A NOTE ON RECORDING POST-REINFORCEMENT PAUSES¹ J. D. Keehn

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Although cumulative records are usually regarded as convenient representations of response probabilities via response rates they are also useful for showing other sequential characteristics of behavior, e.g., response intensity and duration (Skinner, 1938). Another such usage of accumulated data is to exhibit the development of post-reinforcement pauses in FR schedules.

The probability of occurrence of the first response in a ratio run is of a different order

from that of a response during the run (Sidman and Stebbins, 1954), and it is more sensitive to experimental control. As the first response in a ratio marks the end of the post-reinforcement pause, any regularity in the occurrence of the first response in a ratio can be observed through regularities in post-reinforcement pauses. It is possible to observe the development of post-reinforcement pauses in normal cumulative response records, but a clearer picture can be gained by reference to

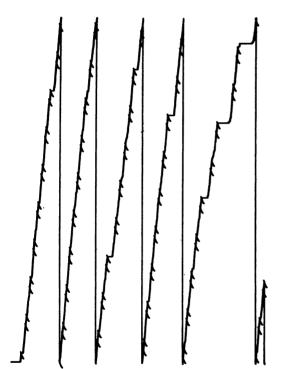
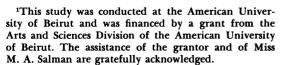


Fig. 1. Cumulative response record corresponding to Fig. 2.



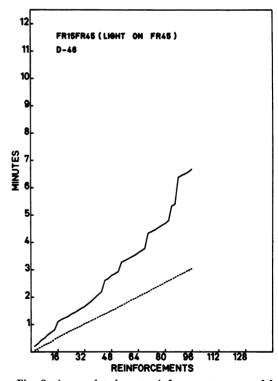


Fig. 2. Accumulated post-reinforcement pauses following the respective ratios of schedule alternating mult FR 15 FR 45. Pauses after FR 15 are represented by the solid line, those after FR 45 by the broken line. The reinforcer, .1 cc 12% sucrose solution, was made available for 2 sec at the appropriate times, and these periods are included in the records.

cumulative plots of the post-reinforcement pauses themselves. Figure 1 is a cumulative response record produced by a white rat well trained on schedule alternating mult FR 15 FR 45, and Fig. 2 shows the corresponding accumulated post-reinforcement pauses. Pauses after each ratio segment of the schedule were recorded separately, and each curve in Fig. 2 was constructed by accumulating pauses after alternate reinforcements. Similar records have been produced by about 20 other rats reinforced on either mix or mult FR 15 FR 45.

Figure 2 was constructed manually but records can be taken automatically by operating the response marker with each reinforcement

rather than with each response, rotating the record 90° counter-clockwise and observing the mirror image (i.e., looking through the back of the recording paper). The paper drive should be stopped while the S is responding, and separate recorders must be used with complex schedules. Raw records show the rate of occurrence of the first response in the ratio when this response is possible.

REFERENCES

Sidman, M. and Stebbins, W. C. Satiation effects under fixed-ratio schedules of reinforcement. J. comp. physiol. Psychol., 1954, 47, 114-116.

Skinner, B. F. The Behavior of Organisms. New York: Appleton-Century-Crofts, 1938.