

The Different Factors Affected In The Moral Machine Experiment

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Abstract. In moral machine experiments, the test results are affected by many factors, eventually leading to the deviation of people's choices in different regions. First of all, regional differences have become one of the primary reasons for the inconsistent experimental results. In addition to geographical differences, this paper examines what other factors in human society influence people's basic ideas. This passage discusses the difference between individualism and collectivism, country-level economic inequality, prosperity (GDP per capita), quality of rules and institutions (the Rule of Law), and the gender gap. This paper clearly describes how each influence factor contributes to the experiment's results and how it manifests itself in the population. At the same time, several examples will be given to illustrate whether these factors are valid when applied to reality. After studying the case and analyzing factors, it is concluded that the above factors significantly impact the experiment results.

Keywords: Moral Machine, Individualism, Collectivism, Moral Psychology, Social Psychology.

1. Introduction

In modern society, with the fast development of artificial intelligence, it has become increasingly important and indispensable in our daily lives. Most companies and organisms are always concerned about the diversity of appearances, functions, or the practicability of artificial intelligence. Furthermore, people are promoting it as a superior platform, full automatic artificial intelligence, or we can say that in the future, most machines will not require people to control and design; even artificial intelligence can reproduce itself completely. In this situation, people must attach importance to a severe issue associated with human life. That is how artificial intelligence makes moral decisions. Many researchers deployed the Moral Machine to address the challenge of quantifying societal expectations about the ethical principles that should guide machine behavior.

A moral Machine is a complex moral dilemma problem. It collects different data from different people in different regions. It can analyze people's moral standards from many sides, like preserving young men or older ones, women or men, healthy men or sick men. All of these questions always confuse people confusing. Facing these problems, the differences between people will reveal why people's answers differ. Therefore, this passage will discuss many factors that may affect people's answers, considering individualism and collectivism, country-level economic inequality, prosperity and quality of rules and institutions, and the gender gap. Besides these sides, the author also considers religious factors and common elements like age, gender, and personality.

2. Analysis and Hypothesis

2.1. Individualism and Collectivism

Individualism includes a set of moral principles, an understanding of human nature, and support for specific social, political, economic, and religious institutions. The individualist believes that everyone is morally equal and that all values are centered on the human being. Individualism highly values independence, privacy, and respect between people and believes everyone should have their sacred rights. They think if any adult has the freedom and responsibility to make their choice, their mental value is always satisfied no matter the options will cause results. In collectivistic cultures, people are viewed as "good" if they are kind, helpful, dependable, and sensitive to other people's

needs. In contrast, aggressiveness and independence are usually valued more highly in individualistic cultures. Common traits of collectivist cultures include allegiance to the group being favored; Considering what is beneficial for the group guides decisions; Compromise is chosen when a decision must be made to achieve higher levels of peace; Collaborating and supporting one another is essential; Common goals take precedence over individual goals; The rights of communities and families are given precedence over those of the individual.

The unique aspect of human programming is the individual level; not even identical twins raised side by side have the same programming. A person's personality is at this level, which permits a range of alternative behaviors to coexist in the same societal culture. The boundary separating individual and collective (As shown in Fig 1) is a matter of debate; Individual personality and collective culture are difficult to discern clearly, as are outstanding people from their cultural system. There is also no agreement on which all humans share phenomena and which are exclusive to a particular culture (i.e., collective) [1].

