

**INQUIRY INTO THE ETHNIC SUPERIORITY
THESIS OF THE BELL CURVE: A COGNITIVE
COMPARATIVE STUDY OF MALAY AND
CHINESE IN USM**

by

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LIST OF ABBREVIATIONS

BPM	Beats Per Minute
DST	Digit Span Test
EEG	Electroencephalogram
IQ	Intelligence Quotient
PTPTN	National Higher Education Fund Corporation
SDT	Symbol Digit Test
SES	Socioeconomic Status
SRT	Simple Reaction Time Test
USM	University Sains Malaysia
WM	Working Memory
WMC	Working Memory Capacity

LIST OF TERMINOLOGIES

Environment	There is no standard shared definition of the environment. ¹ In this study it refers to history, geography, socioeconomic status, systems and more.
Extrinsic Motivation	Behaviour motivated by external variable such as rewards. ²
Intrinsic Motivation	Behaviour motivated by the activity itself. ³
Nature vs Nurture	Debate on the influence of characteristics, whether it comes from genes or interactions with the environment. ⁴
Socioeconomic Status	Economic measures such as incomes. ⁵
Working Memory	Process that enables elements of memories to be maintained. ⁶

¹ Goldhaber, D. (2012). *The Nature-Nurture Debates: Bridging the Gap*. United Kingdom: Cambridge University Press

² Cameron, J. (2006). *Rewards and Intrinsic Motivation: Resolving the Controversy*. United States: IAP

³ Cameron, J. (2006). *Rewards and Intrinsic Motivation: Resolving the Controversy*. United States: IAP

⁴ Brain, C. & Mukherji, P. (2005). *Understanding Child Psychology*. United Kingdom: Nelson Thornes

⁵ Riegelman, R. (2010). *Public Health 101: Healthy People-Healthy Populations*. United States: Jones & Bartlett Learning

⁶ Miyake, A & Shah, P. (1999). *Models of Working Memory: Mechanisms of Active Maintenance and Executive Control*. United Kingdom: Cambridge University Press

**KAJIAN TESIS PADA KEUNGGULAN ETNIK “THE BELL CURVE”:
SATU SIASATAN PERBANDINGAN KOGNITIF MELAYU DAN CINA DI
USM**

ABSTRAK

Penyelidikan ini adalah berdasarkan kajian tesis etnik perisihan keunggulan oleh Herrnstein dan Murray (1994) dalam buku "The Bell Curve". Buku ini mencadangkan bahawa kumpulan etnik tertentu adalah lebih hebat dari segi intelektual berbanding yang lain oleh kerana genetik dan ini tidak boleh diubah walaupun melalui intervensi. Tujuan utama kajian ini adalah untuk menyelidik secara saintifik mengenai pendirian mereka melalui sifat semula jadi mereka. Kajian ini membawa perdebatan tersebut ke dalam konteks di Malaysia, dengan meneliti orang Melayu dan Cina, dua kumpulan etnik yang besar di Pulau Pinang. Semasa zaman penjajahan Britain, orang Melayu digambarkan sebagai malas dan kurang intelek tetapi orang Cina digambarkan sebaliknya sebagai pekerja keras dan cenderung kepada pelajaran. Perspektif sosiologi dan sejarah akan dibincangkan untuk menunjukkan bahawa persekitaran seseorang adalah memainkan peranan penting dalam membangunkan intelek. Bersempena dengan ini, tesis ini menyoal perdebatan terhadap etnik dan intelek oleh "The Bell Curve". Bagi tujuan ini, teori-teori utama psikologi seperti *Multiple Intelligence*, dan intervensi seperti peraturan diri dan percepatan pembelajaran telah diambil kira. Dengan cara ini, ia boleh ditunjukkan bahawa setiap kumpulan adalah berlainan, dan untuk membuat kesimpulan bahawa suatu kumpulan adalah lebih unggul dari kumpulan yang lain adalah mustahil. Kajian kes telah digunapakai dan data yang dikumpul adalah data kuantitatif. Hasil

eksperimen menunjukkan bahawa prestasi bangsa Melayu dan bangsa Cina adalah lebih baik setelah melalui intervensi. Bangsa Melayu yang mempunyai prestasi lebih rendah dari bangsa Cina dalam fasa kawalan *Simple Reaction Time (SRT)* dan *Symbol Digit Test (SDT)*, turut mampu mengejar ke peringkat bangsa Cina yang melalui intervensi.

