

The nature and nurture theories of aggression psychology essay



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To what extent is human aggression a factor of the Nature or Nurture theories of behaviour? Human behaviour is continuously debated between scientists assessing the factors that greatly influence and shape human behaviour. This essay will focus on the biological and behavioural approaches that explain the aggressive behaviour. The two theories in this debate are the Nativist (Nature/Innate) and the Empiricist (Nurture/Learned) theories. While nativists (Nature Theory) believe that our behaviour and interactions depend upon inner established mechanisms, empiricists (Nurture Theory) link our behaviour to our experiences.

The Nature theory will be explained by looking at the genetic makeup, and the sex hormones in particular the testosterone hormone studying its effects on aggression in both males and females. Finally, the role of the neurotransmitter dopamine in the management of exhibiting aggression, particularly in competitive situations, will be examined. This paper will describe these inherited characteristics using the work of Dollard (1939), Dalton (1961) and others. The paper will then go on to explain the nurture theory based on empiricist (environmentalists) studies.

Bandura's experiment on Social Learning Theory (SLT) in 1961 will be presented supporting the learned behaviour approach (behaviourist). This will then lead to studies on the effect of media on behaviour that will be described to demonstrate the positive correlation between watching media violence and demonstrating the aggressive behaviour. Finally, the limitations of both ends of this behaviour approaches continuum will be discussed.

This essay concludes that aggressive behaviour is a result of a dynamic pool of interactive personal, dispositional, environmental and genetic factors. Both biological and behavioural approaches provide supported evidence that aggression is either Nature or Nurture examined. However, to understand the full effect of the two theories, further studies based on a variety of culture and age groups should be examined.

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Introduction

The UK Home Office publishes regularly reports on the youth crime in England and Wales. In 2009/2010, it estimated that around a million reported cases (23 per cent of police recorded crime) were attributed to young people between 10- to 17-years-old, a ratio of one in four incidents of police recorded crime for that period (Home Office, 2009/2010). These are alarming numbers and policy changes were recommended in order to better understand the factors that lead to youth violence for efficient preventative measures.

There have been several horrific cases of juvenile aggression that shocked communities as there was no apparent or direct cause for such actions. Below are two examples of young people in which their person's factors, both genetic and learned, may have well contributed to their aggressive behaviours towards their families. The first case is that of Jasmine Richardson, a 12 year old girl from Canada who murdered her family, because they objected to her choice of boyfriend. The parents realized that their daughter was growing distant and aggressive, identifying herself with her boyfriend's Goth cult rather than with her family unit. It is possible that she saw their objection to this relationship as a threat to her social identity. A month before the murder, she emailed her boyfriend, " I have a plan. It begins with me killing them and ends with me living with you." (Lohr, Investigation Discovery, 2006). Jasmine was not in an abusive environment and is unlikely to have learned this behaviour from home. Tajfel and Turner research on Social Identity Theory (1979) linked similar aggressive behaviour to the desire to eliminate threat to the group that the person identifies with. Jasmine was sentenced to ten years with four and a half years in a psychiatric clinic. At the end of her treatment in the clinic, she was still unable to understand the severity of her crimes. This poses the question over the success of her rehabilitation program, and might be suggestive of her genetic disposition to " aggression" and therefore, it could be argued that her behaviour was driven by her nature.

The second case is of Joseph McVay, a 10 year old boy from Ohio USA, murdered his mother over a firewood row. He did not want to fetch the wood. Joseph lived in an aggressive home environment and was the victim of

long and numerous episodes of physical, verbal and emotional abuse from both of his parents. Consequently, as children model their behaviour on their parents, he started to show signs of anger and aggression towards his friends, teachers and staff at his school. This case of Joseph is a good example where we could suggest that aggression is strongly influenced by environmental factors, or nurture.

This paper will analyse to “ what extent is human aggression a factor of the Nature or Nurture theories of human behaviour? “ The Nature theory will be explained by looking at genetic makeup, hormones in particular the testosterone hormone and the effects on aggression in both males and females, and finally the role of the neurotransmitter dopamine in the management of exhibiting aggression particularly in competitive situations. At the other end of the behavioural approaches continuum, the Nurture theory will be explained by examining Bandura’s (1961) Social Learning Theory, the influence of media on aggression as researched by Heusmann et al (1986) and Anderson’s (2002) research on the effects of exposure to media violence.

Aggression: Definition and Types

We need first to define aggression. Bushman and Anderson defined aggression in the Annual Review of Psychology 2002 as “ any behaviour directed towards another individual that is carried out with the proximate intent to cause harm.” Anderson et al argue that people are more likely to react aggressively to aggressively stimulating situations. The level, severity and intensity of the aggressive response vary with his personal factors that determine the individual’s readiness to aggress. “ Person factors include all

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the characteristics a person brings to the situation, such as personality traits, attitudes, and genetic predispositions.’ (Anderson et al, 2010).

