
The Influences of Individuals' Space Angles on Charitable Donations

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[abstract] The big gap between the rich and the poor has become a major challenge for China's rapid development. Donation is an effective form of social redistribution. However, donation behavior, especially charitable donation by individuals, is still in its infancy stage in China. How to motivate individuals to donate? Based on the embodied cognition theory, this paper proposes an effective and convenient method: changing people's perspective and letting people look down from top, then they will have higher donation willingness. In three experimental studies, this effect was validated using different manipulations, samples, and measurements. The study extends our understanding on charitable giving and prosocial behavior. In addition, the results have important implications for governmental sectors and public welfare organizations to motivate individual donation behavior.

[Keywords] Charitable donations; Prosocial behavior; Sensory; Embodied cognition

I. Introduction

Since the Reform and Opening-up, China has made remarkable achievements in economic construction. However, in the process of rapid development, some social issues have begun to emerge. Among them, the first one is the increasing wealth gap. At present, the main criterion for assessing the gap between rich and poor is the Gini coefficient. According to the international standard, if the Gini coefficient of a country or region reaches or exceeds 0.4, it means that the problem of polarization between the rich and the poor has become prominent and needs to be watched^①. Statistics show that since 2004, China's Gini coefficient has been maintained at a high level of 0.4 or above^②. According to the latest statistics released by the People's Bank of China, this coefficient has climbed to a historical high of nearly 0.51^③, indicating that the gap

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^① Yin Hongpan & Liu Shuling (2011): "The Trend of China's Gini Coefficient: A Calculation by Subdividing People Groups of 2000-2009's National Statistic Data", *Chinese Journal of Population Science*, 2011 (Vol. 4), pp. 11-20.

^② Xu Yingmei & Zhang Xuexin (2011): "Estimation of Critical Value of Gini Coefficient of China as the", *Statistical Research*, 2011 (Vol. 28, No. 1), pp. 80-83.

^③ Survey Group of Urban Residents' Household Assets and Liabilities, Department of Survey and Statistics, People's Bank of China (2020): "Survey of Urban Residents' Household Assets and Liabilities in China in 2019", *China Finance*.

between the rich and the poor in China has reached a very serious level. Studies in the social sciences have found that the imbalance in distribution will produce a series of hidden dangers. For example, from the perspective of social climate, the disparity between the rich and the poor is a major negative factor affecting social stability^①, and may even induce unlawful and criminal behaviors^②. From the perspective of human resources, the rich-poor divide will widen the gap between the poor and the rich in terms of fertility rate, which in turn will have a negative impact on the amount of human capital in the whole society^③. In terms of economic construction, the gap between the rich and the poor will also reduce the domestic demand for consumption, which is not conducive to economic growth^④.

In the final analysis, the polarization of the rich and the poor is the consequence of a problematic distribution process. Therefore, the problem has to be solved by improving the way of distribution. According to the theory of three distributions, there are three distributions of income under the market economy: the first one is made by the market according to the principle of efficiency; the second is the redistribution made by the government focusing on the principle of equity through administrative means such as taxation and social security; and the third is the distribution made through voluntary donations by individuals under the influence of moral and social norms^⑤. Most of the existing studies have focused on the first two distribution processes and left out the third distribution^⑥. In fact, it is easier and more effective to promote giving than to reform the market system and administrative policies. For instance, in the case of malignant emergencies, individual-initiated charitable donations not only help victims more quickly and rapidly, but also enhance the in-group perception between donors and recipients at the psychological level, which helps to improve social cohesion^⑦. In addition, as a pro-social behavior, giving can also be a way to integrate into society^⑧.

With this in mind, this paper will explore how to enhance individuals' charitable giving. Specifically, we will explore whether a change in perspective, a very subtle

^① Li Jun (2002): "On the Existing Problem of Unequal Distribution of Wealth in China", *Journal of Swupl*, No. 2, 2014, pp. 43-46

^② Hu Lianhe, et al. (2005): "An Empirical Analysis of the Impact of the Wealth Gap on Delinquent Activities", *Management World*, No. 6, 2005, pp. 34-44.

^③ De La Croix, D., & Doepke, M. (2003), "Inequality and growth: why differential fertility matters", *American Economic Review*, vol. 93, No. 4, pp. 1091-1113.

^④ Chen Yanbin & Chen Jun (2009): "Analysis on China's Insufficient Consumption: Based on the Perspective of Household Wealth", *Journal of Renmin University of China*, No. 6, 2009, pp. 80-86.

^⑤ Li Yining (1994): *Shareholding and the Modern Market Economy*, Nanjing: Jiangsu People's Publishing House.

^⑥ Chi Wei & Cai Xuxu (2012): "An Empirical Analysis of Urban Residents' Property Income and Wealth Gap", *The Journal of Quantitative and Technical Economics*, 2012 (Vol. 29, No. 2), pp. 100-112; Ren Biyun (2004): "Readjusting the relationship between efficiency and fairness based on the enlarging gap in the residents' income", *Journal of Central University of Finance and Economics*, No. 1, 2004, pp. 45-48.

