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REINFORCER DEMAND ELASTICITY UNDER DIRECT COMPETITION BETWEEN RATS

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Economic theory shows that cost is an inverse function of the quantity of a commodity. This has also been shown in studies of behavioral economics (Dougan, 1992). According to the law of supply and demand, competition should drive prices up more rapidly. Previous studies have failed to find an effect of competition; however, the competition was indirect in those studies (Johns & Dougan, 1994). In the present experiment, twelve female rats actively competed in pairs for reinforcers, on each of four fixed interval (FI) schedules: FI 30 s, FI 60 s, FI 120 s, and FI 240 s. A modified operant chamber was used and the animals were separated by a wire barrier. For each schedule, the animals were tested both with and without competition from another rat. The non-competition days served as controls. As expected by the law of supply and demand, the competition condition increased the slope of the relationship between obtained cost and reinforcer quantity. The results have a variety of implications for schedule behavior in general and behavioral economics in particular.