There are two forms of aggression, hostile and instrumental. Hostile is where the aggressive behaviour is driven by anger and is a thoughtless and unplanned action and is as an end in itself, whilst instrumental is a premeditated and proactive action, resulting in a desired goal.

To take this further, examples of hostile aggression include verbal (defiance, threats, swearing and bossing), physical aggression (kicking, spitting and fighting) and vandalism (destruction, damage to property and theft). An infamous example of this type of aggression was demonstrated by French footballer, Zinedine Zidane’s at the 2006 world cup final match. Zidane head butted Italian player, Marco Materazzi in the chest, and claimed that he had reacted to insults directed at his sister and mother. As a consequence, this was his last ever professional match. (Telegraph Sport, 2012)

On the other hand, instrumental aggression is an aggression that is not performed with the intention to cause harm but rather, it is used to achieve a “ good” result Baron (1977). Berkowitz, (1993), sees aggression as a set of goal-directed behaviours. An aggressive team is more likely to be a winner and an aggressive player is more likely to win the trophy”. In fact, Russel, (1993) concluded that we not only tolerate aggression in sports events, but all people from the spectators, to media and sports associations even encourage it and give it their blessings (Tenenbaum et al, 1997). Newbery, BBC Sport Reporter, January 24 2012: “ Federer is the more naturally aggressive and Murray a counter-puncher. I think it will be a very aggressive

match. Roger is going to attack him a lot, Andy is a great defender, but he cannot defend all the time. He also needs to step in and go for it.”

Biological Approach of the Nature Theory

Introduction

The Nature theory states that behaviours, such as aggression, are due to innate dispositions such as physiological, hormonal, neurochemicals and genetic make-up. The people who support this argument are known as nativists. The nativists accept that all characteristics of the human species as a whole are products of evolution, and that individual differences are due to a person’s genetic code. Nativist theorists such as, Bowlby (1958) and Dollard et al (1939) have conducted studies that provided evidence that human behaviour is innate.

Genetic basis of Aggression

Clearly, much behaviour is innate, such as a mother’s attachment to her children, the bond of partnership and love. John Bowlby (1958), a psychoanalyst, developed the evolutionary theory of attachment which suggests that children from birth are “ biologically pre-programmed to form attachment with others as it is a basic survival instinct” (Saul McLeod, 2007). Bowlby believed that attachment behaviours will be automatically activated by any conditions that seem a threat, such as fear, anxiety and separation. According to this theory, babies who stay close to their mothers are more likely to survive to adulthood and have children. We can presume that both attachment and aggression are inherited.

Dollard (1939) assumed that behaviour is created by an innate human need. He was an American Psychologist and social scientist, who formulated the frustration-aggression hypothesis. The hypothesis assumes that whenever a person is inhibited from reaching their goal, an aggressive drive is provoked which motivates behaviour that causes the individual to injure another or the object that is causing the frustration. This basic drive is like behavioural units of ability that are switched on or off as an appropriate challenge or task presents itself. In other words, we act on instinct. The "Fight or Flight" mechanism is an example of a behaviour that can be switched on or off as a self-defence mechanism. These responses are hormone-mediated, and are therefore controlled by specific genetic expressions.

In further support that aggressive behaviour is inherited (Nature theory) there have been several animal experiments have been conducted by scientists that provide evidence that aggression is innate. In 1995, researchers at Hopkins University discovered a gene that was responsible for excessively violent and overly aggressive sexual behaviour in male mice. The researchers observed that once they removed a gene, the mice became more aggressive (Nelson, 1995). Nelson and his team believed that the removed gene helped the mice moderate their levels of aggression and once it was removed the behaviour was difficult to control. This indicates that genes have a significant role to play in the level of aggression. Numerous other experiments have been carried out on animals and especially mice to prove this trait. They all show a direct correlation between testosterone and aggression. (Svare 1983; Monaghan and Glickman 1992). However, it is important to note that whilst research carried out on animals clearly provides

a better understanding of the effect of genes in aggression, caution must obviously be taken in extrapolating the results when trying to relate it to human behaviour. After all, human and animal brains are different, and human behaviour is far too complex for one gene to fully explain all aggressive behaviour.