**INQUIRY INTO THE ETHNIC SUPERIORITY THESIS OF THE BELL
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ABSTRACT

This study is based on the probe into ethnic intelligence superiority thesis by Herrnstein and Murray (1994) in "The Bell Curve" book. The book suggested that certain ethnic groups were superior intellectually than another due to genetics and this is not amenable to intervention. The main purpose of this research is to scientifically examine their nature stance. This research brings the arguments to the Malaysian context, by looking at the Malays and the Chinese, two largest ethnic groups in Penang. During the British colonial period, the Malays were described as lazy and lack intellectual capacity but the Chinese were viewed oppositely as hard working and academically inclined. Sociological perspectives and history are discussed to review the role of the environment on the development of intelligence. In conjunction to this, this thesis questions the narrowness of the debate on ethnicity and intelligence by "The Bell Curve". In doing so, major psychological theories such as multiple intelligence, and interventions such as self-regulation and accelerated learning are taken into consideration. This way, it can show the diversity of each groups, and the flaw in concluding that one group is greater than another. Case study was employed and the data collected was a quantitative data. The experiment results showed that Malay and Chinese performances were improved by interventions. The Malays who performed less than the Chinese in the control phase of Simple Reaction Time (SRT) and Symbol Digit Test (SDT), were able to caught up to the Chinese when interventions were applied.

CHAPTER 1

INTRODUCTION

“The only simple truth is that there is nothing simple in this complex universe. Everything relates. Everything connects”

- Johny Rich, *The Human Script*, 2015

1.1 Introduction

This research sets out to study the ethnic superiority in "The Bell Curve" by Herrnstein and Murray (1994). The arguments from the book were that intelligence was largely due to genetics. The environment did play a role and it could be manipulated to a certain extent in order to increase intelligence. However, the possibilities of two ethnic group's intelligence to converge would be low due to their genetics. These arguments suggested that certain ethnic groups were superior intellectually than the other and not amenable to intervention. It was basically an argument of nature versus nurture. This research explores these arguments in the Malaysian context, by discussing Malay and Chinese, two largest ethnic groups in Penang. During the British colonial period, the Malay were described as lazy and was said to lack intellectual capacity, but the Chinese on the other hand was viewed as hard-working and educationally advanced. This view might have been carried over to the modern times. While this notion may not be discussed openly, but behind closed doors, this is probably a topic of interest. This view of Malay as lazy was highly critiqued by Alatas (1977) in "The Myth of the Lazy Natives".

In "The Myth of the Lazy Natives", Alatas (1977) critiqued the colonialist's literature on Malay as lazy. This view affected Malay even after Malaysia gained their independence. This view was developed in the context of the capitalist ideology of the 19th-century colonialist. Their view of laziness, or the specific term used, indolence, was not defined, and yet it was used to describe the Malay. The Malay were viewed negatively because they did not have a working relationship with the European and their reluctance to work to enrich the colonialist. To the colonialist, a productive member was one who "work in the most difficult condition despite every kind of weather, eat and drink only a little, unlovable and only useful to the highest degree" (Warnford-Lock, 1907). In other words, "industriousness meant working at a sub-human level in colonial capitalist setting" (Alatas, 1977).

The exploration of ethnic intelligence in Malaysia are divided into three sections. The first is on "The Bell Curve" nature stance, by Herrnstein and Murray (1994). The second is to argue for the nurture's stance, in the Malaysian context. This is done by looking at the British colonial dualistic system and its suppression of the Malay in Malaysia. The third is on "The myth of lazy natives" by Alatas (1977) which critique the colonial force and their view on the natives as indolent, and lack intelligence.

Humans are unique creatures, despite sharing similar characteristics of biological heritage, humans have varying looks, personalities, abilities and the list goes on from the physical to the mental trait. One area of interest in the study of humans are about diversity and shared nature. In human development and performances, researchers would like to know how much is shaped by heritable genes and the environment. This is likely to be the influence behind the work of "The Bell Curve".

"The Bell Curve" was a book written in 1994. It explored the issues of ethnicity and intelligence in North America. The book argued that intelligence was genetically based, by looking at the differences between the Caucasians and the Africans in the United States of America. The book is controversial as it argued that Africans have lower IQ due to genetics. Their points toward genes as the cause of intelligence were through this: first, the intelligence scores between the Africans and Caucasians on all the socioeconomic classes were not the same. Caucasians outperformed the Africans. To further strengthen this point, they argued against the historical and cultural elements that might be the cause that depressed the African's score.

Gardner (2001), a professor at Harvard who proposed the theory of multiple intelligence, stated in his essay that the attention on the book was less from the science or policy proposal, but rather the message and attitude embedded in their work. While it is not said directly, the way the book presented the data and the argument would lead many readers to the conclusion that the Africans were inferior. Gardner (2001), further stated that the book leaned towards certain data rather than a meticulously balanced assessment based on current knowledge.

