

## **Influence on Human Character Formation: Environmental or Genetic?**

### **Abstract**

Each one of us has a specific kind of character mainly because of the effect of two major factors. The first is the genetic make-up which we inherit from our parents, and the second influence comes from the various experiences we have in our interaction with our surrounding environment. This includes all the things we see and hear from the time of birth and all the interactions we have with other people as we grow up. However, deciding which factor influences more is not easy. Therefore, an attempt is made in this study to resolve which is more influential by analysing the Biblical history and the questionnaire data provided by the opinion of other people. Analysis on questionnaire data shows that environmental influences such as religion, family background (the way they are brought up), and education can easily make a child of bad parents have good characters. Analysis on Bible characters, Cain and his brother Abel, the twins Jacob and Esau, and doubting Thomas, one of the disciples of Jesus, implies that the differences in their character may be due to the manner in which they are brought up, which falls under environmental influences. From the results of these analyses, it is concluded that the formation of human characters is more influenced by their environment than genetics.

### **1. Introduction.**

As we know, there is always a debate between whether formation of human characters is influenced by their environment or their genetics. It is agreed by many people that both of them are influencing the formation of character in humans [1-4]. There is no doubt on this, however, deciding “which is more influencing?” is important.

Family resemblance studies consistently show that individual differences in IQ scores are substantially influenced by genetic factors. In addition, individual differences in certain more specific cognitive abilities, including spatial skills and verbal proficiency, are also influenced by genes, as are differences in the timing and rate of mental development. Nevertheless, an enriched environment can boost a child's level of intellectual development considerably. Heredity contributes to many individual differences in temperament and personality, especially differences in emotionality, activity level, and sociability. However, the contribution of heredity to differences in these traits appears to

decline with age, as people's personalities become increasingly influenced by their life experiences [2].

It is clear from the brief summaries provided on twins, adoption, and family studies that there is no black or white answer to the age-old question of what contributes to human behaviour, personality, and psychopathology. In reviewing a multitude of twins, adoption, and family studies broaching a large variety of topics, it is clear to see that the foundation for each human being is diverse in structure. For some cases, genetics seem to dominate; in some other cases, environment explains all. In still more situations, it is a strong combination of the two factors that mould people to be who they are. This is a strong indicator that there will never be an umbrella response to the question, and that personality and psychopathology may always have to be rationalized on a case-by-case basis [3].

One study sought to determine the heritability of attitudes among twins, as well as the genetic variables, such as intelligence, that could affect attitudes among pairs of twins [5]. The results of the study showed that differences between attitudes of the participants were at least partially correlated to genetic factors. It also showed that attitudes related to self-reported perspectives or to activities were often correlated. Because of these numerous factors, it is still not possible to always accurately assume direct, singular relations between genetic traits and attitudes [5] (Olson et al., 2001).

A group of researchers from University of Chicago concluded from their research on the characters of identical twins that combination of the two factors heredity and environment influence the formation of characters in human [4]. However, they were unable to conclude which influences more. Therefore, an attempt is made in this study to resolve which is more influencing by analysing the Biblical history and the questionnaire data provided by the opinion of other people.

## **2. Methodology**

To decide which is more influencing, genetics or environment, in the formation of human characters, a survey was conducted among 110 people living in different geographical locations of the world. A web based questionnaire is formed in the internet to collect the opinion of other people. The questions included in the questionnaire of the survey are shown in table 1. The questions were carefully formed including some characters from the Holy Bible. The life of few important people recorded in the Bible were also analysed to make this decision.

## 2.1 A popular story from the internet

It is worth to mention here the popular story on internet, “Two twin boys were raised by an alcoholic father” [6]. One grew up to be an alcoholic and when was asked what happened he said that he had watched his father. The other grew up and never drank in his life when he was asked what happened he also said that he had watched his father. One boy has chosen to be survivor the other one chosen to be victim. The two boys had same dad but two different perspectives (fig. 1). Perspectives are not mostly inherited from parents, if so, both of them would have become alcoholic. Because it is developed from surroundings and social forces, one became alcoholic and the other become righteous. So, from this story we can understand that our perspective in life will determine our destination.

