

Intelligence: more than genes or exposure

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Intelligence: More than Genes or Exposure A 10-month old baby girl was observed to exhibit aggressive behavior towards people around her. To get what she likes, she would forcibly stomp her feet in successive manner to emphasize her communication until the object of desire was given to her. Such aggressive behavior was also observed with her cousin who lives in a nearby town. There was no means by which the behavior was acquired by imitation since they grew separately in different rearing environment. When referred to a pediatrician, she wondered whether heredity has more to be credited with the manifestation of such behavior than the environment the child has been exposed to.

Heredity has long been credited with the transfer of traits specifically physical attributes and even abstract concepts such as personality, aggression, sexual orientation and intelligence. On the other hand, researches claim the influence of conditioning to exhibit desired traits even the abstract ones among individuals. Nature endows man with inborn abilities and traits; nurture takes these genetic tendencies and molds them as men learn and mature. In the given case of the 10-month old baby girl, as observed genetics is more influential than environment.

Environment influences behavior even in the early stages of human development (Feldman, 2000). Some scientists feel that the other factor that influences a child's behavior is the unique environment that children create for themselves (McEluwe, 2003). Studies however have consistently shown that as much as 50 percent of all temperamental and behavioral tendencies are determined by genetics (Glass, 1999). These traits include extroversion, agreeableness, neuroticism, conscientiousness and openness to experience.

" Researchers have found that when children display the same

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characteristics in a variety of settings, it is usually because of genetic influences. A child who has inherited a predisposition to be aggressive or conscientious will display these traits both at home and at school" (Harris, 2007).

Aggression and sexual behavior are influenced by testosterone, and testosterone is synthesized by enzymes, which are proteins encoded by deoxyribonucleic acid (DNA). Thus one can see how genes would influence these behaviors. All behavior, furthermore, depends on chemical signals (neurotransmitters) that are released by one neuron and bind to receptors on the next neuron. Neurotransmitters, too, are synthesized by enzymes encoded by DNA, and their receptors are proteins as well. Neurotransmitter levels control mood and probably aspects of personality (Saladin & Lewis, 2007).

Numerous experiments have demonstrated a link between behavior and the activity of dopamine receptors in response to an aggressive event. They found that an " individual will intentionally seek out an aggressive encounter solely because they experience a rewarding sensation from it," and " this shows for the first time that aggression, on its own, is motivating, and that the well-known positive reinforcer dopamine plays a critical role." Moran (2008). The aggressive stomping is more likely done by the child as influenced by her genetic makeup to get the desired reward. To prove further the genetic basis of aggressive behavior, " scientists have identified a gene that may increase the risk for impulsivity and violence, particularly in men" (Carey, 2006). The gene which produces monoamine oxidase A (MAO-A)--a substance that previous studies have associated with impulsive violence has two versions -- MAOA-L, which produces low levels of MAO-A, <https://assignbuster.com/intelligence-more-than-genes-or-exposure/>

and the high level version, MAOA-H. This identification of these gene variants further deepens and widens the argument whether nature or nurture is to blame for disagreeable behavior. With the number of researches and studies on the factors influencing aggression, genetic influence proves that nature is a heavy factor of human behavior.

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