

*STUDENT PAPER WINNER:**ABSTRACT**REINFORCER MAGNITUDE AND HUMAN VARIABLE RATIO PERFORMANCE*

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The application of Killeen's (1994) Mathematical Principles of Reinforcement (MPR) has previously been limited to use with non-human participants. The aim of the current research was to determine if human performance on variable ratio (VR) schedules was described by a bitonic function over a range of VR schedules as predicted by MPR. It was also predicted that response rates would be higher when participants earned more money per reinforcer. A computer-based experiment employed a masking technique of searching a map for treasure. Participants' behavior of clicking the mouse button the correct number of times was reinforced according to a series of VR schedules: VR 25, VR 50, VR 100, VR 200 and VR 400, with reinforcers of 0.10 UKP or 0.05 UKP. Participants experienced both reinforcer magnitudes in a counterbalanced order. Only one participant demonstrated the bitonic pattern in response rates. An order effect was also noted between the counterbalanced conditions: participants appeared to work harder in the second condition they experienced possibly to either protect their earnings from a possible reduction or to benefit from the richer reinforcers.