^⑦ Tian Yuan (2019): "An exploration of experimental research trends and core issues in individual charitable giving - based on published literature in mainstream Western academic journals", *The China Nonprofit Review*, 2019 (Vol. 24, No. 2), pp. 291-310.

^⑧ Lee, J., & Shrum, L. J. (2012), "Conspicuous consumption versus charitable behavior in response to social exclusion: A differential needs explanation", *Journal of Consumer Research*, vol. 39, No. 3, pp. 530-544.

factor, can help increase individuals' attitudinal intentions and actual behaviors toward giving from a psychological perspective, using the theory of embodied cognition. We argue that from a downward-looking perspective, people are more aware of the social stratification and the disparity between rich and poor, and thus more empathetic to social inequities. Therefore, under the effect of embodied cognition, the "downward" view of the physical space inspires people to look downward psychologically, i.e., to pay attention to and empathize with people at the bottom of society, and thus show more willingness to give and such behaviors. This "downward-looking-giving" effect has been repeatedly verified in three experiments using different manipulation methods, different measurement methods, and different samples.

II. Theory and Research Hypothesis

i. Sight and Senses

The basic senses of the human body include sight, hearing, touch, smell and taste. It is with the senses that people can perceive external stimuli. In the absence of sensory perception, people's physical and mental state can become extremely poor. In the classic sensory deprivation experiment, psychologists have found that if special measures are taken to limit or deprive people of their sensory abilities (e.g., experiments are conducted in soundproof rooms, with the monotonous hum of air conditioners covering people's hearing), even when subjects are offered substantial material rewards, they still feel intolerably uncomfortable. It was found that subjects deprived of their senses were unable to think clearly at all. They could not concentrate even for a short period of time. To make matters worse, about half of them even experienced hallucinations, including visual, auditory, and tactile hallucinations^①. This shows that the senses are of irreplaceable importance to people.

Of the five primary senses, the visual sense is the most important. According to statistics, 83% of the external information that humans obtain comes from the visual channel^②. In daily life, people often say that the eyes are the windows to the soul, which also reflects the special status of sight in the senses. The visual sense is so rich in components that people can obtain various forms of information from the observation of the naked eye, including the size of the object, distance, color and shape, etc. Also, there are many factors that affect visual perception, and one of the most important factors is perspective. Generally speaking, people may be in one of three perspectives when observing an object: looking down, looking up, or looking flat^③. Perspective affects the results of people's observations - even the same observer's perception of the same observed object can change with different

^① Orne M T, Scheibe K E. (1964), "The contribution of nondeprivation factors in the production of sensory deprivation effects: The psychology of the "panic button."". *The Journal of Abnormal and Social Psychology*, vol. 68, pp. 3-12.

^② Wu Huiyue (2012): "Research on user-centered visual gesture personalization interaction technology", Sun Yat-sen University.

^③ Xu, Liancang et al. (1983): "The use of closed stereo T.V. to improve depth vision under the conditions of upward and downward observation position", *Acta Psychologica Sinica*, 1983 (Vol. 15, No. 3), pp. 15-18.

perspectives. For example, looking down makes people underestimate the volume of an object and the distance between themselves and the object compared to a flat view, while looking up does the opposite^①.

ii. Embodied Cognition

The embodied cognition theory focuses on the body and its environment to explain people's cognitive behavior. It suggests that cognitive activities are closely related to the human body and the environment in which the body is situated. The brain, the body, and the environment together form the cognitive system as a whole^②.

The theory of embodied cognition has gained a lot of attention since its introduction, and psychologists have argued from different perspectives how people's mental cognition is closely related to their physical perceptions. In these studies, the concept of space has an important symbolic meaning. For example, people often associate vertical space with social class - the so-called powerful class is often labeled with adjectives such as high and mighty, while the poor and destitute are mostly referred to as the bottom of the social ladder. Consistent with this metaphor, the study finds that a vertical presentation leads consumers to perceive a product as more representative of social status than a horizontal presentation, and to be willing to pay a higher price for it^③. Based on this theory, this paper will explore how the spatial perspective (downward view) influences individuals' psychological perceptions and thus enhances their willingness to make charitable donations. Specifically, under the effect of embodied cognition, the physical spatial perspective of "looking down" can effectively stimulate people to look "down" psychologically, thus showing empathy for people at the bottom of society.

iii. Donation and Pro-social Behaviors

Pro-social behaviors are those that are beneficial to others or have a positive impact on society, including sharing, cooperation, and giving^④. Among them, giving behavior refers to individual charitable giving, which is an important type of pro-social behavior. Giving has a very positive effect on the economy, society, and culture. First, for the economy, charitable giving has a much greater injection effect than leakage effect on changes in social welfare levels, and can effectively promote economic development^⑤. Secondly, for society, giving is the most crucial part of the third distribution. Although the market and government have already done the first

^① Kausler, D. H. (1991), *Experimental psychology, cognition, and human aging*, Berlin: Springer.