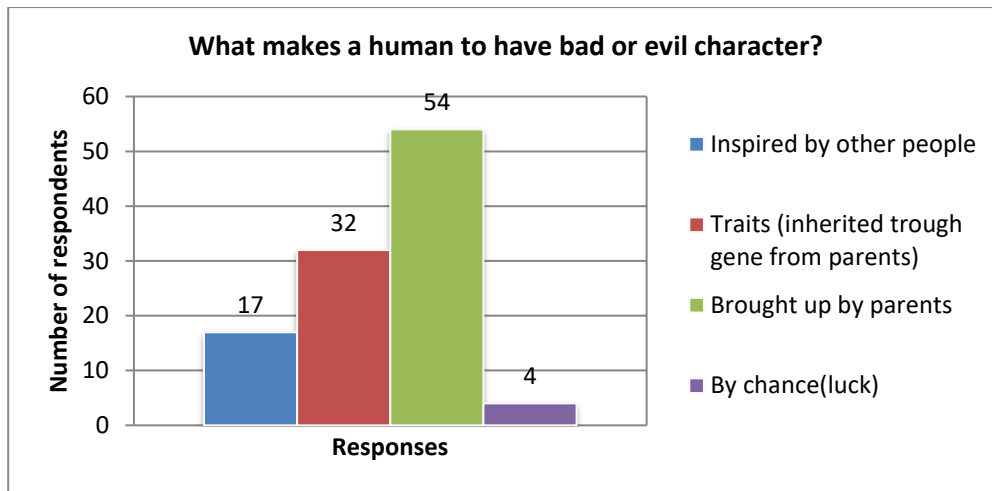


*Figure 1. The two boys of an alcoholic father.*

## 3. Results and discussion

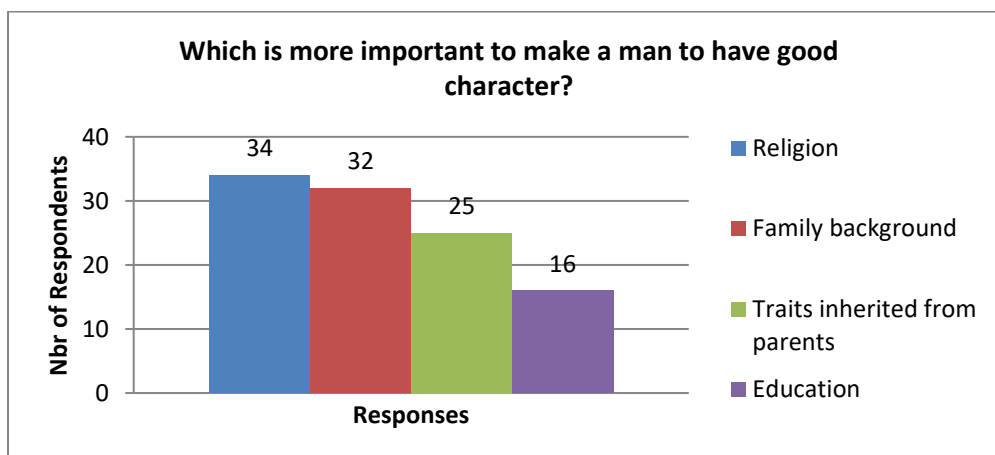
### 3.1 Survey Questionnaire

The responses of 107 people for the question “What makes a human to have bad or evil characters?” are shown in the form of a bar graph in figure 2. Sixteen percent [17 out of 107] of them selected the first option “Inspired by other people”. Thirty percent [32 out of 107] of them selected the second option “Traits (inherited through gene from parents)”. Fifty percent [54 out of 107] of them selected the third option “Brought up by parents”. Four percent [4 out of 107] of them selected the fourth option “By chance (luck)”. Among the four options, option 1 and 3 can be considered to be due to the environment and the remaining options 2 and 4 accounts for genetic influences. Hence 66% of them, from their experience, felt that environmental influences are making a human to have bad or evil characters. Thereby, it is seen that traits, inherited through gene from parents, have only little influence.



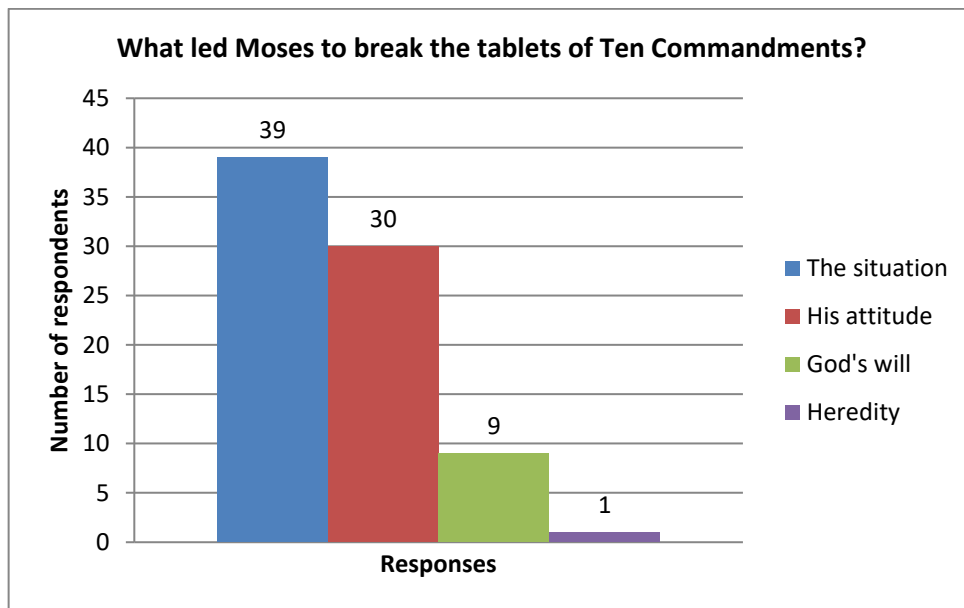
**Figure 2. Responses of what makes a human to have bad or evil character.**