This is the case with ethnicity and intelligence study such as "The Bell Curve" that did not discuss intelligence or cognitive research that used intervention to empower the mind. In addition to this, it is complicated to conclude that one ethnic is more intelligent than the other. "The Bell Curve" argument will lead readers to believe that each ethnic group is predetermined into cognitive elite or a working class.

With regard to Malay and Chinese in Malaysia, the purpose of this research is not similar to "The Bell Curve", to argue that one ethnicity is superior to another because of genetics. Rather, it is an introduction to the pathway of the mind being greater than the physical limitations, influenced by the environment. All that is needed to blur the line between each ethnic group, in terms of cognitive strength, is the right strategy. This research may show why it is not possible to broadly conclude that one ethnic group is more intelligent than another. In addition to this, discussions are done on Malay and Chinese in Malaya during the colonial period. The description of Malay by the British is also discussed.

One perspective of understanding human is the natural selection where the genes combination determines the odds of surviving and genetics transference to the next generation. This is known as nature. Another element is the social and cultural influence. They include various factors such as belief, values, languages, whether in a collectivist or an individualistic culture and more. This is known as nurture.

For nurture, there are many aspects of the environment that may affect intelligence. These may be Socioeconomic Status (SES) such as income, belonging to a lower, middle or upper-income family; cultural factors such as languages, values, and beliefs; educational intervention or accessibility to a learning environment. Even habitat, whether in the rural or urban area may play a role such as easy access to educational materials, the number of teachers available for students, facilities, infrastructures, and more.

1.2 Malay and Chinese Background in Malaysia

The reason why I choose to research this topic is because of social and historical aspect. These two group (Malay and Chinese), historically were opposite of one another and had racial problems. Morrison (1949) highlighted a few events that lead to the racial problems between Malay and Chinese. There were many differences between the two groups in terms of social structure, local economic function, share in government administration, the degree of education, temperament, attitude towards Malaya and more. It existed during the British colonialism, the Japanese invasion in World War 2 and the return of the British. During these periods there was steady deterioration of Malay-Chinese relation¹. This thesis highlights and discusses the social differences, such as education and socioeconomic status. They were linked to rural and urban areas, and the British stereotypes of Malay and Chinese. The differences will be discussed further in literature review section.

Other ethnic groups were also taken into consideration. Indian was quite similar to Malay education wise. During the colonial time, the Indian education was lacking and they had no secondary school (Ingham & Simmons, 2005; V. Thompson & Adloff, 1955). Due to this research limitation, only two ethnic groups could be chosen. Hence, Malay and Chinese, the two polar opposite were chosen to provide arguments that it is difficult to claim any ethnic group as superior to another.

During the colonialist period in Malaya, Swettenham (1907b) noted that the characteristics of the Malay were physical and mental laziness, and lacked initiative. They were also submissive towards their noble and lived to serve their command. He pointed out that this was due to their inherent laziness.

¹ The Malay Chinese relation deterioration reached its peak in what is known as the 13 May incident, in 1969. It is due to the social structure during colonial period (Adam & Anwar, 2005).

Wright and Reid (1912), also noted that the Malay were lazy, whereas the Chinese were the opposite. They were hardworking, enterprising, and risk-takers for gain (Swettenham, 1907a). However, whether this view of Malay should be accepted warrant some consideration. During this time, the British colonialist was concerned a lot about profits and they had a contemptuous attitude towards native culture, which they considered inferior, (Hussein, 1966) and might lead to prejudice.

"The Bell Curve" (Herrnstein & Murray, 1994) on occupation stated that, "if one ethnic group has a lower average IQ than another ethnic group, this will be reflected in their occupation". This is not applicable to Malay during British colonial period. According to S. Hashim (1998), the British colonialist (1786 - 1957) segregated Malaysian ethnicity by economic activity, political participations, and geographical location. This was further strengthened by geographical imbalance with the majority of Malay lived in rural areas while the Chinese in urban areas. The colonialist also did not promote Malay social advancement through the economy. This was reflected in the education policy. Formal learning was available only in urban areas and conducted in English, while education for Malay was towards agriculture. Professional employment depended on English language and as a result, the policy impeded the Malay social mobility. "The Bell Curve" view on occupation as a reflection of intelligence is not usable in this instance. It can be seen that occupation is also dependent on other external factors and not solely on one's own intelligence.

According to C. N. Hashim and Langgulung (2008) for Malay, the formal schooling started when Penang Free School was opened in 1821. Before this, the Malay education was mostly from hut schools. It grew and centred at the mosque as it was Islamic education, but without a standard set of a syllabus. This early form of education for Malay was as early as 14th century. Formal education policies were

established in Malaysia after Malaysia's independence in 1957. The Chinese migrated to Malaya valued education. By 1815 there were Chinese schools founded in Malacca to educate their children (T. H. Lee, 2011).