^② Ye Haosheng (2011): "Embodied cognitive research in Western psychology", *Journal of Huazhong Normal University (Humanities and Social Sciences)*, 2011 (Vol. 50, No. 4), pp. 153-160.

^③ Rompay, T. J. V., Vries, P. W. D., Bontekoe, F., & Tanja-Dijkstra, K. (2012), "Embodied product perception: Effects of verticality cues in advertising and packaging design on consumer impressions and price expectations", *Psychology & Marketing*, vol. 29, No. 12, pp. 919-928.

^④ Li Aimei et al. (2014): "The Effects of Money Priming on Pro-social Behavior and Its Decision Mechanism", *Advances in Psychological Science*, 2014 (Vol. 22, No. 5), pp. 845-856.

^⑤ Wang Dahai & Nan Rui (2012): "The Effects of Household Income and Wealth on Charitable Donations in China - Evidence Based on CFPS Data", *China Market*, Vol. 46, 2012, pp. 76-82.

two distributions, equity cannot be the only principle in the processes^①. Therefore, after the market and government play their roles, they must rely on moral appeal and use donations as a means to further promote fair distribution and alleviate the gap between the rich and the poor. Finally, promoting charitable giving is also conducive to cultivating a rational view of wealth and forming a social culture of mutual help^②.

Because of the importance of giving, scholars have studied the factors that influence giving from different perspectives, including sociological, psychological, and consumer behavior. For example, scholars have found that gender is a predictor of giving behavior, i.e., women have a higher communal orientation and are therefore more empathetic and more likely to make charitable donations^③. In addition, religious belief has been found to be a factor that increases pro-social behavior, including giving^④. Intuitively, people in higher social classes seem to have better reasons to give because they have more and better resources, and even if they give some, it will not affect their quality of life. But research has found that this group tends to be more self-absorbed. The opposite is true for people in lower social classes, who are more willing to give money to others. This finding explains why in many places, giving is far less than expected - those who have the means are reluctant to give, and those who are willing to give have limited means themselves^⑤. The findings also suggest that social class does not effectively predict giving behavior if it does not activate individuals' embodied cognition to "look down" from a physical spatial perspective.

To appeal to the public for charitable giving, governments or nonprofit organizations often design and distribute fundraising materials and advertisements. Scholars have found that many seemingly subtle designs in detail can be effective in increasing people's willingness to donate. For example, when individuals are unaware of their ultimate fate of not being able to avoid death, donation advertisements that focus on the needs of the recipient can be effective in increasing the impact on their decision to give^⑥. This paper focuses on how spatial perspectives on fundraising materials can be designed to promote individuals' charitable giving behavior.

iv. Research Hypothesis

^① Li Yining (1994): *Shareholding and the Modern Market Economy*, Nanjing: Jiangsu People's Publishing House.

^② Guo Xia (2010): "On the Ecology of Donation Culture in China", *Li Lun Xue Kan*, No. 1, 2010, pp. 111-113; Luo Wenen & Zhou Yanfeng (2014): "How Public Interest Organizations Build Brand Trust: A Perspective of Empirical Mechanisms", *China Third Sector Research*, 2014 (Vol. 8, No. 2), pp. 2-18.

^③ James III, R. N., & Sharpe, D. L. (2007), "The nature and causes of the U-shaped charitable giving profile", *Nonprofit and Voluntary Sector Quarterly*, vol. 36, pp. 218-238.

^④ Shariff, A. F., & Norenzayan, A. (2007), "God is watching you: Priming God concepts increases prosocial behavior in an anonymous economic game", *Psychological Science*, vol. 18, No. 9, pp. 803-809.

^⑤ Piff, P. K., Kraus, M. W., Côté, S., Cheng, B. H., & Keltner, D. (2010), "Having less, giving more: the influence of social class on prosocial behavior", *Journal of Personality and Social Psychology*, vol. 99, No. 5, pp. 771-784.

^⑥ Cai, F., & Wyer Jr, R. S. (2015), "The impact of mortality salience on the relative effectiveness of donation appeals", *Journal of Consumer Psychology*, vol. 25, No. 1, pp. 101-112.

Based on the above concepts and theory, we believe that perspective has a significant impact on people's willingness and behavior of giving. Specifically, people show greater willingness to give and more actual giving behaviors when they are in a downward-looking perspective. According to the embodied cognition theory, the mind-body connection is universal, and both the brain and body are integral parts of the cognitive system. Previous research has shown that temperature^①, cleanliness^②, etc. have effects across the mind and body. Similarly, the physical state of looking down also affects people's psychological cognition in an embodied way^③, i.e., as the body looks down, it also drives the mind to look "down". In this case, the distinction between the top and bottom of physical space is mapped to the difference between high and low social class through this process^④.

