

**Mandler G & Sarason S B.** A study of anxiety and learning.  
*J. Abnormal & Soc. Psychol.* 47:166-73, 1952.

**A high anxiety (HA) and a low anxiety (LA) group were tested on two intelligence test tasks. LA subjects performed better than HA subjects; failure reports unproved the performance of LA subjects, whereas no further reference to the test situation was optimal for the HA subjects. [The *Science Citation Index*<sup>®</sup> (*SCI*<sup>®</sup>) and the *Social Sciences Citation Index*<sup>™</sup> (*SSCI*<sup>™</sup>) indicate that this paper was cited a total of 275 times in the period 1961-1977.]**

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December 16, 1977

"This paper —the first of a series of four —was my initial serious effort in psychological theory and research. I was a second-year graduate student at Yale, working with Seymour Sarason, then a junior faculty member in clinical psychology. Sarason, whose work in mental retardation had led to an interest in the dynamics of the test situation, wanted to investigate the effect of anxiety on test performance. I was in the throes of fascination with Hullian theory (an infatuation soon abandoned and later vehemently rejected). Sarason evolved the idea of measuring individual differences in anxiety reactions to test situations and drafted a questionnaire (the Test Anxiety Questionnaire —TAQ). I wanted to apply drive theory to the expected results, and came upon the idea of distinguishing be-

tween task-relevant and task-irrelevant responses. Task-relevant responses arise out of the anxiety drive and reduce anxiety by leading to successful completion; the irrelevant responses are not specific to the task and interfere with the performance of complex tests.

"Sarason's highly supportive and encouraging attitude toward a fledgling psychologist was primarily responsible for two years of happy and intensive collaboration—and also my becoming first author on the initial paper.

"Our main interest was to demonstrate systematically in the laboratory an effect long known by teachers and students anecdotally, and to develop a useful theoretical framework. The result —as indicated by the frequency of citations— was that hundreds of studies used our questionnaire as well as the more influential Manifest Anxiety Scale developed by Janet Taylor Spence. In retrospect I am sure that neither Sarason, Spence, nor I was too happy with the indiscriminate use of our tests and the less than discriminate use of our theories. However, our studies did help to bring the investigation of complex human emotional and motivational phenomena into the laboratory.

"Years later —now a reformed cognitive psychologist and far from my behaviorist origins —I returned to the notion of cognitive interference stemming from preoccupations with irrelevant and anxiety-directed thought processes. Thus, in the long run the original purpose maintained its momentum. The anxiety scales are still being used, but hopefully in a more theoretical context. Sarason and I invented a shotgun —but it spread its effect wide and made some hits "