

that before the age of 8, a child ought to be free in expressing his or her spirits, and only after the age of 8 should formal learning occur. He had also proposed that it is later in adolescence that the child becomes ready to deal with moral issues and service for others. According to Hall, the curriculum should follow the needs and interests of children in their specific stages. Besides his main interests in development and education, Hall had other interests and efforts in gender differences, racial issues, emotions, hypnosis, basic psychological processes, and social and industrial psychology, to name a few. He has left his indelible mark in the fields of psychology and developmental psychology, and people during his lifetime and still today are impressed, indebted, and grateful to him.

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## HARLOW, HARRY (1905–1981)

Harry Israel was born in Fairfield, a small rural town in Iowa. He was the third of four boys and grew up in a family that placed a premium on the value of education. Upon completion of his bachelor and doctoral degrees at Stanford University, his advisor convinced Harry to change his surname from Israel to Harlow owing to concern over possible discrimination because of his name. In 1930, Harlow began work as a comparative

psychologist at the University of Wisconsin in Madison and remained there for his entire career. Among numerous honors, Harlow was a member of the National Academy of Sciences, was elected president of the American Psychological Association, and received the National Medal of Science from President Lyndon B. Johnson in 1967.

Although Harlow studied complex information processing and curiosity in nonhuman primates, it is his work on nonhuman primate affectional systems that has had the most lasting impact. He was one of the first researchers to study love scientifically, but this was not the intent of his original work. In nonrelated work, Harlow separated infant rhesus monkeys to decrease the spread of disease, especially tuberculosis, in the animal colonies with which he was working. After observing the infants' unusual social behaviors that ensued following the separations, Harlow serendipitously began his exploration of affection.

Infant rhesus monkeys, when separated from their mothers, exhibit behaviors including withdrawal and emotional discomfort as well as atypical social and sexual behaviors. Curiously, however, these monkeys seemed to become attached to cloth items in their cage. *Contact comfort* was a phrase first coined by Harlow to describe the fact that the infants clung to cloth surrogate mothers placed in their cage, particularly during times of distress, rather than to nourishing surrogates. The results of Harlow's studies supported the work of ethological attachment theorists such as John Bowlby who held that attachment relationships are primary, not secondary, to the food that nonhuman primates' mothers provide to their young, as psychoanalysts and behaviorists once believed.

Harlow's ingenious work with infants and surrogate mothers had widespread impact, influencing attachment theorists and psychiatric treatments as well as the general scientific perception of affection. His own work and the research of his students have had a lasting impact on the field of psychology.

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