

REDUCTION IN RATE OF VOCAL PSYCHOTIC SYMPTOMS BY  
DIFFERENTIAL POSITIVE REINFORCEMENT

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Over the past 6 years of intensive analysis of the free-operant behavior of chronic psychotics, we have found that psychotic episodes are most directly measured functionally. By separately and simultaneously recording the psychotic symptom on one recorder and a non-symptomatic response on another recorder, the functional suppression of normal behavior by psychotic symptoms can be directly measured. Such a two-channel recording system is demanded because symptoms can occur without disturbing nonsymptomatic behavior, and nonsymptomatic behavior can be disturbed by other events than psychotic symptoms.

Vocal symptoms of hallucinatory patients were recorded through a filtered voice key on one cumulative recorder. Nonsymptomatic manual responses were recorded through a plunger on another recorder and reinforced with candy and cigarettes. The never-reinforced vocal symptoms of one chronic schizophrenic occurred at a rate of 500 grammatical stresses per hour while he operated the plunger at 100 pulls per hour on FR 20. Similar rates had been maintained for over 130 daily, 1-hour experimental sessions.

When the reinforcement was switched from the nonsymptomatic to the symptomatic behavior, the extinguished nonsymptomatic responses decreased from 100 to 10 pulls per hour over 170 hours. However, the "reinforced" vocal symptoms *did not increase* in rate, but also declined from 500 to 10 grammatical stresses per hour. When again reinforced, the nonsymptomatic responses increased from 10 to 50 pulls per hour over 110 hours. However, the "extinguished" vocal symptoms *increased* from 10 to 600 grammatical stresses per hour.

Grammatical stresses of normals increased when positively reinforced, and decreased when extinguished in this situation. Thus, the "negative" effect of positive reinforcement on vocal psychotic symptoms appears to be due to their symptomatic nature. The rate of vocal symptoms was probably increased by induction from the positively reinforced non-symptomatic behavior and decreased by the distracting effect of the "reinforcing" stimuli. Vocal psychotic symptoms appear to be under some strong control that resists direct differential positive reinforcement.

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