

Poverty and Decision-Making: Impact and Mechanism.

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ABSTRACT

Poverty not only means limited material resources, but also has a significant impact on human being's psychological aspects. According to previous studies, poverty had a negative impact on people's decisions. However, it has been neglected that more complex impact can happen when the poor are making decisions. The mechanism also remains vague and obscure. Therefore, in order to make clear of the influence of poverty on decision making as well as the mechanism, this review is carried out to propose suggestions. It is found that poverty was responsible for driving people to be impatient, short-sighted and easier to ignore useful information based on depleting their psychological resources (e.g., attention, self control and cognitive control), i.e., they tend to make unreasonable decisions. However, in some cases, these decisions could help them to meet their urgent needs. In order to eradicate poverty, one needs to improve poor people's cognitive ability and make use of focus dividend by providing proper education and training. These results shed light on the psychological ways to get rid of poverty.

Keywords: Poverty, Decision making, attention, self control, cognitive control

1. INTRODUCTION

Poverty is an important social issue where previous researches have made various definition of it. According to United Nations (1995), poverty refers to many factors including a shortage of income, a lack of resources, hunger, poor health and healthcare, a lack of chance to accept education, bad housing conditions etc. [1]. It was also defined as the lack of or the inability to achieve a socially acceptable standard of living [2].

However, the above definitions are limited because they only contain the physical aspects of people's life. As a matter of fact, it is necessary to take psychological aspects into account. According to Banarjee (2000), poverty will make people desperate and vulnerable because they have too little to lose [3]. Haughton & Khandler (2009) argue that poverty is a kind of deprivation of subjective well-being [4], which includes happiness, peace, fulfilment and life satisfaction [5]. Main & Gill (2014) found that poverty could act as an important predictor of subjective well-being [6]. People of different level of income have different level of subjective well-being. The poorer the people are, the lower their subjective well-being is [7]. Poverty can also predict worse mental health. Najman, et al. (2010) did a 21-year research and they found high correlation between poverty and psychological problem, also found that people living in poverty had higher likelihood of

committing crimes [8]. Therefore, poverty not only affect human being by the shortage of resources, it will also have some impact on people's mental state.

According to Beach (1993), decision-making can be defined as the process of screening or choice, in which people will first screen the options to find those which can meet their standards, and then choose one option from the screened ones [9]. Plenty of factors contribute to the process of making decisions. For example, through the movement of eyes, Orquin & Loose (2013) found that attention, whether top-down (The way in which people process perceptual information by using existing knowledge and experience) or bottom-up (A process initiated and propelled by an external stimulus), made people capture useful information, thus enabling people to make decisions more effectively [10]. In addition, different people of different self-control levels will make different decisions. Self-control is generally defined as the capacity of the alteration of dominant response tendencies [11], or the ability to inhibit impulsive responses [12]. When people are faced with an option that pays off in the short run but not in the long run or an option that won't pay off in the short term but will pay off in the long term, more people of low self-control tend to choose the option which can make them reduce loss in a long term [13]. Memory also plays a role in making decisions. For example, working memory, which is like a limited capacity system

temporarily stores information and enables people to process information, can affect decision-making process [14]. The limitation of working memory will lead to more impulsive decision-making style [15].

Scholars have found that poverty will have an impact on people's decision-making ability. Compared with people of high socioeconomic status (SES), people of low SES tend to make short-sighted choices because they focus more on short-term benefits while ignoring long-term benefits, thus forming a vicious circle in which short-sighted decisions often lead them back into poverty [16]. Poor people show a considerably different tendency when they are making choice. They seldom choose to invest in issues which have long-term benefits e.g., healthcare, wealth management and education [17]. In the long run, they rarely benefit from such investments, which keeps them in poverty for a long time. Moreover, Poverty can be a burden on the mind, thus impairing cognitive analytical, reasoning and judgment skills and it can even make people back into poverty [18]. Material poverty will lead to pessimism, and long-term poverty and frustration will make individuals lose the enthusiasm to make efforts. When they are making decisions, they tend to be afraid of risks and difficulties and they do not pay attention to long-term interests [19].

