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The Impact of Social Settings on Loss Aversion

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Abstract: With the continuous development of society, the demand for communication in social settings has been steadily increasing in people's daily lives, leading to increasingly complex interpersonal relationships. Numerous studies have indicated that the expansion of interpersonal relationships influences the degree of individual loss aversion. Therefore, based on existing literature, we hypothesized that the social environment may have an impact on the level of loss aversion. To test our hypothesis, we conducted a questionnaire survey (N=157). We used grades and monetary variables as independent variables and assessed participants' levels of loss aversion through a scoring system. Our data analysis revealed that individuals are more likely to exhibit loss aversion in isolated environments compared to when they are in social settings. Furthermore, based on a review of previous research and data analysis, we speculate that a collectivist cultural background may be a significant factor contributing to these findings. Additionally, in cultures and regions where individualism prevails, individuals may be more inclined to exhibit loss aversion in social situations.

Keywords: Loss Aversion, Questionnaire Survey, Social Settings, Cultural Background

1. Introduction

In our daily lives, we often take a series of actions to avoid losses. Particularly in social settings, we frequently engage in irrational behaviors to maintain personal relationships. For instance, we may defend a friend's misconduct or resort to violence to rectify injustices for our loved ones. While these actions may seem to sustain our interpersonal relationships in the short term, they can inflict greater harm upon ourselves in the long run. Therefore, to encourage individuals to avoid losses, think rationally, and maximize benefits in a scientific manner, we have employed an online survey questionnaire as our research method. We have collected data from two groups (loss aversion experienced in social settings vs. solitude). Building upon previous research, our analysis of the survey data leads us to propose that cultural background influences an individual's degree of loss aversion. Specifically, individuals with a collectivist background exhibit lower levels of loss aversion when in social settings compared to solitude.

The remainder of this paper proceeds as follows. In Section Two, we present our theoretical framework. Section Three elaborates on the analysis of the competitive hypothesis we have put forth. In Section Four, we outline our experimental design, followed by data analysis in Section Five, and concluding remarks in Section Six.

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2. Theoretical Basis

The author will elucidate the connections between this study and existing literature in five aspects: preference for current state in mate selection, the influence of individual factors among university students on loss aversion, the relationship between loss aversion and personal characteristics, alterations in loss perception due to mating and self-protective mechanisms, and the differential impact of self-versus others' decisions on loss aversion.

Regarding the preference for the current state in mate selection, Gunaydin et al. [1] found that individuals consistently opt for partners with specific attributes, and their preferences are highest when those partners represent the current state. Furthermore, their research suggests that such preferences manifest particularly when dealing with matters of the heart.

Concerning the influence of individual factors among university students on loss aversion, BAČOVÁ and DANKOVÁ conducted an experiment based on personality dimensions among university students. Their findings indicate that decisions involving loss are related to an individual's interpersonal relationships and values. Moreover, a majority of students exhibit loss aversion and disapprove of high-risk career choices.

Hjorth and Fosgerau [2] posit that loss aversion is associated with personal characteristics and influenced by the context of choice. They conducted an empirical survey and found that, at an individual level, subjects experienced significant loss aversion in both travel time and monetary dimensions. These findings were contingent on age and educational attainment. Furthermore, the study revealed that participants exhibited heightened loss aversion when they possessed clearer and more comprehensive knowledge about the subject matter.

Li et al. [3] conducted three experiments to investigate the influence of self-protective motives and courtship on loss aversion. They argue that loss aversion appears to be sensitive to significant motivations in human evolutionary history, unique to specific domains, and a result of natural selection.

In the investigation of the relationship between self-other decisions and loss aversion, Evan Polman [4] proposed a prediction that individuals exhibit lower levels of loss aversion when making choices for others compared to choices for themselves. He substantiated this prediction through descriptions of risk-free choices, gambling, and social aspects of life. Furthermore, a series of studies revealed that considering the influence of self-other-related factors mitigates loss aversion.