How people process information is not only related to the mind, but also to the whole body and the environment they live in^⑤. When people are in the overlooking perspective, the feeling of being above the ground makes them more aware of the division of social classes and the gap between the rich and the poor, so that they will be more empathetic to social injustice and even make mental representation of the plight of the socially disadvantaged in their brains. Therefore, under the effect of embodied cognition, the "downward" view of physical space stimulates people to look downward psychologically, i.e., to pay attention to and empathize with the socially disadvantaged, so they show more willingness to give and more giving behaviors. When these psychological feelings are stimulated, the willingness and behavior of people to give also increase.^⑥

III. Research Design

A total of three empirical studies were designed and conducted to test the research hypothesis of this paper. Given that the experimental approach allows for easy comparison of the differences in willingness to donate across perspectives and the clear identification of causal relationships^⑦, we used laboratory experiments as the primary research method in all three studies. Specifically, the main elements and

^① Williams, L. E., & Bargh, J. A. (2008), "Experiencing physical warmth promotes interpersonal warmth", *Science*, vol. 322, No. 5901, pp. 606–607.

^② Zhong, C. B., & Liljenquist, K. (2006), "Washing away your sins: Threatened morality and physical cleansing", *Science*, vol. 313, No. 5792, pp. 1451–1452.

^③ Ye Haosheng (2011): "Embodied cognitive research in Western psychology", *Journal of Huazhong Normal University (Humanities and Social Sciences)*, 2011 (Vol. 50, No. 4), pp. 153-160.

^④ Rompay, T. J. V., Vries, P. W. D., Bontekoe, F., & Tanja-Dijkstra, K. (2012), "Embodied product perception: Effects of verticality cues in advertising and packaging design on consumer impressions and price expectations", *Psychology & Marketing*, vol. 29, No. 12, pp. 919–928.

^⑤ Ye Haosheng (2011): "Embodied cognitive research in Western psychology", *Journal of Huazhong Normal University (Humanities and Social Sciences)*, 2011 (Vol. 50, No. 4), pp. 153-160.

^⑥ Zhou, X., Wildschut, T., Sedikides, C., Shi, K., & Feng, C. (2012), "Nostalgia: The gift that keeps on giving", *Journal of Consumer Research*, vol. 39, No. 1, pp. 39–50.

^⑦ Falk, A., & Heckman, J. J. (2009), "Lab experiments are a major source of knowledge in the social sciences", *Science*, vol. 326, No. 5952, pp. 535–538.

logical structure of the three experiments were as follows: in Experiment 1, a sample of college students was used to manipulate the subjects' perspectives through recall and to observe whether subjects in the downward-view group showed higher willingness to donate than those in the control group. Based on this, Experiment 2 further measured the actual giving behavior of the subjects, thus further enhancing the external validity of the study while replicating the results of Experiment 1. In addition, Experiment 2 excluded some potential confounding factors, such as comfort level and mood. Finally, Experiment 3 employed a more concise manipulation and included a temporal donation to extend the measurement extrapolation of the dependent variable in a sample of different nature, further validating the generalizability and stability of the effect. Finally, we also conducted a single paper meta-analysis (SPM) to provide a quantitative summary of the effects of perspective on donation.

IV. Empirical Studies

i. Experiment 1

1. Sample and experimental procedure

In this experiment, we recruited 168 subjects from a comprehensive university in Shanghai, of which, 81 were male and 87 were female. Before the experiment began, we assured the subjects of the anonymity of the study and explained that the results would be used for academic purposes only. After completing all experimental tasks, each subject was given a small gift as a reward. During the post-experiment debriefing session, we designed a question in which all subjects wrote down their guesses about the purpose of the experiment. The experimenter then read and analyzed each subject's answers and found no responses that were close to the true purpose of the experiment. Therefore, we concluded that no subject guessed the true purpose of the experiment.

The experiment used a one-way between-subjects design in which we randomly assigned subjects to either the downward-view or control group. To manipulate perspective, subjects in the downward-view group were asked to recall an experience of looking down from a height, while the control group recalled what happened yesterday^①. While doing so, the subjects were asked to write down their feelings during the experience. Then, we showed them some photos that reflected the living conditions of poor people in remote areas of China. Finally, we asked the subjects to imagine that they now had 200 yuan in cash and to report how much they would be willing to donate to the people in the areas shown in the pictures (range: 0-200 yuan). This amount was the dependent variable measured in this study.