The responses received from the respondents of 107 people for the question “Which is more important to make a man to have good characters?” is shown in the form of a bar graph in figure 3. Out of the four possible answers, thirty-two percent [34 out of 107] of them selected the first option “Religion”. Thirty percent [32 out of 107] of them selected “Family background”. Twenty-three percent [25 out of 107] of them selected “Traits (inherited through gene from parents)”. The remaining 16 selected the 4<sup>th</sup> option “Education”, which amounts to fifteen percent. It is very clear that only 23% of people, from their experience, felt that traits, inherited through gene from parents, make a man to have good characters. The majority of the people, 77%, believe that environmental influences such as religion, family background (the brought up), and the education make a man to have good characters. So, chances for children of parents having bad characters become bad are very less. Hence environmental influences such as religion, family background (the brought up), and education can easily make a child of bad parents have good characters.



**Figure 3. Responses of “which is more important to make a man to have good character?”**

The responses received from the respondents of 107 people for the question “What made Moses to break the tablets of 10 commandments?” is shown in the form of a bar graph in figure 4. Thirty six percent [39 out of 107] of them selected the first option “The situation”. Twenty eight percent [30 out of 107] of them selected the second option “His attitude”. Eight percent [9 out of 107] of them selected the third option “God’s will”. 0.9 percent [1 out of 107] of them selected the fourth option “Heredity”.

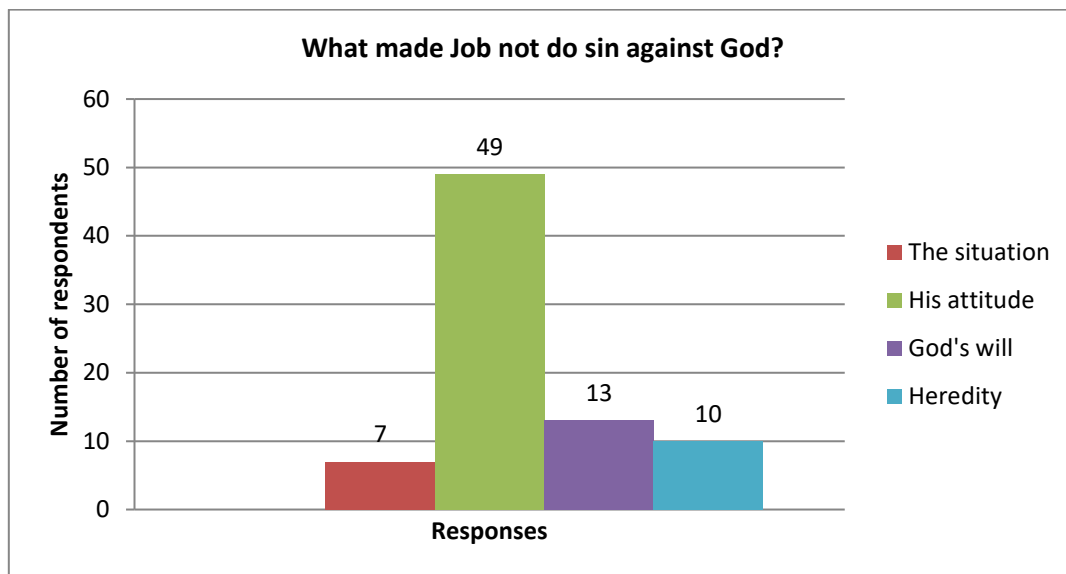


**Figure 4. Responses of “What led Moses to break the tablets?”**

The responses of 107 people for the question “What made Job not do sin against God?” are shown in the form of a bar graph in figure 5.

Six percent [7 out of 107] of them selected the first option “The situation”. Forty six percent [49 out of 107] of them selected the second option “His attitude”. Twelve percent [13 out of 107] of them selected the third option “God’s will”. Nine percent [9 out of 107] of them selected the fourth option “Heredity”.

