Discuss the role of genes and hormones in gender development (8+16 marks)

AO1
Supporters of the biological approach believe that genes and hormones are what effects gender development. Genes are what determines your sex as male or female. The male chromosomes being XY and the females XX. The sex chromosomes have a direct link with gender development and also the development of external and internal genitalia. Genetic transmission explains aspects of gender due to the link between genes, genitalia and hormones.

AO1
At 6 weeks, the testes and ovaries develop and begin to produce different levels of sex hormones, oestrogen and testosterone. Hormones actually have an even bigger impact on gender development, produced both prenatally and in adolescence, they govern a lot of your development. Testosterone is the male sex hormone, produced by the testes, this hormone is what triggers changes like facial hair and muscle growth. On the other hand, oestrogen is produced by the ovaries and is the female sex hormone. This triggers the onset of menstruation and breast growth.

AO2
Geshwind and Gallaburda (1987) stated that sex differences may be caused by the release of testosterone. They believed that as male brains are exposed prenatally to testosterone, they have a more masculinised brain, the reason why men are better at spatial navigation and women better and socialising and empathising. Therefore suggesting that hormones have an effect on sex differences in men and women.

AO2 + AO3
Quadagno et al (1997) decided to test Geshwind and Gallaburda’s theory; they used female monkeys who were deliberately exposed to more testosterone prenatally. The study showed that female monkeys who had more testosterone engaged in more rough and tumble play than female monkeys who had less, therefore supporting Geshwind and Gallaburda’s theory. Although the use of monkeys in this study makes it difficult to generalise to humans as we are more complex, suggesting that biology may not be the only influence on gender development.

AO2
Hines et al (1994) refuted the theory that testosterone effects sex differences and gender development. Hines studied a group of 3-8 year old girls with congenital adrenal hyperplasia (CAH). This is a condition in which girls are exposed prenatally to testosterone and have varying degrees of male external genitalia. When compared to a control group of girls while playing with boys, Hines found no difference in the amount of rough and tumble play. This study therefore supports the nurture debate as the environment has had an impact on the girls behaviour.

AO2
Deady et al (2006) supported the biological approach that hormones can affect gender development and sex differences. Deady studied 25 young women whom he asks about their attitudes to having children. He also measured the amount of testosterone in their saliva. The study found that women with higher levels of testosterone positively correlated with less maternal drive or desire to have children. Although this is a correlational study so we cannot fully determine cause and effect.

AO2
Some XY individuals, males, have an insensitivity to hormones such as testosterone, and in some extreme cases no external male genitalia is formed. These individuals are usually identified as females at birth and raised as females. A famous case of this was reported in the Dominican Republic in the Batista Family where four of their male children had Androgen Insensitivity Syndrome (AIS) and were raised as females. During puberty their male genitalia formed and after this all the former females reassigned to male with little difficulty. This supports the biological approach that it is nature that is more significant in determining gender.

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