decreasing marginal utility (Samuelson, 1964) and discussions of a need for novelty (Berlyne, 1960) seem to imply? An incidental aspect of the procedure required to test stimulus sampling models of postdecision dissonance phenomena (Harris, 1967) provides a test of this question.

METHOD³

Each S indicated how much he would like to own various long-play recordings (LPs) both through ratings on a six-unit (0-6) scale and through a paired comparison (PC) procedure. The judgments were broken down into replications. During each replication S provided one rating of each of 19 of the LPs and then made all possible 171 PCs among these 19 LPs. The 19 LPs selected for judgment on a particular replication always included the 15 members of that S's constant set, plus four filler set items: one introduced to S for the first time on that trial and the other three selected at random from among the filler LPs which S had judged during at least one previous replication.

S was provided with a miniature reproduction of the album cover of each LP he was asked to judge. The LPs to be judged by each S had displayed low inter-S variability in a pilot study, represented the full range of popularity (as indicated by the mean rating assigned by the 10 pilot Ss), and were not already owned by S.

Ten Ss completed 18 replications involving 15 constant-set LPs and 21 filler LPs. Nine Ss completed 9 replications involving 15 constant-set LPs and 12 filler-set LPs.⁴

RESULTS

Figure 1 plots, as a function of replication, the relative frequency with which filler LPs were chosen over constant-set LPs in the 60 relevant PCs per replication per S. The points plotted for Replications 10-18 are

Fig. 1. Relative frequency with which filler LPs were chosen over constant-set LPs, as a function of replications.

based only on the data of the 10 18-replication Ss and are thus somewhat less stable than the points for Replications 1-9. Averaging over Ss and replications, filler LPs were chosen over constant-set LPs on 50.8% of the relevant comparisons, with 10 Ss choosing filler items more than 50% of the time, 8 choosing them less than half the time, and 1 choosing them on exactly 50% of the relevant comparisons. These figures, however, are based on a simple pooling of all choices, and give greater weight to filler LPs which are introduced early in the experiment (and thus while any novelty or boredom effects are still at a minimum) than to later-introduced LPs. If, instead, the relative frequency with which a single filler set item was chosen over the 15 constant set items is taken as the basic datum, the average of these figures is greater than .5 for 15 of the 19 Ss ($p = .019$ by sign test) and the average across Ss is .533 (t for the difference between this figure and .5 equals .283 with 18 df, $p > .05$). As the difference between these two analyses indicates, the Ss' overchoice of the filler items increased over trials, though (as Fig. 1 makes clear) the trend is slight and not statistically significant as tested by F for the main effect of replications in the one-way analyses of variance conducted separately for the 9-replication and 18-replication Ss. A post hoc test of the linear component of this trend yields an F of 7.26 with 1 and 153 df, $p < .01$ for the 18-replication Ss but an F ratio less than 1 for the 9-replication Ss.

Each of the above tests was conducted separately for each individual S. For 2 of the

19 Ss, significantly fewer than half of the filler LPs were chosen in a majority of their comparisons with constant set LPs (5 of 21 and 2 of 12, $p = .027$ and $.039$ by two-tailed sign test); for one of the Ss the reverse was true (10 of 12 "overchoices" of the filler item, $p = .039$). One S showed a mean relative choice frequency of filler over constant set LPs that was significantly less than .5 ($t = -2.090$ with 20 df, $p < .05$). No S showed a statistically significant main effect for replications as tested by one-way analysis of variance. These results are consistent with the assumption of random variability.

A word of caution is in order: If the usual test for the difference between an observed and an expected proportion is applied to each S's overall proportion of choices of filler items over constant-set LPs, 12 of these 19 tests yield z -ratios greater in absolute value than 2.58. The artifact arises, of course, in employing a test which assumes that only binomial variability is present in the data, rather than obtaining a direct assessment of variability as suggested by Mosteller & Tukey (1968).

Figure 2 plots, as a function of replication, the mean ratings assigned to filler LPs and to constant-set LPs. The constant-set curve is based on 15 ratings per replication per S, the filler curve, on 4. Averaging over Ss and replications, the mean rating assigned filler LPs was 3.430 as compared with a mean rating of 3.439 for constant-set LPs, with 11 of the 19 Ss giving a higher mean rating to filler LPs than to constant set LPs. Correcting for the overrepresentation of early-introduced filler LPs gives a mean filler LP rating of 3.627 and a mean constant set rating of 3.485, with 13 of the 19 Ss giving a higher mean rating to filler LPs than to constant-set LPs. None of these comparisons is statistically significant. The difference between filler and constant-set LPs showed a slight tendency to decrease over trials for

Fig. 2. Mean ratings assigned filler and constant-set LPs as a function of replications.