However, there's a lot of controversy in this area. Many studies have focused on the negative impact of poverty on decision-making, but it remains to be studied whether this impact is only negative but not positive [20]. The reason why poverty will affect decision-making is also obscure. When some researchers argue that the shortage of resources occupies their attention [16], which means that the poor focus so much on the desperately needed resources that they ignore other things, other researches argue that it has something to do with the willpower [21]. When poor people resist more temptations in daily life because they are poor, their willpower is sapped and they are less likely to make rational decisions later in life. Figuring out the reasons why poverty can influence decision-making process is important because it is related to how to break the vicious circle if it really exists. This question is worth studying because poverty is a problem that many countries are facing. Research on poverty and decision-making suggests that poverty cannot be truly solved simply by reducing it physically. It is of great significance to clarify the impact of poverty on decision-making, mechanism and countermeasures.

Therefore, the aim of the present study was to investigate the impact of poverty on people's decision-making ability by reviewing the existing papers in the research area. Specifically, the negative and potential positive effects of poverty on decision-making are discussed. For example, it is found that poverty will make poor people focus too much on the limited

resources [22] and ignore the long-term profits. However, focus dividend will also appear, by which the poor focus on the resources they desperately need, i.e., they can judge the value of an issue more carefully. This can help them solve their problems. In addition, some literatures about the mechanism of poverty are also discussed. Generally, the researches of attention, self-control and cognitive control are summarized and compared with proper organization to clarify the inherit mechanism clearer. Besides, the measures are also proposed and investigated to reduce poverty in using psychological methods.

2. POVERTY AND DECISION-MAKING

2.1. Impact

Previous researches have studied the impact of poverty on people's decision making and most of them found a negative impact. Tanaka, Camerer & Nguyen (2010), aiming at investigating the correlation between risk, time preferences and economic circumstances, chose nine villages in Vietnam with different mean income [23]. Researches conducted experiments with lotteries involving both gains and losses and they found that people living in poor villages reported higher levels of aversion to loss and risk than those living in rich villages. They also asked participants to make choices between smaller rewards given today, and larger rewards delivered in the future. A trusted agent would keep the delayed money reward until the delayed date. Results showed that poorer people tended to choose the former one, suggesting that they were afraid of loss, while people living in wealthy villages are not only less risk averse but also more patient. In this regard, it is more difficult for poor people to escape poverty because they are afraid of risk and loss and they do not make the decisions which can truly help them become richer.

Vojtěch, Michal, Julie, & Ian (2021) tried to learn how poverty could affect time preferences through purely psychological channels [24]. The participants were poor farmers from 12 villages in Uganda, and they were asked to perform a 1-hour boring manual task to sort yellow and red dried beans by colour for a fixed period on two dates, which had a one-week interval. Researchers also induced the subjects to think about poverty through showing poverty-related situations. Afterward, subjects should make decisions by flipping through six pages in a small booklet. They got a budget of entertainment time and each page displayed one option about the number of minutes of entertainment allocated to earlier and later dates. It is found that poverty can indeed influence decision making. The thoughts of poverty would make farmers tend to consume entertainment earlier and delay work. Poverty can somehow damage people's self-control and poor people tend to make reckless decisions. The decisions

then drive people back to poverty and it is difficult for poor people to break the loop.

Poverty may lead to overborrowing, which is not a relatively reasonable decision. In the experiment of Shah, Mullainathan, & Shafir (2012), a game called “Angry Blueberries” was designed. Participants were divided into two groups, with a small or a large budget of shots respectively [16]. Some of them didn’t have the opportunity to borrow shot time, while others may have the opportunity to borrow with or without paying interest. Researchers found that compared to the rich group, subjects in poor group borrowed a higher proportion of their budget. When their budget was running out, they tended to increase borrowing. However, borrowing didn’t lead to a better performance when people in poor group shot. The more they borrowed, the worse their performance would be and their performance was the worst when they had payment interest. Conversely, there was no significant difference in the rich, no matter they borrowed or not, or had interest or not. This suggests that poverty will lead to overborrowing and borrowing can actually have a bad influence.