3. Theoretical Analysis of Competitive Hypotheses

Based on prior theories, it can be inferred that social interactions and interpersonal relationships may have an impact on an individual's level of loss aversion. Sokol-Hessner and Rutledge [5] have suggested that loss aversion is associated with anticipated emotions and the direct experience of realized gains and losses, without a long-term emotional impact. Social settings, however, can expose individuals to certain short-term and intense emotional shocks, which could influence loss aversion when gains or losses occur. This paper aims to explore and compare the levels of loss aversion exhibited by individuals in social settings versus solitude. Aggarwal and Zhang [6] have pointed out that in interpersonal relationships, shared connections deeply affect the extent of loss aversion. Even a mere concern for one's peers can lead to greater loss aversion. The number of shared connections in social settings theoretically intensifies loss aversion. However, empirical evidence from various incidents such as the 2008 Wenchuan earthquake in China and the 1998 major flood disaster relief efforts indicates that rescuers, in the presence of large crowds, exhibit lower levels of loss aversion. This is evident as they tend to disregard their own safety and personal possessions. Based on this evidence, we propose the following two competing hypotheses:

1. Social settings increase loss aversion.

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2. Social settings decrease loss aversion.

4. Experimental Design

Participants: The participants in this study consist of individuals from various backgrounds, with a relatively even distribution of age. They are divided into two groups: a control group and an experimental group. In the control group, only one participant follows the Buddhist faith, while in the experimental group, four participants are Buddhists, and the rest do not have any religious affiliations. The research is conducted in the form of an online questionnaire survey. The control group yielded a total of 67 responses, with 39 male participants and 28 female participants. The experimental group yielded a total of 90 responses, with 51 male participants and 39 female participants.

Design and Procedure:

Control Group:

1. Participants are asked to imagine themselves alone, checking their exam results after a college entrance examination. They are to imagine discovering that their exam score is either 10, 20, or 30 points lower or higher than their expected score and express how happy or unhappy they would feel.

2. Participants are asked to imagine themselves alone, in a situation where they either lose 50, 100, or 150 yuan or gain 50, 100, or 150 yuan. They should express how happy or unhappy they would feel.

Experimental Group:

Participants are asked to imagine themselves attending a graduation ceremony after the college entrance examination. As the scenario unfolds, they engage in prolonged interactions with many people, and the story concludes at this point.

1. Participants need to describe a situation where, with people around, they discover that their exam score is either 10, 20, or 30 points lower or higher than expected. They should express how happy or unhappy they would feel.

2. Participants need to describe a situation where, with people around, they either lose 50, 100, or 150 yuan or gain 50, 100, or 150 yuan. They should express how happy or unhappy they would feel.

In both groups, there are 12 questions assessing the level of loss aversion. Participants respond on a scale of -4 to +4, with "extremely unhappy" and "extremely happy" as anchor points, and 0 as the midpoint of the scale. Afterward, participants are required to provide their gender, ethnicity, current occupation, religious beliefs, and age.

Independent Variable: Binary variable indicating whether the scenario is in a social setting, with the experimental group coded as 1 and the control group as 0.

Dependent Variable: Utility scores.

Table 1: The influence of different degrees of money and score gain and loss on loss aversion in social situations or solitude.

Variable Name	Control Group				Experimental Group				Difference
	Observations	Mean	Standard Deviation	Median	Observations	Mean	Standard Deviation	Median	
Grades-10	90	-1.85	0.71	-1.5	67	-0.72	0.00	-2	-1.13
Grades-20	90	-2.03	0.71	-1.5	67	-1.23	0.71	-2.5	-0.80
Grades-30	90	-2.54	0.71	-2.5	67	-1.71	0.71	-3.5	-0.83
Grades+10	90	1.66	0.71	1.5	67	1.68	0.71	1.5	-0.02
Grades+20	90	1.93	0.00	2	67	1.67	0.71	1.5	0.26

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Table 1: (continued).

Grades+30	90	2.45	1.41	2	67	2.22	0.71	2.5	0.23
Money-50	90	-1.60	0.71	-1.5	67	-0.70	0.00	-1	-0.90
Money-100	90	-1.93	0.71	-2.5	67	-0.89	0.00	-2	-1.04
Money-150	90	-2.16	1.41	-3	67	-1.22	1.41	-2	-0.94
Money+50	90	1.37	0.71	1.5	67	1.63	0.71	1.5	-0.26
Money+100	90	1.60	0.00	2	67	1.74	0.00	2	-0.15
Money+150	90	1.72	1.41	2	67	1.96	0.71	2.5	-0.24

(Note: "Grades" refer to exam scores, "Money" refers to monetary amounts, and the symbols "+" and "-" indicate gains and losses, respectively.)