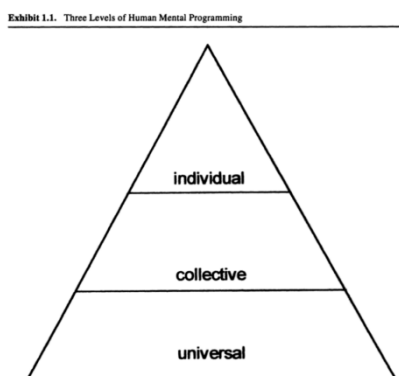


Fig. 1 Three Levels Of Human Mental Programming

On the top individual level, it is impossible to account for the differences in aptitude and temperament between children of the same parents raised in relatively similar surroundings without acknowledging that at least a portion of our programming is inherited. Most or all of our mental programming is acquired at the intermediate group level. It is evidenced by sharing it with others who do not share our genetic makeup but have had to go through the same learning processes. One of the most striking examples of the power of knowledge is the phenomena of the American people: It demonstrates a collective mental training that is startling to non-Americans due to the diversity of genetic variances [1]. It means that non-Americans are more collective than Americans. This is, American (Western cluster) are more individual than non-American (Eastern cluster and Southern cluster) [2]

In the moral machine, individualism plays an essential role. Most individualists consider their benefits first and then consider the whole benefits. Their individualist culture is inherited when they are born. In this situation, “individualism” means the benefits of individuals are more considerable than the collective's. Still, they also can consider a little about the benefits of the collective, even though they are “individualists.” As I mentioned above, maybe the multitude of genetic variations causes the collective mental programming that is striking to the non-American. In the moral machine experiment, it seems like the experiment is unrelated to individuals' benefits. The unique qualities of each individualist indicate a stronger preference for sparing more characters. In other words, nobody can make choices for anyone else. However, in the moral machine, the situation changes. They must choose someone and cause an inevitable result. In this situation, individualists have to choose more people options when they face a question between saving more people and saving fewer people because they will emphasize the distinctive value of each individual [2]. If somebody is in the car, maybe the result will be changed by respecting others' choices and the frequency or order of nature. We also can see that individualism prefers to spare the young people because it focuses on the people's rights and the ability to exercise their rights. It gives the idea that young people are more capable of playing a valuable and enormous role in society than older people. In a collectivist culture,

collectivistic cultures positively influence people's attitudes towards older people [3]. Therefore, participants from collectivistic cultures, which strongly emphasize showing respect for elders in society, exhibit a reduced preference for sparing younger characters (As shown in Fig 2).

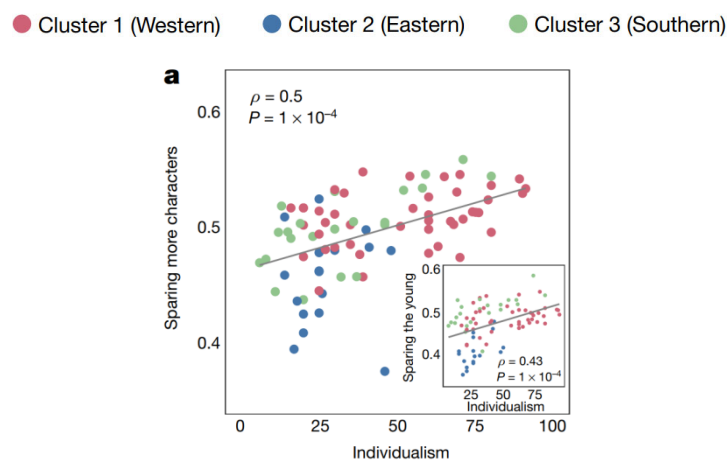


Fig. 2 The Relationship Between Individualism And Sparing More Characters

2.2. Country-Level Economic Inequality

From 2004 to 2020, the total GDP of the second cluster (the Eastern cluster) [2], like China, is slower than the first cluster, like America. Even though the growth rate of GDP in China has grown faster in recent years, the difference of GDP between America and China can also prove a significant gap in economic power between China and America. It is the same as GDP per capita because China has a much larger population than North America. Furthermore, the third cluster (the Southern cluster), the economic center of southern America, is highly likely in Mexico. The GDP in Mexico is much less than China and North America.

