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## The Biology of Personality

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### Evolution, Genetics and the Brain

Personality is indeed a complex field of study that evolution, genetics and biology have been explored to explain its different aspects.

The banner features the Explorable logo and the text "Quiz Time!". Below this, there are three quiz cards:

- Quiz: Psychology 101 Part 2** (Image: A pair of red roller skates on a wooden deck)
- Quiz: Psychology 101 Part 2** (Image: A fan of colorful pencils)
- Quiz: Flags in Europe** (Image: A Ferris wheel at sunset)

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## Personality and Evolution

There are several theories that can show us the theorists' evolutionary perspectives on personality. The two most common theories include:

### 1. Theory of Natural Selection

This theory outlines the process how humans have been adapting to our changing environment. This theory is based on the "survival of the fittest" principle, in which biological changes called "variants" enable us to surpass other organisms or even nature's forces. The attributes that we used to survive the daily situations we face are the components of our personality.

### 2. Theory of Sexual Selection

This theory argues that instead for the sake of survival, our characteristics are developed over

time due to the benefits of a maximized reproduction success This theory involves two concepts: intrasexual selection, which are attributes crucial to attracting the opposite sex, and intersexual selection, which are characteristics aimed at intimidating or defeating same sex rivals. In relation to personality, these two different ways of realizing sexual selection enable us to develop the manner in which we respond to competitions and other day-to-day circumstances, thus building up our personality traits.

## Genetics and Personality

One of the most fascinating fields of study involving personality is personality genetics. This scientific field involves genotyping of subjects and quantifying their personality through a standardized personality test. Throughout the years, researchers have found out that several genes can be linked to the emergence of personality traits. For instance, there is a possible link between the serotonin transporter gene and the trait called neuroticism, or the tendency to experience negative emotional states like anger, anxiety and loneliness. Another gene called AVPR1A is linked to the “ruthlessness trait of a person. Yet another gene abbreviated MAOA may be responsible to the bold, warrior-like personality trait.

## The Brain and Personality

Modern psychological scientists have discovered that the sizes of various brain parts are linked to different personality traits. A study at the University of Minnesota involved 116 subjects who were asked to answer a personality questionnaire and undergo a brain imaging test wherein the sizes of the regions of their brains would be taken. They sorted these people according to the five factors of personality traits called the Big Five (conscientiousness, agreeableness, extraversion, openness, and neuroticism). True enough, the researchers found out that extraverted people have significantly larger medial orbitofrontal cortex, which is located above and behind the eyes. People who are conscientious tend to have bigger lateral prefrontal cortex; neurotic people have larger brain regions that responsible for negative emotions; agreeable ones have larger regions that enable us to understand others’ emotions and thoughts. Brain regions corresponding to openness/intellect are still not clear. However, this interesting study has contributed a lot in our understanding of the relationship between the brain and our personality.

Some people believe that biology has something to do with the development of our respective personality types; others don’t. Whether you agree to the relationship between biology and personality, what’s more important is that we aim to develop positive personality traits and eradicate negative ones.

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