5. Result Analysis

From the data obtained, in the questionnaire survey with variables related to college entrance exam grades, it is observed that among the four variables where participants discover their exam scores are either 10, 20, or 30 points lower or higher than expected, the overall happiness level in the control group is lower than that in the experimental group. Notably, the happiness level in the control group is lowest in the "Grades-30" variable, and the smallest difference between the control and experimental groups is in the "Grades-10" variable. Conversely, for the two variables where participants discover their scores are 20 or 30 points higher than expected, the control group generally exhibits a higher happiness level than the experimental group. Among all the score-related variables, both in the experimental and control groups, participants in the "Grades-30" subgroup exhibit the lowest overall happiness level, while those in the "Grades+30" subgroup exhibit the highest. In the entire questionnaire survey related to scores, the highest happiness level is found in the control group's "Grades+30" subgroup, while the lowest happiness level is found in the control group's "Grades-30" subgroup.

Comparing the data obtained from the questionnaire survey with variables related to college entrance exam grades reveals that loss aversion is present in all "Grades" subgroups in the control group, with the "Grades-10" subgroup showing the most severe loss aversion. However, in the experimental group within the "Grades" subgroups, no loss aversion is observed.

In the questionnaire survey with variables related to monetary amounts, the overall happiness level in the control group is lower than that in the experimental group. The "Money-150" subgroup exhibits the lowest happiness level, while the "Money+150" subgroup has the highest happiness level. The control group's "Money+100" subgroup shows the greatest difference from the experimental group, while the "Money-100" subgroup has the smallest difference.

Comparing the data obtained from the questionnaire survey with variables related to monetary amounts reveals that loss aversion is present in all "Money" subgroups in the control group, with the "Money-150" subgroup showing the most severe loss aversion. However, in the experimental group within the "Money" subgroups, no loss aversion is observed.

Comparing the standard deviations between the control and experimental groups, it can be observed that in both the questionnaire survey with variables related to monetary amounts and the one related to college entrance exam grades, the control group exhibits higher levels of dispersion compared to the experimental group.

From the analysis of the data above, we find that, overall, the phenomenon of loss aversion occurs in the control group rather than the experimental group. People tend to exhibit higher levels of loss aversion when alone as opposed to in social settings. These findings appear to contradict the views of Sokol-Hessner and Rutledge [5] and Aggarwal and Zhang [6]. Kent Hendricks [7] has pointed out

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that the reasons for loss aversion are multifaceted. Cultural background has a significant influence on an individual's level of loss aversion. He argues that if a person comes from a collectivist cultural background, they are more closely connected to their community and are likely to know more people. When such individuals experience a loss, those in their close-knit social network may help them mitigate some or all of the loss. This, in turn, reduces their psychological loss aversion. In contrast, individuals from an individualistic cultural background are less likely to receive help from others when they experience a loss. For them, losses are fearful, and they go to great lengths to avoid them, resulting in higher psychological loss aversion when facing losses.

Our survey respondents are all Chinese, and China has a strong collectivist cultural background compared to Western countries, where individualism tends to prevail. Therefore, among individuals with a collectivist cultural background, loss aversion is lower in social settings compared to solitude. Previous experiments were mostly conducted in Western countries and regions where individualism is prevalent. In these settings, individuals with an individualistic cultural background may not effectively reduce their loss aversion in social settings, and it might even increase. Consequently, our findings contradict previous research.

Therefore, through this experiment and the aforementioned analysis, we conclude that among individuals with a collectivist cultural background, loss aversion is lower in social settings compared to solitude.

6. Conclusion

Through our research, we have found that social settings are related to cultural backgrounds and the degree of loss aversion. Among individuals with an individualistic cultural background, their degree of loss aversion is higher in social settings compared to when they are alone. Among those with a collectivist cultural background, their degree of loss aversion is lower in social settings compared to when they are alone.

In terms of scientific research, we believe that this article provides some reference value for studying the degree of loss aversion in countries and regions with strong collectivist tendencies like China. It also contributes to understanding the relationship between social settings and loss aversion in different cultural contexts. At the individual level, on one hand, this article aims to encourage individuals to approach losses more rationally and calmly in social settings, making informed decisions to minimize losses as much as possible. On the other hand, it helps people understand how individuals from different cultures may have different attitudes and behaviors regarding loss and risk.

Of course, there are clear limitations to our study. For example, both groups in our questionnaire survey received responses from only a few dozen participants, which is a small sample size. Additionally, online surveys have a higher probability of respondents skipping questions or providing inaccurate answers, which may introduce some bias into our data. Furthermore, our study of loss aversion among individuals from different cultural backgrounds did not directly compare data obtained through experiments or questionnaires, and there is still considerable room for improvement in controlling variables.

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