Overall, both ethnicities had some form of education before the British colonisation. The arrival of the British and their policies affected the Malay and the Chinese, which may have led to the cause of the differences in cognitive development. Malay were being segregated in the rural areas with education mainly to keep them there. If "The Bell Curve" (Herrnstein & Murray, 1994) argument is to be followed, where socioeconomic status is the result of cognitive abilities and in turn the passing on of the genetics, then it can be concluded that the Malay are less intelligent. However, the sociocultural background cannot be ignored such as the impediment of the Malay to advance economically and educationally by the British during the colonial period.

1.3 Intervention

According to "The Bell Curve", the low intelligence was not amenable to outside interventions (Herrnstein & Murray, 1994). They discussed a few interventions to raise the cognitive abilities such as nutrition, better education, head starts and much more. They came to the conclusion that the best intervention, the one that worked consistently, was through adoption from a bad family environment to a good one. However, the book argues that the environment did not play a crucial role in the development of intelligence because it is dependent on genetics.

The book did not look at the psychological interventions despite a major theory on intelligence was proposed many years earlier. As intelligence is in the realm of psychology, it may demonstrate its usefulness to explore and understand it from the psychological perspective.

1.4 Problem Statement

"The Bell Curve" (Herrnstein & Murray, 1994) is controversial because it suggests that some ethnic groups were superior to others. In the Malaysian context, the colonialist viewed the Malay as indolent and lacked intellectual capacity (Clifford, 1927; Swettenham, 1907b; Wright & Reid, 1912) whereas Chinese were hardworking and enterprising (Swettenham, 1907a). This perception of Malay as indolent and not intelligent failed to take into account the factors the colonialist subjected to the Malay, which were discussed by Alatas (1977). They had also left out the broad classes of intelligence by Gardner (2006). "The Bell Curve" had not included major psychological theories of intelligence, such as multiple intelligence and the mechanic of the intelligence, which may prove useful to further our understanding of it. This is because intelligence is a psychological construct and psychology may explain it in more detail. Once we understand intelligence and discover the root of the view of indolent by the colonialist, perhaps it can be tested that everyone is intelligent in his or her own way. What may help in understanding the different intelligent strength of Malay and Chinese, and improving them, is by exploring the intelligence theory and using the right interventions.

1.5 Research Question

1. To what extent does the interventions affect the measurement of intelligence of each group?
2. Is there a difference between the measurement of intelligence of Malay and Chinese with and without the intervention?
3. What is the preferred intelligence profile of Malay and Chinese in both Schools of Management, and School of Arts in USM

1.6 Objectives

1. To examine the extent to which interventions improve the measurement of intelligence
2. To investigate the extent of the differential effects of interventions on the two ethnic group.
3. To analyse the diversity of intelligence of Malay and Chinese in Schools of Management, and School of Arts in USM.

1.7 Hypothesis

1. H0: The interventions have no effect on the Forward Digit Span Test of Malay and Chinese
2. H1: The interventions improve the Forward Digit Span Test of Malay and Chinese
3. H0: The interventions have no effect on the Reverse Digit Span Test of Malay and Chinese

4. H2: The interventions improve the Reverse Digit Span Test of Malay and Chinese
5. H0: The interventions have no effect on the Simple Reaction Test of Malay and Chinese
6. H3: The interventions improve the Simple Reaction Test of Malay and Chinese
7. H0: The interventions have no effect on the Symbol Digit Test of Malay and Chinese
8. H4: The interventions improve the Symbol Digit Test of Malay and Chinese

1.8 Conclusion

This chapter has explored some arguments and variables relevant to the discussion of ethnicities and intelligence. Central to the exploration is "The Bell Curve" book and its arguments on intelligence. "The Bell Curve" focus was on the ethnicities in the United States of America. This exploration has provided some insights on what has been argued and what are left out. A further discussion is done in the literature review chapter, which explores "The Bell Curve" in more details and brings it to the Malaysian context.

Malaysia has a rich socio-history. Exploration on Malaysia during the British colonial period may provide an interesting perspective on the debate of ethnicities and intelligence.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

"The Bell Curve" (Herrnstein & Murray, 1994) discussed the implication of nature versus nurture as the factors that affect intelligence. They claimed that nurture played a small role in affecting intelligence and that intelligence was a product of genetics. Their reasonings were that genetics affect intelligence, which in turn would land a person in a favourable environment. Basically, according to them, genetics play the key role in shaping intelligence and so, nature triumphs over nurture. However, this research attempts to argue against this by discussing the effect of nurture in developing a person's intelligence in the Malaysian context, pertaining to the Malay and Chinese as the two major ethnic groups.

