

# Harry Harlow

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## Harry Harlow

**Born:** 1905 | **Died:** 1981

**Nationality:** American

**Primary Field(s):** Psychology, Primatology

### 1. Summary of Life and Work

**Harry Frederick Harlow** was a prominent American psychologist best known for his groundbreaking experiments on maternal separation, dependency needs, and social isolation in rhesus monkeys. His research, conducted primarily at the University of Wisconsin-Madison, fundamentally challenged prevailing behaviorist views of attachment, which posited that infants bonded with caregivers primarily due to the provision of sustenance. Through meticulous and often controversial studies, Harlow compellingly demonstrated that factors such as physical contact, warmth, and companionship - what he termed "**contact comfort**" - were profoundly crucial for normal social and cognitive development.

Harlow's work meticulously illustrated that the emotional and psychological bonds between an infant and its primary caregiver extend far beyond basic physiological needs. His findings were instrumental in shifting scientific and public understanding of the critical role of early life experiences, particularly the quality of caregiving, in shaping an individual's psychological well-being. By observing the profound and often irreversible psychological disturbances in monkeys subjected to various forms of maternal deprivation and social isolation, Harlow underscored the intricate link between early social interaction and healthy developmental trajectories. His legacy includes not only significant advancements in the understanding of attachment but also considerable ethical debates surrounding animal research.

### 2. Early Life and Education

Born Henry Israel in Fairfield, Iowa, in 1905, Harlow later changed his name to Harry Frederick Harlow in 1930 to avoid antisemitic prejudices common in academia during that era. His academic journey began at Reed College in Portland, Oregon, before he transferred to Stanford University in 1924. At Stanford, he initially pursued political science but soon shifted his focus to psychology, where he was mentored by the eminent psychologist Lewis Terman, known for his work on intelligence testing and the Stanford-Binet IQ test. Harlow earned his bachelor's degree in 1927 and went on to complete his Ph.D. in psychology from Stanford in 1930.

During his doctoral studies, Harlow's interest in experimental psychology solidified, particularly in areas concerning learning and motivation. His early research involved studying brain lesions in rats and their effects on learning. This foundational experience in experimental design and animal

research set the stage for his later, more complex investigations involving primates. Upon receiving his doctorate, Harlow accepted a professorship at the University of Wisconsin-Madison, where he would spend the entirety of his distinguished career, establishing a world-renowned laboratory that would become synonymous with primate research.

### 3. The Wisconsin Primate Laboratory

Upon arriving at the University of Wisconsin-Madison in 1930, Harry Harlow faced the challenge of establishing a dedicated research facility for his work with primates. He recognized the limitations of studying simpler organisms for understanding complex psychological phenomena and advocated for the use of non-human primates, particularly rhesus monkeys, due to their physiological and behavioral similarities to humans. Over the next several years, he meticulously built what would become the Wisconsin Primate Laboratory, a state-of-the-art facility equipped for raising and studying large colonies of monkeys under controlled conditions.

The laboratory quickly became a hub for innovative research, attracting numerous students and researchers interested in comparative psychology and primate behavior. Harlow's initial work at Wisconsin focused on developing a reliable method for measuring learning and intelligence in monkeys, leading to the creation of the Wisconsin General Test Apparatus (WGTA), a standardized testing chamber that allowed for precise control over experimental stimuli and responses. This apparatus facilitated a wide range of cognitive studies, but it was his burgeoning interest in the emotional and social development of primates that would eventually lead to his most influential and controversial findings, fundamentally altering the scientific understanding of attachment.

### 4. Groundbreaking Research on Maternal Deprivation and Attachment

Harry Harlow's most significant contributions stemmed from his pioneering research into the nature of maternal love and the devastating effects of maternal deprivation. Prior to his work, the dominant psychological theories, particularly those influenced by behaviorism, proposed that infants primarily bonded with their mothers through a process of conditioned reinforcement, where the mother became associated with the reduction of primary drives such as hunger through feeding. Harlow's meticulous observations and experiments directly challenged this "cupboard love" theory, suggesting that a deeper, more fundamental need for comfort and security drove attachment.