2. Results and discussion

We performed statistical tests on the data using a one-way analysis of variance (ANOVA). The results revealed a significant effect of grouping on the intended

^① Wang, W., & Zhang, X. A. (2016), "Approach or avoidance? The dual role of face in fashion consumption", *Advances in Consumer Research*, vol. 44, pp. 764-764.

donation amount ($F(1,166) = 4.56, p = 0.034$). Further analysis revealed that subjects in the overlooked group ($M = 49.81, SD = 59.18$) were more willing to donate to remote areas compared to the control group ($M = 32.88, SD = 41.91$). These results provide support for the research hypothesis.

Experiment 1 found that asking people to recall an experience of looking down from a high place boosted their willingness to donate. However, some studies have shown that although mental attitudes and actual behavior are strongly correlated, there are still many situations in which attitudes may be at odds with behavior. For example, the classical Theory of Planned Behavior suggests that the predictive effect of attitudes on behavior is subject to factors such as perceived behavioral control^①. The Cognitive Dissonance Theory further finds that when attitudes and behaviors conflict, people may even use behaviors as a benchmark to change their original attitudes^②. Accordingly, in order to rule out the possibility of inconsistency between donation attitudes and behaviors, we designed and implemented Experiment 2, in which we will directly measure actual donation behaviors. In addition, as research suggests that differences in perspective may lead to cognitive and emotional differences^③, we will also measure whether the perspective manipulation changes the subject's comfort level, as well as emotional valence and arousal. Finally, we changed the charitable giving scenario to further validate the robustness of the effect.

ii. Experiment 2

1. Sample and experimental procedure

In Experiment 2, we recruited 203 subjects from a comprehensive university in Shanghai. It should be noted that Experiment 1 and Experiment 2 adopted two different sets of sample sources from the same university. Among them, there were 90 males and 113 females. Prior to the start of the experiment, we assured the subjects of the anonymity of the study and explained that the results would be used for academic purposes only. After completing all experimental tasks, each subject received a cash payment of 8 yuan. During the post-experiment debriefing session, we designed a question in which all subjects wrote down their guesses about the purpose of the experiment. The experimenter then went through and analyzed each subject's answers and found no responses that were close to the true purpose of the experiment. Therefore, we concluded that no subject guessed the true purpose of the experiment.

The experiment used a one-way between-subjects design, and we randomly assigned subjects to either the downward-view or control group. Experiment 2 used the same recall manipulation method as Experiment 1. Then, subjects filled out a questionnaire that contained measures of current comfort level and mood. Specifically, the comfort level was measured by the question, "How do you currently feel?" The

^① Ajzen, I. (1991), "The theory of planned behavior." *Organizational Behavior and Human Decision Processes*, vol. 32, No. 4, pp. 4665-683.

^② Festinger, L. (1957), "A theory of cognitive dissonance", *American Journal of Psychology*, vol. 207, No. 4, pp. 2112-2114.

^③ Cheng Jinlong (2011): "A Research of the Mechanism of Urban Tourism Image Perception", *Human Geography*, 2011 (Vol. 26, No. 3), pp. 142-146.

subjects responded on a five-point Likert scale (1 = "very uncomfortable"; 5 = "very comfortable"). For the measurement of emotional pleasure and arousal, we used the instrument of McNair et al^①. On a five-point Likert scale (1 = "very inappropriate"; 5 = "very appropriate"), subjects reported whether each question item accurately described their current feelings. Finally, we showed the participants a promotional material of a micro charity project "Free Lunch": "Having a hot lunch is a normal thing for us, but the children in Hongban Primary School in Zhongjian Township, Qianxi County, Guizhou, cannot have lunch because of the long distance and family difficulties. A few students have a relatively 'rich' lunch (burnt sweet potatoes, blackened fried corn kernels), but most children do not even have such a lunch. They have no choice but to study on a hungry stomach"^②. After reading this material, the subjects were told that the experiment organizers were organizing a fundraising campaign for the children at Hongban Primary School and that they could donate any part of the 8 yuan they received for participating in the experiment (i.e., donations ranged from 0 to 8 yuan) to these children. In order to ensure that we were measuring actual behavior in this experiment, the experimenter emphasized to the subjects that their reported donations would be settled immediately after the experiment, and that their final reward would be the total amount of 8 RMB yuan minus the amount of donations. At the end of the experiment, we informed the subjects of the purpose of the experiment and paid them all the 8 RMB yuan.

2. Results and discussion

First, we found that manipulation of perspective did not significantly alter subjects' comfort level, emotional valence or arousal through statistical tests. And, whether or not these factors were included as control variables in the main analysis did not change the results either. For the purpose of being as concise as possible, we will not consider these variables in the later sections. Subsequently, we examined the role of perspective manipulation on donation amount using a one-way ANOVA. The results found a significant effect of perspective on donation amount ($F(1,201) = 5.69, p = 0.018$). Further analysis revealed that subjects in the downward-view group ($M = 4.01, SD = 2.53$) were more willing to donate to the free lunch as a benefit compared to the control group ($M = 3.17, SD = 2.47$). These results again provide support for the research hypothesis.