The British colonialist system in Malaya during the 19th century impeded the upward social mobility of the Malay. Their literature also reputed the Malay in a negative light. Due to the colonialists' publications being seen as credible sources, these erroneous images of the Malay persist and are believed to be intellectual works. The images of the Malay described by the colonialist were criticized by Alatas (1977). Unfortunately, the British colonial system's effect is long term and can be observed in the modern time, such as in the fragmentation of power. For example, Malay hold the political power, while Chinese had an economic base.

The following are various literature to discuss the “nurture” stance in the Malaysia context. There are not many studies that looked at this issue in Malaysia, particularly stance on the environment. There were a few that looked at the environmental influence on intelligence in a form of educational attainment. Therefore, up to now, only conjectures can be inferred on the Malay and Chinese cognitive differences in Malaysia. The literature on this matter is in abundance from other countries, particularly in Northern America, Europe, and East Asia. This is a limitation because the results based on these findings cannot be generalised to Malaysia.

2.2 "The Bell Curve"

The arguments in this thesis lean towards nurture while not disregarding nature. This is in contrast to "The Bell Curve" solely nature's stance with regards to intelligence. In order to do so, a summary of this book is presented. "The Bell Curve" by Herrnstein and Murray (1994), on intelligence viewed it as the product of genetics where the environment played a small role in its cause. Indirectly the book would lead the reader to the direction that there were superior and inferior ethnicities.

"The Bell Curve" book was a collaboration by two American, a psychologist Richard Herrnstein, and a political scientist Charles Murray. The book primarily looked at the European-Americans to compare with the African-Americans. There were some mentions of the East Asians and Latinos, but they were not a central part of their discussion on intelligence.

First, this thesis will discuss the ethnicity, the differences between them and their Intelligence Quotient (IQ) score in "The Bell Curve". A large part of the discussion is on the differences between the European-Americans, which will be referred to as Caucasian, and the African-American, which will be referred to as African. The differences were foremost reflected in the educational attainment. The book points out that the Caucasians were more than twice as likely to earn a college degree in comparison to the Latinos or the African. Education also provided a means for a better occupation; therefore the levels of IQ were also reflected in their occupations.

When it comes to occupation, "The Bell Curve" looked at it in two ways. Out of the workforce means that the individuals were not looking for work. The unemployed were the individuals who were looking for work unsuccessfully. Searching for work was considered as participating in the workforce. Being out of the workforce was due to having low cognitive abilities. People with low intelligence, by "The Bell Curve" authors, were those with blue-collar or manual labour occupations.

It seems rather simplistic to conclude that people who are out of the workforce are due to their cognitive abilities. There may be other variables that hinder individuals to attain occupation, such as the environment. That environment may include lacking educational opportunities, discriminations, and impediment of upward social mobility. This, in turn, affects individual socioeconomic status. It is a vicious circle that affects each other. Further, in the coming section of the literature review, there is a discussion on the situation of the Malay during the British colonial era. It provides examples to show that these variables impede development and occupation, and not all is simply due to intelligence.

The data reviewed in "The Bell Curve" looked at the comparison between the Caucasians and East Asians, and the Africans and Caucasians. For the comparison of IQ test between the Caucasians and the East Asians, they found the overall from many different studies. The East Asians mean score was higher than Caucasian. The East Asian subjects were taken from America and some from their native home countries such as Japan, Taiwan, and Hong Kong.

The East Asians in America or in East Asia earned higher scores than the Caucasians on IQ and achievement tests². It was also found that the East Asians visuospatial abilities were greater than their verbal abilities regardless of the environmental and the cultural differences of all the countries.

For the Africans and Caucasians in America, the mean difference between them was by one (1) standard deviation. Caucasians outperformed Africans. "The Bell Curve" reviewed the differences between the Africans and Caucasians at different levels of Socioeconomic Status (SES) and the results were similar. At each socioeconomic status level, there was a gap between the Caucasians and the Africans' IQ scores. The differences were pronounced at a higher level of SES. The differences between African-Americans and Africans from Africa were also studied. It was found that the Africans performed poorly than the African-Americans.

Overall, the East Asians scored higher followed by the Caucasian and then the African. "The Bell Curve" rationalised this through nature versus nurture arguments, and took the nature stance as the contributing factor to intelligence. The first argument by Herrnstein and Murray (1994) on genetics was by looking at the geographical location as a variable.

² Despite East Asian higher score than the Caucasian in "The Bell Curve", they were not the focus of the book, and their achievement were attributed to them being an overachiever.

Most of the discussion in "The Bell Curve" was predominantly of the comparison between the Africans and the Caucasians. They eliminated historical reasons, such as slavery, as the cause of the gap of IQ, by comparing the Africans in America and Africa. The Africans in Africa did not suffer through slavery, but their scores were not greater than the Africans in America.