According to statistics[4], the differences in GDP between China, America, and Mexico are apparent. The United States' share in the global GDP changed from one-fifth to one-fourth between 2001 and 2022. Mexico's GDP contribution has maintained at or near 1.5%, whereas China's has increased from 10.2% to 17.8%. Mexico's GDP has decreased slightly during the past 20 years, while China and the United States have increased. With North America's higher financial level per capita, America will focus less on sparing the higher-status persons because many other factors, like some financial magnates and important companies, can promote national economic development. However, the economic development in Mexico is much less than that in North America. Therefore, Mexico focuses on sparing the higher-status persons than America because the higher status persons are more important in Mexico to improve national development (As shown in Fig 3).

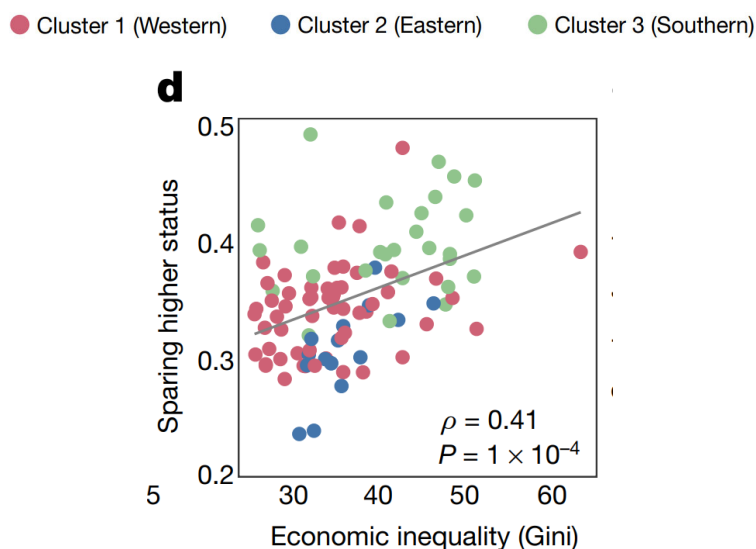


Fig. 3 Two or more references

2.3. Prosperity and Quality of Rules and Institutions

People from less prosperous countries or those with weaker rules and institutions are more tolerant of people crossing the street illegally. One reason for this could be their lower compliance with rules and weaker punishment for breaking them. In countries with lower economic levels, more people focus on their interests and pay little attention to those who break the rules. Because those who break the law do not substantially impact those who are busy improving their own economic level. In contrast, countries and regions with prosperous economies are at average economic levels per capita. They will be more concerned about their standard of living. In other words, they will have demands on the social environment around them. Based on this requirement, people with a higher economic level will reject those who violate legal rules because they believe their social status and quality are much higher than those who violate legal rules. Another factor may be whether people live in collectivist or individualistic societies, according to the analysis mentioned above.

Collectivist countries tend to have harsher views of rule-breakers and may not spare them. According to social identity theory, people have a more negative attitude toward those who deviate from the group's norms. Like ingroup bias, those citizens who follow the rules consider themselves a whole group, and those who do not are another group. In a collectivist state, everyone's education is collectivist. So, a law-abiding group can be xenophobic towards another group. Similarly, law-abiding citizens tend to feel closer to law-abiding people. Thus, law-abiding people in countries with higher prosperity and better rules are more inclined to retain law-abiding citizens.

2.4. Gender Gap

Two parts of people's thoughts determine the appearance of the gender gap. The first one is the different capacities between the two different genders. For example, at the micro level, opinions toward gender inequality are an "invisible" element that affects daily choices. Gender hierarchy norms about who most deserves a job impact employers' decisions about who to hire or fire. The family decides which member of the family should perform paid or unpaid care labor. Therefore, males will be more concentrated by the family or by some employers who need labor. The second part is people's attitudes toward gender equality. In this part, various religions may cause the different attitudes of people toward the difference between males and females. For example, Psacharopoulos and Tzannatos (1989) discovered that female labor force participation rates among Muslims, Hindus, and Catholics are lower than among people of other religions and non-religious.