However, genes need the right environment to express their phenotype characteristics. For example, an individual will grow to the height that is coded in the genes, given that the individual is well nourished and healthy. Malnourishment causes stunt growth and will stop the individual reaching the 'coded' height. The children of Guatemala have the highest rate of malnutrition in the Western Hemisphere. Their diet lacks of vital nutrients during the critical period of development from two years old, and as a result, all the children are at least six or eight inches shorter that they should be. (Gowen et al, 2010)

Role of Dopamine in Aggression

Dopamine is a neurotransmitter that is responsible for movement, formation of memory, mood, motivation and behaviour. Ingo Vernaleken et al (Society of Nuclear Medicine, 2012) investigated the effects of varying levels of dopamine on aggressive competitive behaviour in participants playing a video game. The results showed that participants who had a lower capacity to synthesise dopamine in the brain were more likely to act with aggression, which is the opposite of what the researchers initially hypothesised. Despite the surprising result, the study does support the Nature approach regarding the effect of the role that dopamine plays in aggression but it yet to be understood why it act as it does.

Role of hormones in Aggression

Testosterone in men, affects their sexual features and development. There have been other studies conducted on humans that focus on hormones and their affect on behaviour. Increased levels of testosterone in men are associated with aggressive and antisocial behaviour. This was demonstrated by Olweus (1988) who has shown that adolescent boys who have higher levels of testosterone were more likely to behave aggressively when provoked. In men there is a high correlation between the level of testosterone and dominance rather than aggression (Mazur et al, 1997, Seltzer, 2009) whereas in women, high levels of testosterone and aggression are strongly correlated.

According to Dalton (1961), testosterone in some women leads to antisocial behaviour, especially during the premenstrual period. The ratio of oestrogen

and progesterone during the menstrual period has been proven to cause physical and psychological problems such as aggression, irritability and changes in mood. However, the assumption is too vague to generalise that all women are capable of violent crimes during menstruation and it discards external factors such as, environmental causes (e. g. family problems) that may have resulted in the aggressive behaviour. His research found a significant difference in the number of women who have committed crimes and jailed during the premenstrual phase. The offenders were more aggressive and irritable during this time. In support of Dalton's research, Reinisch (1981) found that daughters of mothers, who were treated with a similar hormone to testosterone while pregnant, grew up to be more aggressive.

A sudden drop of progesterone level is known to be a primary trigger for post-natal depression (PND). Other factors that contribute to the onset of PND are anxiety in pregnancy and lack of support after the delivery. PND causes severe anxiety, irritability, negative thoughts and low moods among other depression symptoms. (Royal College of Psychiatrist). This combination of personal factors could lead to aggressive behaviours. An example of this is where Felicia Boots, mother of two, killed her young children. (BBC News, 30 October 2012)

Overall, these studies have demonstrated that there exists a strong link between hormones, testosterone in particular, and aggressive behaviour. However, the extent to which those hormones influence aggressive behaviour remains controversial.

The studies discussed so far have demonstrated that aggression has a chemical, hormonal, or genetic basis. Moyer (1976) further supported this speculation when he observed that a cat hissed and stroked at any object in its cage, when electrical impulses were given to specific parts of the hypothalamus (De Souza, 2007). It has been observed that a Laboratory rat bred in isolation that has never seen the aggressive behaviour of a wild rat can live in harmony with a mouse. However, when the hypothalamus is electrically stimulated, the rat attacked and killed the mouse, using a similar technique that its untamed kin uses. When the rat was injected with a neurochemical blocker in the same area of the hypothalamus that was previously stimulated, the rat then became temporarily peaceful. These responses provide evidence that animals have an innate aggressive drive that can become active or inactive, provided with the right stimulus (De Souza, 2001). Therefore, this may suggest that we react in the same way towards a stimulus when provoked.

Even though studies have shown that genetics can influence aggression, there are limiting factors. Aggression is more second nature to people than an uncontrollable outburst and is likely to be used as a self-defence mechanism. Situational factors are also significant, in attempting to explain how much discomfort was caused that resulted in the aggressive behaviour.

At the other end of the spectrum is Nurture. Those who adopt nurture as an idea, empiricists or environmentalists, presume that at birth, the human mind is a blank slate (*tabula rasa*), and this is constantly filled as a result of experience (i. e. behaviourism). In other words, the behaviour is learned and not innate.

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Behavioural Approach of the Nurture Theory

Introduction

The theory of nurture suggests that human behaviour is not innate but is learned. It involves aspects of human life that surround societal reasons for why aggression is demonstrated. The National Centre of Child Abuse and Neglect (NCCAN) estimated that approximately 23 per 1, 000 children are victims of maltreatment, including physical abuse, sexual abuse, and neglect (Sedlack & Broadhurst, 1996), as described by Margolin and Gordis (2004). Margolin and Gordis studied the psychological development of children exposed to violence in the family and community. They concluded that children who are in a damaged and abusive environment are more likely to become aggressive and become low achievers in their schools and communities. Therefore, family factors, peer influences and cognitive factors seem to contribute to the control and development of aggression (Sarah McCawley 2001). Bandura (1961), Rayner et al and Heusmann et al (1986) are theorists that have gathered supporting evidence to suggest aggressive behaviour is learned by observing others.