The Africans in America and Africa performed poorly than the Caucasian. This might suggest that geographical location played little role in the cause of intelligence.

The differences between the Africans and the Caucasians were also not perceived as a result of racial discrimination. Looking at other minority groups such as the Chinese and the Jews who also experienced racism, their scores were higher than that of the Caucasian. These were the reasons why Herrnstein and Murray (1994) excluded racism as the potential cause.

The IQ gap between the Africans and the Caucasians in America was narrowing, but according to Herrnstein and Murray (1994), this was not due to the increasing number of high scores but a shrinking number of the very low scores in the African's population. This narrowing was influenced by the environment to some extents. The environment changed over time. It could be due to the improvement of SES, the increased quality of education, better public health, and diminish racism. However, Herrnstein and Murray (1994) did not believe that the environment was the sole cause of intelligence. "The Bell Curve" stated that SES cannot explain the gap. The environment was the same for the Africans and the Caucasians at a higher level of SES, but there were still differences between them in IQ scores. Even though the SES can be manipulated, two ethnic groups IQ would never converge, at best it would narrow.

Furthermore, the narrowing of the gap was due to the rising investment in education which benefited those at the lower end of the SES level. The African populations were mostly at the lower level of SES, therefore it benefited them the most. If the only differences between the two were purely environmental, then there would be a time when the two groups' IQ would converge. However, that might not be the case, as the two authors did not believe that it was caused by the environment.

Herrnstein and Murray (1994) stated that they did not prefer to use specific terms such as ethnicity or race due to the blurred lines. However, they argued that some groups did differ genetically on the physical and intellectual levels. IQ and genetics cannot be ignored. They argued that there was no proof racial differences in IQ was purely environmental. Discussing ethnicity and intelligence should not be a taboo as it leads to ignorance. It would only lead to increasing misinformation of ethnicities and intelligence due to beliefs not open to examination.

As can be seen, though they did not specifically use the term ethnic superiority, their arguments may direct the readers to summarise it in such a way. This line of thinking may be damaging to the minority that did not score well on IQ tests.

At the least, this line of thinking may cause stereotype threats. Stereotype threat was a term defined by Steele and Aronson (1995). The definition is, when there is a negative stereotype that exists in particular groups, and when the stereotype is applicable in a situation, the individual belonging to the group is at risk of confirming it as a self-characterisation. According to Schmader and Hall (2014), stereotype threat could occur based on the situation that brought the negative stereotype to mind and in a high-stakes performance situation. In education, it might impair the minority academic achievement and engagement (Aronson, Fried, &

Good, 2002; C. Davis, Aronson, & Salinas, 2006; Schmader & Hall, 2014; Taylor & Walton, 2011). The negative effect of this did not just exist in the education world but also in the real world (Owens & Massey, 2011). With "The Bell Curve" arguments, data presented, and belief that environmental influence played little role, this could contribute to the stereotype threats and might impede upward social mobilities to the low score ethnic group.

According to the study by Fagan and Holland (2002), when the low scoring group was given an equal opportunity to learn for IQ test, the differences could be eliminated. This was also found by Fagan and Holland (2007). Fagan and Holland (2002), argued that IQ test relied on the knowledge of the meaning of words. When the Caucasian and the African groups were given equal opportunity to learn novel words, the learning eliminated the differences in the score. This means that when it comes to IQ test, it was the differences in the learning environment that caused the scores to be different. The scores of the Caucasians and the Africans were similar given that the environment was the same. Perhaps, this suggests that environmental influences do play a role and that the differences of intellectual scores may be eliminated. This countered the argument on the environment by Herrnstein and Murray (1994).

To counter "The Bell Curve" nature's stance further, Sternberg (2014) on intelligence test stated that the test did not precisely characterise the level of intelligence. The test might predict success and academic achievements but it was incomplete. The prediction was not applicable for the real world performances. Furthermore, intelligence manifest differently in a different culture.

If the public believes that IQ test is the predictor of intelligence; with the combination of genetics as the cause of intelligence while discarding the environmental influence, the belief would lead to many social problems to the low scoring group. This, in turn, may lead to social problems for the low scoring group if many believe that the group's case is hopeless.

This line of thinking can be quite catastrophic when it comes to intelligence, as it is one of the factors that open up opportunities for self-development and upward social mobility. Hence, the environment may be an important factor in the development of intelligence. This is discussed next in the context of Malaysia during the British colonial period. Most of the time, it is the authoritative group who gets to decide the accepted definition of intelligence, even though the definition may be limited, incorrect, or leaning towards specific groups.

