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THE EFFECTS OF PREDICTIVENESS OF A REINFORCER ON SIMPLE INTERVAL DEMAND FUNCTIONS

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Several previous studies have suggested that behavior experiments can be viewed as economic systems, with animals responding according to the law of supply and demand. The law of supply and demand predicts that as the price of a commodity increases, the quantity consumed in the marketplace decreases. In Dougan (1992), results demonstrated an inverse relationship between the obtained behavioral cost and the quantity of reinforcement supplied while responding on simple variable schedules. The present research examines the extent to which the results of the Dougan (1992) study were due to unpredictability of reinforcers. Reinforcers are said to be predictable when one or more stimuli reliably signal reinforcer availability. Using a 3 X 4 within subject design, rats responded on three separate predictiveness conditions and four reinforcement rates. The three predictiveness conditions were; variable interval (VI) schedule, fixed interval (FI) schedule, and a fixed interval schedule with a signal light (FI + S) that was presented five seconds prior to the availability of the reinforcer. The four rates of reinforcement were; 30 s, 60 s, 120 s, and 240 s. Proceeding from a variable interval schedule, to a fixed interval schedule and finally to a fixed interval schedule with a signal light, the predictability of a reinforcer increases because more stimuli reliably signal the availability of the reinforcer. It is expected that responses per reinforcer will decrease, and the demand curves will be flatter in conditions providing greater predictiveness.