



**Illinois Wesleyan University**  
**Digital Commons @ IWU**

---

John Wesley Powell Student Research  
Conference

1995, 6th Annual JWP Conference

---

Apr 22nd, 10:00 AM - 4:00 PM

## **Reinforcer Demand Elasticity Under Direct Competition Between Rats**

Susan Reynolds  
*Illinois Wesleyan University*

Jennifer Cioni  
*Illinois Wesleyan University*

Jennifer Bredthauer  
*Illinois Wesleyan University*

James Dougan, Faculty Advisor  
*Illinois Wesleyan University*

Follow this and additional works at: <https://digitalcommons.iwu.edu/jwprc>

---

Reynolds, Susan; Cioni, Jennifer; Bredthauer, Jennifer; and Dougan, Faculty Advisor, James, "Reinforcer Demand Elasticity Under Direct Competition Between Rats" (1995). *John Wesley Powell Student Research Conference*. 11.  
<https://digitalcommons.iwu.edu/jwprc/1995/posters/11>

This Event is protected by copyright and/or related rights. It has been brought to you by Digital Commons @ IWU with permission from the rights-holder(s). You are free to use this material in any way that is permitted by the copyright and related rights legislation that applies to your use. For other uses you need to obtain permission from the rights-holder(s) directly, unless additional rights are indicated by a Creative Commons license in the record and/ or on the work itself. This material has been accepted for inclusion by faculty at Illinois Wesleyan University. For more information, please contact [digitalcommons@iwu.edu](mailto:digitalcommons@iwu.edu).

©Copyright is owned by the author of this document.

## **REINFORCER DEMAND ELASTICITY UNDER DIRECT COMPETITION BETWEEN RATS**

**Susan Reynolds, Jennifer Cioni, Jennifer Bredthauer and James Dougan\*,  
Department of Psychology, IWU**

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.