The results of Experiment 2 show that the downward-looking perspective not only increases people's intention of charitable giving, but also directly enhances actual giving behavior, which makes our findings more externally valid. However, there are still four limitations of Experiment 2. First, although the recall manipulation was relatively simple to implement in the laboratory, it was not easy to implement in a real-world giving scenario where people first recalled a past experience. Therefore, we also need to find more practical methods of perspective shifting. Second, Experiments 1 and 2 measured the willingness to donate money, and given that research has shown that people may have different preferences and behaviors for

^① McNair, D. M., Lorr, M., & Droppleman, L. F. (1992), *EdITS Manual for the Profile of Mood States (POMS)*. San Diego, CA: Educational and Industrial Testing Service.

^② Chen Jianmei & Fu Qi (2016): "Persuasion Appeal and Framing Effect Influence Giving Decision-Making", *Studies of Psychology and Behavior*, 2016 (Vol. 14, No. 3), pp. 377-383.

donating money and time^①, Experiment 3 set the charitable giving scenario to time giving to further examine whether the enhancement effect of physical perspective on giving is also applicable to the time dimension. Further, Experiments 1 and 2 compared the downward-view and control groups, but did not examine the difference between the downward-looking and upward-looking perspectives. Finally, both Experiments 1 and 2 used student samples, a specific group that inevitably lacks demographic significance in terms of diversity^②. These limitations prompted us to design and implement Experiment 3, which would use a more concise manipulation and incorporate a manipulation of the downward-view group as well as a measure of time donation in a more representative sample. It has been found that the level of abstraction of the donation object affects people's level of giving^③. Given the vagueness of the donation objects in Experiments 1 and 2, we used more explicit and specific donation objects in Experiment 3 to further verify the robustness of the effect.

iii. Experiment 3

1. Sample and experimental procedure

In Experiment 3, we used the paid sample service of sojump.com. The sample consists of nearly 3 million users with different demographic backgrounds and it provides a reliable crowdsourcing service and has been widely used in studies related to psychology and behavior^④. We recruited a total of 265 subjects, 119 males and 146 females, with a mean age of 35.19 years (SD = 9.32), through the sample service. Prior to the start of the survey, we assured the subjects of the anonymity of this study and stated that the results would be used for academic purposes only. After completing all tasks, each subject received a 5 yuan online red packet as a reward for participation. In the post-experiment debriefing session, a question was designed in which all subjects wrote down their guesses about the purpose of the experiment. The experimenter then reviewed and analyzed each subject's answers and found no responses that were close to the true purpose of the experiment. Therefore, we concluded that no subject guessed the true purpose of the experiment.

The experiment used a one-way between-subjects design in which we randomly assigned subjects to the downward-view or upward-view groups, respectively. To manipulate their perspective, we showed subjects different pictures. In the

^① Lee, L., Piliavin, J. A., & Call, V. R. (1999), "Giving time, money, and blood: Similarities and differences", *Social Psychology Quarterly*, vol. 62, No. 3, pp. 276–290; Liu Wumei (2019): "Having Power, Donating More Time? The Effect of Donors' Power on Their Charitable Donation Intention of Time and Underlying Mechanisms", *Nankai Business Review*, No. 2, 2019, pp. 23-32.。

^② Sun, G., Wang, W., Cheng, Z., Li, J., & Chen, J. (2017), "The intermediate linkage between materialism and luxury consumption: evidence from the emerging market of China", *Social Indicators Research*, vol. 132, No. 1, pp. 1–13.

^③ Xie Chenlan et al. (2020), "The effects of temporal distance and level of explanation on willingness and likelihood of donor participation," *Psychological Research*, 2020 (Vol. 13, No. 2), pp. 162-167.

^④ Wang, W., Li, J., Sun, G., Cheng, Z., & Zhang, X. A. (2017), "Achievement goals and life satisfaction: the mediating role of perception of successful agency and the moderating role of emotion reappraisal", *Psicologia: Reflexão e Crítica*, vol. 30, No. 1, pp. 1–12.

downward-view group, subjects saw three pictures from a height looking down; the upward view group was shown pictures taken from an upward perspective. We asked the subjects to put themselves in the perspective of the pictures and to look closely at their contents. In order to ensure that the manipulation was as "clean" as possible, the pictures were processed to ensure that they looked as close to each other as possible, except for the difference in perspective. Then, we showed the subjects some pictures of widowed elderly people living in homes for the elderly where conditions were difficult, and described that what these elderly people lacked most was material security and human assistance, so the best way to help them alleviate their difficulties was to give them manpower and financial support. Finally, the subjects answered on a five-point Likert scale how likely they were to donate money to the widowed elderly and to do volunteer work in the homes (1 = "no way"; 5 = "definitely").

