

## The Effect of Four Basic Emotional State on Risk Taking Behavior

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### Extensive Summary

#### Introduction

Studies in behavioral finance and cognitive psychology have shown that demographic factors such as emotions, psychological factors, personality, genetics, age and gender are influential in individuals' economic decisions and behaviors.

Individual's physical, emotional and mental abilities and characteristics do not follow a steady course. It shows repetitive ups and downs at certain periods. The system that governs this process is called biorhythm. Thommen states that biorhythm cycles affect human behavior and refer to three different cycles: (1) physical aspects; 23 days, physical, such as energy, resistance to disease, endurance (2) Emotions; 28 days, includes emotions such as elation, moodiness, sadness (3) Intellectual Functions; it refers to functions such as alertness, memory, and reasoning ability (Murgea, 2016).

Feeling like sadness, anger, fear are repeated in 28 days, affecting behavior and risk preference (Murgea, 2016). The same individual exhibits different decisions and behaviors according to the stage he or she finds emotional state, independent of their physical features and mental abilities, when compared with the same situation at different times. Kugler etc. (2012), in addition, the type and degree of uncertainty encountered also affects emotions and therefore risk choice.

In this study, the effect of four basic emotions such as fear, anger, hope and sadness on risk propensity have been investigated. In addition, the effect of the high and low levels of these four emotional states on risk propensity was assessed. Finally, we analyzed whether the risk propensity of men and women differed between high and low levels of each emotional state. In terms of these characteristics, our study provides important contributions to the limited literature in the study area.

## Methodology

The aim of this study is to investigate the effect of emotions such as anger, fear, hope and sadness on risk propensity. For this purpose, with a state university and voluntary participation, the data was collected from 440 subjects in Turkey. Of the respondents, 237 were male and 203 were females. 337 people are under 30 years old and the other three people are over 30 years old. First, factor and reliability analyzes were conducted covering all variables. Second, correlation analysis was performed to see the interrelationships between the variables. Fear and sadness are positively associated with risk aversion.

According to this, as the fear and sadness of the individuals increases, their risk propensity decreases and they avoid more risk. There was no relationship between the emotions of anger, hope and the desire to avoid risk. On the other hand, these two emotions were positively related to information about the investment tool and information was positively related to risk. From here, a regression analysis was conducted to predict the risk-averse behavior of individuals in terms of two related emotions and information. While information and fear variables are meaningful (p value: 0,000), sadness can be considered meaningful (p value: 0,10). The reason for this difference can be understood from the correlation analysis. As can be seen, the theoretical relationship between fear and sadness is statistically determined, and sadness has only reached acceptable level with high error margin due to the relationship between two variables.

Information variable shows the degree to which individuals attach importance to known information about investment tools. It is also plausible for evaluating this information to see the fluctuations in the investment tools and to demonstrate risk avoidance behavior. It has been investigated whether the high or low four emotional states in the study create differences in the risk aversion behavior.

For this purpose, one-way variance (ANOVA) and duncan tests were conducted. According to these tests, at the 5% error level, low sadness was found in the group with the highest risk propensity. On the other hand, individuals with high fear and low hopes are the ones who avoid the more risk. Individuals with other emotional states are more likely to be evaluated in the group avoiding the risk by detailed analysis with the participation of both groups.

When the same analyzes were repeated on a gender basis, it was found that individuals in all emotional states perceived the same risk at 5% error level in males. In the case of 10% error level, it is seen that low sadness individuals are in a separate subgroup with the excess of risk propensity, low hope individuals are in the other subgroup with their risk aversion features and the remaining emotional states can go to both sub-groups. In females, while low sadness individuals are in a subgroup, the other subgroup individuals are low fear individuals and high sadness, high anger and high hope individuals. In other emotional states, both subgroups can go.

Four different independent sample t tests were performed to determine whether there was any variation in risk propensity between high and low two polarities of each emotional state. Only the difference in fear and sadness can be detected in the analysis results. Those with a low fear level (10% error level) and those with a low sadness rating (5% error level) are more at risk propensity. The high or the low level of other emotional states do not create a differentiation in risk propensity.

A total of eight Independent Sample t tests were conducted to determine whether there was a risk differentiation (between low fear male individuals and low fear women's risk perceptions etc.) according to sex in high and low emotional states. However, no change in sex was found in the case of high or low emotional states.

### **Findings and Discussion**

Findings from the study showed that fear and sadness are positively related to the risk aversion behavior. These results are consistent with previous work findings on the subject. Furthermore, anger and hope were not related to risk preference. Studies conducted on anger show that the anger increases the risk propensity. However, Li (2011), did not confirm this finding in his work on entrepreneurs in China. This situation also emphasizes cultural diversity as the explanation. He stated that the anger was considered as the reason for losing control in China and that it was regarded as a negative feeling as opposed to Western cultures. In Turkish, the saying "anger comes to an eye dark, anger goes out a face dark." The proverb points out that the anger is negatively evaluated as in China. Thus, our study contributes to the emphasis on cultural differences in anger, which Li (2011) has also pointed out. For hope, the general conclusion is that it increases risk propensity. However, Hayenhjelm (2006) hope is that the individual is assessed by the existing situation and stresses that if it is bad, it increases the risk propensity. In our study, we were not able to find this finding because the current state of the individual was not investigated.

Also, one of the important contributions of our study is to evaluate the risk propensity of eight groups, including high and low levels of four emotional states. Individuals with low sadness levels in this frame are those who want the more risk propensity. High fears and low hopes are the levels of emotion that are the most likely cause of avoiding the risk. When the same sex-based case was evaluated, it was determined that the same findings were found in females but the emotion state levels of males did not affect the level of demand for risk in males. Finally, the differences in the risk behaviors of men and women were investigated at high and low levels of each emotional state. At the end of the analyzes made, there was no difference in the emotional state according to the sex and the risk propensity.

However, as with any work, this work has its limitations. Since the number of subjects is quite sufficient and the data gathered in a single period is studied, the effect of different emotional states at different times on the risk propensity of the same individuals has not been investigated. Subsequent research by researchers of the same topic with panel data will be very useful in filling an important gap in the literature.