

The nature nurture dichotomy is a theme always present in many areas of psychology. But is it right to talk about it as a dichotomy? , Certainly not. To say so would be like stating that they never act together, that they are contradictory and exclusive one from each other. Biological and environmental explanations of human behaviour do not need to be contradictory; the biological factors work inside of an environmental context, and this context is formed upon a biological base, that is why nature and nurture can not be a dichotomy.

But what does nature and nurture mean in psychology? Nature is everything determined in our genes by heritage; in one person half of these genes come from the mother and the other half from the father, and each individual with the exception of his or her identical twin has a unique genetic profile. This profile is the starting point, the biological base for the development of one person's character, personality or behaviour. The term nurture implies the environmental influences that act over the individual, like culture , family , friends and all the different circumstances that can affect and shape a person's behaviour.

Over the years much research has been done in the nature nurture controversy as to the source of the creation of human personality, and today nearly everyone agrees that both nature and nurture play crucial roles in human development . This outlook has come to be known as interactionism, and is the dominant system of belief among biologists and psychologists nearly everywhere.

The biological and environmental causes of personality development have been extensively studied. Eysenk (1967) who developed the type theory believed that behaviours were mainly determined by biology and he thought that different brain systems (ARAS and Lymbic system) were the ones controlling the two main personality dimensions that he established , (Extraversion-intraversion; Neuroticism-emotional stability). These differences in brain structure and its functioning is what he thought made personality genetically determined. However Zuckerman (1991) found this not to have a solid base. He realised that there was cases in what differences in the cortical arousal (controlled by the ARAS) were not so in intraverts and extraverts. Eysenk's explanations for these conflicts are based in that he realised that personality changes and gets adapted through the interaction of the person's inherited personality with the daily circumstances occurring in the

social world. Thus Zuckerman (1995) states that individuals are not born with certain type of personality due to brain configuration but with differences in reactivities of brain structures and levels of regulators that make humans to make different choices inside all the options that environments present. It would be then impossible for these genetic influences to operate if they wouldn't act inside an environment.

Another empirical approach to research biological bases of personality is the study of temperament in longitudinal studies starting very early in the life of babies. Two main temperaments were studied; cautionness and boldness (Kagan 1994). The reason to start these studies so early is the fact that is always hard to distinguish when is biology or environment affecting the temperament, so starting so early with very young babies the influence of the environmental factor is minimized. The consistency of temperament seemed to be relevant through childhood and adult life. But again it is not so sure that this is just due to biological causes. Factors of environment can also influence an individual to believe that he /she is in one way or the other because of heritage and this starts since the very early education. "Tuning might be an example of this. According to Stern (1985) this is "a maternal response to a baby's mood that neither exactly matches the baby nor is missattuned"(Thomas 2002, pg.326). Through this process the mother tries to shape the baby's personality while the baby tries to regulate herself. It is a clear example where biology and environmental causes (mother) act together, and depending on how the baby responds to it and assimilates this stimulus her behaviour will develop in one way or the other.

Social roles can determine as well certain behaviours that might seem inherited by the person but they could just be a process of identification, or a search for one's own identity, like Zimbardo (1975) showed in his role taking experiment. In this study a group of volunteers adopted a role of prisoner or guard in a simulated prison, and during the study it was shown that under different environmental circumstances and acting under different roles characteristics of behaviour were completely changed, until the point that some of the volunteers reached high levels of sadism, that were never found on prior psychological tests. Specially in the guards the fact that they became completely different persons made researches to question if these new personality traits were

biologically inherited but hidden or controlled through education during life or they just arose when exposed to the new situation. Again these different behaviours and changes of personality are a clear example of biological and environmental causes interacting with each other.

Probably the most influential research developed in the late 20th century has focused on twins who were separated at birth. In studying such pairs psychologists can be relatively certain that any behaviour the twins share has a genetic component and those behaviours that are different have environmental causes, even when these environment has been equally shared by the twins. These differences show that the stimulus and influences from the outside can be perceived in different ways and in the same way each individual acts over and modify their environment creating his own , existing an interaction that works in two directions.

It is clear then that there is not such a thing as nature nurture “dichotomy”. In this area of personality and its causes, genetic and environmental factors are both necessary and interactive to have a result in a person’s behaviour. Although biological explanations have been found to play a big role in personality they can’t explain on their own the complex development of personality. The effects of nature and nurture on personality and all the other psychological processes are joint and can not be separate.

References

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Question 1

(i)
lower bound; 17.62
upper bound: 28.18

(ii)
lower bound: 9.23
upper bound: 11.17

(iv)
The boxplot from the children's sample presents the media closer to the upper hinge which tells us that it is positively skewed distribution. The 10th, 28th, 37th, 39th, and 47th scores are extreme scores.

The adult's sample presents a normal distribution and just one extreme score. The whiskers are normally distributed around the box.

b)

(ii)
The error bar chart shows that the scores of children are considerably higher than the adults'. There is no overlap of the 95% C. Intervals of the two groups.

Question 2

(ii)
 $r=0.50$

(iii)
yes, the correlation is statistically significant

(iv)
 $N=107$, it is the number of participants for each correlation coefficient

(v)
There is a moderate positive association between stress and health. As stress increases so does health. The associated probability level $P<0.001$ showed that the result is highly unlikely to have arisen from sample error.

Question 3

(ii)

$r = -0.4$

(iii)

no it is not statistically significant

(iv)

$N = 48$

(v)

it means that the researcher had missing data from the variables.

(iv)

An improved SAT performance is moderately associated with amount of expenditure per pupil; as expenditure increases improved performance decreases although it is not statistically significant. The associated probability level of 0.001 shows that there is only a small chance (1%) that this correlation has arisen by sampling error.