In the study of intelligence, it is beneficial to look at the multiple intelligence theory. This may lead to a change of perspective on intelligence. The theory of multiple intelligence is a theory of intelligence, that counters "The Bell Curve". It proposed that individuals have their own profile of intelligence. Hence, it is not simple to conclude one individual or group is better than the other. The section on multiple intelligence will be discussed later on.

2.3 Descriptions of the Malay during the colonial period

This part extends to the discussion of "The Myth of the Lazy Natives". In "The Bell Curve", the Africans were discussed in such a way that they appeared negatively than the Caucasians in America. In Malaya during the British colonial period, the Malay also suffered negative views, and these views may persist to this day. Indolent,

untrustworthy, lacking initiative and intelligence were the characteristics of the Malay described by the colonialists. Further, this part will discuss some environmental factors that impeded the social mobility of the Malay to counter "The Bell Curve" genetics stance.

During the 19th to the 20th century, the colonialist viewed Malay as laidback, prone to amok, lacking originality and initiative, indolent and not intelligent. The most prominent characteristic described by the colonialist were indolent of the body and the mind.

Swettenham (1907b), described Malay as lazy physically and mentally. Clifford (1927), had mixed views of Malay. He praised them when they did not have the "loyal passion" for the ruler, particularly Malay in Terrenganu. The Malay from Pahang and Kelantan were thought of as ignorant, unintellectual, indolent and submissive. When it comes to intellectual matter, Malay greatest minds were less than the ordinary people in the highest stage of civilisations (Crawford, 1820). These images had become the Malay stereotypes. They were essentially described as incapable of hard work and lacked intellect. These were the highlights of the British author on the discussion of the Malay characteristics, the one Alatas (1977) criticized. There were other authors who described the Malay negatively as well, with the common description of Malay as indolent (Burke, 1800; Haddon, 2012; Munson & Lyman, 1835; Raffles & Raffles, 1830). The Malay' intellect was also considered lacking (Wallace, 1869).

The European planters persisted with their views that the Malay were indolent. However, Malay lived under a different set of values. The Malay valued spirituality, such as customs, religions, and the communities well-being (Gould, 1969). While it

may seem cliché, there were misunderstandings between the Malay and the European's values. The differences lead the European to see Malay as indolent while the Malay saw them as greedy (Zamani, 2002). This stereotype was damaging to the Malay and their relations with other ethnic groups as it could lead to prejudice and caused tensions to be easily developed (Ali, 2008). Some argued that it was inaccurate to describe Malay as lazy because their agricultural occupations during the colonial period were extremely hard (Mills, 1958).

Even on a different angle of the discussion of the British work by Goh (2007), the author observed that the Malay' characteristic described was medievalist. In-depth discussion of Swettenham and Clifford's views of Malay in Goh (2007) was quite similar with Alatas (1977). The Malay were demeaningly presented and not explained sociologically. The Malay were generalised as a group of people who lacked intelligence, were indolent and submissive. It can be summarised as:

The Malay society was a medieval society sharing the same psychological, cultural and sociological make-up as the Western society of feudal past, particularly the oppressive misgovernment of commoners. Accounted for by racial characteristic... lack of 'energy' for Clifford and intelligence for Swettenham (Goh, 2007).

The negative stereotypes of the Malay persisted to the modern time. According to the study by F. Ibrahim et al. (2010), it was found that other ethnics in Malaysia believed that the Malay were lazy as well. This could likely be due to the stereotype that was given to the Malay by the colonialist. However, the colonialist views which might appear as an authority in the study of the natives were flawed and could be criticized. Just like "The Bell Curve", though it appeared academic, it can be criticized. The colonialist works on the Malay were criticised by Alatas (1977) in "The Myth of Lazy Natives".

2.4 The Myth of Lazy Natives

"The Myth of Lazy Natives" was a book published by Alatas (1977) that brought forth the discussion of the Malay by various writers who visited Malaya. Alatas (1977), also discussed other nationalities, but in this thesis, the focus is on the Malay. The book is included as part of the discussion to highlight the arguments of the environment and how it can impede upward social mobility. Only some parts of the book are discussed, specifically, Malaya, since the whole book comprised of criticism of imperialism and the colonialist towards their views of the Philippines, Indonesia, and Malaya natives.

On Malay, the book began with the discussion by various writers in the 19th and 20th centuries, such as Swettenham (Swettenham, 1907a, 1907b), Clifford (1927), Wright and Reid (1912), and Windstedt (Windstedt, 1956a, 1956b). The descriptions of the Malay were not flattering. Alatas (1977) summarised, on the writing of Malay, they were described as easy-going, sensitive to insult, tend to run amok, idleness, lacking originality, submissive, morally lax, lacked incentive or initiative for acquiring wealth and lacked intelligence. The two prominent attributes most commonly associated with Malay were lacking in intelligence and indolent or laziness.