The following sections will describe the behavioural approach of the Nurture theory, by looking at the Social Learning Theory and The Script Theory.

Social Learning Theory (SLT)

Albert Bandura was a psychologist who developed the Social Learning Theory (SLT). He believed that “ most human behaviour is learned observationally through modelling: from observing others one forms an idea of how new behaviours are performed, and on later occasions this coded

information serves as a guide for action (1977).” (Law et al, Psychology, IB Diploma)

The theory assumes that individuals do not inherit behavioural tendencies, but learn by observing models, such as their peers and parents, and imitating their behaviour. In other words, individuals learn behaviour vicariously. In order to verify his Social Learning Theory, Bandura et al (1961) conducted a laboratory experiment to investigate if social behaviours, for example, aggression, can be acquired by imitation.

To support his theory, Bandura and his team showed young children, aged 3 to 6 years, a video of an adult model behaving aggressively towards an inflatable Bobo doll. He wanted to see if the children would imitate this behaviour. The children showed directly imitative behaviour, especially when the adult was rewarded (Law et al, Psychology, IB Diploma). This empirical study supported Bandura’s theory as it showed that behaviour is the result of learning. However, it is difficult to conclude whether the child has learned the behaviour because of demand characteristics, as the child may have only imitated the behaviour in order to be acknowledged as they were being observed. However, it can be argued by those supporters of the nature theory, nativists, that without inherited characteristics, the act of learning would not be possible.

Nevertheless, Bandura’s study has intrigued and inspired much research, such as Heusmann et al (1986) and Anderson et al (2001). These researchers investigated if exposure to media violence caused long-term effects and a longitudinal Meta analysis of the exposure to media violence respectively.

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Media influence and aggression

Huesmann et al (1986) investigated if exposure to media violence caused long-term effects in children. Forty-eight boys and girls in grades 1 and 3 in the Chicago metropolitan area participated. Also, participants of similar ages in Finland, Israel and Poland were included in this research. The study reinforced Huesman et al (1986) findings and concluded that children exposed to violence at an early age are very likely to demonstrate aggressive behaviour later on in life, regardless of initial levels of aggression, gender, social class, and IQ. In addition, children who “ identify more with characters and perceive TV violence as more realistic are influenced more (Heusmann et al 1986, Socio-cultural level of Analysis, pg. 28).” This suggests that the more the individual observes violence, while growing up, the more he is likely to become violent. This could lead to a higher chance of them committing crimes as an adult. However, the conclusion fails to address the possible effects of the environment on the individual’s behaviour. It would not necessarily have an impact on someone who has been raised in a secure and safe environment, and in this case, media violence may have little psychological or emotional impact, enough to create aggressive behaviour. The sample size was also inadequate and that would mean that the results cannot be generalized to an overall population.

In a second study, Anderson et al (2002) conducted a longitudinal meta-analysis on the effects of exposure to media violence for around 5, 000 participants. Although this analysis collated data from several other experiments based on several types of media violence such as online games and films, the television violence was by far the most researched. The results

of forty-two independent tests show a significant positive correlation of 0.17. Given these results, Anderson concluded that “high levels of exposure to violent TV programs in childhood can promote aggression in later childhood, adolescence, and even young adulthood”. (Influence of Media Violence on Youth, 2003). The study supports the Nurture theory as it confirms that children learn, model and imitate aggressive behaviour. However, further studies across cultures need to be conducted in order to compare and contrast results obtained in Western cultures.

A recent major study by Anderson et al, addressed this cross cultural concern. They specifically looked at the effects of violence in video games on aggression and prosocial behaviour. The results concluded that there is short term and long term effect of violence in video games and aggression. These findings were consistent across all cultures studied and gender.

All these studies show that Nurture influences and impacts aggressive behaviour but without the influence of genes, hormones or neurochemicals, the behaviour cannot be demonstrated.

Conclusion

In conclusion, aggression is the result of inborn and learned traits. It is convenient for some people to believe that individuals

Studies such as Bandura (1961) have shown that aggression is a behaviour that can be learned and modified. By the time a typical child finishes elementary school, he or she will have seen approximately 8,000 murders and more than 100,000 other acts of violence on TV (Huston et al., 1992), as

demonstrated in the media studies that showed strong correlation between violence in media and the behaviour.

This is not to say that without the gene, emotions such as anger would not occur in the first place. Therefore, despite the above research showing only the nature or nurture aspects of aggression, there is still ongoing research that addresses the question of how much each aspect actually contributes to the behaviour. A classic example of this would be the measure of intelligence via IQ. . Aggression is not universal and further studies across cultures need to be considered.

Using the advances in modern technologies, with brain imaging and scanning, there is hope that scientists will one day explain the reasons for aggression and why it is demonstrated, relying on both nature and nurture theories of aggression

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