Regarding factors like life expectancy and educational attainment, Islam has been proven to be significantly more patriarchal than other religions[5, 6]. The appearance of patriarchal ideas in

people's minds can be traced back to the ideology of different organized religions. The dominant organized religions have varied degrees of access to and control over material resources. As a result, they use their influence to establish and uphold social norms that sustain power structures and keep their hold on power. Elite groups frequently seize control of institutions. Therefore, it stands to reason that religious institutions will reflect male supremacy in the marketplace. In light of this, religious organizations may embody patriarchal ideals to support men's economic, social, and political dominance to the detriment of women [7, 8].

People's age also influences attitudes towards gender. As education and population develop, the younger child receives the idea of gender equality in their daily life, and the social ideology will change from the old generation's mind, which is a preference for boys over girls, to the gender equality modern young people believe in.

In the modern educational system, there are many differences from the traditional education. For example, PE class is more valuable in children's lives, and more and more people focus on children's physical exercise. There is a lot of evidence from earlier work to suggest that PE has the potential to enhance social relationships [9, 10] generally. This is primarily due to the environment produced in physical education classes, which makes building inclusive and participatory environments through learning scenarios possible. The 169 targets that make up the 17 Sustainable Development Goals (SDGs) put forth by the United Nations are examined by Baena-Morales et al. Previous works have defended this connection between PE and SDGs 5 and 4, demonstrating how using more cooperative techniques could be a tactic that advances gender equality [11]. Therefore, teaching physical education is an efficient way for children to gain a deeper understanding of gender equality.

There are a lot more aspects of education that can change how young people think. Higher education is essential for gender equality because it instills these values in young people. The likelihood that public policy will progress toward greater equality may be higher among those with higher levels of education, who also demonstrated indicators of more gender-equitable beliefs. This information suggests that broad-based education is linked to social and institutional development on a macro level and its inherent worth and role in growth [12].

Women's socioeconomic position may also influence people's bias against women's roles. As the reproductive and nurturer identities in nature, women must carry the burdens that men cannot, and they must also feel the suffering that males cannot feel. Women have naturally become the group that needs to be protected as a result of the long river of history's erosion, but they will also be mistreated because the rights they already have are proportional to their skills; therefore, to be protected, they would need to give up some of those rights. The ability to generate economic prosperity is the ability of women mentioned above. But now that people's ideas about gender have evolved, women can work just as efficiently as men; thus, while rights are being restored, certain nations are currently experiencing a decline in reproduction due to women's social identity changing. There are geographical variations based on the social standing of women. The consequences of the moral machine will not differ too much in sparing women from sparing men if the status of women as an essential component of social and economic development is not too different from that of men. The experiment's findings, however, will be biased if women are utilized for reproduction and have no impact on social and economic advancement.

3. Conclusion

Differences between individualism and collectivism, country-level economic inequality, prosperity, and the standard of rules and institutions, as well as the gender gap, were all examined in the moral machine experiment. Because they regard each person's unique value, individualistic people will choose to save more people. In contrast, collectivist people will save older people with more emotional ties because they value those connections more. People's thirst for money is lower in wealthy nations than in impoverished ones, and as a result, they have less regard for influential individuals who may add value. As a result, they tend to opt to protect wealthy individuals less

frequently than in developing nations. People in nations with rapidly expanding economies also have a stronger antipathy to individuals who undermine equity and less desire for money because they can afford better living conditions.

In contrast, people in developing nations frequently participate in unbalanced behaviors that have significant advantages for raising their income and enhancing their standard of living. It, therefore, comes as no surprise that people are slightly less inclined to be frugal than those in poorer areas in regions with significant economic growth. And most crucially, there is the gender divide. Numerous elements also have an impact on women's social status. There may be disparities in the decision to defend women and men depending on factors such as whether religious views exclude women, whether gender equality is ingrained in early children, and the distinctive nature of women's social identity. Overall, the issues described in this article will significantly impact the moral machine experiment.

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