

This Week's Citation Classic

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Greenspoon J. The reinforcing effect of two spoken sounds on the frequency of two responses. *Amer. J. Psychol.* 68:409-16, 1955.
[Indiana University, Bloomington, IN]

The primary objective of this research was to determine if verbal responses were modifiable in a manner similar to nonverbal responses. The results indicated that verbal behavior could be investigated as a legitimate phenomenon in and of itself. [The *Social Sciences Citation Index*® (SSCI)® indicates that this paper has been cited over 160 times since 1966.]

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"The impetus for this research, which was a part of my doctoral dissertation at Indiana University, came from two major sources, a course in verbal behavior taught by B.F. Skinner and the nondirective therapy of Carl Rogers. Skinner presented the position that verbal behavior was governed by the same principles as nonverbal behavior though there was little research to support his position. Rogers contended that the passivity of the counselor meant that the counselor didn't directly manipulate the client's verbal behavior. The research tended to support Skinner's position but refute Rogers's.

"I spent a considerable amount of time devising the method of investigation. I tried several different methods, but didn't think that any of them were very good in providing the answers to the questions that I was asking. One day I was running a college sophomore using one of these methods. When we were finished, he suggested that I simply ask subjects to say individual words. I tried his suggestion and it worked beautifully and that was the method I used.

"A major technical problem involved recording the entire procedure. At that time tape recorders were beginning to appear on the market, but there were no continuous hour tapes. Since each session lasted for approximately one hour, I needed to record for the entire hour. The only device available was a wire recorder. I soon became convinced that the wire recorder was invented by a sadist. The wire was very thin and became easily entangled in unbelievable snarls. Since I had to transcribe all the words from each wire, I was never home free on any one subject until I had completed the transcribing. There were several occasions when the wire became so entangled during the transcription that I could not complete it. When this happened I would have to run another subject to replace the lost one. There were occasions when I had wire strewn all over the office in an effort to salvage a subject.

"My initial effort to publish the research was rebuffed by an editor who completed his very critical review of the article with the comment that he didn't believe that there was very much interest in this kind of research. Shortly thereafter a former student of mine had an article based on my research accepted by the same editor.¹

"I believe that several factors contributed to the frequent citation of this research. It opened the way for the experimental investigation of verbal behavior as a phenomenon rather than an epiphenomenon, resulting in the development of the term verbal conditioning. The research also contributed to the development of behavior modification since it suggested that verbal behavior was subject to the same variables as nonverbal behavior, and many behavior problems involve verbal behavior. The research also raised anew the issue of the role of awareness in human learning, an issue that remains unresolved at the present time. More recent work in the field has been reported."^{2,4}

1. Sidowski J B. Influence of awareness of reinforcement on verbal conditioning. *J. Exp. Psychol.* 48:355-60, 1954.
2. Das J P. *Verbal conditioning and behavior*. New York: Pergamon Press, 1969. 163 p.
3. Greenspoon J & Brownstein A J. Awareness in verbal conditioning. *J. Exp. Res. Personal.* 2:295-308, 1967.
4. Greenspoon J. Verbal conditioning and clinical psychology. (Bachrach A J, ed.) *Experimental foundations of clinical psychology*. New York: Basic Books, 1962. p. 510-53.