The purpose of "The Myth of Lazy Natives" was to challenge and debunk the negative images of the Malay. However, Alatas (1977) work can be used as arguments against "The Bell Curve". The book discussed the environmental effect and the dominant power at work.

Other authors not discussed by Alatas (1977) had also looked at the cause of what appeared to be indolent to the colonialist. Hirschman (1986), argued that, what was

seen as indolence, was actually a response to their oppression. They only work enough to avoid having their surplus taken by the Malay elite. It was also illogical to be a part of a workforce that abused its employee with debts and possibilities of high mortality rates. According to Sundaram (1981), the Malay had little funds and business connections. However, they did possess lands, and it was better for them to be an agriculturalist, rather than to become a wage worker.

Further arguments by Hirschman (1986) was that the Malay were also responsive to economic incentive when it benefited them, such as the planting of rubber trees when rubber was in demand. Rubber at the time was the leading agricultural commodity and Malay peasants cultivated smallholders of rubber because of its market demands (Kaur, 2014). This was done despite laws that were passed to prevent them from doing so in favour of estate sector (Hirschman, 1986). The Malay recognised the opportunity the rubber provided, and that it would give them higher income, hence the pursuit in rubber. In addition to this, Rashid (2012) argued that Malay were also creative, evident through cloth designs (batik), calligraphy on woodworks and were skilled shipbuilders. The Malay were also known as the seafaring people with maritime skills (Redford, 2014). Though these traits were not as well known as indolent. These are not the sign of indolence and lack intellectual capacity. This is in contrast to the colonialist's description of Malay.

Alatas (1977), had his own discussion to criticise the term indolence by looking at the work system of the British. The colonial capitalism was a part of the entire system of administration. The government and all that were a part of the government entered the network of colonial capitalism. Malay were a part of this network, but it was indirect as most Malay in the civil service were not directly in contact with the

colonialist. If there were some forms of contact between them, it was not regular. Due to this, services rendered by the Malay were not appreciated.

According to (Alatas, 1977), in consequent to this, the Malay' labours did not directly serve the colonial capitalism. The Malay also avoided the form of labour which the British subjected to the Chinese and Indians. They were unwilling to be abuse to profit the colonial capitalism. This caused problems, especially to the colonial British planters due to labour shortages and their competitions against the Chinese planters. These made the Malay unlikeable to the colonialists, and they resented them through their literature and the treatments of the Malay. The British also ignored the fact that the country belonged to the Malay or that the Malay contributed to the administration.

The British showed approval to the Chinese. This had nothing to do with their characteristics but the fact that they were restrained by the British law. The Chinese were exploited and were unable to escape the conditions they were entrapped in. The conditions that were slave-like, which the Malay avoided.

According to Edmonds (1968), the Straits Chinese, the one that had settled in Malaya with their own identity, were liked by the British. The Straits Chinese were able to connect with the British through businesses. They had a political party that was pro-Malaya and represented the interest of the British (Goh, 2010), known as Straits Chinese British Association. They were not pro-China like the Kuomintang and the Malayan Communist Party (Koon, 1996). The British provided opportunities for the Straits Chinese to be representatives on the Executive and Legislative council, and also some vacancies in the administration (Edmonds, 1968). They thrived more than

the Malay in the area of the economy as they were more skilled with monies, and were treated better than the Malay by the British (Watts, 1988).

The British colonial capitalist viewed industriousness as working at an almost slave-like condition. Their idea of development was greed for profit regardless of human life and health, to the point that the colonial government had to legislate against certain abuses. This could be seen by the treatment given to the Chinese coolies who came from south China.

The Chinese coolies had it worse. They were discussed by Alatas (1977). The Chinese, who were from south China, were deceived by either debt or promises of wealth in Malaya. Most were lured to the city by the bait of gambling. When they lost and in debt, they were persuaded to immigrate in order to pay off their debts. When they arrived in Malaya they were used to profit the colonial and Chinese planters. Mostly the Chinese male was employed as coolies in the tin mine, gambier, plantation and farm (Campbell, 1969), whereas the female was brought over for prostitution (BRILL, 2013).

The British were in complete control of their manual labourer, from arranging their place to stay, wages, food and more. Indentured labor and slavery were not much different, they were trapped with debts that would take many years to be paid (Hale, 2013). The British used the credit ticket system, and most of the Chinese coolies were impoverished, so brokers would pay for their tickets and begun their cycle of debts (Koh, 2013). According to Alatas (1977), the coolies had no freedom and not allowed to leave unless for work. There were abused. The coolies suffered from punishment, hunger, lack of freedom, had diseases and no medical treatment. The coolies were trapped further by taking chandu or opium supplied by the contractor,