His research was motivated by practical observations within the Primate Laboratory. Infant monkeys raised in sterile, isolated environments to prevent disease often exhibited severe behavioral abnormalities, despite receiving adequate nutrition. This led Harlow to question the prevailing emphasis on feeding as the sole determinant of attachment and to design experiments

that would isolate the variables involved in the mother-infant bond. These studies, conducted over several decades, systematically explored the components of maternal care and the consequences of their absence, providing empirical evidence that revolutionized developmental psychology.

#### 4.1. The Surrogate Mother Experiments (Contact Comfort)

One of Harlow's most iconic and influential series of experiments, conducted in the late 1950s, involved the use of "surrogate mothers" to investigate the concept of contact comfort. Baby rhesus monkeys were separated from their biological mothers shortly after birth and reared with two types of inanimate surrogate mothers. One surrogate was constructed from wire mesh, providing milk through an attached feeding bottle, thus fulfilling the infant's nutritional needs. The second surrogate was also made of wire but was covered with soft terry cloth, offering a tactile sensation of warmth and softness, but initially without providing food.

The results of these experiments were stark and profoundly counter-intuitive to the established theories of the time. Harlow found that the baby monkeys exhibited a pronounced and overwhelming preference for the soft, terry cloth surrogate mother, clinging to it for the vast majority of their time, even when the wire mother was the sole source of nourishment. When frightened or stressed, the infants invariably sought refuge and comfort from the cloth mother, regardless of which surrogate provided food. This demonstrated beyond doubt that the need for physical comfort and security, or "contact comfort," was a more powerful determinant of attachment than the provision of food, fundamentally challenging the behaviorist model of maternal bonding.

#### 4.2. Social Isolation Experiments

Building upon his findings regarding contact comfort, Harlow extended his research to explore the long-term effects of social deprivation. In a series of increasingly ethically controversial experiments, baby rhesus monkeys were subjected to varying degrees and durations of social isolation. Some monkeys experienced "partial isolation," where they were housed individually in bare wire cages but could see and hear other monkeys. Others were subjected to "total isolation," placed in individual stainless steel chambers designed to eliminate all contact with other living beings, providing no social interaction whatsoever. These periods of isolation ranged from a few months to over a year.

The consequences of these isolation experiments were severe and deeply unsettling. Monkeys who experienced partial isolation exhibited profound behavioral abnormalities, including repetitive, stereotypical behaviors such as blank staring, compulsive circling within their cages, and alarming instances of self-mutilation, such as biting their own limbs. Those subjected to total isolation displayed even more extreme psychological disturbance; upon release from their isolated environments, they often experienced what appeared to be emotional shock, characterized by a

catatonic-like state, fear, and profound social deficits. Harlow also observed that subsequent attempts to socialize these severely isolated monkeys, even with younger, normal peers, were only partially successful, suggesting that there might be critical periods for social development that, once missed, are difficult or impossible to fully recover.

## 5. Key Contributions and Theoretical Impact

**Challenged Behaviorist Theories of Attachment:** Harlow's most significant contribution was providing empirical evidence that disproved the prevailing "cupboard love" theory, which held that attachment was solely a secondary drive learned through feeding. His work demonstrated the primary importance of contact comfort and emotional security in forming primary bonds.

**Pioneered Research on Maternal Deprivation:** His systematic studies on the effects of maternal and social deprivation highlighted the critical role of early social experiences in healthy psychological development. He showed that the absence of adequate caregiving leads to severe and often irreversible behavioral and psychological disturbances.

**Influenced Attachment Theory:** While not the originator of attachment theory, Harlow's findings provided crucial empirical support for the theoretical constructs later developed by John Bowlby and Mary Ainsworth. His work helped establish the scientific foundation for understanding the innate need for proximity to a caregiver and the profound impact of secure attachment on later life.

**Emphasized the Importance of Early Intervention:** By demonstrating the long-lasting negative effects of early deprivation and the limited success of later interventions, Harlow's research implicitly underscored the importance of early intervention and the provision of adequate care during critical developmental windows.

## 6. Intellectual Context and Influence on Child Rearing

Harry Harlow's research emerged during a period of intense debate in psychology and child development, particularly concerning the optimal approaches to child-rearing. The mid-20th century saw a strong emphasis on strict, scheduled feeding and a fear of "spoiling" children through excessive affection, partly influenced by behaviorist principles. Within this context, Harlow's findings were revolutionary, directly contradicting the notion that emotional distance and rigid routines were beneficial. His work provided scientific evidence that warmth, affection, and physical contact were not merely pleasant but absolutely essential for healthy psychological formation.