Although previous studies generally believe that poverty has a negative impact on decision-making, positive impact does exist, which has been ignored by plenty of researchers. A kind of positive effect is brought by focus dividend. People tend to pay attention to the limited resources and they will focus on how to make the best use of resources [18]. It has something to do with the resource scarcity, which is defined as the gap between one’s current level of resources and a higher, more desirable reference point. Andersen (2011) used the data of the Danish Longitudinal Study on Work, Unemployment and Health to analyse the relationship between coping strategies and benefits from participation in Active Labour Market Programs (ALMPs, a program for helping unemployed people) [25]. Researches used a questionnaire, measuring participants’ well-being, health and coping strategies and they also collected the information of their income. There were two kinds of coping strategies: problem-focused coping strategy and emotion-focused coping strategy. People of problem-focus coping strategy paid much attention to the problem itself, trying to directly manage the problem, while people of emotion-focused coping strategy tended to avoid solving the problem. Results showed that the problem-focused coping strategy had a positive impact on reemployment while emotion-focused coping strategy had a negative impact. This suggests that one should think critically about the effects of attention and scarcity. When people pay attention to the solution of their problem and the limited resources, focus dividend can happen because people pay attention to solve the problem and improve their situation. However, when they pay attention to their

emotion rather than the problem itself, attention will badly affect their decisions and situations.

One should also think critically about the impact of poverty on time preferences. People living in poverty tend to choose the economic option which has smaller rewards but immediately given. Although they gain less money, they can solve their immediate problem in this way. One cannot conclude that abandoning long-term interests in favour of short-term ones is necessarily negative for people. For example, researchers found that people who have just experienced natural disasters or civil conflict would become impatience [26]. They may ignore long-term interests, but this is a way to survive better.

Consistent with the results mentioned above, Hoel, Schwab, & Hoddinott (2016) also found that subjects with finances lower than the median would show more impatience when they were doing a time preference task, but a different view was presented that one should not blame poor students for poor performance [27]. In the experiment, researchers used the sample collected in Mekelle University and the students’ current expenditures, recent income, and expectations surrounding future financial support were also collected. A Stroop task was used in the experiment, in which subjects were shown a series of flashcards with the names of a colour written on them and they should answer the colour of ink of the word but not the word itself. Then, subjects should make a decision between receiving a smaller amount of money one day after the survey or a larger amount of money eight days after the survey. There were also four intermediate options, increasing the precision of measuring time preference. Researchers found that students with worse financial situation chose the option of significantly more sooner payment. However, researches argued that one could not say that only the poor students were distracted by immediate rewarding because the rich students were also distracted by more money and they ignored the immediate profits. Poor students chose immediate rewards to level their playing field with richer people.

Therefore, it is unable to simply assume that poor people’s decisions are irrational, nor can one simply accuse them of being impatient and ignoring long-term profit. Poor people choose these options to survive better and solve their urgent needs.

2.2. Mechanism

The reason poor people make different decisions from the rich has been studied by many researches and it can be attributed to attention, self-control and cognitive control.

Scarcity theory will cause a scarcity mindset, which will make the poor unlikely to make optimal decisions. According to Bruijn & Antonides (2021), this means

that the poor only have limited budget and income but they have to face their current and future expenditures [28]. As a result, their urgent needs consume cognitive resources, e.g., attention, self-control and cognitive control and they only have seldom cognitive resources for future needs. In this way, the poor will more likely to make suboptimal decisions. Therefore, scarcity can induce a kind of specific mindset.

According to Zhao & Tumm (2017), scarcity seems to make people pay more attention to scarcity-related sources [29]. In their experiment, participants were asked to order from a hypothetical restaurant menu and they were divided into two groups, with a small or a large price budget respectively. An eye-tracking technique was used to study participants' visual attention. Researchers found that people in the small budget group paid more attention to the dish's price rather than any other factors. They even found that when they were focusing on price, they tended to ignore some beneficial and useful information, and their memory of this kind information was worse in the future. Compared to those in a large budget group, "the poor" even failed to notice the discount written at the bottom of the menu. This may cause bad impact when they were making economic decisions. This suggests that poverty can influence decision-making through the focus and neglect of attention.

