Fig. 2. Percentage correct responses for the four groups as a function of number of trials. Group I, free exploration, reward in cul 1. Group II, free exploration, reward in cul 3. Group III no exploration, reward in cul 2. Group IV, no exploration, reward in cul 3.

The course of learning for each of the four groups over the 10 acquisition trials is shown in Fig. 2. For purposes of analysis the data were divided into two blocks of five trials. For the first block of five trials, Group II (exploratory, reward in cul 3) had significantly more correct responses ($p < .001$, Mann Whitney U-test) than Group IV, (no exploration, reward in cul 3). The differences between groups II and IV for the second block of five trials were not significant. The differences between group I (exploration, reward in cul 1) and group III (no exploration, reward in cul 1) were not significant in the first nor the second blocks of five trials.

It was predicted that the number of correct responses for group II (exploration, reward in cul 3) would be greater than for group IV (no exploration, reward in cul 3). This typical facilitative effect for latent learning was confirmed. However, it was also predicted that group III (no exploration, reward in cul 1) would have a greater number of correct responses than group I (exploration, reward in cul 1). This inhibitory effect of exploration was not confirmed, but neither was there a facilitative effect.

The two predictions were made on the assumption of a characteristic shape of the preceding exploratory gradient. The facilitative effect of the free exploration over no exploration, when reward is subsequently presented in the far cul, is dependent on a decrease in percentage of total entries into the to-be-incorrect culs. The expected results were obtained for the free exploration and learning phases. However, the predicted inhibiting effect of free exploration over no exploration when reward is later presented in cul 1 was not obtained. This occurred in spite of the fact that during free exploration there was the expected decrease with time of total entries into the to-be-correct cul. This can be accounted for by the fact that at the end of the 5 min. exploration period cul 1 was still entered significantly more often than cul 3, even though cul 1 showed a decrease and cul 3 an increase in preference as a function of time. The inhibiting effect was predicated on this preference being reversed, as a function of free exploration, rather than merely reduced. Longer free exploration with this type of design may allow for obtaining the predicted inhibitory effect.

References

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Notes

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- The author appreciates the assistance of F. Kozoman, C. Williams, and L. Siebert.
- In the earlier study it was found that the furthestmost cul, 4, had more entries than cul 3. Once having traversed the length of the maze cul 4 becomes the proximal cul and therefore has an increased probability of entrance. It was thought that this might be obviated by not allowing an extension of the maze beyond cul 4. However, this blocking of forward movement seems to have even further enhanced the persistence of exploration at that point. Therefore, cul 3 was chosen rather than cul 4. This decision was made on the basis of a prior exploratory study.

Erratum

Gallup, G. G., Jr. Aggression in rats as a function of nonreward in a straight alley. *Psychon. Sci.*, 1965, 3, 99-100. In the last sentence under "Discussion," it should read as follows: "That conditioned frustration"