Bible records that Moses has good attitude but still he breaks the tablets of 10 commandments. Therefore, it is clear that the situation over rides the attitude to make men to do wrong thing. In the case of Job, even though the situation warrants him to do wrong thing, his good attitude override the situation. In either case, heredity does not play any role at all. This is in agreement with the conclusion of the researchers (Olson et al., 2001) that non-shared environment experiences between pairs of twins seemed to be the strongest cause of attitude variances, overshadowing genetic predispositions [5].



*Figure 5. Responses of “What made Job not do sin against God.?”*

### 3.2 Analysis based on the Bible characters.

#### 3.2.1 Cain and his brother Abel.

They are from the same parents, Adam and Eve (Genesis 4:1). But their characters are opposite. Abel is good enough to get his offerings accepted by God, but Cain is not good enough to get his offerings accepted by God. A possible reason could be the situation in which they were brought up. Bible says in Genesis 4:2, that Abel kept flocks, and Cain worked the soil. Soil is the one already cursed by the God (Genesis 3:17) that it will produce thorns and thistles. Because he worked all day with the cursed soil he become tough, angered and a cruel man. Whereas God did not curse animals and hence Cain who is associated with flocks become a satisfied, happy, cheerful and a thankful hearted man.

#### 3.2.2 Jacob and Esau.

Even though Esau and Jacob were born from same womb, their characters were extremely different and opposite. The reason for the differences in their character may be due to the way they were brought up. Esau was loved by Isaac, his father. Whereas Jacob was loved by Rebekah, his mother (Genesis 25:28). Moreover, their profession is also different; Esau was a cunning hunter, a man of the field; and Jacob was a plain man, dwelling in tents. (Genesis 25:27). Their behaviour changed as per the type of work they did.

That is why Esau planned to kill Jacob when Jacob managed to get Esau's blessing from the nearly-blind Isaac (Genesis 27:41).

### **3.2.3 Doubting Thomas.**

By nature, he is doubtful, but later he become a strong believer because Jesus said to him, "Thomas, because you have seen Me, you have believed. Blessed are those who have not seen and yet have believed" (John 20:29). He had decided to come to India and make many people blessed by making them believe in Jesus resurrection. Even though it is not mentioned in the Bible, John C. England (1996) recorded clearly in his book titled "The Hidden History of Christianity in Asia: The Churches of the East Before the Year 1500" [7].

Jawaharlal Nehru, Prime Minister of India (1947 – 1964) in the book "Glimpses of World History" (1934) says that "Remember, Saint Thomas came to India when many of the countries of Europe had not yet become Christian, and so those Indians, who trace their Christianity to him have a longer history and a higher ancestry than that of Christians of many of the European countries [8]. And it is really a matter of pride to us that it so happened."

The Indian Postal Service of the Government of India brought out two commemorative stamps, in 1964 and 1973, in honour of the historic arrival of St. Thomas in India in 52 AD [9]. [<http://www.istampgallery.com/st-thomas/>]

## **4. Conclusion**

From the results of the survey conducted and the analysis made on the Bible characters it can be concluded that formation of human characters is more influenced by their environment than their genetics. The same is also scientifically proven through a study by a team of researchers from Bajcsy-Zsilinszky Hospital, Budapest, Hungary, to determine the effects of genetic and environmental factors on heart rate variability and baroreflex sensitivity in monozygotic and dizygotic adult healthy twin pairs [10]. After investigating a total of 101 adult twin pairs, they concluded that unshared environmental but not genetic factors have substantial influence on cardiovascular autonomic function.

Table 1. Questionnaire used for the survey

Question Nbr.	Question	Options given for answer
1.	What makes a human to have good character (a human useful to others)?	a. Traits (inherited through gene from parents) b. Brought up by parents c. Inspired by other people d. By chance (luck)
2.	What makes a human to have bad or evil character (a human harmful to others)?	a. Traits (inherited through gene from parents) b. Brought up by parents c. Inspired by other people d. By chance (luck)
3.	Do you agree that human's characters are built by the influence of environment than the inheritance from their parents?	a. Yes b. No c. I have no idea about this d. Don't want to say
4.	Do you agree that human's characters are mostly inherited from their parents than the influence of environment?	a. Yes b. No c. I have no idea about this d. Don't want to say
5.	Which is more important to make a man to have good character?	a. Religion b. Family background c. Parental care d. Education
6.	Which of the following factors has more influence to make a man bad or evil?	a. Anger b. Jealous c. Greediness d. Poverty
7.	Which of the following factors has more influence to make a man good?	a. Kindness b. Prosperity c. Compassion d. Generous
8.	What made Joseph escape from sin with wife of Pharaoh?	a. The situation b. His attitude c. God's will d. Heredity
9.	What made Job not to sin against God?	a. The situation b. His attitude c. God's will d. Heredity
10.	What made Moses to break the tablets of Ten commandments?	a. The situation b. His attitude c. God's will d. Heredity



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