Another mechanism is related to self-control. Self-control is a limited psychology resource, and when people are living in poverty, they have to resist more temptations because of their economic scarcity, thus depleting self-control [17] and badly affecting the decisions they make. This process is often described as ego-depletion [30]. Researchers have found that poverty depletes people's ability to control themselves. In the experiment of Hoel, Schwab, & Hoddinott (2016), the Stroop task was designed to induce self-control depletion and it was divided into an easy task and a difficult one [27]. The control group did an easy task where the name of the word was written in a same colour and the treatment group did a more difficult task (different colour). Results indicated that while poor students became significantly more impatient and they chose to abandon larger amount of money in order to get money sooner after a difficult Stroop task, no statistically significant effect was found in the rich students. This suggests that poverty will deplete people's self-control, thus affecting their decision-making.

Poverty can also influence decision-making through depletion of cognitive control. Cognitive control refers to the process in which individuals store, plan and manipulate relevant information from top to bottom and suppress the processing of irrelevant information [31]. Spears (2010) investigated the impact of poverty on economic decision making through an experiment about

cognitive control [32]. In his lab experiment in India, subjects played a store game in which they should make economic decisions. In this game, participants were told to imagine they were in a store with three items: cooking oil (represented temptation), a food container (represented investment good) and a synthetic rope (had no special interpretation). Participants were divided into the group of poor and rich, with the opportunity to get one or two of these items. They were independently randomly assigned to either be allowed and required to choose which item or items they would receive, or to simply be told. The poor group had to weigh the value of temptation and investment good. People's behaviour control performance was measured by a handgrip and the Stroop task. Participants were asked to squeeze the handgrip and the squeezing time was recorded. Researchers also used Stroop task in which there were cards with a single-digit number repeated several times and subjects should say the number of times the number was shown but not the number itself. According to the results, participants being assigned to face a difficult economic decision with a small budget performance worse. Scarcity itself had no effect on participants' performance, but worsened participants' performance when they needed to make economic decisions. This means that poverty can deplete people's cognitive control and make them perform worse in the task.

2.3. Inspiration

Taking the factors one discussed above into account, some psychological approaches can help people get rid of poverty. According to Jia (2021), the endogenous power of overcoming poverty come from people's intelligence and ability [18]. After analysing the data from China Family Panel Studies (CFPS), researchers found that cognitive level and intellectual level can significantly reduce poverty. Improving cognitive ability could help poor people overcome poverty. In addition, the function of scarcity mindset should be treated dialectically. On the one hand, scarcity mindset can lead to focus dividend, which will have some positive impacts. However, if people pay much attention to their immediate need, they will make decisions impatiently and ignore other useful information. This indicates that one should make the best use of the function of focus dividend, in order to encourage poor people to be proactive in making healthy lifestyle choices, borrowing rationally and preventing long-term risks.

3. CONCLUSION

In the present study, the impact of poverty on people's decision-making ability is explored. According to previous studies, one believes that the influence of poverty on decision-making is not just single but complex. Traditionally, researchers believed that

poverty will solely undermine people's decision-making ability. Poor people would be more impatient when they were making decisions. They tended to choose smaller reward to get money much sooner [23], or choose to entertain immediately rather than working hard when they were reminded of their poor situation [24]. Poverty would lead to overborrowing and had a negative impact on their performance [16]. However, according to our review, one found that many researchers have also investigated the positive aspect of poverty on decision-making. These effects are not just negative and people should think of them critically. Poor people should not be blamed for being 'impatient'. Conversely, their decision to get money earlier would help to meet their immediate needs [26, 27].

The mechanism of the impact is also explored. Based on the analysis, it is because of the limitation of psychological resources, e.g., attention, self-control and cognitive control. When people are poor, they only have limited resources. This kind of scarcity will lead people to over focus on the information with regard to their limited resources, thus causing their neglect of other useful information [29]. Poverty will also deplete people's self-control ability and cognitive control [27, 32].

Taking the discussion above, in order to help human beings get rid of poverty, it is necessary to improve their cognitive ability or encourage poor people to choose a healthy lifestyle, borrowing rationally and preventing long-term risks through free education and training. These results offer a guideline for lifting people out of poverty and consolidating our achievements in poverty alleviation.

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