The implications of his research quickly extended beyond academia. Harlow's vivid demonstrations of the devastating effects of the lack of "contact comfort" and social interaction had a profound influence on child-rearing practices, particularly within institutional settings such as orphanages

and hospitals. Before his work, many such institutions prioritized hygiene and efficiency over emotional care, often leading to conditions that mirrored the social isolation experienced by his monkeys. Harlow's findings spurred reforms, advocating for more humane and emotionally supportive environments for children, emphasizing the need for consistent, affectionate human contact for infants and young children in institutional care.

Furthermore, his work resonated with emerging humanistic psychology movements and contributed to a broader societal shift towards valuing emotional bonds in family life. It provided a scientific underpinning for the common-sense belief that love and affection are vital components of child development, thereby influencing parenting advice, early childhood education, and social welfare policies aimed at supporting healthy family environments.

## 7. Criticisms and Ethical Debates

Despite the profound impact of his scientific contributions, Harry Harlow's research, particularly his social isolation experiments, has been the subject of intense ethical scrutiny and widespread criticism. The deliberate infliction of severe psychological suffering on sentient beings, even non-human primates, raised serious questions about the morality of such experimental designs. Critics argued that the extreme measures of isolation and deprivation employed by Harlow caused immense and irreversible harm to the monkeys, leading to profound and lasting distress, abnormal behaviors, and a quality of life that many considered unacceptable.

The ethical concerns center on the principle of animal welfare and the justification of suffering for scientific gain. While Harlow's experiments undeniably yielded crucial insights into attachment and development, the severity of the psychological damage inflicted on the monkeys led to calls for greater regulation and oversight in animal research. His work became a powerful focal point for the emerging animal rights movement, which used his experiments as prime examples of the ethical dilemmas inherent in psychological research involving animals.

In subsequent years, these criticisms contributed significantly to the development of stricter ethical guidelines for animal research, emphasizing the "3 Rs": Replacement (using non-animal methods where possible), Reduction (minimizing the number of animals used), and Refinement (improving experimental techniques to minimize pain and distress). While the scientific community acknowledges the historical significance of Harlow's findings, his methodologies remain a stark reminder of the ethical responsibilities inherent in experimental research.

## 8. Major Works

Harlow, H. F. (1958). *The Nature of Love*. *American Psychologist*, 13(12), 673-685.

Harlow, H. F., & Zimmermann, R. R. (1959). *Affectional responses in the infant monkey*. *Science*, 130(3373), 421-432.

Harlow, H. F., & Harlow, M. K. (1962). Social deprivation in monkeys. *Scientific American*, 207(5), 136-146.

Harlow, H. F., & Harlow, M. K. (1966). Learning to love. *American Scientist*, 54(3), 244-272.

## 9. Legacy

Harry Harlow's legacy is complex, marked by both profound scientific achievement and enduring ethical controversy. His groundbreaking research irrevocably changed the landscape of developmental psychology, providing undeniable empirical evidence for the critical importance of emotional bonds and physical comfort in early development. He debunked purely reductionist views of attachment, paving the way for a more holistic understanding of human and primate social needs. His work provided a crucial foundation for the development of attachment theory, profoundly influencing subsequent research on parent-child relationships, child development, and the impact of early life experiences on mental health.

Beyond academia, Harlow's findings had a tangible impact on practical applications, leading to significant improvements in child-rearing practices in institutions and fostering a greater appreciation for the role of affection in family life. However, his methods also serve as a stark reminder of the ethical considerations inherent in scientific inquiry, particularly when involving animal subjects. The discussions and reforms prompted by his work have contributed to the establishment of more stringent animal welfare guidelines, shaping the modern landscape of ethical research.

Ultimately, Harry Harlow remains a pivotal figure whose controversial yet undeniably influential work reshaped our understanding of love, attachment, and the fundamental psychological needs that drive social creatures. His experiments continue to be studied, debated, and reflected upon, underscoring the enduring power and sometimes problematic nature of scientific exploration into the most profound aspects of existence.

## Further Reading

[Harry Harlow - Wikipedia](#)

[Rhesus Macaque - Wikipedia](#)

[Contact Comfort - Wikipedia](#)

[Maternal Deprivation - Wikipedia](#)

[Attachment Theory - Wikipedia](#)