2. Results and discussion

We examined the effect of perspective manipulation on monetary and time donations separately using a one-way ANOVA. First, we used monetary donation as the dependent variable and found that there was a significant effect of grouping on intention to donate money ($F(1, 263) = 10.76, p = 0.001$). Further analysis revealed that subjects in the downward-view group ($M = 3.92, SD = 1.32$) were more willing to donate to the elderly home compared to the upward-view group ($M = 3.39, SD = 1.29$). Similarly, we then did the same statistical analysis with the intention to donate time as the dependent variable. It was found that grouping had a significant effect on the intention to donate time ($F(1, 263) = 8.26, p = 0.004$). Further analysis revealed that subjects in the downward-view group ($M = 3.44, SD = 1.52$) were more willing to perform volunteer work in a home for the elderly compared to the upward-view group ($M = 2.93, SD = 1.37$). The above findings again provide consistent support for the hypothesis.

iv. Single-paper meta-analysis

Meta-analysis is the secondary statistical analysis of empirical results, i.e., the re-analysis of statistical results. Because the results are believed to reflect the true relationship between variables, meta-analysis is widely used in many disciplines, such as management, psychology, education, and economics^①. The traditional meta-analysis method basically takes multiple papers as the object of study and aims to unify inconsistent research findings. With the continuous updating and development of statistical techniques, a corresponding meta-analysis method, single-paper meta-analysis, has been developed for a single paper containing multiple empirical studies. Similar to the traditional meta-analysis method, it can also provide a quantitative summary of the empirical results of the paper and provide strong statistical support for the robustness of the effect. According to Mcshane and Böckenholt, in papers that include multiple empirical studies, it is inefficient to analyze the significance of the results in each study individually because doing so forgoes the benefits of study summarization, theory testing, and replicability that can only be obtained by analyzing the results of all studies together. Accordingly, we conducted a pooled analysis of the findings from Experiments 1-3 following the

^① Lipsey, M. W., & Wilson, D. B. (2001). *Practical Meta-Analysis*. New York, NY: SAGE publications.

method suggested by McShane and Böckenholt^①. The results indicate that visual perspective can significantly influence individual charitable giving (Estimate = 0.59, SE = 0.15; $z = 3.93$, $p < .001$), thus once again supporting the hypothesis of this paper.

V. General Discussion

i. Theoretical contributions

Using embodied cognition theory, this paper explores the impact of visual perspective on individual giving. The findings of this research make corresponding contributions to theories and literature related to wealth distribution, individual cognition, giving, and pro-social behavior. First, most previous studies have explored the effects of different income distribution strategies on national well-being and social equity in terms of the role of the market or government in income distribution theory. However, the third distribution, i.e., charitable giving by individuals, has not received sufficient attention^②. This study, on the other hand, finds paths to stimulate individuals to make donations from the perspective of senses, and the findings provide theoretical support for how to improve the third distribution.

Secondly, this study expands the scope of application of the embodied cognition theory. The literature has explored how embodied cognition affects people's temperature perception^③, moral cleanliness^④, and positional metaphors^⑤, among others. However, few studies have used this theory to explore how physiological sensations subconsciously change people's social behavior, such as individual giving. In this paper, we manipulated individuals' perspectives and found that a physical overhead view also evokes a "downward" change in people's psychological level, which in turn increases their willingness to donate and their giving behavior. These findings extend the scope of the embodied cognition theory and call for the application of this theory to future research in the area of charitable giving.

Third, although some studies have focused on donation and pro-social behavior and have found a number of predictors, including gender^⑥ and religious affiliation^①.

^① McShane, B. B., & Böckenholt, U. (2017), "Single-paper meta-analysis: Benefits for study summary, theory testing, and replicability", *Journal of Consumer Research*, vol. 43, No. 6, pp. 1048–1063.

^② Chi Wei & Cai Xuxu (2012): "An Empirical Analysis of Urban Residents' Property Income and Wealth Gap", *The Journal of Quantitative and Technical Economics*, 2012 (Vol. 29, No. 2), pp. 100-112; Ren Biyun (2004): "Readjusting the relationship between efficiency and fairness based on the enlarging gap in the residents' income", *Journal of Central University of Finance and Economics*, No. 1, 2004, pp. 45-48.

^③ Williams, L. E., & Bargh, J. A. (2008), "Experiencing physical warmth promotes interpersonal warmth", *Science*, vol. 322, No. 5901, pp. 606–607.

^④ Rompay, T. J. V., Vries, P. W. D., Bontekoe, F., & Tanja-Dijkstra, K. (2012), "Embodied product perception: Effects of verticality cues in advertising and packaging design on consumer impressions and price expectations", *Psychology & Marketing*, vol. 29, No. 12, pp. 919–928.

^⑤ Zhong, C. B., & Liljenquist, K. (2006), "Washing away your sins: Threatened morality and physical cleansing", *Science*, vol. 313, No. 5792, pp. 1451–1452.

