



Fig. 2

and the RE-No Delay group. It should be noted that the effects of the delay on the punished group are represented by the number of responses above 20 since the delay was inserted after they completed 20 trials. The differences between groups were shown to be statistically significant ( $F = 41.35$ ,  $df = 2/28$ ,  $p < .001$ ). The difference between the two punished groups was also statistically significant ( $t = 3.48$ ,  $df = 28$ ,  $p < .01$ ), as was the difference between either punished group compared with the nonpunished group (VC-Delay  $t = 3.87$ ,  $df = 28$ ,  $p < .01$ ; VC-No Delay  $t = 7.35$ ,  $df = 28$ ,  $p < .01$ ).

Mean alley speed in ft/sec for all three groups across 10 blocks of 10 extinction trials each is shown in Fig. 2. It may be seen that both punished groups initially ran faster than the nonpunished group, and that the speed of the VC-Delay group decreased markedly after the delay (the second block of 10 trials). Analysis of variance of these data showed a significant Punishment effect ( $F = 8.71$ ,  $df = 2/26$ ,  $p < .005$ ), Trials ( $F = 24.08$ ,  $df = 9/234$ ,  $p < .001$ ), and Trials by Punishment effect ( $F = 10.46$ ,  $df = 18/234$ ,  $p < .001$ ). The difference between the VS-Delay and VC-No Delay groups after the second block of 10 trials was statistically significant ( $t = 405.1$ ,  $df = 234$ ,  $p < .001$ ).

The same relationships among the groups were also obtained with the start-speed measures, and these differences were also found to be statistically significant.

#### DISCUSSION

Once again, punishment of an instrumentally, aversively-motivated response produced increased resistance to extinction, supporting the results obtained in other, similar studies (Brown, in press).

#### Editorial Note

Beginning with this issue, two related changes in the production of this journal are being made. Articles averaging one and one-half pages are being combined so that they take up a total of three pages rather than four. This reduces the physical size of the journal and cuts printing costs considerably without affecting the content or length of articles.

The frequency of publication is also being changed from three times a month to twice a month. This is possible because of reduction in the number of pages and of other changes in

The effect of the interposed-delay interval of 18 min was a drastic reduction in resistance to extinction of Ss that had already indicated that they were trapped in the vicious circle of self-punishment. This effect provides further support for the contention that drive level is important in maintaining self-punitive behavior and that residual emotionality can be an important source of drive, especially under massed trial conditions. The above interpretation is consistent with the Mowrer-Brown theoretical explanation of self-punitive behavior, and thus provides further support for it.

It should be noted that these data might also fit an associative explanation. Interposing a longer-than-usual inter-trial interval could significantly weaken the power of the stimulus complex by removing such aftereffect stimuli from the stimulus complex. One type of study which would support the motivational explanation, as opposed to the associative one, would be one in which some irrelevant source of drive (such as extreme temperature deviation) was introduced during the delay period. Such a manipulation should result in continued self-punitive behavior while Ss that did not receive such stimulation should show decreased resistance to extinction.

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#### NOTES

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printing facilities and still further reduces costs of printing and mailing the journal.

The slight inconvenience to readers of these two changes, we believe, is more than offset by the gain in efficiency.

Henceforth a volume will consist of six issues published each quarter. The size of the volumes will vary somewhat because of seasonal variation in the receipt of manuscripts, but the total number of articles published in a year will remain the same.

Editor