9-replication Ss and to increase over trials for 18-replication Ss, but neither tendency was statistically significant.

For one S, significantly more than half of his filler LPs (10 of 12, $p = .039$) had mean ratings higher than the mean of his 15 constant-set LPs. One S showed a statistically significant tendency for the mean of his ratings of filler items to become increasingly larger than the mean of his ratings of constant-set LPs over replications ($F = 2.05$ with 17 and 256 df, $p < .05$). The overall difference between the mean rating assigned filler items and the mean rating assigned constant-set items did not reach statistical significance for any individual S.

DISCUSSION

Three aspects of the present study may represent limitations on the generalizability of these results. The task was an extremely long one, requiring roughly 6 h of judgments from each 18-replication S and 3 h from each 9-replication S. Boredom may thus account for the Ss' favorable reactions to novelty. Second, most Ss knew a great deal about the LPs before they volunteered for the experiment, to which information little may have been added by examination of the album covers. Finally, the information presented about each LP was precisely the same every time S encountered it—presumably a much different situation from that which pertains in successive encounters with a particular person.

On the other hand, the fact that the present analysis was thought of only after all data had been collected suggests that E effects are unlikely to have influenced the Ss' tendencies with respect to the familiarity-novelty issue.

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NOTES

1. The data on which this paper is based were collected in the course of fulfilling the requirements for the PhD at Stanford University. Reanalysis of these data for present purposes was accomplished while the author was serving as Research Associate at the Palo Alto Veterans Administration Hospital. Mr. Richard Gurley and Miss Itsuye Sakai performed most of the statistical analyses reported herein.
2. Now at the University of New Mexico.
3. A more detailed presentation of the methods of this study is available in Harris (1967).
4. Ten Ss were run in the nine-replication condition, but the data on one S's ratings and choices of filler LPs were accidentally discarded.

Heart rate and skin conductance responding during three attention-direction tasks

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Subjects were instructed to turn their attention toward: (1) feeling their internal bodily events (BODY task); (2) remembering events that happened to them on the preceding day (COGNITIVE task); and (3) looking at a series of slides (EXTERNAL task). They were assured that no verbal report would be required. Cardiac deceleration occurred during the BODY and EXTERNAL tasks. The BODY task was associated with a decrease on skin conductance measures.

Lacey found that cardiac deceleration accompanied tasks which demanded that Ss attend to environmental events, and that acceleration occurred during tasks which seemed to require a rejection of environmental stimuli (Lacey, 1959; Lacey, Kagan, Lacey, & Moss, 1963). The interpretation of these results has been questioned recently in a series of papers by Campos & Johnson (1966, 1967; Johnson & Campos, 1967). These authors demonstrated that either preparation to verbalize or actual verbalization led to cardiac acceleration to both acceptance and rejection tasks. They pointed out that Lacey's tasks involving environmental rejection involved implicit verbalization, while the environmental acceptance tasks did not. They concluded that the verbalization requirement was responsible for the cardiac accelerations in the rejection tasks of Lacey et al and that

this could be the actual cause for the differences in direction of cardiac change.

One purpose of this study is to determine whether differential heart rate responding can be demonstrated to tasks involving environmental acceptance and rejection when Ss have been instructed that no overt verbalization will be required.

Another focus of this study involves the place that tasks involving proprioceptive stimuli occupy on the continuum between environmental acceptance and rejection. According to Lacey's definition of environmental rejection tasks as involving "the internal manipulation of symbols and the retrieval of stored information [Lacey et al, 1964]," proprioceptive stimuli should be included among "environmental events" since they are external to such cognitive processes, and attention to such stimuli should be associated with cardiac deceleration. However, if the need to shut out distracting external stimuli is the basis for the cardiac acceleration, and since it is probable that external stimuli can interfere with the act of attending to proprioceptive stimuli, it may be that attention to such stimuli is associated with cardiac acceleration. To explore this problem, this experiment investigated the heart rate and skin conductance responses to a task involving attention to proprioceptive stimuli: the task of attending to internal bodily events.

SUBJECTS

Subjects (Ss) were 12 male undergraduates recruited and paid \$2.50 through the student employment service at the University of Pittsburgh.