^⑥ James III, R. N., & Sharpe, D. L. (2007), "The nature and causes of the U-shaped charitable giving profile", *Nonprofit and Voluntary Sector Quarterly*, vol. 36, pp. 218–238.

However, these factors are difficult to change through external forces. For example, even though we know that people who are religious may be more pro-social, the religious situation in a country or region is relatively stable over a long period of time. Unlike previous studies, the factor of perspective found in this paper happens to be very easy to manipulate, especially in Experiment 3, where we found that simply showing people some pictures taken from a downward-view perspective can have the effect of boosting donations. Therefore, this paper provides a very feasible approach for how to employ subtle changes to guide donation and pro-social behavior, while filling a gap in the literature on this area.

ii. Practical Implications

In addition to theoretical contributions, this study also has strong practical implications for fundraising programs promoted by government or public interest organizations. Since the downward view helps to evoke compassion and empathy in individuals, when planning fundraising programs, managers can show people photos taken from above to enhance the fundraising effect. In practice, fundraising programs can display downward-view images in posters or video materials in promotional videos. These materials can be mixed in with a presentation of the recipient, or they can be completely unrelated to the donation itself. Similar measures can also be used by online donation platforms, for example, by making targeted changes to text and short videos on web pages so that the viewer is unaware of the downward view^②. In addition, we can also arrange fundraising sites in a way that makes participants feel like they are "looking down" before they donate. For example, fundraising sites can be placed on a higher floor and allow participants to easily observe the beautiful view downstairs. Through these measures, the success rate of fundraising can be significantly increased, thus to a certain extent compensating for the weaknesses of the market and government in income distribution and promoting social equity.

iii. Limitations and Future Prospects

It is important to acknowledge that this study also has some limitations. First, in terms of research methodology, although the laboratory experiments are easy to conduct and allow for a clear definition of the causal relationships between the main variables, the simulated donation scenarios in the laboratory are somewhat different from the actual situation. In Experiment 2, we embedded the measurement of the dependent variable in the subjects' reward: they could choose to give any portion of their reward to charity, and this behavioral measure of experimental design significantly enhanced the external validity of the paper. However, behavioral experiments are more cumbersome and financially costly to implement. Under current conditions, we are temporarily unable to implement the measurement of giving at the behavioral level in every experiment. Moreover, even behavioral experiments conducted in the laboratory cannot fully simulate actual situations. Therefore, we encourage future research to seek collaboration with relevant government agencies or

^① Shariff, A. F., & Norenzayan, A. (2007), "God is watching you: Priming God concepts increases prosocial behavior in an anonymous economic game", *Psychological Science*, vol. 18, No. 9, pp. 803–809.

^② Zhou Jun & Bi Huirong (2018): "Characteristics of Organizations and Platforms on Internet Fundraising and Their Effects——A Research on 394 Philanthropic Projects from the First Group of Internet Public Fundraising Information Platforms", *China Third Sector Research*, 2018 (Vol. 15, No. 1), pp. 198-199.

organizations to further test the findings of this study in a completely realistic scenario to enhance the practicability of the findings. Secondly, in terms of the empirical samples, the cross-cultural generalizability of the findings also remains to be verified, as our study site focuses on China. From previous studies, China has a very special cultural background and reality, such as a unique "face" culture, *guanxi* culture, rapid development and economic transition, etc. A series of localized studies have found different findings from the West^①, including the uniqueness of Chinese people's donation behavior^②. In future studies, researchers can continue to validate the findings of this study in other cultures to increase its cross-cultural generalizability. Furthermore, in terms of research design, because this study did not directly test the psychological mechanism (underlying mechanism), the question of why the overlooking perspective can enhance charitable giving can only be inferred from a theoretical perspective, which is one of the potential extensions of future research. Similarly, future research could explore the moderation effect of the perspective-donation effect in order to gain a more comprehensive and in-depth understanding of how this effect is generated^③. In addition, many fundraising projects at this stage are related to emergencies, such as the donation initiatives after the Wenchuan earthquake and Yushu earthquake^④. In the case of emergencies, charitable donations initiated by individuals can not only help victims more quickly, but also promote social justice and a harmonious society. How to combine events with fundraising programs and actively use the event strength, event space, and event time^⑤ to stimulate individuals' willingness to donate is also a question worth considering in future research.

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^② Li Qian (2013): *The Influence of Sympathy and Guilt Appeals on the Effects of Donation Advertising: A Sino-US Cross-Cultural Comparison*, Xiamen University.

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^④ Zheng, Yuanchang (2008): "Insights from the Wenchuan Earthquake Social Giving Efforts on the Development of Modern Philanthropy in China," *The China Nonprofit Review*, 2008 (Vol. 3, No. 2), pp. 130-142.

^⑤ Morgeson, F. P., Mitchell, T. R., & Liu, D. (2015), "Event system theory: An event-oriented approach to the organizational sciences", *Academy of Management Review*, vol. 40, No. 4, pp. 515–537.

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