ence in the excitability of individual neurochemical systems. He suggests that children with very excitable systems tend to be timid, anxious, and inhibited, and those with less excitable systems tend to the opposite. These two types of individuals correspond to the “melancholic” and “sanguine” temperaments, first described by the ancient Greek physician Hippocrates. Likewise, they correspond to the introvert and the extrovert described by Carl Jung. In the second century A.D., the Roman physician Galen argued that these temperaments were determined by a combination of biological inheritance and environmental factors. Kagan’s research suggests that Galen was correct. Kagan published Unstable Ideas: Temperament, Cognition, and Self in 1989.

Questions continuity of development and parental influences

In his book Three Seductive Ideas (1998), Kagan argued against “infant determinism,” the widespread belief that experiences and parenting during the first three years of a child’s life are the most important determinants of adult personality. To Kagan, this assumption is unproven, and perhaps unprovable. He also argued against the common belief that development is a continuous process from infancy to adulthood. Rather, he believes that it is discontinuous process.

Kagan’s many writings include Understanding Children: Behavior, Motives, and Thought (1971), Growth of the Child (1978), The Second Year: The Emergence of Self-Awareness (1981), and a number of cross-cultural studies of child development. He has coauthored numerous editions of a widely used introductory psychology text. In 1982, he was awarded the Wilbur Lucius Cross Medal from Yale University. He also is a recipient of the APA’s Distinguished Scientist Award. Kagan is on the editorial board of the journals Child Development and Developmental Psychology, and is active in numerous professional organizations.

Margaret Alic

Further Reading


Kallikak family

Pseudonym for a family involved in a psychological study of the hereditary aspects of intelligence.

The history of intelligence testing in the United States has been troublesome from the beginning. Although psychologists attempted to conduct legitimate research and apply psychological knowledge to the study of intelligence, some of the early work was quite unscientific and led to dubious results.

One case involved the descendants of an anonymous man referred to as Martin Kallikak. This man produced two different lines of descent, one with a supposedly “feebleminded” bar maid with whom he had had sexual relations and one with his wife, reputed to be an honest Quaker woman. The offsprings from the two women generated two lineages that could not have been more different. The pseudonym “Kallikak” was taken from two Greek words: kallos, meaning beauty (referring to the descendants of the Quaker woman) and kakos, meaning bad (referring to the descendants of the bar maid).

The psychologist Henry Goddard (1866-1957) investigated these two groups over a two-year period. According to psychology historian David Hothersall, Goddard discovered that the inferior branch of Martin Kallikak’s family included “46 normal people, 143 who were definitely feebleminded, 36 illegitimate births, 33 sexually immoral people, 3 epileptics, and 24 alcoholics. These people were horse thieves, paupers, convicts, prostitutes, criminals, and keepers of houses of ill repute. On the other hand, Quaker side of the family included only 3 somewhat mentally “degenerate people, 2 alcoholics, 1 sexually loose person, and no illegitimate births or epileptics.”

These patterns of behavior were believed to be the results of heredity, rather than environment, even though the two environments were radically different. Goddard also believed that intelligence was determined by heredity, just like the inclination toward prostitution, theft, and poverty.

Goddard was also a supporter of the eugenics movement in the United States. One of the solutions that he proposed for controlling the creation of the “defective classes” was sterilization, which he advocated as being as simple as having a tooth extracted. Later in his career, Goddard retracted some of his earlier conclusions and maintained that, although intelligence had a hereditary basis, morons (at that time a technical term) might beget other morons, but they could be educated and made useful to society.

See also Jukes family; Nature-nurture controversy
George Alexander Kelly

1905-1967
American psychologist best known for developing the psychology of personal constructs.

George Alexander Kelly, originator of personal construct theory of personality, was born on farm near Perth Kansas. He was the only child of Elfleda Merriam Kelly and Theodore Vincent Kelly. Kelly’s father trained for the Presbyterian ministry but gave that up and moved to the farm soon after wedding Kelly’s mother. When Kelly was four, his family moved to Eastern Colorado to make a claim on land given to settlers for free by the U. S. government. Because no water could be located beneath the land, the family moved back to the Kansas farm.

Kelly’s early schooling was, by his own words, “rather irregular.” He attended various grade schools and was also schooled at home, an obligation his parents took seriously as they were themselves relatively well educated. After age 13 he was sent away to school and attended four different high schools. When he was 16 he transferred to Friends University academy in Wichita, Kansas. There he took a mix of college and academy courses. He then transferred to Park College, Missouri, where he graduated in 1926 with a bachelor’s degree in mathematics and physics. During these years he became involved in his college debate team, and was seen as an excellent speaker.

He had planned on going into engineering after college, but his success at debating, and the fact that it provoked his interest in social issues, made him wonder about the real value of an engineering career. Thus, the following fall he entered the educational sociology program of the University of Kansas with minors in sociology and labor relations. In the fall of 1927, with his master’s thesis (a study of how Kansas City workers distributed their leisure time activities) incomplete, he moved to Minneapolis. He had sent out many applications for teaching jobs with no success. There he taught three nights a week, one night each for three different schools. He enrolled in the University of Minnesota in biometrics and sociology but was forced to leave after a few weeks, when the school found out he had to been able to pay his fees. He finished his master’s thesis in 1927.

In the winter of 1927 Kelly got a job at Sheldon Junior College in Sheldon, Iowa, teaching psychology and speech, and coaching drama. He spent one and a half years there. He then spent a summer at the University of Minnesota, and some months in Wichita, Kansas as an aeronautical engineer for an aircraft company. He then went to the University of Edinburgh, Scotland as an exchange student, where he received his Bachelor’s in Education in 1930. He then enrolled in the University of Iowa and received his Ph.D. in psychology in 1931. His doctoral dissertation was on common factors in reading and speech disabilities.

He married Gladys Thompson just two days after attaining his Ph.D. In 1931, Kelly accepted a faculty position at Fort Hays Kansas State College (now called Fort Hays State University) where he was to remain for 12 years. He had wanted to pursue work in physiological psychology but found little opportunity to do so. So he turned his attention to an area he felt needed some work—providing clinical psychological services to adults and school-aged children on the university’s campus. These services included counseling (vocational and academic), academic skill development, psychotherapy, and speech therapy.

Eventually, there was a demand for these services beyond campus, and Kelly developed a program for a clinic that traveled to schools in rural Kansas, there providing diagnostic formulations and treatment recommendations for students, typically twelve per day. At this time the United States was in the grips of a severe economic depression and the Midwest had experienced a major drought. Economic devastation was commonplace and many families were distressed. Kelly and his crew of four to five undergraduate and graduate students found people who had serious problems in their daily living. The need for these services was so strong and publicly recognized that the state legislature funded the traveling clinic directly through a legislative act.

He found that Freudian approaches to psychological problems worked to help some of the people he saw, but that his own formulations also worked if they were relevant to the person’s problem and provided the person with a different way of looking at the problem. In these constructions one can see the seeds of Kelly’s constructive alternativism. In his view, different people have alternative ways of looking at the world, and each view can capture some element of truth. None are right or wrong, all views are constructed by the individuals and reflect reality for them. In a way, people construct their own reality.

Further Reading