17.4: John Dollard and Neal Miller: Psychodynamic Learning Theory

Sigmund Freud felt that only his approach to psychodynamic theory and psychoanalysis would allow for an understanding of human behavior. B. F. Skinner felt the same way about radical behaviorism. But very few psychologists have felt so strongly about one, and only one, approach to psychology. John Dollard and Neal Miller attempted to blend psychodynamic theory with learning theory, and the results were quite successful. Their theories on the relationship between frustration and aggression, social learning (developed more fully by Bandura, Rotter, and Mischel, whom we will cover in the next chapter), and conflict are standard topics in introductory psychology textbooks.

Brief Biographies of John Dollard and Neal Miller

John Dollard (1900-1980) and Neal Miller (1909-2002) were born just a few years and a few miles apart in Wisconsin, though Miller’s family soon moved to Washington. Dollard was a generalist, with interests in psychology, anthropology, and sociology, who conducted important research on racial discrimination in the American south. Miller was particularly interested in physiological psychology, and his pioneering work on biofeedback is as famous as anything we will discuss in this chapter. Though pursuing very different careers, their paths crossed at Yale University’s Institute of Human Relations.

Dollard received his bachelor’s degree from the University of Wisconsin in 1922, and then went to the University of Chicago, where he earned his M.A. and Ph.D. degrees in sociology in 1931. His interests at the time were primarily in sociology and anthropology, and he accepted an assistant professorship in anthropology at Yale University. A year later he became an assistant professor of sociology at Yale’s newly formed Institute of Human Relations. Dollard remained at Yale throughout his career, earning the status of professor emeritus in 1969. In addition to his work with Miller, Dollard studied the effects of racial segregation and discrimination in the southern United States, resulting in two landmark books. Dollard also traveled to Germany between completing graduate school and beginning his position at Yale. While there, he studied psychoanalysis and was psychoanalyzed at the Berlin Institute.
Miller received his bachelor’s degree from the University of Washington in 1931, where he studied with the well-known learning theorist Edwin Guthrie. He received an M.A. from Stanford University, and his Ph.D. from Yale in 1935. While a graduate student at Yale he studied with Clark Hull, one of the most influential learning theorists. Like Dollard, Miller traveled to Europe after graduate school, and was psychoanalyzed at the Vienna Institute for Psychoanalysis (reportedly he could not afford to be analyzed by Freud himself). Upon returning, Miller joined the faculty at Yale’s Institute of Human Relations. He remained there from 1936 to 1941, and it was during these years that worked closely with Dollard.

During World War II Miller conducted psychological research for the Army Air Force, while Dollard remained at Yale and studied the effects of combat on fear. Miller returned to Yale as a professor of psychology, and remained there until 1966. He then left Yale to establish the Laboratory of Physiological Psychology at Rockefeller University, where he retired as professor emeritus. Among his many honors, Miller served as president of the American Psychological Association, he received an award for Outstanding Lifetime Contribution to Psychology from APA, and he received a National Medal of Science from President Johnson in 1964.

Placing Dollard and Miller in Context: Learning Theory in Moderation

Dollard and Miller brought important perspectives into the study of learning and personality. Dollard was a sociologist with strong interests in anthropology. Miller was trained as a learning theorist with a future in physiological psychology. Although two such men might seem an unlikely pairing, their combined perspective opened the door for eclectic approaches to psychology. Both Dollard and Miller had also studied psychoanalysis. This combination of psychoanalysis, sociology, and learning led to some of the most famous theories in psychology: the frustration-aggression hypothesis, social learning, and a theoretical basis for understanding behavior in conflict situations. These studies laid the foundation for social learning and cognitive personality theorists.

In addition, Dollard studied cultural effects on personality development, particularly under oppressive conditions. Once again, his work laid the foundation for an appreciation of cross-cultural studies in psychology. However, despite occasional studies by noted theorists, such as Erik Erikson and Gordon Allport, the field of psychology has only recently begun to make a concerted effort to study cross-cultural issues (Sue, 1999). Thus, in some ways, the fulfillment of Dollard and Miller’s legacy remains to be realized.

Learning Theory and the Influence of Clark Hull

As mentioned above, Miller was a student of Clark Hull, one of the most influential learning theorists. As an example of just how influential Hull was, five theorists who advanced his ideas (including Miller, Orval Mowrer [a co-author on Dollard and Miller’s first book together], and Ernest Hilgard [whose learning theories text, co-authored with Gordon Bower, is cited in this chapter]) went on to the presidency of the American Psychological Association and also received distinguished scientific contribution awards from APA (Stagner, 1988). Hull’s theory is not easy to understand, as it is a complex mathematical model of the variables impinging upon an organism’s behavior. Unlike Skinner, Hull focused on the organism that exists between the input and output that were the sole focus of radical behaviorists.

According to Hull, the strength of a response (net response strength; E), or its probability of occurring, is determined by the strength of an internal drive (D) and the strength of relevant habits (H), all within the context of conditioned inhibition (extinction; \( s_r \)) and the organisms overall level of response inhibition (e.g., fatigue; \( I_r \)). Hull expressed this
relationship by using a formula:

\[ E = (H \times D) - (s_I + l_I). \]

Hull later modified his theory to take into account non-learning factors, such as the effectiveness of an evoking stimulus (V) and the incentive motivation of stimuli (K), resulting in the modified formula:

\[ E = H \times D \times V \times K. \]

For a more detailed discussion of learning theory see *Theories of Learning* by Bower and Hilgard (1981). Clearly, Hull’s consideration of psychological factors, such as the quality of stimuli, their value as motivators, internal drives and habits, all of which influence the nature of input-output relationships stands in stark contrast to Skinner’s theories. It was within this context that Dollard and Miller attempted to blend learning theory with psychodynamic phenomena.

discussion question \( \PageIndex{1} \)

Clark Hull proposed a mathematical formula for understanding behavior, based in part on habit and the incentive of rewards. Look at the formula \( E = H \times D \times V \times K \), and consider whether you agree that human behavior can be reduced to mathematics.